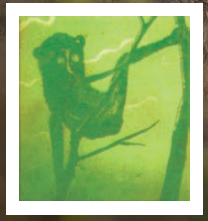
JOURNAL OF THE WILDLIFE AND NATURE PROTECTION SOCIETY OF SRI LANKA
VOLUME 30. ISSUE 3

LORIS

THE FIGHT AHEAD TO SAVE MANNAR



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The Loris is the flagship journal of the Wildlife and Nature Protection Society (WNPS). It was first published in 1936 and since then, has been in print continuously. A biannual journal, it is published in June and December.

The Editor invites members of the WNPS and the public to write articles to the Loris on matters related to biodiversity, natural history and nature conservation. All articles will be fact- checked by the Loris editorial team. The writing style and aesthetics of the magazine will be the prerogative of the Editor, who will make the final decision on the publication of an article.

The articles and views in the Loris are those of the authors and not of the WNPS.
The Society publishes articles in good faith, assuming they do not infringe copyright.
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Published July 2024.

Front cover : Heshan Peiris expertly captured these Jungle Cat kitten combatants at Udawalawe National Park.

Contents

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Editorial

CONSERVATION MUST BE BROAD-BASED – NOW!!

Sri Lanka is still bleeding. Decades of strife resulted in our lands running red with blood and dampened with sweat and tears. On the surface, the blood has stopped flowing, but the country is still hemorrhaging in so many ways. A nation in economic bankruptcy, we are now rushing to embrace environmental bankruptcy as if it were our natural destiny. Elsewhere in this edition, we showcase just how recklessly our politicians are destroying and giving away our most valued national treasures irrespective of them being already "protected" by legislation and authorities. Our natural wealth is being diminished at an alarming rate. Our intellectual capital is being drained to the extent that one wonders what the bottom will retain. Our nation's brightest young minds and the nationally productive educated upper middle class have taken wing in a migration frenzy of no return, unlike that of the birds who visit us for winter. Entrepreneurship and Capital have largely flown the coop. Legal checks and balances and free media have been weakened to a point where one almost doubts their existence.

Against this backdrop, the existing resources available to drive conservation in Sri Lanka are woefully inadequate. There certainly are some very committed, competent and passionate people within the many institutions tasked with conservation in Sri Lanka. But the relevant departments are understaffed so greatly that they can barely manage even the minimal levels of protection. Many key officials are heavily under-skilled and untrained, and not provided exposure to more modern forms of conservation, research and wildlife management. The machinery and technology available in the country lags behind the needs of our nation, which is a biodiversity hotspot and requires sophisticated tools as much as loving care. The entities and institutions which exist in the country are not adequately in sync with global trends. And yet, a national "fear-factor" is created which prevents a far stronger private sector engagement in conservation within Sri Lanka. We have evolved the private sector to play active roles within critical areas like Healthcare, Education, Transportation, Telecommunication, Security and Energy among many others. But in the realm of Conservation, they are not seen as partners who can actively contribute to a better future for our ecosystems. Key words like biopiracy, trafficking of animal parts and our endemic natural ingredients for drugs are immediately at the forefront of these discussions. While these issues and dangers are real, there seems little willingness to look at how to manage these challenges while extracting the best of what the private sector can bring to the table. Elsewhere in this issue we see examples from African nations who have let the private sector be far more engaged in conservation. The result is larger added landbanks coming under conservation and far better technologies and modern trends being adopted, Artificial Intelligence being leveraged and much more private capital flowing into wildlife and landscape management along with touristic potential. The private sector is seen investing in rehabilitation centers, park management technologies, training, research engagements, large scale laboratories and in people and skills. Even areas like medicine and new drug development are unlikely to flourish here since we simply have not made the large institutional investments within Sri Lanka. Surely, these can be managed so that the benefits accrue to all sides in an equitable manner? Were the debates against private healthcare any different a while back?

These trends also provide smart young kids with great opportunities to nurture their dreams and ambitions, while the facilitating environment encourages global giants and donors to bring us their best tools, resources and people to help conserve. In the field of Research, by being ultra restrictive, suspicious, and narrowminded, our knowledge pool in being weakened by the day. While prior examples within conservation of large private sector institutional investments being cold shouldered are known in Sri Lanka, one does not even hear of any potential investment for conservation being rejected any more, simply because no one even bothers to knock on our doors, knowing it is a fait accompli. Access to more foreign and local scientists to pursue research has to come about if we want to benefit from global learning. Our talent pool is simply too small to rely on those studying overseas to return, bringing their insights back with them to our country. Our regulatory framework is so inflexible on areas like sample gathering, genetics, DNA and other testing, research, and animal handling, and will most likely stifle intellectual progress locally. Our scientific doors are closed, our species kept under house arrest and policy makers, administrators, conservationists and researchers play in a tiny theater of operation, helped along and orchestrated by risk-averse decision makers.

Unless reforms are made in conservation, as we did in education, healthcare and other areas in past decades, our wildlife will die a slow death, due not just to developmental pressures but to incompetence, greed and a lack of vision, fueled by a pseudo nationalism; but then again, is that not what happened in the case of our economic wellbeing as well? Private sector, both individual and institutional, must be given greater opportunity to legally and institutionally engage in conservation in Sri Lanka. The WNPS in its own way has been pushing this agenda through the establishment of PLANT, through research in Elephant and Leopard areas, by providing insurance and training to wildlife department staff and more. But each of these are uphill battles and minor initiatives in comparison to what could be the true potential of a well facilitated private sector engagement where these parties are seen and valued as True Partners on the conservation journey. We are weak nationally and have bled too much to not seek added help. Let it not be considered after environmental bankruptcy but rather as an essential measure to prevent that destiny. Like any nation in our situation, we will need resources and more money to pull things out of decline. But if conservation policies are well thought out and responsibly managed, there is no reason to fear either development or private sector engagement. Science, knowledge, a value for youth and good skills and talent, and the wellbeing of our species need to hold sway, rather than nationalistic sentiments, political slogans and archaic laws driven by bureaucrats. Are we up to the task as a nation to take control of our destiny?

At Bundala National Park entrance one afternoon, 18 year old Sesadi Wickramasinghe witnessed this peculiar sight of a juvenile monitor lizard clutching an endemic Ghost Ornamental Tarantula (Poecilotheria vittata) in its mouth.

Message from our sponsor

Nations Trust Bank is pleased to support the Wildlife and Nature Protection Society (WNPS) for yet another year in its efforts to protect and preserve Sri Lanka's rich biodiversity. The year 2024 marks a significant milestone in global conservation efforts as Sri Lanka has been declared a UN World Restoration Flagship. This prestigious recognition highlights the country's pivotal role in rebuilding and restoring mangrove ecosystems, due to the hard work and dedication of organisations such as WNPS.

Our partnership with WNPS aligns with Nations Trust Bank's commitment to supporting sustainable practices, reflecting our belief that protecting nature is a shared responsibility that benefits not just wildlife but also the well-being of our communities. The conservation of mangroves, in particular, is crucial as these ecosystems provide numerous ecological benefits. We are proud to support initiatives such as these that not only restore and protect the environment but also raise awareness about the importance of conservation. We hope for a future where our natural landscapes are preserved, and where the unique flora and fauna of Sri Lanka can flourish for generations to come.

Thank you.

Hemantha Gunetilleke
Director / Chief Executive Officer
Nations Trust Bank PLC

Nations TrustBank

Mannar Wind Farm Project: Another Folly Like the Sinharaja Logging Project on the Horizon?

PROF. EMERITUS NIMAL GUNATILLEKE,
UNIVERSITY OF PERADENIYA

Background

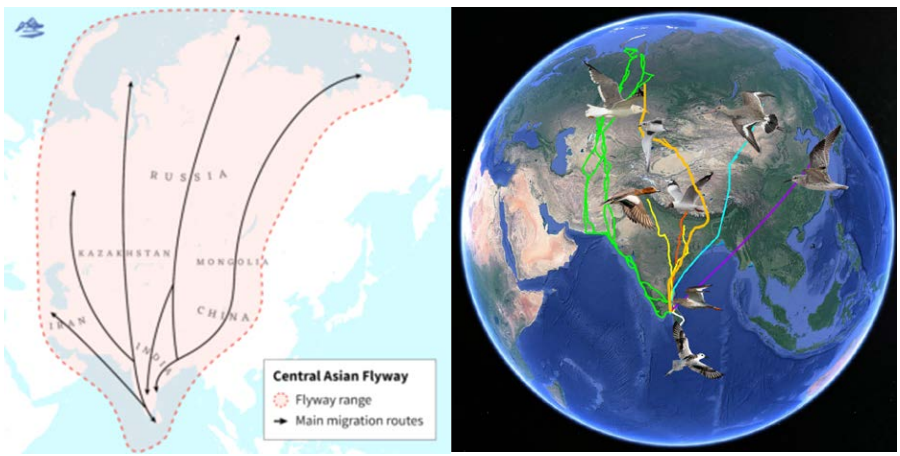
A wind farm consisting of 30 towers generating 100MW (Phase 1-Thambapawani) was established on the southern coast of Mannar Island in 2020, with financial assistance from the Asian Development Bank (ADB). The widespread criticism of this project due to its positioning within one of the main bird migratory corridors in the Asian region (detailed elsewhere in the article) was largely overlooked or ignored due to the economic priorities that prevailed at the time, similar to the now infamous Canadian funded Sinharaja Mechanised Logging Project of the 1960s and 70s.

During Sri Lanka's worst health and economic crises in recent times, the billionaire Indian businessman Gautham Adani visited Sri Lanka and met with the then President Gotabaya Rajapaksa and Prime Minister Mahinda Rajapaksa, followed by a visit to the proposed renewable energy project site in Mannar on a Sri Lankan Air Force Helicopter. Subsequently, the Ministry of Power and Energy, Sri Lanka, agreed to receive an unsolicited proposal for awarding the construction and operation of the Mannar Wind Power Project (Phase-II) and another in Poonaryn to Adani Green Energy Sri Lanka Limited (AGESL), as Build, Own, and Operate (BOO) projects for 25 years for an approximate Investment of USD 500 Million.

The proposed Mannar Wind Power Project (Thambapawani Phase-II) has a capacity of 250 MW and comprises 52 wind turbines of 5.2 MW capacity each. These are to be placed in parallel with the existing Thambapawani Phase 1 turbines spreading across most parts of Mannar Island. The project is expected to generate 1048 GWh of Energy annually. The Annual Energy Production (AEP) of the proposed wind farm is around 6% of the country's energy requirement.

Ecological Significance of the Mannar Island

Mannar Island and other islands on the Gulf of Mannar spanning India and Sri Lanka have been identified as among the most important migratory corridors and a Critical Wintering Site for species in the Central Asian Flyway (Fig. 1). The ecological significance of Mannar and the wider Gulf of Mannar for the Central Asian Flyway is recognised by BirdLife International (Important Bird and Biodiversity Area, and Key Biodiversity Area), Wetlands International (Critical Site Network 2.0), and the Ramsar Convention (Vankalei Sanctuary is a Ramsar Wetland), as well as by the Sri Lankan Government. Sri Lanka has already declared three Protected Areas covering Mannar's key wetlands, namely, Adam's Bridge National Park, Vankalei Sanctuary, and the Vidataltivu Nature Reserve (Fig. 2). It also provides breeding habitats for eight species of seabirds, many of which are listed as Critically Endangered (CR) in the national Red List of Threatened Species.



(Fig. 1) Central Asian Flyway (https://groundviews.org/2024/02/09/wind-farm-in-mannar-is-a-death-trap-for-migratory-birds/)

Furthermore, Sri Lanka is a signatory nation for the United Nations Convention of Migratory Species (CMS). Sri Lanka is situated at the southernmost tip of the Indian Subcontinent in the Central Asian Flyway, serving as a crucial over-wintering ground for an estimated 15 million birds, representing 250 species, migrating across 30 countries, from the Russian Far East to Eastern Europe through South Asia. Mannar alone gets about a million birds representing 150 species. There are clear evidence-based reports that Mannar Island provides overwintering ground and breeding habitats for numerous seabirds, water birds, and forest birds, some of which are classified as Critically Endangered in Sri Lanka's national Red List of Threatened Species. Hence, we have a responsibility and legal binding to protect these globally important cohorts of migratory birds.

The Environmental Impact Assessment (EIA) and its Deficiencies

The EIA for this proposed 250 MW Mannar Wind Power Project (Phase II) was submitted to the Sri Lanka Sustainable Energy Authority in January 2024 by the Consulting Engineers & Architects (Pvt) Ltd. It was then opened for public review for 30 working days from 23.01.2024 to 06.03.2024 and is available on the web. (03.115.26.10/2023/EIA/Mannar%20Wind%20Power%20Project%20Phase%20II%20EIA%20Final%20-%20English.pdf).

Public opinion generated on the conduct and the findings of the EIA created headlines, raising eyebrows, and causing much controversy. Comments received during this period have been collated and submitted by the CEA to the Sri Lanka Sustainable Energy Authority (SLSEA) for technical assessment and response upon which the CEA is expected to undertake a technical review of the project's environmental conformity under the National Environment Act.

The environmental activists, solidly backed by evidence-based scientific information, are intensifying their campaign against the proposed Adani wind farm in Mannar. They have accused the Sri Lankan political parties of having ignored the disastrous environmental, social, and economic implications of this project.

According to environmental critics, this newly proposed Wind Power Project (Phase II) poses an even greater risk to the Mannar region than the Phase I Thambapavani project. Fifty-two (52) huge wind turbines are to be spread across most of Mannar island, covering the entire northern half that is lodged among the most important migratory corridors for species in the Central Asian Flyway viz. Adam's Bridge National Park, Vankalei Sanctuary (a Ramsar Wetland Site), and the Vidataltivu Nature Reserve (Fig. 2).

Reputed international conservation agencies like BirdLife International have cautioned that Sri Lanka, being a signatory nation to the Convention on Migratory Species (CMS), is committed to safeguarding these migratory species. Furthermore, BirdLife International, along with their research colleagues, have pledged their support to Sri Lanka's energy sector in identifying nature-safe siting options so that Sri Lanka can meet its energy needs in an ecologically sensitive manner.

It is clear from these that the potential ecological and economic repercussions of the project extend beyond Mannar Island, affecting bird tourism across Sri Lanka and hindering its burgeoning eco-tourism prospects while posing a great risk to migrants of the Central Asian Flyway (Figs. 1 & 2).

The narrow 'movement corridor' (marked as a yellow band in the map given in the EIA Report and Fig 2 herein) for millions of migratory birds proposed by the EIA seems highly arbitrary and lacks support from currently available information in the EIA report, itself. The corridor is proposed conveniently away from the proposed wind farm based, apparently on – no study and no data!!

This project reminds us of the controversies generated during the Sinharaja Logging Project around the 1970s where an overambitious project document prepared by the State Timber Corporation proposed to selectively log the Sinharaja Forest Reserve and the surrounding forests for the supply of peeler logs for the manufacture of plywood. The strong public opinion mounted within as well as outside the country against this logging project compelled the then Government to appoint a ministerial committee to report on the veracity of the public criticism and make recommendations on the continuation of the project.

The George Rajapaksa Committee reported that the logging project was unsuitable for the fragile terrain, leading to excessive environmental (including biodiversity) damage, and insignificant benefits to local people, with the gross overestimate of its timber potential leading to literally creaming off Sinharaja and other forests in a 20-year vicious cycle.

Interestingly enough, there are several parallels between the Sinharaja logging project and this wind power project. In this review, I intend to bring together different viewpoints expressed by environmentalists, scientists, and some energy experts alike and suggest a way forward in addressing this environment/energy conundrum.

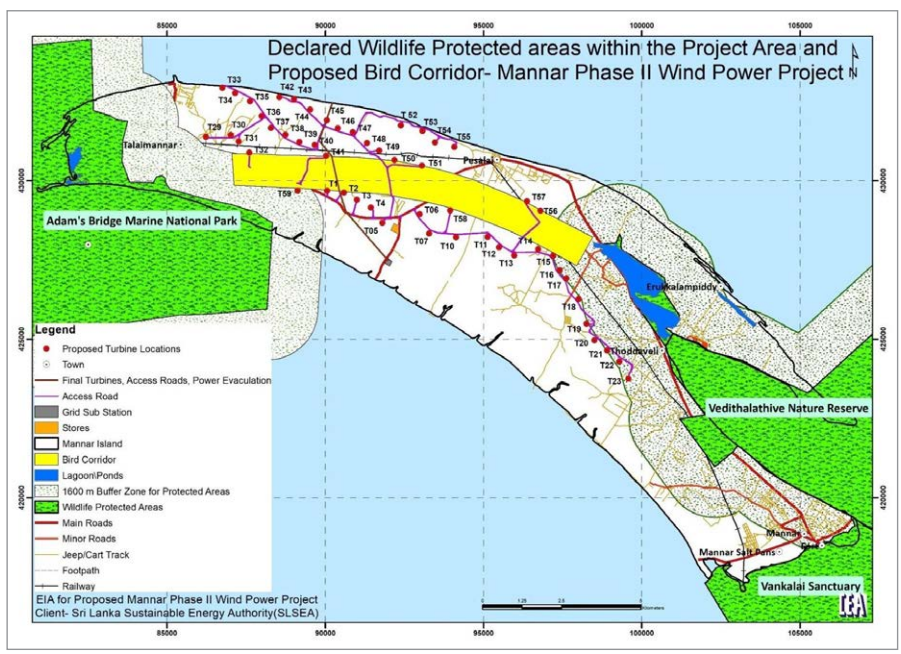


Fig. 2. Proposed Wind Farm Locations and the bird corridor (yellow band) and the surrounding Protected areas (EIA Report – www.ceaconsult.com).

Sustainable Development, Conservation and a flawed EIA

Chris Goodie, Chairman of the Oriental Bird Club, urges a comprehensive review of the project and careful adjustment of the project location and requests the Sri Lankan government to identify ecologically safe zones for such renewable energy projects, guided by Strategic Ecological Assessments (SEA) and globally available tools like AVISTEP (The Avian Sensitivity Tool for Energy Planning). This would ensure that Sri Lanka would meet its vital energy demand while safeguarding its critical birdlife, without compromising the ecological and economic benefits for the citizens of the country.

Rohan Pethiyagoda, an internationally renowned biologist and a leading environmental activist in Sri Lanka, claims that the Government must have an open and transparent bidding process for projects of this magnitude. The EIA doesn't provide a socioeconomic cost-benefit analysis or any rational evaluation of alternative sites. In terms of the EIA process, it is incumbent on the proponent to demonstrate that they have looked at alternative sites and selected the one with the lowest impact. As it stands, he slams the EIA as just a greenwash.

Pethiyagoda goes on further to argue that the EIA is obliged to consider sites at which the impact could be lower, but regrettably it has failed to do so. For example, he questions why this project cannot be located in a nearby less environmentally sensitive location such as Seelavatturai, Kondachchi, Arippu, or even Kalpitiya. Where is the cost-benefit analysis, or the evaluation of alternative sites, he asks. Multiple sites need to be evaluated to choose the one with the lowest environmental impact and greatest socio-economic benefits.

Likewise, senior environmental lawyer Dr. Jagath Gunawardana also stresses this deficiency of the EIA. According to him "In our preliminary observations, we have found that they have not adhered to the basic requirements of an EIA, not having looked at alternatives to the project in a meaningful manner as required under Section 33 of the National Environment Act". Therefore, he says that there is a clear course of legal action available to any party in Sri Lanka.

The Wildlife and Nature Protection Society (WNPS) has already filed a fundamental rights application in the Supreme Court challenging the recent cabinet decision to award a wind power project in Mannar Island to Adani Green Energy Ltd., of India. The WNPS states that the decision will not only impact the future of the unique ecosystems in Mannar Island but also adversely influence the broader landscape of environmental governance in Sri Lanka.

The Sustainable Energy Authority had prepared a document on wind-power generation, where they had identified locations in seven districts as areas with high potential for wind-power generation and Mannar is not one of them. The island of Mannar has areas that have medium and lower potential. Ironically, the area is claimed to have valuable mineral resources and nearby offshore gas and oil fields of proven economic value.

It is quite clear from the above critiques that the ecological repercussions as a direct result of these ad hoc developments in Mannar are expected to severely impact the region's economy and the potential for wildlife-based tourism planned by the Sri Lanka Tourism Development Authority and Northern Development Framework.

Opposing views

Some energy experts, on the other hand, counterargue that since Mannar already has an existing wind power plant (Thambapavani) which was established after a thorough vetting process of an EIA, preparing an EIA for the second phase of the project is only a formality and that there ideally shouldn't be any concerns since the EIA of the first phase of the project has given green light to the establishing of wind power plants in Mannar.

However, the environmental impacts pointed out by knowledgeable people have largely been ignored even in the Thambapawani (Phase I) project EIA. Any lessons learned since its implementation have been overlooked in the AGESL (Phase II) project EIA, although it claims that certain negative impacts on the local environment, and mitigation measures to overcome them were identified for the EIA study and valued (P 17-EIA Summary).

Moreover, the proposed project's location neglects alternative sites with high wind energy potential and lower ecological impact with a satisfactory benefit-cost analysis.

According to these critics, the EIA fails to adequately address the project's impact on migratory birds due to its,

i.) inadequate timing and seasonality of bird observations,

ii.) outdated methodologies used,

iii.) negligence regarding international conventions and scientific literature,

Moreover, the proposed project's location neglects alternative sites with high wind energy potential and lower ecological impact.

Mannar Island and its Environs- A 'Living Entity' and a Classic Case for Environmental Jurisprudential Analysis?

Many countries the world over are now beginning to confer the status of a legal entity to 'Mother Nature' recognising her as a 'living being'. In that sense, nature too has its own rights comparable to those of human rights. In 2017, the High Court of Uttarakhand at Nainital in India stated that the Ganga and Yamuna Rivers are legal and living persons. In 2019, the High Court Division of the Supreme Court of Bangladesh recognised all rivers in the country as living entities with legal personalities. In Brazil in 2017, the Bonito City Council amended Article 236 of the Lei Orgânica No.

01/2017 to recognize nature's right to exist, prosper and evolve.

A staff writer of 'The Hindu' newspaper reported in 2022 that Justice S. Srimathy of the Madurai Bench of Madras High Court invoked the 'parens patriae jurisdiction' and declared 'Mother Nature' as a 'living being' having the status of a legal entity.

According to Judge Srimathy, "Mother Nature is accorded the rights akin to fundamental rights, legal rights, constitutional rights for its survival, safety, sustenance, and resurgence to maintain its status and also to promote its health and well-being. The State and Central governments are directed to protect 'Mother Nature' and take appropriate steps in this regard in all possible ways".

The Mannar Island surrounded by several environmentally buffered sanctuaries serves as a strong candidate to be considered as a 'living entity' and develop the necessary legal infrastructure for establishing the status of a legal entity in order to confer 'rights akin to fundamental rights, legal rights, constitutional rights for the survival of the natural wealth of the Mannar Island and its safety, sustenance, and resurgence to maintain its status and also to promote its health and well-being'.

On the one hand, Sri Lankan rainforests like Sinharaja are among the progenitors from which the vast expanses of Southeast Asian rainforests evolved and diversified. On the other hand, Mannar Island and its surrounding areas, have evolved as converging regions of millions of birds of European and Asian continental origin. As such, these regions of evolutionary divergence and convergence deserve to be considered as living entities under environmental jurisprudence.

Paying Double for Our Own Wind

The critics also point out that if the permission is granted and the project continues, Sri Lanka will have to pay way above the market rate for a single unit of energy in US Dollar equivalents. In Adani Wind Power Project, the energy agreement duration is believed to be 25 years and throughout that period, it is alleged that Sri Lanka will have to pay 8.26 US cents a kWh , as opposed to 4.6 US cents which is the market price for a single unit. In a nutshell, for 25 years, Sri Lanka will have to buy power, generated via natural resources of our own, from India for double the price.

This wind power project is an unsolicited one decided according to the whims of politicians probably under duress during the recent health and economic crises. Engineer Pethiyagoda very eloquently remarks on this issue: 'We see a foreign company coming to Sri Lanka literally out of the blue, harnessing our wind energy, which is a sovereign national resource, and then selling it back to us for foreign currency over a fixed 25-year contract. How does this make economic sense? If the government called for bids from local companies, Sri Lankan shareholders would have had a chance to invest. That way we don't bleed foreign currency, and what's more, there's tax revenue as well. What is the logic in giving this on a platter to a foreign company?

In that case, let them prove it by actually competing in a transparent bidding process. Besides, even the price they have quoted, of USD 0.097 per kilowatt hour is several times the wind energy price obtained in the USA, according to the US Department of Energy. They are making a massive profit on this, and Sri Lankans will have to foot the bill for the whole of the 25-year contract period.'

While both the conversion to renewable energy as well as conservation of ecosystems are important targets to achieve, ultimately the decision would hinge on a delicate balance between seizing investment opportunities, safeguarding the environment, and upholding transparency, in propelling Sri Lanka towards a more sustainable future.

World Bank Off-shore Wind Power Roadmap for Sri Lanka- a Promising Picture

According to a comprehensive roadmap developed in collaboration with the World Bank (WB) and International Finance Corporation in 2023, Sri Lanka has good conditions for offshore wind, with most of the more than 50 GigaWatts of potential being held in the western and southern coasts, with a caveat that the roadmap analysis found that not all of this potential will be developed due to practical and cost limitations that are prevailing at present.

According to the World Bank, Sri Lanka's offshore wind resource far exceeds its energy demand, and its development could help the country's economic recovery by displacing costly fuel imports. There is an estimated fixed-bottom potential of 22GW and 17GW floating.

Photo Credit - Sankha Wanniatchi

Most importantly, unlike the on-shore Mannar Wind Farm, this off-shore resource is based on areas without environmental restrictions and exclusion zones (Fig. 3). Areas with the highest environmental or social sensitivities have been excluded in this roadmap to avoid unacceptable adverse impacts. Indeed, the World Bank reckons there is huge potential, and it could supply more energy than the country needs – offering an opportunity to produce other fuels, such as hydrogen and ammonia.

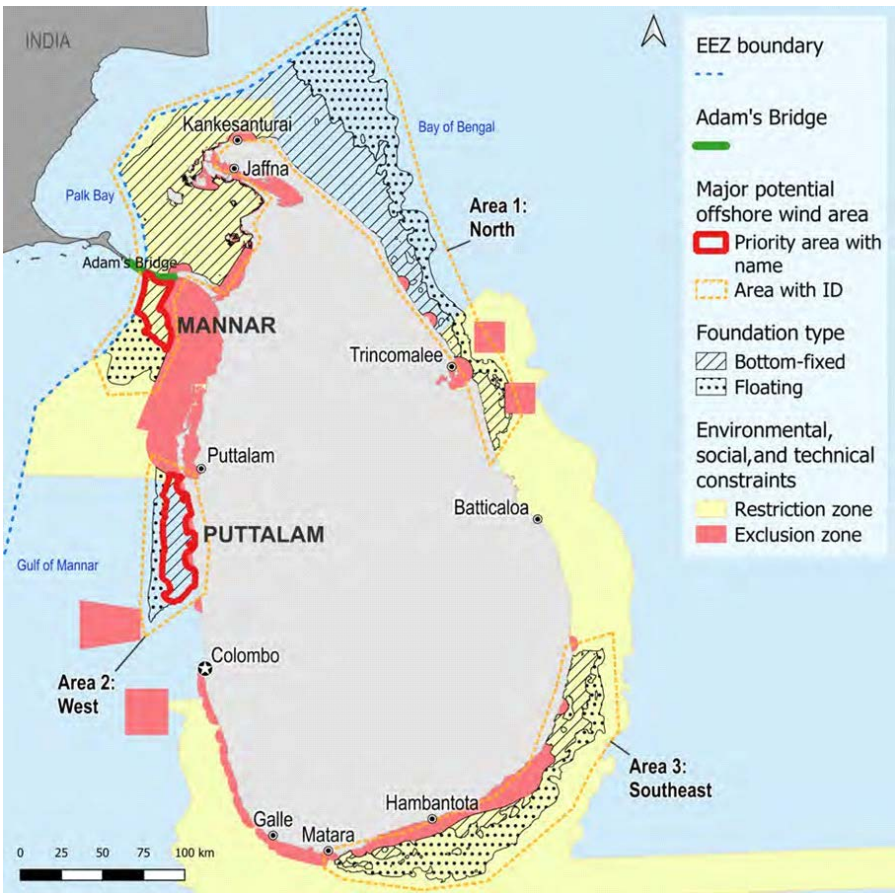


Fig. 3. Potential areas for offshore wind, including the priority areas to be considered for Sri Lanka's first offshore projects — Mannar and Puttalam (Ref. World Bank Group. 2023. Offshore Wind Roadmap for Sri Lanka, World Bank, Washington, DC. License: Creative Commons Attribution CC BY 3.0 IGO).

However, there are numerous challenges to developing this sector, according to the WB Report. To overcome these challenges, the World Bank Group is assisting the government in planning and implementing de-risking measures, including further site investigations, environmental and social scoping, wind resource assessment, legal and regulatory analysis, further stakeholder consultations, and policy support to make this opportunity more attractive to investors and help to reduce costs.

The World Bank Report further says that considering that the short- and medium-term trajectory for offshore wind in Sri Lanka is relatively modest, combining the opportunity with India's growing offshore wind market could help attract more industry and supply chain investment.

World Bank is already in discussion with the Government of Sri Lanka on this issue focusing on attracting investments in the renewable energy sector, accelerating energy transition, green hydrogen programs, and scaling up private investments.

Some energy experts claim that the Mannar Wind Farm Project is a low-hanging fruit the country should pluck. However, they do not seem to have given adequate recognition to the environmental costs involved in the same way as happened in the case of the Sinharaja Logging Project more than 50 years ago. The field of Environmental Economics has advanced substantially over the last several decades. As Chris Goodie, Chairman of the Oriental Bird Club advocates, globally available tools like AVISTEP (The Avian Sensitivity Tool for Energy Planning) need to be used to identify ecologically safe zones for such renewable energy projects.

Moreover, there are widely used open-source environmental economics software packages such as InVEST (Integrated Valuation of Ecosystem Services and Trade-offs) which provide an effective tool for balancing the environmental and economic goals of these diverse entities. It enables decision-makers to assess quantified trade-offs associated with alternative management choices and to identify areas where investment in natural capital can enhance human development and conservation.

It is not clear whether the EIA for this project has meaningfully addressed the environmental cost-benefits issues. If those could be brought into the equation, it would ensure that Sri Lanka would meet its vital energy demand while safeguarding its critical birdlife and, more importantly, without compromising the ecological and economic benefits for the citizens of the country.

A Challenge to the Patriotic Citizens, Diasporic Community, and well-wishers of Sri Lanka

As Sri Lankans are at the doorstep of a national election, the Mannar Wind Farm Project has ignited a heated debate, mirroring the controversy surrounding the Sinharaja Logging Project in 1977. This presents a crucial opportunity for both domestic and overseas diasporic intelligentsia and technocrats, and concerned citizens, to engage in this critical national issue.

Politicians of different hues and colours are urged to base their stances on evidence-based information, avoiding the pitfalls of superpower influence.
The Sri Lankan diaspora, who may have recently interacted with their favourite politicians, can play a crucial role in advising them on navigating this political minefield. This will help the intelligent voters at home to assess the credibility of their political leaders.

This election year also offers a final chance for patriotic citizens, both in Sri Lanka and abroad, to guide their political representatives to select between a hastily prepared, inadequately evaluated onshore project with short-term economic benefits and a more sustainable, environmentally and socially responsible offshore option that may require more upfront investment but offers long-term benefits.

As a renewable energy enthusiast, I believe this presents a rare opportunity for scientists, environmentalists, social scientists, and legal experts to contribute their expertise through a pilot study in the energy-environment debate. Unlike the time of the Sinharaja Project, we now have far more resources to model different scenarios and trajectories leading up to 2048, the current President's target for complete economic recovery.

While the onshore project offers only 6% of the country's energy needs, the offshore resource holds the potential to exceed Sri Lanka's requirements, as per the World Bank's "Windfall" Roadmap. Importantly, the World Bank report excludes environmentally sensitive areas and opens doors to producing additional fuels like hydrogen and ammonia. This complex issue becomes intriguing and deserves a thorough scientific, socio-economic, and politico-legal examination as Sri Lanka prepares for national elections.

Photo Credit - Ranmalee Athukorala

RESEARCH

Discovering Sri Lanka's Hidden Treasures:

Two New Species of Shieldtail Snakes

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Education Without Boundaries
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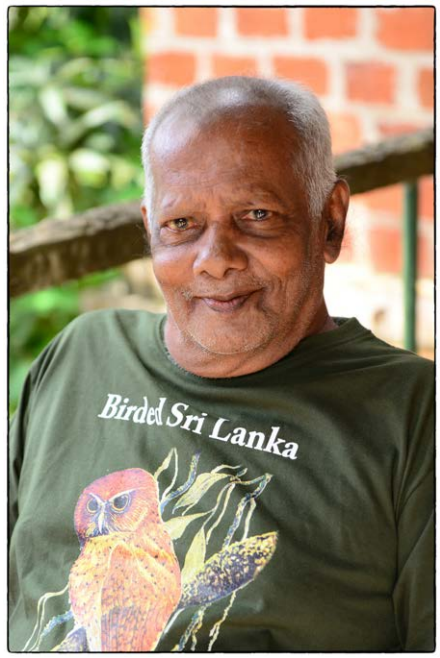
Sri Lanka is a treasure trove of biodiversity, home to an array of unique flora and fauna. Recently, this island nation has revealed two more species from its natural heritage: two new species of shieldtail snakes from the genus *Rhinophis*. These remarkable discoveries were made in the Rakwana and Knuckles Massifs, two of Sri Lanka's most ecologically significant regions.

Meet the new species

The two newly discovered species are *Rhinophis martin* and *Rhinophis dinarzardae*. These snakes belong to the family Uropeltidae, commonly known as shieldtail snakes due to the distinctive shields on their tails. These new species add to the richness of Sri Lanka's endemic wildlife, bringing the total number of recognized shieldtail snakes in the country to 20.

Rhinophis martin is named in honour of the late Martin Wijesinghe, a dedicated conservationist whose work greatly benefited Sri Lanka's forests. This species is unique to the southeastern part of the Rakwana Massif, found at elevations between 750 m and 820 m. The snakes display a striking coloration in life, with golden-yellow dorsal areas and a more blackish ventral side. The off-white markings on the lateral and ventral surfaces of preserved specimens remain whitish in living snakes. The discovery of *R. martin* is a poignant reminder of the hidden biodiversity still present in our world, often right under our feet.



Martin Wijesinghe - Image credit Ian Lockwood

Dr. Dinarzarde C. Raheem

Rhinophis dinarzardae is named after Dr. Dinarzarde Raheem, a biologist renowned for her contributions to understanding Sri Lanka's terrestrial biodiversity, particularly snails. This species inhabits the central region of Sri Lanka, specifically the Knuckles Massif and nearby Makulussa Hill. These snakes are generally brownish with off-white edges to their scales, and some of them exhibit a pale pink flush on their ventral areas. The *R. dinarzardae* is especially notable because it has long been confused with another species, *R. philippinus*. The new species distinction was clarified through meticulous examination of scale patterns and DNA analysis.

The Journey of Discovery

The process of discovering these new species was a blend of modern science and old-fashioned fieldwork. The research team responsible for the discovery is a diverse group of dedicated scientists from both the United Kingdom and Sri Lanka. David J. Gower and Filipa L. Sampaio are affiliated with prestigious institutions in London; David is part of the Department of Life Sciences at The Natural History Museum, while Filipa is associated with both The Natural History Museum and University College London's Department of Genetics, Evolution, and Environment. Their collaboration with renowned scientists L. J. Mendis Wickramasinghe, and Dulan Ranga Vidanapathirana from the Herpetological Foundation of Sri Lanka were crucial.

The team examined historical specimens from renowned institutions such as the Smithsonian National Museum of Natural History and the California Academy of Sciences. These specimens, collected decades ago, provided critical insights into the distinct characteristics of the new species. Additionally, more recent specimens from the National Museum of Sri Lanka and the Department of Wildlife Conservation further confirmed the findings.

Field surveys in the Rakwana and Knuckles Massifs were essential in gathering live specimens and observing their natural habitats. The researchers used a combination of traditional morphological analysis and advanced DNA sequencing to distinguish *R. martin* and *R. dinarzardae* from other similar species. This comprehensive approach ensured that the new species were accurately identified and described.

Conservation and Future Research

The discovery of *R. martin* and *R. dinarzardae* is a call to action for conservationists and researchers alike. These species, like many other endemic animals, are potentially at risk due to habitat loss and environmental changes. Immediate efforts are needed to protect their habitats and mitigate threats.

Future research should focus on understanding the ecology and behaviour of these new species. Detailed studies on their diet, reproduction, and interactions with other species will provide valuable information for conservation planning. Moreover, continued exploration of Sri Lanka's lesser-known regions could reveal even more undiscovered species, highlighting the island's global significance as a biodiversity hotspot. The WNPS was one among several donor and sponsors who made this exercise fruitful.

The Significance of the Discoveries

The addition of *Rhinophis martin* and *Rhinophis dinarzardae* to Sri Lanka's rich tapestry of wildlife is a testament to the enduring mysteries of our natural world. These discoveries remind us of the importance of biodiversity and the urgent need to protect it. It is not just a scientific achievement but another indicator of the beauty and complexity of life on Earth. As we celebrate these new species, let us also commit to preserving the habitats that sustain them, ensuring that future generations can continue to marvel at the hidden wonders of nature. They call out to us to appreciate, study, and protect the natural world, safeguarding its incredible diversity for the future.

THE LAST RESPECTS

A WILD WATER BUFFALO FUNERAL

Concept, narrative and photography - Lanka Herath

Script and commentary - Chandima de Alwis, Sathis Dharmasekera and Mahendra Kalingamudali

It was a warm and humid morning in Block 5 of Yala National Park. We were on our way to catch the morning view of the picturesque Weheragala dam. The serenity of the morning was suddenly disturbed by an offensive smell. Looking through the window of the safari vehicle we saw a carcass of a wild water buffalo *(Bubalus arnee)* in a nearby water hole (Figure 1)

Later that day, it was just after 5 pm when we were driving back on the same route. Passing through an embankment, we stopped the vehicle to observe a herd of elephants slowly walking towards the tank. About 50 metres away and below we could clearly see the waterhole that we passed in the morning from high ground. The buffalo carcass was now surrounded by a group of wild boars, a few crocodiles and birds. The scavengers were enjoying a feast (Figure 2-4)

Figure 1

Figure 2

Figure 3

Figure 4

To our amazement, we saw the sudden entry of a herd of water buffaloes, most likely the one to which the dead buffalo belonged. They probably arrived at the waterhole, looking for the missing member and witnessed the fate their groupmate had fallen in to.

Figure 5

The wild water buffaloes, confronted the wild boars and crocodiles, attacked and chased them away. Though the entire herd was in combat mood, only the strong and possibly the more experienced took part in the clearing operation. We also noticed some water buffaloes providing security to the leader. Animal behaviourist consider this as an instinctual response to protect the herd from danger (Figure 5 and 6).

Figure 6

Figure 7

Figure 8

Figure 9

After clearing the area of scavengers, the entire herd came near the carcass of their colleague.

First the leader of the herd sniffed the carcass. Making a low keening noise, the rest of the water buffaloes, followed one by one to pay their last respects. One licked the body several times and spent a little longer near the dead buffalo. My colleagues guessed the dead animal must be her offspring (Figure 7-9).

Just as quietly and orderly as they arrived, they turned back and retreated into the jungle.

Figure 10

Figure 11

While the herd was bidding farewell to the dead colleague, another wild water buffalo was guarding and preventing a calf from going near the carcass. The calf's face looked mournful and judging by the expressions and behaviour it was in turmoil. Perhaps the calf was closely related to the deceased water buffalo (Figure 10 and 11).

I have been traversing jungles in Sri Lanka for the past 30 years, and the above event is easily the most disturbing, emotional and heart wrenching scene I have ever witnessed. Our entire group was teary and speechless for a considerable length of time.

It made us realize that there is not much difference between humans and some wild animals when it comes to bidding farewell to loving family members who die.

COMMENTARY

In almost all human societies, people gather to guard and watch remains of the deceased and grieve the deaths of friends, relatives, and fellow beings.

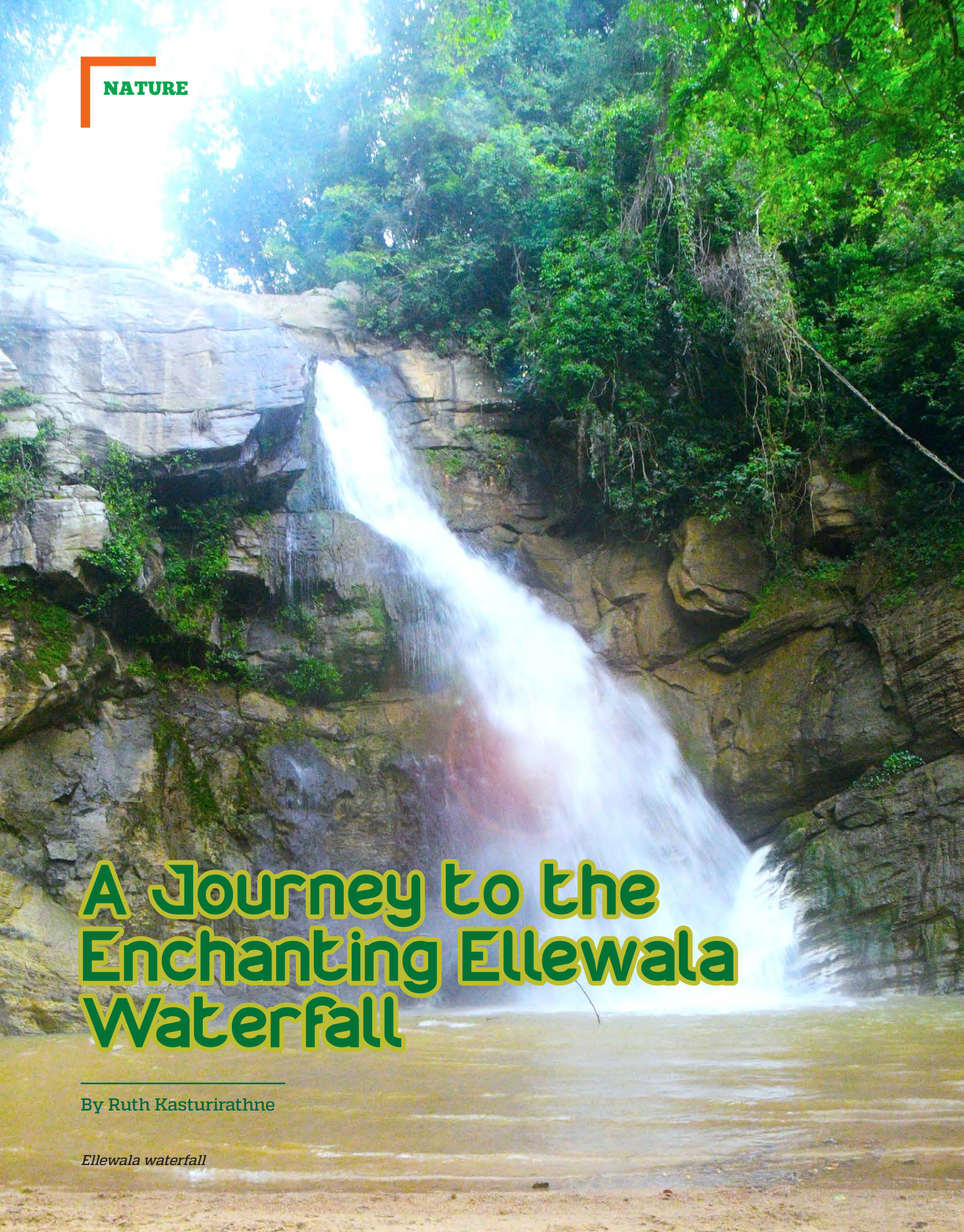
Only a little is known about mourning behaviours in wild animals, and some would argue that such behaviours are unique to human species.

As far back as 1871, Charles Darwin wrote that 'animals feel pain and misery'. A few case studies have emerged recently of some animals showing grieving and mourning behaviours when faced with the death of babies and fellow beings. The reported animals include elephants, cetaceans (i.e. dolphins and whales), primates including chimpanzees, baboons and gorillas and giraffes.

To the best of our knowledge grieving and mourning behaviours in wild water buffaloes has not been previously described or documented. Our episode highlights that grieving behaviour is not unique to human beings.

A Mugger Crocodile, captured by Thisura Wijayananda at a lake bordering Yala from a purpose-built hide, revealing the fascinating intricate camouflage designs on the predator's skin.

The elusive and eerie-sounding Forest Eagle Owl in a rare night shot captured on a WNPS PLANT location in Pannila by Sriyan de Silva Wijeyeratne.



A Journey to the Enchanting Ellewala Waterfall

By Ruth Kasturirathne

Ellewala waterfall

Hidden away amidst the lush jungles of Sri Lanka's Monaragala District lies a natural wonder waiting to be explored – the enchanting Ellewala Waterfall. With its pristine beauty and tranquil ambiance, this hidden gem offers a retreat for adventurous travelers seeking an off-the-beaten-path experience.

Location and Accessibility

Located just 7 kilometers from the bustling town of Wellawaya, Ellewala Waterfall is situated in Meddekanda village, away from the hustle and bustle of city life. The journey to this ethereal destination begins along the Ella – Wellawaya Road, approximately 27 kilometers from Ella. Do not forget to stop at one of the quaint roadside boutiques, to savor a cup of plain tea paired with sweet helapa or pol roti, a delightful local delicacy.

En route to Ellewala Waterfall, travelers encounter the picturesque Alikota Ara reservoir, a captivating pause along the journey. Nestled amidst lush surroundings, this reservoir spans an impressive 750 meters in length and stands 28 meters tall. Forming an integral part of the Uma Oya Downstream Development Project initiated in 2014, the reservoir harnesses the waters of the Alikota Ara stream, a tributary of the Kirindi Oya. Its tranquil waters offer a serene respite, with the evening ambiance often graced by the majestic presence of peacocks strutting along the bund.

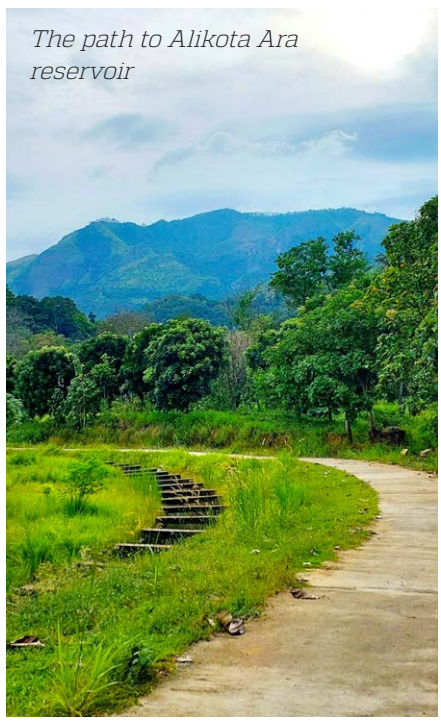
Upon reaching the Rathmal Vehera Ancient Temple, travelers embark on a rugged adventure through narrow paths and rocky terrain, immersing themselves in the untamed beauty of the jungle. The pathway eventually leads to the hidden marvel of the Ellewala Waterfall, where the sound of rushing water grows louder with each step.

A Sanctuary for Wildlife and the Soul

Standing at a modest height of 10 meters, the cascading waters of Ellewala create a soothing melody as they descend into the serene pool below. While the allure of this idyllic paradise may be irresistible, caution must be exercised due to the notorious undercurrents that have claimed the lives of unsuspecting visitors in the past (Newswire.lk, 2022). Even seasoned swimmers are advised to refrain from venturing too close to the deep end, prioritizing safety above all else.

As the adventurous traverse the jungle path, they are encouraged to embrace the rich biodiversity that thrives within this lush ecosystem. From curious insects to slithering reptiles, the jungle teems with life at every turn. Leeches in particular are a common presence, necessitating the use of appropriate footwear and repellents to mitigate their impact.

For those seeking a tranquil escape from city life, a visit to the Ellewala Waterfall promises an immersive experience amidst the symphony of nature. The jungle echoes with the harmonious blend of chirping birds and rustling leaves, offering a sanctuary for both wildlife and the soul. While the Ellewala Waterfall may not boast the same renown as some of Sri Lanka's more famous attractions, its unspoiled beauty and serene ambiance make it a hidden gem waiting to be discovered.



The path to Alikota Ara reservoir

Environmental Diversity

Beyond its aesthetic appeal, the Ellewala Waterfall serves as an important site for scientific inquiry and environmental conservation. Studies conducted by local researchers have documented the diverse flora and fauna endemic to this region, highlighting the ecological significance of preserving its fragile ecosystem (Gunatilleke, Pethiyagoda and Gunatilleke, 2008).

Dragonflies and Damselflies like the Crimson Dropwing *(Trithemis aurora)* and the Malabar Torrent Dartlet *(Euphaea fraseri)* may be observed in this area. The jewel beetles *(Buprestidae)* known for their iridescent colors as well as the Golden-backed Frog *(Hylarana temporalis)* can be found in foliage surrounding the waterfall area. The Green Pit Viper *(Trimeresurus trigonocephalus)*, Common Kukri Snake *(Oligodon arnensis)*, and the Common Wolf Snake *(Lycodon aulicus)* have been frequently noted in the surrounding jungle (Devaka et al., 2012;*IUCN Sri Lanka and the Ministry of Environment and Natural Resources, 2007*).

It's important to note that encounters with snakes in the jungle are relatively rare, and most species are fearful and will avoid confrontation with humans. However, it's always advisable to exercise caution and be aware of one's surroundings while exploring natural habitats. Additionally, local field guides or naturalists familiar with the area can provide valuable insights into the specific insect and snake species found in the Ellewala Waterfall area and its surrounding jungle.

Alikota Ara stream

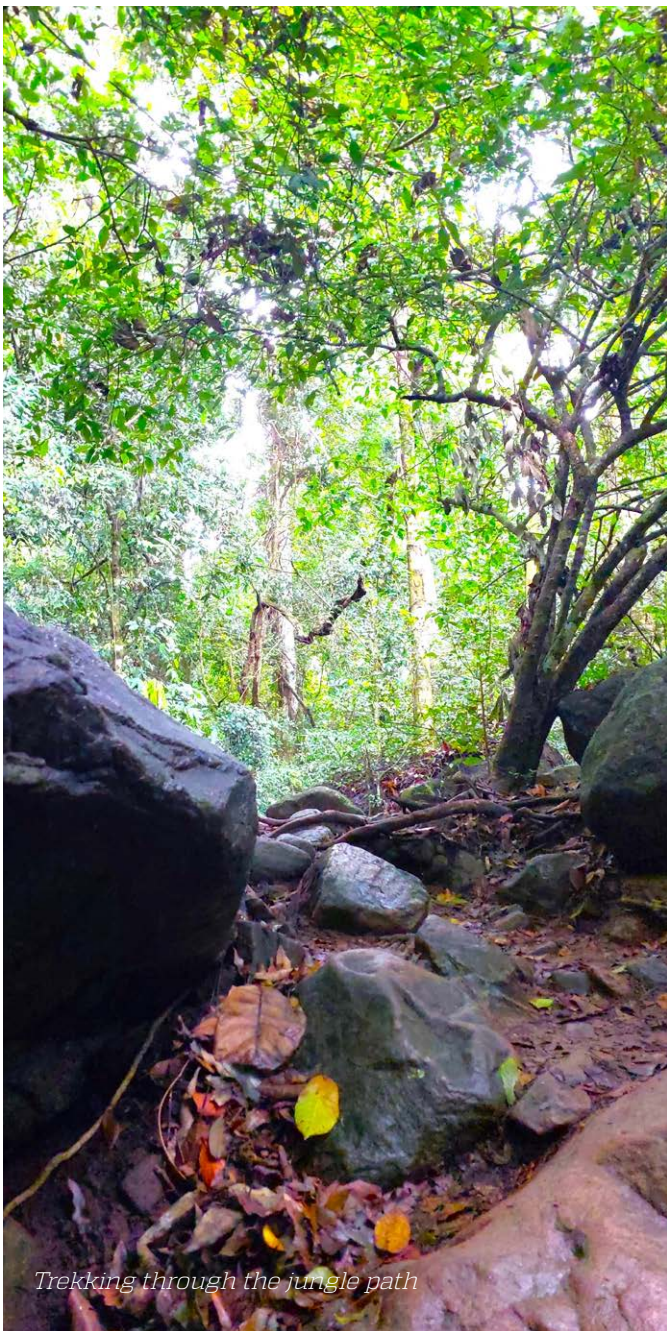
Water Hydrology and Conservation Efforts at Wellawaya

Ongoing research initiatives focus on assessing the water quality and hydrological dynamics of the Ellewala Waterfall and its surrounding watershed. Rapid urbanization and agricultural expansion in the region have led to increased sedimentation and nutrient runoff, posing significant challenges to water quality and aquatic biodiversity *(Pathirana, Thanapathy and Nandalal, 2017)*.

Efforts to implement sustainable land management practices and watershed protection measures are essential for safeguarding the ecological integrity of the Ellewala Waterfall. These measures aim to mitigate the adverse effects of human activities on freshwater ecosystems and promote the long-term conservation of biodiversity in the area.

Maintaining habitat connectivity is crucial for ensuring the survival of endemic species and preserving the overall ecological balance of the region. Fragmentation caused by human infrastructure development poses a significant threat to habitat connectivity, emphasizing the need for conservation strategies that prioritize landscape-scale connectivity and corridor protection (Samaranayake, 2023).

Promoting environmental education and raising awareness among local communities and visitors is key to fostering a culture of conservation and sustainable resource management. By engaging stakeholders in collaborative conservation efforts among diverse partnerships, we can empower a sense of collective ownership and responsibility in communities to become stewards of their natural heritage and ensure the long-term sustainability of the Ellewala Waterfall and its surrounding environment.



Trekking through the jungle path

Leave Nothing But Footprints

As visitors bid adieu to the Ellewala Waterfall, they are prompted to reflect upon the imperative of conscientious tourism practices. The dictum of 'leaving nothing but footprints and taking nothing but memories' underscores the necessity of minimizing human impact to perpetuate the pristine condition of this ecological marvel for posterity. With an acknowledgment of nature's endowment, travelers depart instilled with a revitalized reverence for the captivating allure of the Ellewala Waterfall and the untrammeled exquisiteness of Sri Lanka's wilderness.

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RESEARCH

The Ecological and Behavioural Adaptations of Sri Lankan Leopards in Horton Plains

By Sankha Wanniatchi

Horton Plains, located in the central highlands of Sri Lanka, is renowned for its unique cloud forest ecosystem. A cloud forest is characterised by persistent, low-level cloud cover, often enveloping the forest in mist. This high-altitude environment creates a lush, verdant landscape where trees and plants are continuously bathed in moisture.

In Horton Plains, the trees and mosses play a crucial role in converting mist into water. The dense canopy of trees captures the moisture from the mist, which then condenses on the leaves and branches. This condensed water drips down to the forest floor, replenishing the soil and providing vital hydration to the ecosystem. Mosses and epiphytes, which thrive in this humid environment, further aid this process by absorbing and holding onto the water, gradually releasing it into the ground. This natural mechanism ensures a steady supply of water, supporting the diverse flora and fauna that inhabit the plains.

The ability of Horton Plains' cloud forest to convert mist into water is essential for maintaining the delicate balance of this unique habitat, making it a vital water source for the region and a critical component of its ecological health.

Leopards *(Panthera pardus)* are incredibly adaptable cats, thriving in a variety of environments from African savannas to Asian rainforests and even urban areas. This adaptability is due to their opportunistic hunting strategies, diverse diet, and ability to climb trees to escape predators and store food. Leopards are the most widespread wild cat found across both Africa and Asia. Their stealth, camouflage, and solitary nature further contribute to their success in various habitats, making them one of the most widespread and resilient big cats.

Horton Plains National Park is home to the Sri Lankan leopard - *Panthera pardus kotiya*. As the only apex predator in Sri Lanka, they play a crucial role in controlling the entire ecosystem. These leopards have adapted well to their environment, which includes a cold climate, montane plains, and ever-changing weather patterns.

MIST AS A CAMOUFLAGE TO HUNT

I've often found myself pondering the behaviour of leopards in heavy mist. Do they come to a standstill due to reduced visibility, or do they take advantage of it as an opportunity to hunt? During my numerous excursions in Horton Plains, I repeatedly observed leopards exploiting the mist as a form of camouflage. These stealthy cats would crouch under tussock grass, waiting patiently for the mist to envelop the area. Once the fog rolled in, they would silently slip into hiding, becoming nearly invisible.

This led me to wonder: if leopards use mist to evade detection, could they not also use it to enhance their

hunting strategies? My subsequent observations confirmed this hypothesis. I witnessed several instances where leopards adeptly used the mist to their advantage while hunting. There were many attempts where they did not succeed, but I also saw a few successful hunts. It was truly astonishing to see how these leopards maneuvered with such precision, taking full advantage of the mist to close in on their prey. Their ability to blend into their surroundings and utilise the natural environment for both evasion and hunting was nothing short of extraordinary.

WHY DO HORTON PLAINS LEOPARDS LOOK DIFFERENT?

The leopards inhabiting Horton Plains share the same biological classification as their counterparts found elsewhere on the island. However, the environmental conditions in which these leopards dwell differ significantly from lowland areas. As a result, the leopards living in Horton Plains have adapted to their unique habitat.

Observing the elusive leopards of Horton Plains is a challenging endeavor. Yet, years of patient observation have yielded valuable insights, revealing fascinating characteristics of these remarkable creatures. On average, male leopards measure approximately 1 to 1.5 meters in length, and weigh between 37 to 90 kilograms, although larger specimens may surpass these limits. In contrast, female leopards are notably smaller, often less than half the size and weight of their male counterparts.

Throughout my years of documenting leopards across the country—from Yala to Wilpattu, Kumana, and, notably, Horton Plains—I've noticed that the highland-dwelling leopards tend to be larger. This observation is supported by a scientific principle known as **Bergmann's rule**. According to this principle, animals living in colder climates tend to be larger, as larger bodies retain heat better, while smaller bodies dissipate heat faster. A study found that a majority of bird and mammal species analysed—72% of birds and 65% of mammals—conformed to Bergmann's rule, providing a scientific basis for the observed trend among Horton Plains leopards.

To help conserve heat, animals develop an extra layer of body fat and a thick coat of underfur, both of which help to keep out the cold. These adaptations collectively increase body mass, making the animals appear larger. This likely explains my observation that leopards in Horton Plains seem slightly bigger than their lowland counterparts.

INHERITED SPOT PATTERNS

Leopard spot patterns, known as rosettes, are a defining characteristic of this magnificent feline species. These intricate clustered spots forming rose-like shapes, are distinct to each leopard, making them uniquely identifiable.

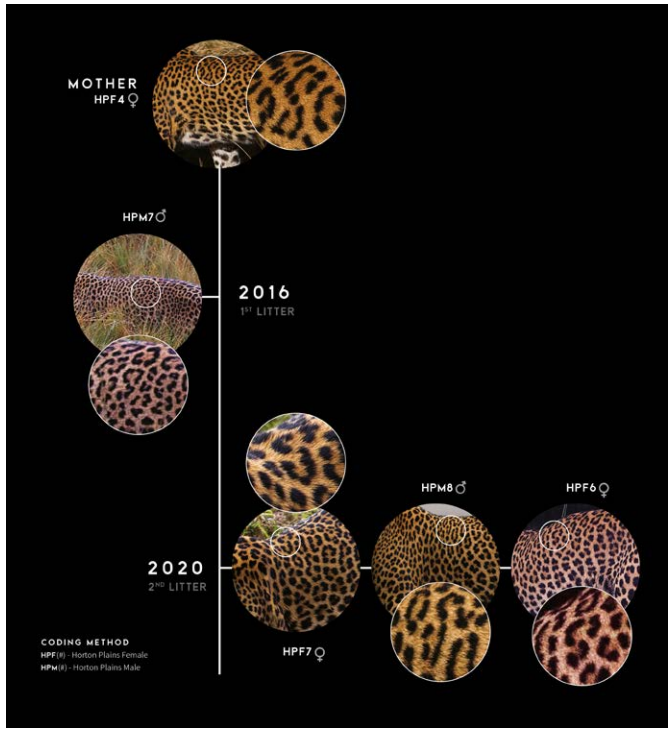
The primary function of these spot patterns is camouflage. Leopards inhabit a range of environments, from dense forests to grasslands, where their rosettes help them blend seamlessly into their surroundings. This natural camouflage is crucial for both hunting and protection. The dappled light filtering through trees or the varied textures of the savanna create ideal conditions for their spots to break up their silhouette, making it difficult for prey and potential threats to spot them.

I hereby claim, with supporting evidence, that certain distinctive markings can be genetically transferred from a parent leopard to its offspring. Each leopard we have documented possesses unique spot pattern variations, allowing us to accurately identify individual animals in the wild. These distinctive variations are found on the forehead, whisker area, cheeks, and the left and right flanks.

For instance, HPF4, an adult female leopard, has an identifying 'S'-shaped pattern on her left flank. While cataloging her offspring, including those from two different litters, we developed identification charts based on each leopard's unique patterns. By chance, I noticed the same 'S' pattern on HPF7, HPF4's daughter from her second litter, located further up her left flank, closer to the spine. Initially skeptical, I isolated the particular grouping of spots and color-differentiated them, confirming the resemblance. This discovery of the mother's "fingerprint" on the daughter was too significant to dismiss as a coincidence.

Motivated by this finding, I analysed images of HPF4's other offspring: HPM7 (male from the first litter), and HPM8 and HPF6 (male and female from the second litter and siblings of HPF7). After a little over an hour, my findings were conclusive—all of HPF4's offspring exhibited her distinctive 'S' pattern.

A study by Dr. Lucy Smyth and her colleagues supports the inheritance of spot patterns (https://link.springer.com/article/10.1007/s42991-022-00308-5). They analysed extensive photographic and genealogical data of a South African wild leopard population over 20 years. Using specialised software, they generated similarity scores for individual leopards and manually scored the number and position of whisker spots. They concluded that while some coat pattern traits are heritable, the degree of similarity is not consistently strong enough to predict genetic relatedness. However, when the relationship between mother and offspring is known, observed pattern similarities can be attributed to genetic inheritance.



LEOPARD CONSERVATION

Leopards are fascinating and elusive creatures that roam across various habitats, yet they remain remarkably understudied. Despite being one of the most widespread big cats, there's still so much we don't know about them. Their elusive nature, solitary behavior, and nocturnal habits make studying them in the wild extremely challenging. As a result, there are significant gaps in our understanding of their behaviour, population dynamics, and ecological roles. Additionally, their secretive nature means they often go unnoticed, leading to underestimated population numbers and misunderstood conservation needs. Efforts to study and conserve leopards are crucial for preserving their dwindling populations and maintaining healthy ecosystems, but the challenges of studying these enigmatic cats persist.

As both a wildlife photographer and a conservationist, I want to emphasise the vast amount of knowledge yet to be uncovered about leopards. Despite spending considerable time photographing these majestic creatures, many of us struggle to grasp their behaviour and uncover the mysteries surrounding leopards in Sri Lanka. Over the past eight years, I've had the privilege of studying leopards in Horton Plains as a citizen scientist. This experience led me to publish a book titled "Ghost of the Clouded Plains," which delves into their morphology and behaviours. I take pride in sharing the insights gleaned from my research through this book, aiming to raise awareness about these elusive cats inhabiting the mountains.

As apex predators, leopards play a crucial role in regulating prey populations, which in turn affects the balance of entire ecosystems, especially in fragile ecosystems like Horton Plains. By controlling herbivore numbers, they prevent overgrazing and help maintain the structure and diversity of plant communities.

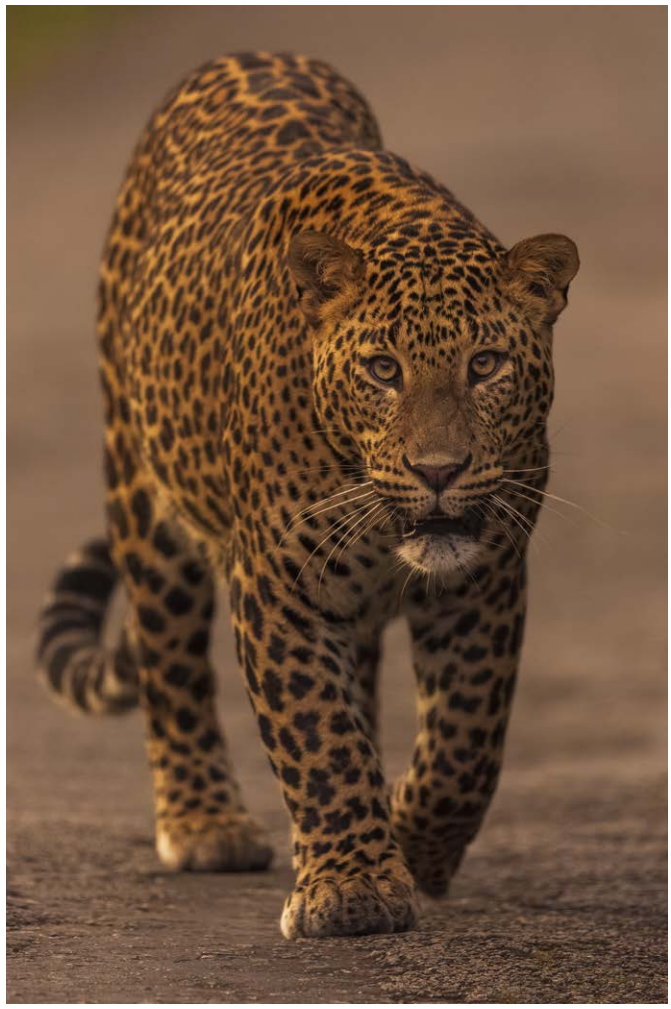
Additionally, leopards serve as indicators of ecosystem health. Their presence or absence can reflect the overall well-being of an ecosystem, making them valuable symbols for conservation efforts. Protecting leopard habitats also benefits countless other species that share their ecosystems, contributing to overall ecosystem resilience.

From an economic standpoint, leopard tourism can generate revenue for communities through wildlife viewing and ecotourism activities, providing incentives for conservation. Overall, conserving leopards is not just about protecting a single species; it's about safeguarding entire ecosystems and the myriad benefits they provide to both wildlife and humans.

As Sri Lankans, we have every reason to take pride in our country's only big cat species, the leopard. Not only is the leopard a majestic and iconic animal, but it also holds special significance as an endemic species. This means that the leopards roaming our island nation are unique to Sri Lanka, making them an integral part of our natural heritage. They serve as a reminder of the rich biodiversity that thrives within our borders and highlights the responsibility we have as custodians of this irreplaceable natural heritage.

In addition to their ecological significance, Sri Lanka's leopards hold cultural and symbolic importance. They feature prominently in local folklore, mythology, and traditional art, reflecting the deep connection between Sri Lankan culture and the natural world. By celebrating and protecting our leopards, we honour this rich cultural heritage and reaffirm our commitment to conserving the unique biodiversity of our island home.

In conclusion, as Sri Lankans, we should take pride in our endemic leopard species and recognize the importance of conserving their habitats. By safeguarding the future of the Sri Lankan leopard, we not only ensure the preservation of a iconic species but also uphold our responsibility to protect the natural treasures that make our country truly unique.



Two Lankan Whale Mysteries

by
Mark Hager

A blue whale pictured 15 Nautical miles off the coast of Mirissa by Chitral Jayathilake

Mystery One: Why Do Whales Get Hit By Ships?

Sri Lanka is one of the best places in the world to glimpse Blue Whales. Unfortunately, it may also be commonplace for ship strike, where whales get maimed or killed by big, fast-moving ocean vessels. In spring 2012, for example, a container ship steered into Colombo harbour bearing a Blue Whale carcass across its bow. (De Vos, Asha & Brownell, Robert & Wu, Tony. (2015). Recent Blue Whale Deaths Due to Ship Strikes around Sri Lanka. 10.13140/RG.2.1.3102.9921). Just days later, another Blue Whale carcass was spotted floating off the south coast.

High danger lies in the fact that both ships and whales for their different reasons cruise at the Indian (sub-) continental shelf edge a few miles off our southern shores. Organic nutrients from land and sea, drifting out and down, settle in cold water at the foot of the shelf. Prevailing winds push warm surface water away in mighty currents and this pulls cold water 'upwellings' to the surface from the sea floor.

Cold water's density holds oxygen tightly. Oxygen-rich and nutrient-laden upwellings trigger photosynthesis when they meet sunlight at the surface, fuelling phytoplankton blooms which--just up the food chain--sustain outbreaks of krill: pinkie-size orange crustaceans that Blue Whales gulp by the ton. That's why Blues like it here.

Meanwhile, the very same seas feature one of the world's busiest shipping lanes, especially thick with

massive fast-moving container and fuel tankers taking the shortest route between East Asia and points westward. Cruising just beyond the shelf keeps the trip at its shortest. (Cruising on the shelf risks running aground.) Some 100 ships slide past Dondra Head every day. As a seemingly inevitable result, 14 large whales (blues and others) reportedly died from ship strike in the 2010-2014 period.

Ship strike embraces collision/blunt trauma as with the 2012 whale in Colombo harbour and from propeller laceration as with the one found floating in the south. Concerned voices suggest that for every Blue Whale ship strike recorded another ten go unrecorded because the carcasses sink or drift into untraveled ocean. (The basis for this estimate may be a bit hazy.) Some contend that ship strikes pose the most serious threat facing endangered Blue Whale numbers. Others downplay the ship strike threat, especially in light of other dangers Blues confront, especially population numbers depleted by whaling and oceanic noise pollution confounding their critical sense of hearing.

A proposal sits with Sri Lanka's government to shift shipping lanes some 30 kilometres further out to sea. This could eliminate 95% of local whale strikes, according to scientists, adding only ten kilometres to Asia-Europe shipping distance and 0.5 % in higher costs. Objectors contend that such a shift would bring revenue loss for Sri Lanka because fewer tankers would stop here for fuelling and other services. The logic of this contention eludes me.

It is more than a little puzzling why whales fall victim to ship strike in the first place. Tankers emit deafening engine and propeller noise. Sound carries superbly through water. Whale hearing is exceptionally acute: whales may exhibit startle-flight responses even to underwater camera clicks. As roaring leviathans bear down on them, why don't hearing-superpower whales get out of the way?

For millions of years large whales have had little to fear from loud noises or anything else. If it doesn't sound like nattering orcas, you probably didn't need to worry. Evolution disfavours wasting energy on absent dangers, energy that can be used instead for developing useful structures and behaviours. Unlike sudden noises that startle, approaching ships begin with scarcely noticeable sound and build to a roar gradually. Most of the time no harm ensues. The era of large fast-moving ships is little more than a hundred years old: not much more than a lifetime for many whales. This is scant time for avoidance to emerge even as a learned behaviour, much less an instinct.

Some suggest that whales could often be sleeping when struck, though this explanation seems to forget that one whale brain hemisphere stays awake while the other sleeps: to maintain breathing, which in whales is not automatic as it is with us. Whales may often simply be too preoccupied with what they are otherwise doing—hunting, feeding, playing, communicating, courting, mating, nursing--to notice oncoming ships. In some places, moreover, there may be so many ships and so much ambient noise—some of it echoing off sea floor and other objects both natural and man-made—that whales fail to isolate accurately the source, proximity and direction of impending danger.

Especially chilling is the possibility that whales don't hear approaching ships at all, despite the glaring racket. There may be at least three reasons. First is a possible 'bow-null' effect: the ship's hull itself blocking engine and propeller noise, thereby creating an acoustic shadow directly ahead of the proceeding vessel. Second is a possible refraction effect. Sound waves starting horizontally near the surface get bent and pulled downward by colder, denser water just below, where they propagate more efficiently. Noise therefore passes beneath a whale at the surface until just before the ship is upon it.

Third is a possible reflection effect sometimes called 'Lloyd's mirror.' Sound waves generated slightly underwater may reach whales in a ship's course by two different routes: directly and by reflection off the water/air boundary at the surface. Until the ship is quite close, direct and reflected sound waves will reach the whale's ear almost simultaneously because the distance travelled by the reflected wave up to the surface and back down to the whale will be small compared with the horizontal distance travelled. Arriving simultaneously, direct and reflected sound waves are 180 degrees out of phase as they reach the whale's ear. This is because the reflected wave has bounced off the surface en route. In this opposite phasing, the trough of the reflected wave cancels the crest of the direct wave and vice versa. The result: silence.

As the ship gets closer, the up/down distance travelled by the reflected sound wave will grow in proportion to the horizontal distance travelled. Travelling proportionately farther, the reflected wave will reach the whale more and more belatedly compared with the direct wave. The crest/wave cancellation due to simultaneous arrival will dissipate and the whale will begin to hear the oncoming ship. Too late.

Terrible irony if whales sometimes surface precisely to escape infernal ship racket below and find relief smack in the path of onrushing behemoths. Peace and quiet, so lovely....

Mystery Two: Why Are Blues Crooning Flatter Year by Year?

Blues emit extremely loud moans so low in frequency as to be near or below unaided human hearing. These songs come only from males and factor in attracting mates. Mate-seeking Blues may hear each other across entire ocean basins, at least when there isn't too much other noise in the water.

Blues subsist in perhaps a dozen relatively distinct population groups spread across the world's seas. Though there is episodic overlap, there is also a fair degree of geographic separation. Each population (some would say 'subspecies') has a singing style common to all members but slightly different from those of other populations.

Recordings reveal the startling fact that the sound pitch of Blue songs across all populations has dropped just a bit every year for the past several decades, as long as we have been listening. Since the 60s, this pitch drop adds up to the equivalent of three white piano keys. If female Blues favour low-pitch singing year in and year out, male Blues will learn what to do.

Biologists understand 'sexual selection' as a process whereby females find certain male features or displays intriguing and that this drives genetic evolution. Holders of such features or display talents mate more successfully and pass genes producing those features or displays on to their sons, who themselves mate successfully in turn. In The Descent of Man and Selection in Relation to Sex, Darwin carefully distinguishes such sexual selection from 'natural selection' as described in The Origin of Species.

Blue Whale. Image credit Gehan de Silva Wijeyeratne

Through natural selection, animals compete and gene pools shift on the basis of comparative success in surviving. Through sexual selection, it's comparative success in siring offspring. Darwin stumbles into his theory of sexual selection while tormenting himself as to how outlandish peacock feathers could possibly confer survival value.

Even though it may be a mating display, the Blue Whale pitch shift cannot be an example of such genetically-propagated sexual selection. It affects the entire species year by year: far too fast to be genetic and generational. If we have males all changing their song display in uniform ways to keep up with what females deem alluring, we have something we might call 'fashion.'

But other possible explanations require consideration.

One hypothesis that quickly comes to mind is that whales are struggling for greater volume so as to make themselves heard over the roar of big ships and other oceanic noise like sonar and seismic surveys. But a louder call yields an upward shift in pitch rather than a downward one due to imperfectly-understood mechanics of Blue Whale sound generation. In southern seas, pitch rises in summertime (northern hemisphere winter), to be heard over the far-resounding racket of cracking Antarctic sea ice. The ice booms fall in roughly the same frequency (pitch) as Blue song.

There might be a better version of the ocean-noise theory, however, focused on range of signal, not volume. Longer-wavelength (low-pitch) calls dissipate energy less quickly into the water, whose molecules--closer in size to shorter wavelengths--disrupt high-pitch sound more easily. One way to visualise this is that long-wavelength sound diffracts (bends around and continues onward) as it encounters water molecules better than short wavelength sound, which tends to bounce back more and thereby dissipate wave propagation. So low-pitch (long-wavelength) singing cuts through noise pollution better. This explains why fog horns operate at low pitch.

Other approaches to the pitch-shift mystery focus directly on the apparent fact that the Blues are singing less loudly year on year. Other than the noise pollution/range theory just mentioned, why on earth would this be?

One theory links the lower-volume singing to global warming. Rising quantities of greenhouse carbon dioxide dissolving into the world's oceans causes seas to grow more acidic. High-acid water carries sound more efficiently than lower-acid water. Blues can then hear one another at distance more easily and they therefore lower their volume to conserve energy. But some scientists strongly doubt that rising ocean acidity yields enough difference in sound propagation to explain downshifting song volume.

Another theory pivots on good news rather than bad. Under the worldwide whaling ban over the past few decades, Blue Whale population numbers have revived nicely, from a low of perhaps four thousand to maybe 20,000 today. (Even with this pleasing rebound, Blues are still classified as 'endangered.') During the twentieth century's first half, Blues endured merciless hunting, whalers taking an estimated three to four hundred thousand animals as steamships along with cannon-launched and explosive-tipped harpoons overcame Blue Whale swim speed.

With today's increased numbers, Blues find themselves closer to one another on average as they swim the seas than they were back in the 1960s, when numbers were low just as the whaling ban went into effect. This increased proximity makes it easier for Blues to hear each other without shouting so loudly. Hence again, they drop their volume to conserve energy and thereby lower their pitch.

We have been recording Blue Whale songs only since around the time the whaling ban came into effect. Before that, maybe their volume/pitch had been going up as they found themselves at greater average distance from potential mates. Now the pitch is dropping back toward 'normal': so goes the theory. Again, there are sceptics, however, who note that the downward pitch shift has been happening even in places where Blue Whale populations have not been rising.

A third family of theories returns to mate selectivity. What could be driving a female preference for lower-pitch calls? One notion is that low-pitch singing, perhaps with longer song duration, is more challenging to perform than merely loud high-pitch screaming, which is why females find the lingering low ballads more compelling. This brings to mind male Bower Birds and Birds of Paradise, who earn mating privileges displaying skills utterly devoid of survival advantage.

Another theory is that larger males are for some reason inherently more capable of low-pitch song, so that females interpret low pitch as proxy for bigness, which is a survival advantage: faster swimming, higher endurance, more lung capacity. Natural selection would then have it that bigger males are more likely to survive until sexual maturity than smaller ones. But could males these days be getting bigger quickly enough to generate pitch drop? Maybe large males found themselves more heavily targeted by whalers than smaller ones but now have better chances of surviving?

Still another hypothesis piggybacks on the (unproven) idea that larger animals naturally produce lower pitch songs, but suggests that smaller males might also attract mates by sounding big through low-pitch wooing. Would anyone care to classify this as 'fashion,' sort of like padded shoulders in men's coats to mimic athletic build?

Any mate-selection theory must seemingly confront a sceptical challenge: why now? Unless pitch has been growing flatter ever since the Blue's emergence as a species two or three million years ago, mate selection based on pitch (if it exists) must be more recent. At the prevailing rate of pitch drop, songs will fall below Blue Whale hearing range by the end of this century. Since that would presumably destroy the whole point (unless that hearing range is itself evolving downward), could the pitch at some point start back upward? As the late great David Bowie puts it, Ooh-ooh, FASHION.

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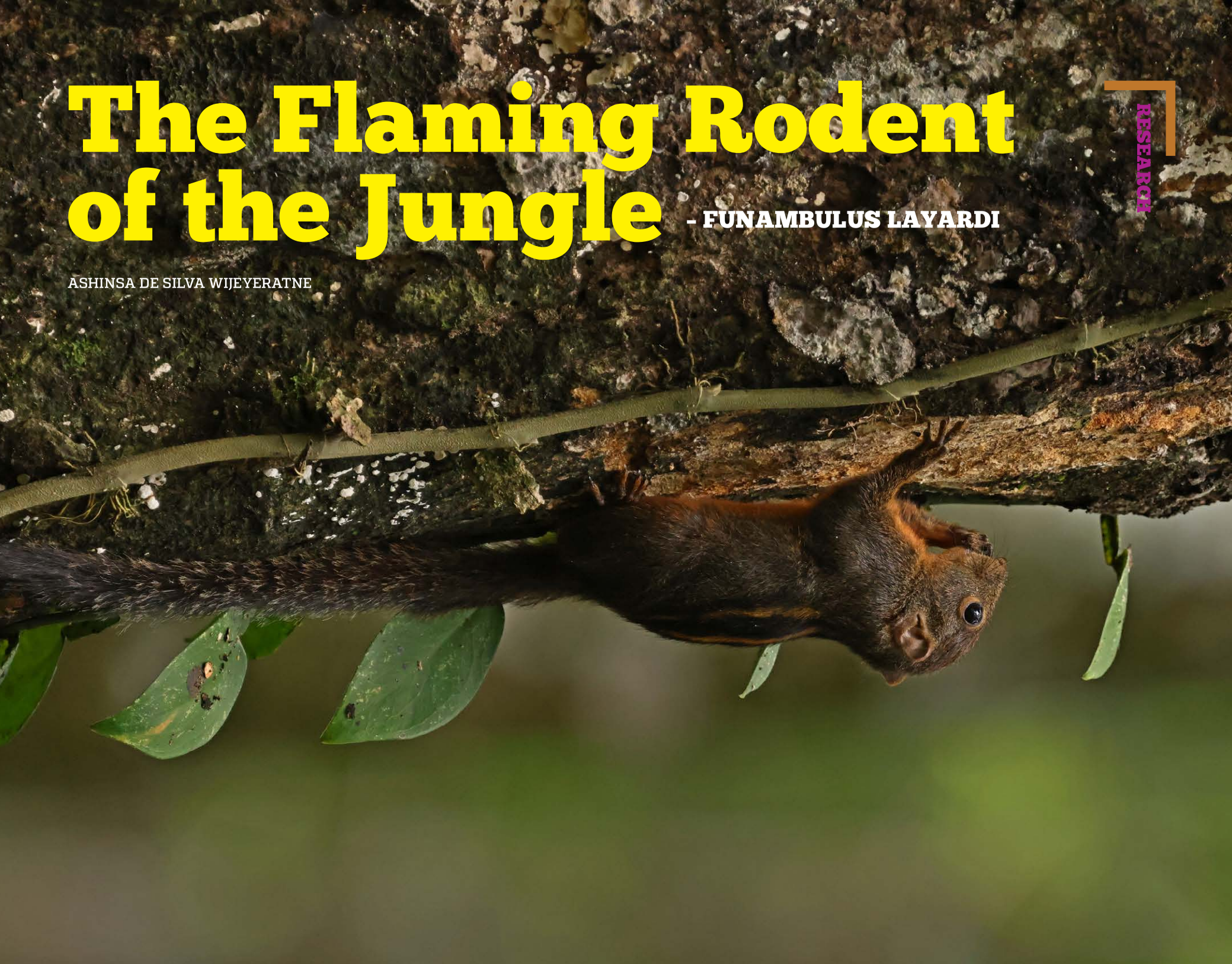
The Flaming Rodent of the Jungle

- FUNAMBULUS LAYARDI

ASHINSA DE SILVA WIJEYERATNE



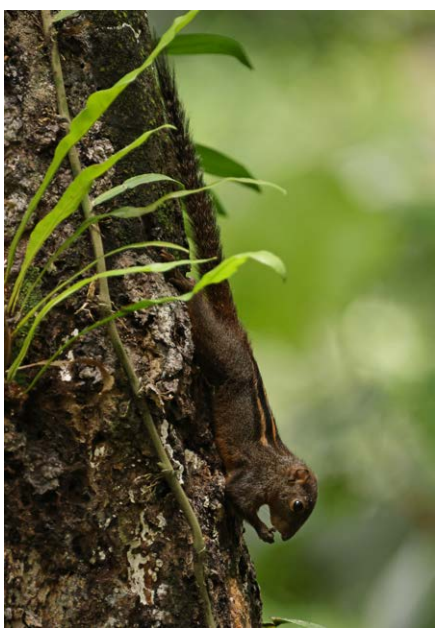
Squirrels are a familiar sight to many of us, having learnt to co-inhabit and share their environment with humans. Our frequently seen backyard visitor is the Palm Squirrel *(Funambulus palmarum)*, and while it is possibly the most common, it is one of six known species of squirrel that inhabit the island.

Squirrels are rodents, classified as such along with rats, mice, capybaras, beavers and porcupines. Around 40% of all mammals are rodents, and many are regarded as pests. Under the order Rodentia, squirrels belong to the family Sciuridae. The term 'squirrel' is derived from the Greek term 'skiouros,' from 'skia,' which means 'shadow,' and 'oura,' meaning 'tail.' The Grizzled Giant Squirrel *(Ratufa macroura)*, the largest of the squirrels in Sri Lanka (a.k.a the Dandu Lena), certainly lives up to its name with its large, bushy tail. Sri Lanka is also home to two species of 'flying' squirrels - *Petaurista philippensis* and *Petinomys fuscocapillus*. These unusual and elusive creatures can be seen at night, gliding between the tree canopies. The Dusky-striped Squirrel *(Funambulus obscurus)* is a species endemic to the island and can be identified by its dark colouring.

The most striking of the smaller squirrels, however, is the Flame-striped Jungle Squirrel *(Funambulus layardi)*, also known as the Layard's Squirrel. Although it has 3 dorsal stripes like the Palm Squirrel, the central stripe is broad and has a bright yellow-orange hue, giving it its name. Two subspecies are mentioned in the literature, spp. *layardi* and spp. *signatus*, with the colouration of the central stripe varying from yellow to orange between the two.

Elusive, wild and with a more nervous disposition than some of its counterparts, the Flame-striped Jungle Squirrel can generally be found in pairs. They forage and explore among the canopy but also at ground level, and despite being weary, can sometimes be seen near human settlements. They have been reported to follow flocks of birds through the forest, a behaviour believed to increase feeding success. An omnivore, they primarily feed on fruits, nuts and other plant matter, but will also eat lichens and small insects.

This striking small mammal was brought to our attention by a sighting on a property that is part of the WNPS PLANT initiative. The property lies in the Mathugama - Pannila region and hosts a plethora of rare and endemic species. The squirrel was spotted as a pair, in an area reasonably close to limited human presence, but with the foliage directly linked to a solid secondary forest patch. The pair were in the vicinity of each other, with one of them spending over fifteen minutes on a tree bark. During this period, the squirrel was busy munching away at the bark of an old partially rotting rubber tree trunk, which also had lots of lichen growing on it. Clearly, the contents were enjoyable to it, as the behaviour was not very skittish. One of the pair was observed to have a slightly shorter tail (but that could be caused by various factors), while the other's was bushier than its common counterpart. The sounds they emitted were more bird-like compared to the sounds of the Palm Squirrel as well. This pair had been seen infrequently around that area for over a month, and since it was during the rainy month of May, which coincides with their principal breeding season, one wonders if they would continue to occupy that general area and are indeed territorial or would move elsewhere over time.



The sighting of the Flame-striped Jungle Squirrel validates the importance of the conservation of private property and helps expand the known distribution range of the species. Currently, its range is largely reported as the central highlands, in Knuckles and near the coast of Matara. Wet zone forests and Sinharaja have been mentioned, but no specifications have been given. This recent sighting helps to confirm that the species moves and likely resides in the Mathugama-Pannila region and marks what is possibly the first reported sighting from the area. The real question would be the underlying reason or reasons for this. There doesn't seem to be too much attention given to this endemic species which is one of just twenty one endemic species of mammals in Sri Lanka (up from sixteen a while back). Considering the other species on that list, this one would be far easier to spot in most instances. Is the lack of attention simply due to a lack of charisma around it? Would more attention unlock broader presence? Alternatively, could the species be flexing its territory and moving over a broader range of Sri Lanka than documented so far, in response to habit loss and other factors? Either way, this sighting is adding new insight to that footprint.

The Flame-striped Jungle Squirrel was previously believed to reside in the Western Ghats in India, but it is now accepted that the species in endemic to Sri Lanka. As technology advances, molecular methodologies become a reliable way of understanding the relationships between species. Evidence from mitochondrial DNA showed that the Flame-striped Jungle Squirrel and the Dusky-striped Squirrel are closely related. Island biogeography often plays a role in evolutionary relationships and therefore, this close relationship between two endemic species of squirrel is interesting to note.

WNPS PLANT focuses on the conservation of private land, through both partnerships and acquisition of properties, stemming from an idea to create forest corridors where animals can have shelter and safe passage. Biodiversity surveys carried out on PLANT properties have found endemic, endangered and critically endangered flora and fauna, highlighting the need for further expansion of this initiative. Such properties have great potential to become study sites to observe and study species that may otherwise be inaccessible to scientists. Smaller forest patches provide critical refuge and hope for many species. Over time, it is likely that we can increase our understanding of these species, their behaviour, and their distribution, through networks like PLANT.

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RESEARCH

Impacts of Drought and Water scarcity on Water Resources in Yala National Park through GIS and Remote Sensing Techniques: a preliminary investigation

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ABSTRACT

The current study being conducted under the auspices of the Climate Change Subcommittee of WNPS, serves as an initial investigation into the effects of "local drought" and water scarcity on selected water tanks (wewa) in Yala National Park during 2019-2023. To understand the impact of water scarcity, monthly investigations using Remote Sensing (RS) and Geographic Information Systems (GIS) were conducted for each tank from 2019 to 2024.

The study reveals a substantial decrease in water levels during dry seasons, with notable examples such as Jamburagala Wewa losing 95.8% of its water and Katagamuwa Wewa completely drying up from May to August at least in the year 2020.

The reduction in water availability during droughts significantly affects the park's flora and fauna, particularly water-dependent species like elephants. Water scarcity not only threatens biodiversity but also impacts ecotourism. The results highlight the need for intervention from authorities and other stakeholders to reduce drought risk and enhance resilience in the park.

INTRODUCTION

Drought

Droughts and water scarcity pose significant challenges, not only to human communities and economies but also to wildlife and ecosystems (Wilhite and Pulwarty, 2017; Keyantash and Dracup, 2002).

Discussions about drought often focus on its impacts on humans and the economy, but the effects on wildlife are frequently overlooked (Smith et al., 2024). Wildlife has an intrinsic right to exist and plays a crucial role in maintaining ecological balance. Animals and plants are integral to the natural systems that support life on Earth, contributing to processes such as pollination, seed dispersal, and the regulation of pest populations. The decline of wildlife populations due to drought can disrupt these processes, leading to cascading effects that ultimately affect human well-being. Moreover, wildlife, being a part of ecosystems, contributes to enhancing the resilience of ecosystems against environmental stresses, including those induced by climate change (U.S. Global Change Research Program, 2018).

Drought and wildlife

Drought and water scarcity significantly affect wildlife by reducing the availability of essential resources such as food, water, and cover, leading to lower reproductive rates in adult animals (Vicente-Serrano et al., 2020). The impact of drought on animal communities is multifaceted and influenced by habitat, species interactions, and human activities (Sergio et al., 2018). The scarcity of food for adult animals impacts their milk production resulting in insufficient nourishment for their offspring, increasing their risk of starvation, disease, parasites, and predation. Additionally, the decreased growth of grasses offers less concealment for nests and young animals, making them more susceptible to predators. The reduction in water availability diminishes habitats for aquatic and amphibian species, forcing them into smaller, overcrowded areas and raising their vulnerability to diseases, predators, and competition (Baker et al., 2023; Colorado State University Extension, 2015).

Species respond differently to drought, influenced by their life histories. Drought can also impact individuals within a species differently, serving as a natural

selection mechanism where only those with suitable behaviours survive. Foley et al. (2008) studied the survival of an elephant population *(Loxodonta africana)* in a Tanzanian national park during a severe drought in 1993, finding that young males were particularly vulnerable and young mothers experienced higher mortality than more experienced ones. Mortality varied significantly between family groups, with those staying in the park suffering higher mortality than those that left.

Climate change

Climate change, which is one of the most devastating impacts that the world is facing today, could intensify droughts and scarcity of water in national parks, threatening their unique ecosystems and the wildlife that depends on them (Mpolokang et al., 2022). Water scarcity in national parks may escalate human-wildlife conflicts by concentrating populations around limited water sources, leading to increased interactions with human settlements adjacent to the parks. Additionally, diminished water availability within the parks could compel elephants to venture beyond park boundaries in search of alternative water sources, heightening the likelihood of encounters with human-inhabited areas.

Drought and human-elephant conflict

Drought exacerbates conflicts between humans and wildlife. For example, elephants in search of food may venture into suburban areas, damaging home gardens and fruit trees and occasionally breaking into houses to access stored grains. This increasing human-elephant conflict (HEC) in Sri Lanka is creating fear and economic hardship for residents and often leads to lethal measures against the endangered Sri Lankan elephant *(Elephas maximus maximus)* as a result (Köpke et al., 2023).

Benefits of wildlife and why they should be protected

Wildlife in national parks provide significant economic benefits, particularly through wildlife tourism, which is a major source of revenue for many communities worldwide (Rogerson, 2016). Safaris, bird watching, and other nature-based tourism activities not only generate income but also create jobs and promote conservation awareness. The presence of diverse and healthy wildlife populations attracts tourists, which in turn supports local economies and incentivises the protection of natural habitats. Ignoring the impacts of drought on wildlife overlooks these critical contributions and undermines efforts to achieve sustainable development and environmental conservation. Protecting wildlife from the adverse effects of drought is not just a moral imperative but also a practical necessity for maintaining the health and stability of our ecosystems and economies (Smith and Fitchett, 2020).

The story of Yala

This pilot study investigates the impacts of drought and water scarcity on selected major waterbodies in Yala National Park.

Yala National Park is renowned for its rich biodiversity, encompassing over eight ecosystems and habitats (Yala National Park Official Site, 2022). Significant species diversity includes a high density of leopards, making it one of the best places in the world for leopard sightings. Its diverse ecosystems, ranging from dense forests to coastal plains, provide vital habitats for numerous other species, contributing significantly to the conservation of Sri Lanka's natural heritage. Conducting a study on drought impacts in Yala National Park is crucial for understanding how changing climate patterns affect its unique ecosystems and wildlife populations. Such research can inform conservation efforts and management strategies to mitigate the adverse effects of droughts, ensuring the long-term sustainability of this ecologically significant area.

In light of these circumstances, the current study serves as an initial investigation into the effects of "local drought" and water scarcity on selected water tanks (Wewa) in Yala National Park. This investigation serves as a pilot study, marking the first step in a series of planned studies.

The research aims to address the following inquiries: (1) What are the variations in water levels within water bodies during peak wet and dry seasons ? (2) What potential ramifications might arise from water scarcity in the park with a special reference to the park's wildlife?

METHODOLOGY

Study area

The study area consists of 4 water bodies - Bandu Wewa (6°19'30.36"N, 81°22'47.63"E), Jamburagala Wewa (6°19'15.57"N, 81°25'33.00"E), Katagamuwa Wewa (6°23'27.64"N, 81°24'39.33"E), and Darshana Wewa (6°23'23.31"N, 81°28'4.10"E).

The study considered three seasons in the Yala region during 2019 and 2023: the wet season starting from the beginning of October to the end of January, the short dry season from February to March, and the long dry season from May to September.

Data

The study utilised satellite data to cover four tanks in Yala National Park between January 2019 and February 2024 using Sentinel-2 MSI images. Sentinel-2 is a wide-swath, high-resolution multi-spectral imaging mission that supports Copernicus Land Monitoring studies, including the monitoring of vegetation, soil and water cover, as well as observation of inland waterways and coastal areas.

To minimise the effects of cloud cover and seasonal changes, Google Earth Engine was used to download the Normalised Difference Water Index (NDWI) data for each observation. The NDWI from Sentinel-2 was employed to monitor water content in water bodies. Since water areas absorb light in the visible-to-infrared spectrum, the NDWI uses green and near-infrared bands to highlight presence of water with 10 m spatial resolution. The images of median values of the seasons were compared with the threshold values to determine the surface water areas.

The NDWI was calculated as: NDWI = (Band 03 – Band 08) / (Band 03 + Band 08).

Table 1: Summary of NDWI values for Bandu wewa, Jamragala wewa, Katagamuwa wewa and Darshana wewa.

Area	Year	Total Number of observations	Min NDWI	Max NDWI	No of instances NDWI < 0.3	No of instances NDWI > 0.3
Bandu wewa	2019	288	-0.55	0.157	68	0
	2020	292	-0.523	0.618	58	7
	2021	300	-0.508	0.229	76	0
	2022	284	-0.37	0.457	138	2
	2023	144	-0.553	0.511	141	3
Jamburagala wewa	2019	144	-0.431	-0.09	62	0
	2020	146	-0.493	-0.05	72	0
	2021	150	-0.542	-0.205	62	0
	2022	142	-0.423	0.058	136	0
	2023	144	-0.488	0.1	144	0
Katagamuwa wewa	2019	72	-0.506	-0.046	35	0
	2020	73	-0.568	-0.099	36	0
	2021	75	-0.472	0.044	37	0
	2022	71	-0.539	0.193	70	0
	2023	72	-0.493	0.051	71	0
Darshana wewa	2019	72	-0.288	0.303	30	1
	2020	73	-0.469	-0.013	29	0
	2021	75	-0.479	0.209	34	0
	2022	71	-0.339	0.278	70	0
	2023	72	-0.311	0.228	72	0

Note: NDWI >0.3 : Area covered with water surfaces

RESULTS

For ease of comparison, maps displaying the periods of highest water availability and greatest water loss for each tank are included. During the study period, year 2020 showed the greatest loss of water in tanks, according to the aerial maps and NDWI calculations.

The Bandu Wewa contained a surface water area of 0.1095 km2 during the wet season of 2019/2020, which was reduced to 0.0714 km2 (65.2%) during the short dry season in 2020 and completely dried out (100%) during the long dry season in 2020 (Figure 1: January 2019 (wet season) and Figure 2: July 2020 (dry season).

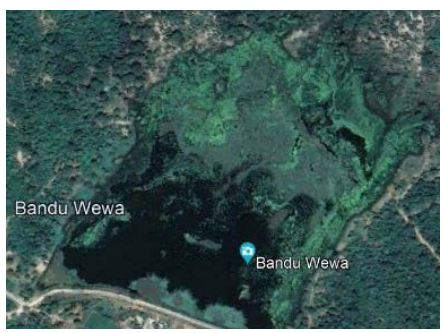

Figure 1 - Bandu Wewa – January 2019 (wet)

Figure 2 - Bandu Wewa – July 2020 (dry)

The Jamburagala Wewa, which has a water area of 0.0145 km² during the wet season, experienced a reduction in water area of up to 0.0139 km² (95.8%), and sometimes even a complete (100%) reduction, during the dry season (Figure 3: January 2019 (wet season) and Figure 4: July 2020 (dry season)).

Figure 3 - Jamburagala Wewa – January 2019 (wet)

Figure 4 - Jamburagala Wewa - July 2020 (dry)

The Katagamuwa Wewa showed a 73.5% reduction in water area from the wet season to the short dry period; however, further observation showed an increase (156%) in area with expansion of water areas after the intermediate rains in April and after the year 2020 (Figure 5: January 2019 (wet season).

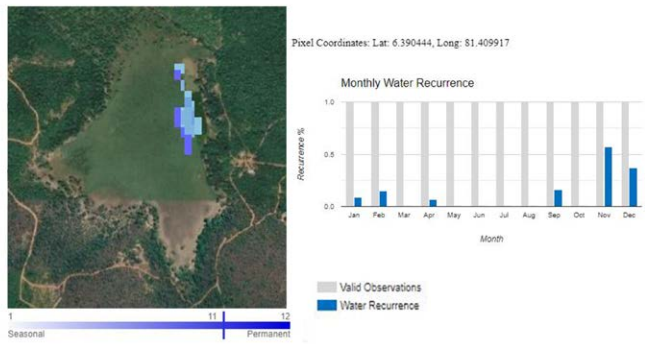

Figure 5 - Katagamuwa Wewa – January 2019 (wet)

The Darshana Wewa, which has a water area of 0.0656 km² during the wet season, experienced a reduction in water area of up to 89.6% (0.0068 km2), and sometimes even a complete drying out, during the long dry season (Figure 6: January 2019 (wet season) and Figure 7: July 2020 (dry season).

Figure 6 - Darshana Wewa – January 2019 (wet)

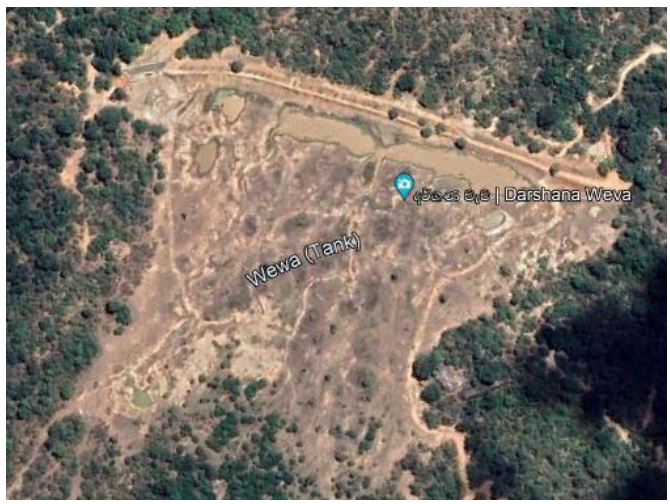

Figure 7 - Darshana Wewa – July 2020 (dry)

DISCUSSION

This study is the first to investigate any protected area in Sri Lanka to understand water scarcity during dry seasons and its impacts on water bodies.

Our study reveals a significant reduction in the extent of water bodies during the dry season. Notably, all four tanks had experienced a significant loss of water during the dry season. For instance, Bandu Wewa experienced a 34.8% reduction of water in the dry season compared to the wet season. Similarly, Jamburagala Wewa lost 95.8% of its water during the dry season. Katagamuwa Wewa did not indicate any water during the periods May- August. Darshana Wewa lost 89.6% of its water during the dry period and sometimes was completely dry. These results indicate the occurrence of "local drought" conditions in Yala National Park during certain months of the year.

To analyse spatio-temporal changes in water bodies, Remote Sensing (RS) and Geographic Information Systems (GIS) were utilised. Remote Sensing (RS) and Geographic Information Systems (GIS) are ideal tools for mapping changes in water areas and vegetation cover in various landscapes due to their capability to provide consistent, repeatable measurements at spatial scales suitable for capturing both natural and anthropogenic impacts (Kamwi et al., 2018). With recent advancements in computer technology, including enhanced processing power and sophisticated analytical features, along with increased data accessibility through open-source policies, RS and GIS have become integral technologies for characterizing changes in habitats and their attributes. These tools enable precise monitoring and analysis of spatial and temporal variations, facilitating better understanding and management of environmental changes and resource utilisation.

Concerns about "localised droughts" and water scarcity impacting water bodies in Yala National Park are paramount due to the park's ecological significance and its role in harbouring unique biodiversity. Yala, being one of Sri Lanka's major national parks, is home to a diverse array of flora and fauna that rely on consistent water availability. During drought conditions, the reduction in water levels adversely affects both plant and animal species.

Animals, particularly those dependent on water sources such as elephants and buffaloes, face severe stress when water tanks dry up. Elephants, who require substantial amounts of water daily, and buffaloes, who depend on water for both drinking and cooling, are particularly vulnerable. Furthermore, the scarcity of water leads to a reduction in tender fodder, essential for herbivores like elephants, exacerbating the impact on their populations.

Sri Lanka, as one of Asia's countries most affected by the climate crisis, is likely to experience more frequent and severe water-related issues in the future. Presently, many elephants are already observed moving towards buffer zones and villages around Yala National Park in search of water and food, leading to increased human-wildlife conflicts. This trend underscores the urgent need for proactive measures to manage water resources and mitigate the impacts of localized droughts on the park's ecosystem which contributes to the environment by supporting rich biodiversity, maintaining ecological balance through diverse habitats, and bolstering the economy through ecotourism.

On the other hand, Yala National Park is also contributing significantly to the local and national economy as a resource for wildlife tourism. The park's star attractions include the elephant and of course Sri Lankan leopard *(Panthera pardus kotiya)*, a distinct subspecies from its Indian counterpart, best observed from January to July. Yala hosts 32 mammal species, including threatened species such as the sloth bear, leopard, elephant, water buffalo, wild boar, spotted deer, sambar, and golden jackal (Kittle et al., 2017; IUCN, 1994). The park's environmental and cultural attractions draw numerous visitors annually, providing essential funding for conservation efforts (Buultjens et al., 2005). Since the end of Sri Lanka's civil war in 2009, Yala has experienced a surge in tourist numbers, peaking at 604,678 visitors in 2017, comprising 314,609 local and 290,069 foreign tourists. This influx has generated substantial revenue, with the park earning Rs. 669.83 million in 2017, the highest ever for a Sri Lankan national park. Thus, not only the environment but also the economic opportunities are affected by scarcity of water and drought.

A WAY FORWARD

The results of this pilot study draw attention of the authorities to reduce drought disaster risk in Yala NP that include implementing monitoring systems to continuously monitor water levels, vegetation health, and drought conditions, enabling proactive management and timely interventions. This study used only RS and GIS but for a more elaborative study, ground truthing should be included. Promoting the construction of reservoirs and retention basins, to ensure a sustainable water supply during drought periods will also be beneficial. Creating comprehensive drought management plans that include emergency water distribution and wildlife support measures should be among the priority actions to reduce impacts. The authorities should work with local communities, other government agencies, and environmental organizations to develop and implement policies aimed at sustainable water use, habitat conservation, and climate change adaptation, ensuring a collective approach to managing water scarcity.

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A Changeable Hawk-eagle beautifully captured with an Asian Openbill prey by Rajitha Bandaranayake in Yala Block 1

The Oriental Dollar bird pictured here from Deraniyagala by Dev Wijewardane

Recovery of a Rocky Shore at Mount Lavinia Following Extirpation of its Biodiversity

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The rocky shore at the Mount Lavinia Hotel Bay, north of the hotel, has been a treasured outdoor "laboratory" of intertidal marine biodiversity for many generations of biology students and casual visitors interested in nature (Fig. 1). It was therefore heartbreaking to learn of the Coast Conservation Department's 'beach nourishment' project in 2020, where sand was dredged offshore and dumped on the beach, burying all the rocks with the aim of widening the beach. Or so we thought. Little information was released about the project that was carried out during the Covid lock-down period that prevented the public from observing what was happening.

Over time, wave action washed away the sand (Fig. 2), and the rocks emerged, revealing that all the intertidal fauna and flora of the rocky shore had been killed (Fig. 3). Compounding this event was the episode of the ship X-Press Pearl catching fire on May 20, 2021 and sinking off the west coast of Sri Lanka on June 2, 2021. There were concerns that the surrounding water would be affected by chemical substances in the ship's cargo, which could have an adverse impact on the marine biodiversity of the area. The Marine subcommittee of the WNPS visited the beach in February of 2021 and was pleasantly surprised to see that life was returning (Fig. 4). More visits followed, as time permitted, and we built up a catalogue of more and more species—both fauna and flora—that were re-colonising the denuded beachside rocks.

Figure 1 - MLHB Rocky shore

Figure 2: Shows the height of the sand deposited that would have covered the rocks at right as well as the bay behind.

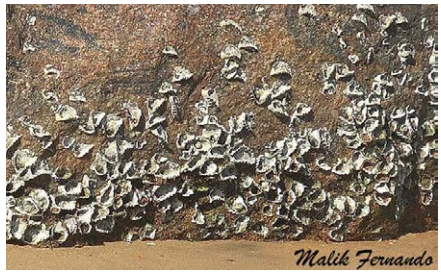


Figure 3: Lower valves of the oyster Saccostrea cucullata were all that remain of the intertidal biodiversity.

Figure 4: February 2021, a red alga Grateloupia lithophila has colonised a rock. These hosted a minute epiphytic red alga Ceramium sp. A few limpets, Cellana rota, are also present.

Our initial observations led to a Qualitative Visual Observation survey conducted from February 2021 to March 2023 with the objective of documenting the recolonization of flora and fauna. The study site was the rocky shore between the base of the hotel promontory to the south and the northernmost rock group, a distance of 200 meters between the red arrows (6°50'3.84" N, 79°51'44.68" E - 6°50'10.11" N 79°51'46.23" E) shown on the map in Figure 5. This map was drawn in 1995 as part of the Marine Biodiversity Mapping Project (MBioD) jointly implemented by the Sri Lanka Sub-Aqua Club and the S. Thomas' College Sub-Aqua Club from June 1995 to June 1997.

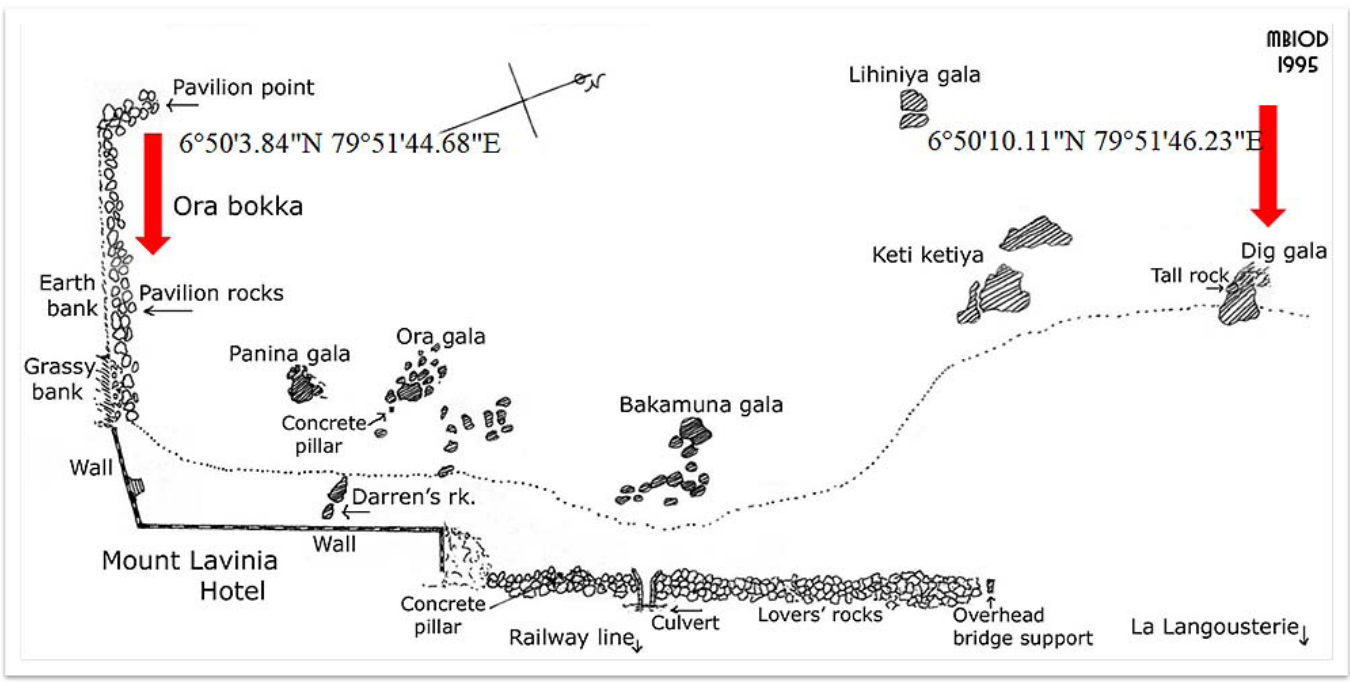


Figure 5

Nine random visits were made, three in each of the years 2021, 2022 and 2023. Observations of the animals and algae present were made and identified on-site, or specimens were taken for later study, or photographs were taken. Identification was done by one of us (MF) and compared with the list of species that had been compiled since the nineteen-eighties (unpublished personal records), including the period of the MBioD Project, and after.

Results

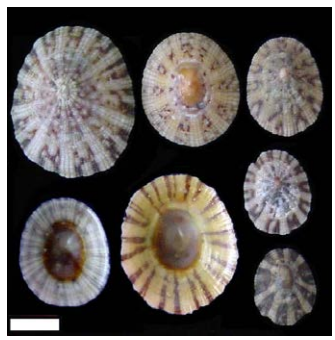
Nine pioneer species were identified, consisting of four seaweed species, one species of mollusc, two crab species, one barnacle species and a sedentary, tube-building segmented worm (Table 1). Images of these species are shown in Figure 6.

Table 1: The Pioneer species

Phylum, Family	Scientific Name	Common name
Chlorophyta, Cladophoraceae	*Chaetomorpha antennina*	Green seaweed
Chlorophyta, Ulvaceae	*Ulva compressa*	Green seaweed
Rhodophyta, Halymeniaceae	*Grateloupia lithophila*	Red seaweed
Rhodophyta, Ceramiaceae	*Ceramium sp.*	Red seaweed
Gastropoda, Nacellidae	*Cellana rota*	Limpet shell
Arthropoda, Chthamalidae	*Chthamalus cf. malayensis*	Barnacle
Arthropoda, Grapsidae	*Unidentified crab*	Talon crab
Arthropoda	*Unidentified hermit crab*	Hermit crab
Annelida, Sabellariidae	*Idanthyrsus sp.*	Sedentary tube-building worm

Chaetomorpha antennina

Ulva compressa



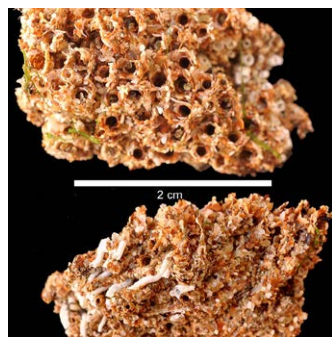
Cellana rota

Grapsid crab

Grateloupia lithophila

Ceramium sp.

Chthamalus malayensis



Idanthyrsus sp.

Fig. 6: The Pioneer species

During the three years of the study, 11 species of algae, 14 species of molluscs, and 7 species of other fauna were recorded (Table 2). All were species that had been previously recorded at this site, indicating the re-establishment of biodiversity. Associated findings on the beach were nurdles washed ashore from the X-Press Pearl.

Table 2: Species observed during 2021 - 2023

Gastropods	Bivalves	Green Algae	Red Algae
Cellana rota	*Brachidontes variabilis*	*Caulerpa racemosa v.*	*Centroceras clavulatum*
Patelloida striata	*Saccostrea cucullata*	*macrophysa*	*Ceramium sp.*
Clypidina notata	**Polyplacophora**	*Chaetomorpha antennina*	*Gracilaria corticata*
Littoraria undulata	Unidentified Chiton	*Ulva compressa*	*Grateloupia lithophila*
Nodilittorina pyramidalis	**Crabs**	*Ulva lactuca*	*Jania cultrata*
Echinolittorina biangulata	*Grapsus albolineatus*	*Undetermined*	*Pterocladia heteroplatos*
Tenguela granulata	Unidentified Talon crab		
Purpurea bufo	Unidentified Hermit crab	**Sea Anemones**	**Segmented Worms**
Purpurea persica	**Barnacles**	Unidentified species	*Idanthyrsus sp.*
Trochus radiatus	*Chthamalus cf. malayensis*		
Nerita balteata (Transient)			

Conclusions

The results indicate that there were no lasting ill effects of the burial, as many species with planktonic larval stages were able to re-colonise the rocky shore. While this maybe an indication of no major toxicity, we cannot comment on any lasting toxicity of the waters in the surrounding area following the sinking of the X-Press Pearl without deeper chemical analysis etc.

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Elephant Tales with Saba and Frank

Con Chats with Sriyan

Saba Douglas-Hamilton and Frank Pope, along with their three tall, beautiful daughters, recently made an incognito trip to Sri Lanka. Yearning for a family break and carrying fond memories of their last visit during the WNPS 125th Anniversary celebrations, Frank made the impossible happen and sprung a surprise on the family. Sun and Sand, Waves and Trains were on their mind as they put together the itinerary with priority on family time. But they did feel the urge to say hello to a few of our elephants and managed to pop over to the Udawalawe National park and the Elephant Transit Home. As one of my Conservation Chats (Con Chats) with different folks, I begged to squeeze in a few minutes to glean some insights from this dynamic duo, who kindly obliged.

Saba Douglas-Hamilton is a conservationist, filmmaker, and TV host. She served as a Trustee of Save the Elephants (STE) in Kenya for over a decade and is now their lead ambassador. Frank Pope is the CEO of Save The Elephants. Below are a few excerpts from our interaction with responses from Saba (S) and Frank (F).

HOW DOES ELEPHANT REHABILITATION GET IMPLEMENTED IN KENYA?

(S): We have two very different types of orphanages. One takes orphaned elephants more from north of the equator and the other one more from the southern parts. The latter is run by the Sheldrick Wildlife Trust, has been going on the longest, and has a well-oiled mechanism. Here, elephants are brought into a herd of orphans, they spend around two years in the Nairobi orphanage facility and are then taken to Tsavo and gradually rehabilitated there. They are walked into the bush with their keepers and gradually taken further and further away to get used to that environment. Eventually some stay out there and interact with the wild elephants, while some join herds, and others stay on their own. This program has had a lot of success.

Reteti is a Samburu community owned elephant sanctuary, and a younger operation, and they have just had their first sets of elephants go out on their own in recent years. This process has been a bit difficult with some anxiety as well. Here, the elephants are being reintroduced back to the same surrounding forest areas which also border the farming areas and these elephants would now come close to the farmers. Eventually, based on the team's learnings, they had to do a very different strategy with minimal people interaction with the elephants during rehabilitation, which is not easy as elephants are very social animals and need a lot of interaction. Elephants were initially released in an area which had Rhino fencing, but that strategy had a setback when the areas were hit by a terrible drought which had the elephants starving. Things are still evolving in the strategy now, but there is realization that human interaction would be minimal and that elephants cannot go back into fenced areas.

In ETH, although I have not seen enough of the program, it has some similarities, and the elephants are interacting with each other and developing connections and there will be a hierarchy emerging with foster mothers etc. within the herds being created. Here too, while elephants are released into the wild, people and farm areas are never too far away.

WHAT ARE THE BROADER ISSUES YOU ARE SEEING IN HUMAN- ELEPHANT INTERACTION IN KENYA AND THE REST OF THE WORLD?

(S): We've recently come out of a cycle which has been tough on agriculture. While that was stumping at our heels, the new cycle of Human Elephant Conflict is hitting us, with growing human populations and massive transformations of wild land into agricultural lands which includes former elephant habits being encroached

on. All of a sudden, we have elephants which come into crop lands at night, and often, these crops will have to last the people for an entire year. Naturally, people get excited and agitated and respond, and at times so do the elephants, which can result even in unintended fatalities. Bull elephants coming barging into someone's crop land at night can be terrifying. This is one side of the conflict. The other side is conflict in the nomadic areas where grasslands are compromised or disappearing entirely. When you get periods of drought the elephants go into the same areas as people, for water etc. At times, they approach villages where many huts are poorly built, and they break into the seed storage areas and water tanks, resulting in significant damage and causing a lot of anger and frustration. How do you address this very broad range of issues? Save The Elephants (STH) has a wide network of conservationists, and we started collating all the different techniques which we put into a manual called the Manual for Human Elephant Coexistence, and we have over a hundred different techniques which of course have different levels of costs and effectiveness in each case and situation. Some examples are as easy as simply putting sharp large stones turned upwards around the village water tank location. Elephant Bee Fencing has worked in some places in Africa and even in Thailand, and though the bees there are less vicious, the elephants still moved away from the sound of angry bees. Smelly elephant repellents like rotten eggs are smeared everywhere in some places. Different people use several techniques which can reduce conflict and if you reduce it by say 80% that is a major achievement. Empowering and providing people with tools to change this, rather than throwing their hands in the air and saying we are helpless against these big creatures, is what we hope to accomplish.

Saba and Frank at ETH in Udawalawe

WHAT ARE THE ROLES OF THE DIFFERENT ACTORS LIKE THE STATE AND PRIVATE NGO'S AND HOW DOES IT PLAY OUT THERE?

(F): There could be lots of answers depending on where you are working in Africa and in our case, we have tight relationships with bodies like the Kenyan Wildlife Research and Training Institute (WRTI) which is now separate from the Kenyan Wildlife Service. All wildlife is owned by the people of Kenya and any wildlife on your land belongs to the government and the agency looks after it. There are major roles for private actors and lots of wildlife is conserved on private lands with the help of various parties who work closely on this. There are also Community Conservancies, in addition to the government national parks. Kenya has around 20% of land protected and is working to get that up to 30%. (Editor's note: In Kenya, protected areas that are governed by wildlife laws fall under national parks (managed by the Kenya Wildlife Service), national reserves (managed by county governments) and conservancies. National parks and reserves cover about 8% of the country's land surface. About 160 conservancies protect about 11% of Kenya's land).

(S)- Over a long period of time the government was not functioning at the level required so the private sector stepped in to fill some gaps while working hand in hand with the government wherever possible. They are very involved, there are many NGO's, and it works best if everyone is open to it, and it then reinforces many positive things. We have always had a good positive relationship with the Kenyan Wildlife Services, and we need to seek their permission for radio collaring elephants etc. It has been a good journey and now they trust us and know that we are bringing science into conservation, and we are seen as a trusted voice and partner. Kenya has a strong elephant conservation body thanks to this partnership with good NGO's and with a government that is open to working with partners. That is not to brush off the many problems we have, and of course things can change regime to regime as well.

WNPS HAS BEEN PILOTING AN ELEPHANT LIGHT REPELLING SOLUTION AND WNPS PLANT IS BUILDING FOREST CORRIDORS. WHAT ARE YOUR THOUGHTS ON THESE AREAS FROM OTHER PARTS OF THE WORLD?

(S): There have been all sorts of different techniques which draw from the same core idea and have been reasonably effective. Even just simple LED flashing lights running on a car battery has helped with repelling forest elephants in some parts of Africa. It seems to work better with elephants who have less contact with people. The next big issue is maintaining corridors between connected areas. Whenever you start cutting elephants off from the areas that they need to go towards, then conflict emerges. Even elephants don't need to have huge areas to pass- they just need small corridors to move through and in Sri Lanka where it is complicated, and wildlife, humans, and elephants all interact and live in shared spaces and close proximity, the sooner one gets started on developing critical wildlife corridors, the better it is going to be in terms of keeping your endemic and endangered species alive. Much of this comes down to better landscape planning.

WHAT TECHNOLOGIES ARE BEING USED IN ELEPHANT CONSERVATION OVER THERE?

(F): The orphanage here (ETH) has been talking about using radio collars for tracking elephants and that has been around for 50 years and these are getting better using GPS. Now we have sensors and accelerometers like in the smart phone being built into the collar. The challenge is how to keep enough energy in that unit to keep transmitting heavy data. One of the innovations we had good success with from our Kenyan manufacturers is putting solar panels into the collar, and the latest collars have been out for two years. They have a main battery and a backup battery, and the main battery recharges off the collars. It has now been tested for two years and the battery has not yet used the backup battery, which is great. It would seem these collars last longer than our previous ones. This is really useful for tracking orphans since they behave so differently to wild elephants and that can cause problems with humans. It provides a great marker. Also, the analysis of all the tracking data helps us see how to look at preventing elephants from being poached, interpreting crop raiding behaviour etc. and helps in planning landscapes and elephant corridors.

Earth Ranger is software technology we have developed to run national parks and protected areas. This takes information from the collars, weather, cars, fence break sensors, camera traps, rangers, and all other sources and feeds them all into a single situational analysis tool to help manage large wildlife parks and similar locations. It was built leveraging our tracking software by a US company funded by former Microsoft co-founder Paul Allen and the solution is now being deployed in 220 protected areas worldwide, including places like Yellowstone. It also has the backing of a big company who keeps the technology hosted and updated, which is essential. Drones are an interesting area, and we are developing tools to analyze drone footage and quantify what you are seeing. On arial filming of elephants, we try to automatically put pointers on elephant shoulders, tails, ears and so on and then we study behaviour like relative body positions, ear flap rates and movement etc. through the drone footage and really try to quantify the dynamics of behaviour. We can watch a herd do crop raiding or introduce new elements like humans to see what they do and how we could prevent crop raiding through the lessons and so on. Sri Lanka and India are years ahead of Africa in that the human population pressure on animals is so great. Hence, we look to the Asian region to see how to not get into the situation prevalent here and prevent those issues in advance over in Africa.

There is a vast diversity of methods to coexist with Elephants – people have developed indigenous ways of living in harmony, but these have not been shared-certainly not with other countries. We have made a toolkit of techniques adopted and we are turning that toolkit now into a smart App and we are trying to train an AI and create an avatar so you can actually speak with the AI Nelly and work through solutions for your specific elephant problem, based on a decision tree etc.

PRIVATE SANCTUARIES- IS THAT SOMETHING TO ADOPT IN OTHER COUNTRIES?

(F): It depends on the political inclination in the country – sometimes it is unpopular thinking that private landowners can contribute that way. But in Kenya it is brilliant, and it typically happens in areas where there is traditionally private land ownership. STE does most of its research in a nomadic pastural landscape where there is no traditional land ownership, so it is more complex. The fertile areas which have the ranches, are prime areas and the private landowners are now getting together and making deals to manage their lands together and opening up the connections to enable wildlife to pass through each other's lands. They are looking at it as if it is common land managed for a common purpose and this is an important thing.

HOW'S THE HOLIDAY GOING AND YOUR PERSPECTIVES AS A TOURIST HERE?

(S) It is going great. We've had a beautiful time so far and were lucky in the park to come into contact with a nice family of elephants within half an hour and we just waited with them for an hour and there were some very interesting interactions. We enjoyed looking at what is similar and different in behaviour, and also how different these elephants are – they have longer lower lips, and their tails are longer, they manage their world with the single finger on the trunk and so on. But there are lots of other similarities as well. What is fascinating about Asian elephants for me is that they are more closely related to mammoths than the African elephants.

We've wanted to come by here ever since we came to Sri Lanka the last time at the invitation of WNPS. You've been battered recently as a country and that comes across in many ways. But still the people are welcoming, charming, and it's been wonderful exploring and discovering something new. Things have been delightful, and we've also been surfing a lot and mostly meeting the Sri Lankan waves. Our heart bleeds about what you are going through on elephant conflict and conservation. We can learn a lot from each other. We also see what can happen to our elephants in the future by looking at the issues today in Sri Lanka.

(F)- It has been interesting to see how the Parks work here and one needs to hire a jeep to go in. Some places in India for example only make it open for the local community to drive and guide within the park. That brings money into the local community. In Kenya we don't do a good job and many big city operators come in and they are not as keenly invested in the parks as the community. Here you have increasing tolerance and enthusiasm and reliance on the park and that seems to be going well. The beaches had a lot of people, but I can see why because they are wonderful. The people have been so friendly, and smiling seems to be a national tradition and the hospitality is amazing.

PLEASE SHARE YOUR ADVICE FOR YOUNG CONSERVATIONISTS

(S) If you have a burning passion to get into this field which, let's face it, is not going to make you rich but make you soul rich in getting enormous fulfillment in serving the wild world- my advice to you is - Never take 'No' for an answer. If you feel this is where you want to go, just keep going and every step you take is a step in the right direction- you may start working with elephants and end up with pangolins or plants, but each species is a part of this beautifully complex jigsaw we have to protect. We need it for our own survival and everything we can do to save the wild world is great and this is one of the best careers you can ever have.

Frank and Saba during the WNPS 125th Anniversary

Glossy Ibis Seen in Record Numbers in the Northern Province

The Triumphant Return of a Once Elusive Species

By David Jeevathithan Ambalavanar

CONTEXT AND OUR PAST

Sri Lanka is well known for its huge diversity of bird life, with over 468 species in total, including 34 endemic species and over 226 migrants (Rodrigo, 2020; Wijeyeratne, 2020). However, while many birds have received widespread media attention, such as the fabulous Greater Flamingos, one species has unfortunately missed out on its much-deserved fame, despite having an exceptionally inspiring story. This is the Glossy Ibis.

The Glossy Ibis (*Plegadis falcinellus*) is one of three ibis species found in Sri Lanka. The largest and most common species is the Black-headed Ibis (*Threskiornis melanocephalus*), a resident species found across Sri Lanka and much of Asia. Conversely, the Red-naped Ibis (*Pseudibis papillosa*), which is usually found in the Indian subcontinent, is the most recent ibis documented in the country, with the first sightings in Sri Lanka only being recorded as recently as 2021. However, it is the Glossy Ibis that is arguably the most enchanting of all. While Black-headed Ibis are black and white, and the Red-naped Ibis has brief bursts of colour across its body, the Glossy Ibis is a truly glamorous bird to behold. Even in their non-breeding plumage, Glossy Ibises possess a strikingly dark colouration that shimmers in shades of deep purple and maroon, with bottle green highlights on their wings. However, in the breeding season, the Glossy Ibis undergoes a breath-taking transformation.

In their breeding plumage, Glossy Ibises are positively dazzling to behold, having a vibrant purplish red neck and body, with emerald and amethyst highlights along their wings. They even possess an electric blue band across their face, adding to their enchanting appearance. This beauty has not gone unnoticed, for the Glossy Ibis, along with the Red-naped Ibis, have even been referenced in Sangam literature as anril and represented as a symbol of true love and devotion. However, there is far more to this bird than just its appearance, for the Glossy Ibis has perhaps the most poignant history of any bird in Sri Lanka.

Glossy Ibises are notable for having the widest distribution of any ibis species, being found across Europe, Africa and Asia, as well as North, South and Central America (Olson et al., 1981; Santoro et al., 2019; Taft, 2013). It is a migratory species, with European and North American populations wintering in Africa and South America, respectively (Taft, 2013). Asian populations of Glossy Ibis are also largely migratory, with only a few resident populations being recorded in western India (Sundar & Kittur, 2019). However, their history in Sri Lanka is especially notable.

A BITTERSWEET JOURNEY

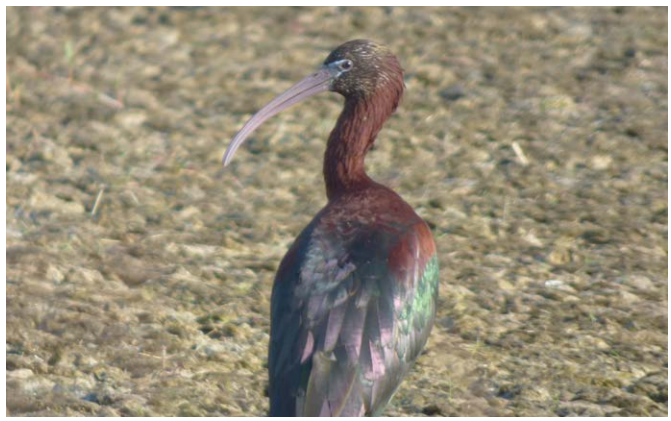
Since as early as the 1800s, Glossy Ibises were recorded in abundance on the island. However, for reasons still unknown, their populations began to dwindle rapidly across the next 50 years and, by 1938, not a single Glossy Ibis was left (Lankasara, 2020). At this point, the Glossy Ibis was gone in Sri Lanka and no individuals were observed for several years. Thankfully, this unfortunate absence was not to last and flocks gradually began returning in 1952. Over the next several years, populations gradually began to increase across the country and a total of 81 Glossy Ibises were recorded in the Muthurajawela wetland in 1995 (Lankasara, 2020). Glossy Ibis numbers continued to increase with each passing year, especially since 2015, and finally, in 2020, Glossy Ibis were reported to be breeding in the island (Rodrigo, 2020). This marked the first time the species was recorded breeding here in 148 years and was a truly heart-warming discovery (Lankasara 2020; Rodrigo, 2020). However, while this is where one story ends for many, there is so much more about these birds that has not received its due attention.

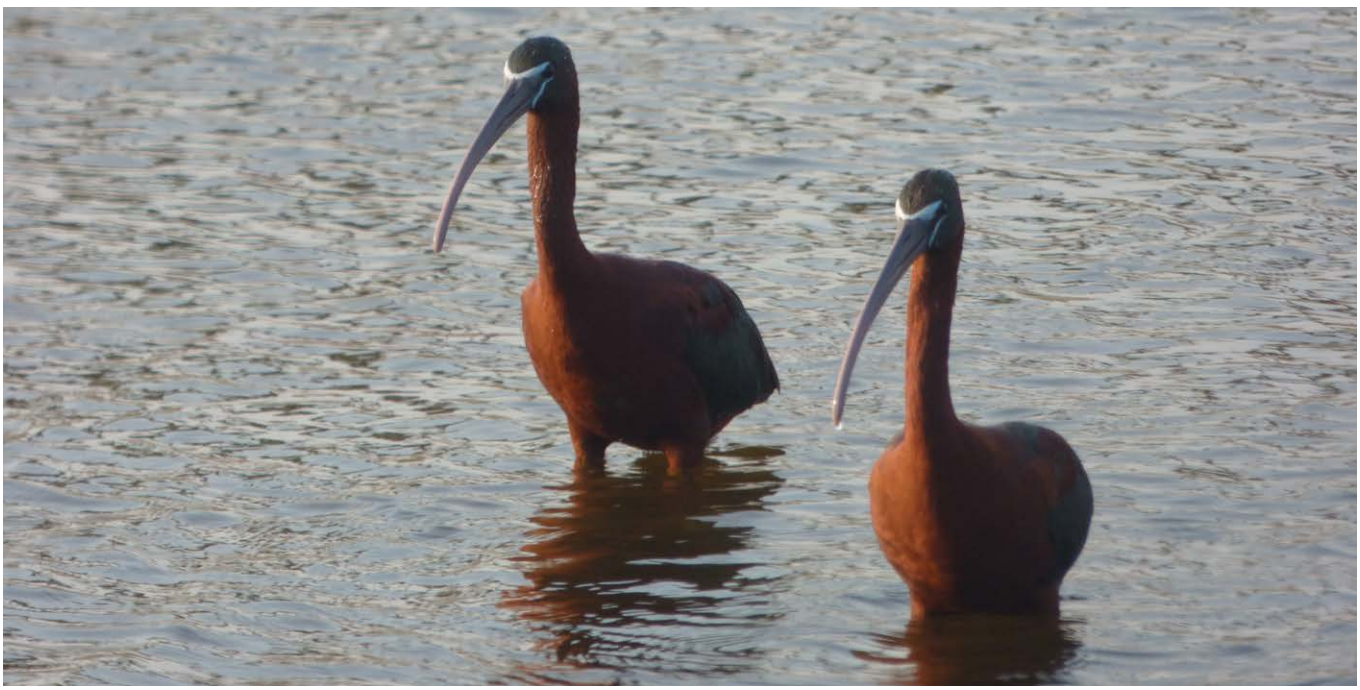
While sightings of the Glossy Ibis have continued across the past several years, most reports only record small flocks and the Glossy Ibis has even been classified as a scarce migrant due to the comparatively small flock sizes recorded (Jayathilake, 2020; Lankasara, 2020; Rodrigo, 2020; Wijeyeratne, 2020). However, the truth is far more wondrous and spectacular than one could have ever predicted. While Glossy Ibis populations may indeed be fewer in some parts of the country, this is not the case in the Northern Province at all. In fact, it seems the Northern Province is something of a sanctuary for these birds for not only are they thriving in this part of the country but they seem omnipresent!

NORTHERN HOSPITALITY

From October 2023 to February 2024, I was able to conduct several bird watching trips across much of Jaffna and was fortunate enough to observe huge flocks of Glossy Ibis across much of the Northern Province. These flocks were huge in size and consisted of several dozen Glossy Ibis, and some flocks contained over 50 individuals. The majority of these sightings occurred in wetlands in the Jaffna peninsula, near Kallundai, Kayts, Chemmani, Mandaitivu and Sarasalai, with similar observations in Mullaitivu and Mannar. However, what was most extraordinary is that such gatherings were not uncommon or difficult to find. In fact, almost every trip resulted in the observation of at least a few dozen Glossy Ibis. Yet, even these great flocks paled in comparison to the most spectacular sight I observed.

In January 2024, in Kallundai, Kayts and Mandaitivu, I was lucky to witness some truly gigantic flocks of Glossy Ibis consisting of over 100 and perhaps even 150 individuals! These flocks were so vast that they seemed to stretch from one end of the horizon to the other and blotted out the sky! However, the most amazing thing was that these flocks did not even seem to be a rare occurrence and I managed to observe such huge gatherings on multiple days across different locations. I had previously observed a similarly huge flock near Poonakary in February 2023. The staggering abundance of Glossy Ibis in the Northern Province is a wondrous revelation as it shows this once elusive species is not simply returning and breeding in the island but is also positively thriving! It is unfortunate that such observations have not been properly reported in the past, with only a few reports mentioning their presence in this part of the country (Rodrigo, 2020). Even as recently as 2020, it was reported that Glossy Ibis populations have not been recorded in Jaffna since 1968, when the reality today could not be more different (Jayathilake, 2020). Interestingly, before their disappearance, 'Glossy Ibises were reportedly extremely common in the Northern Province, and Jaffna in particular, and so their triumphant return to this part of the country is quite serendipitous (Jayathilake, 2020).





CONSERVATION QUESTIONS AND CHALLENGES

The abundance of Glossy Ibises in Sri Lanka today is a truly remarkable occurrence with huge implications for our understanding of these birds and their habits. It also raises crucial questions as to what has caused the Glossy Ibis to return in such abundance and how long they have been arriving in such numbers. However, most importantly, it also raises the question of how we can ensure they continue to thrive in our country. While the presence of so many Glossy Ibises, coupled with the recent observation of breeding, is a blessing for Sri Lanka, it also puts a crucial responsibility on us to ensure that our natural environments are well protected and cared for. Despite the huge numbers observed in the north, the areas they inhabit are far from pristine and are often polluted with plastic and waste. It is particularly tragic to see such beautiful birds in fields tainted by swathes of plastic and rubbish. Other dangers such as increasing air and noise pollution, as well as smog, are just as serious. These can have horrible impacts on the internal systems of birds and negatively impact their metabolism. Repeated ingestion of harmful pollutants may also prove fatal to such animals in the long-term and negatively affect future generations of these beautiful creatures. If our natural environments are not properly maintained, even these huge flocks of Glossy Ibises may leave Sri Lanka forever. The departure of these birds would be a very great loss as Glossy Ibises truly are an unsung success story of the country. They showcase just how varied Sri Lanka's biodiversity is and how the island has the potential to be a sanctuary for some of the most beautiful birds on the planet. Thus, it is imperative that we aim to clean the lands of this country and allow more of these amazing species to take residence alongside us, while of course providing ourselves with a cleaner home in the process. We do not have to do unreasonably difficult things either. Simple things, such as not dumping rubbish out on the streets and not littering natural environments or public spaces would help enormously towards building a cleaner, healthier community. Raising awareness, particularly among the youth, on the dangers and long-term impacts of such pollution would also be extremely useful for educating future generations. Most crucially, rules and regulations

on environmental protection must be properly enforced by the appropriate authority and conservation efforts should be properly monitored. These efforts would be extremely meaningful as Sri Lanka is already blessed with an astounding level of biodiversity, but it is not something many of us are aware of. This is especially true in Jaffna, and the Northern Province as a whole, for this part of the country is perhaps the most underrated in terms of its biodiversity.

JAFFNA'S REMARKABLE DIVERSITY

Jaffna itself is home to an astounding number of species but most are unaware of the wealth of biodiversity present. For instance, I have been fortunate enough to observe flocks of over 100 Greater Flamingos in Karainagar and several more sightings have been reported from Vallai. Areas such as Kayts, Kallundai and Mandaitivu are also home to huge flocks of migrating birds rarely seen in other parts of the island, including the Indian Spot-billed Duck and Northern Shovelers. Places such as Kayts, Kallundai, Mandaitivu and Sarasalai are also notable bird watching sites where one can see over two dozen bird species in a single outing. These places are also home to a truly staggering number of birds overall and I have seen gatherings of ducks, godwits, ibises and pelicans consisting of over 100 individuals in a single flock of each species. Many bird species here are also extremely beautiful, such as the Grey-headed Swamphen, Pheasant-tailed Jacana and Pied Kingfisher.

The mighty White-bellied Sea Eagle, the largest eagle in Sri Lanka, is another highlight and can be seen soaring spectacularly across the Jaffna skies with its magnificent two metre wingspan. These bird watching sites also present an opportunity to observe many precious and rare interactions between species. I have made amusing observations of an Egret shadowing a Black-headed Ibis hoping to steal its meal and a Brown-headed Gull attempting to bully a Glossy Ibis into giving up its fish - a behaviour known as kleptoparasitism. It is also important to note here that all birds are not just birds but are in fact the only known living relatives of dinosaurs, similar to the famous Velociraptor, and this is clearly evident in their abundant skeletal similarities. In fact, by pure scientific classification, birds literally are dinosaurs and part of the same group of dinosaurs as Velociraptor and T. rex! Therefore, Sri Lanka is quite literally a real Jurassic Park on a planet that is still a real Jurassic World! Our island is thus a haven for dinosaurs and that is an overwhelmingly humbling thought. However, it is not only birds that thrive in Jaffna. Mugger Crocodiles can be regularly observed in the waterways of Sarasalai and I have even been fortunate enough to have observed a trio of Sri Lankan Golden Jackals near Kayts! A few years ago, I would never have imagined that Jaffna was home to jackals, crocodiles or flamingos and yet the Northern Province remains a sanctuary with a truly wondrous ecosystem. Therefore, it is of extreme importance that rules and policies on protecting and maintaining such ecosystems, as well as minimising pollution, are taken seriously and properly enforced. However, the return and abundance of the Glossy Ibis is a promising start.

REDEMPTION

The Glossy Ibis is perhaps the most poignant symbol of not just how beautiful Sri Lanka's biodiversity is, but also how fragile. Where populations once numbered in their hundreds, suddenly there were none and their silence was heard and felt for decades; a solemn and saddening absence that will hopefully never occur again. However, the Glossy Ibis also represents something far more meaningful; redemption. While populations of hundreds did indeed become none, the presence of so many Glossy Ibises in the Northern Province today proves the opposite can also occur and that there is always the potential to build a better home, if only we can see the light. Therefore, I sincerely hope that Sri Lanka continues to be a sanctuary for all of its amazing wildlife and that we will be able to take measures, at least through our personal habits, to ensure we can continue admiring these amazing animals in our own backyards for many, many years to come.

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The Battle for Mannar

The Wildlife and Nature Protection Society (WNPS) has taken a bold step to protect the fragile ecosystem of Mannar Island by filing a fundamental rights application in the Supreme Court. This legal challenge directly confronts the recent cabinet decision to award the Mannar wind power project Phase II to Adani Green Energy Ltd., of India.

The Petitioner WNPS is represented by Learned President's Counsel Sanjeeva Jayawardana with Prashanthi Mahindarathe, Revan Weerasinghe and Rukshan Senadheera, instructed by S.W.A Amila Kumara. WNPS, known for its staunch advocacy for environmental conservation, argues that the project poses a severe threat to the island's unique biodiversity and pristine landscapes, especially in the Mannar Island. The island itself is home to several protected areas such as the Adam's Bridge National Park, the Viduthalaithivu National Park and the Vankalai Sanctuary. The former two were declared RAMSAR wetlands only a few months ago by the Minister Pavithra Wanniarachchi. In addition, Mannar is the southernmost point of the Central Asian Flyway used by innumerable migratory species, while also being home to several indigenous water bird and bat species. WNPS contends that the decision to approve the project was made without any appreciation of Mannar's singular positioning as a biodiversity hub, violating both national environmental protection laws as well as international Conventions. The organisation states that a severe threat exists that the construction and operation of the wind power project could lead to irreversible damage to these ecosystems. The Petitioner contends that the manner and form of these actions by various authorities grossly abuse the doctrine of public trust reposed in authorities like the Forest Department and Department of Wildlife that have blithely ignored the irreparable ramifications of this project in a protected area replete with vulnerable species and war affected population struggling to survive.


Weekend FT
Be Empowered
What should we commemorate in Sri Lanka in month of May?
Sri Lanka fails to meet 30% of IMF commitments due by end-April
IMF hails Sri Lanka's strong program performance
WNPS goes to Supreme Court against Adani's Mannar wind power project
for decades of enforced disappearances

The proposed Adani project will potentially raise the number of turbines on Mannar Island to 82, supplementing the 30 turbines already existing which has already caused staggering numbers of bird deaths, more than anticipated by the ornithologists consulted on

the project. If allowed to continue unabated the extension to the Adani project – titled Phase III – will pockmark Mannar island with 103 turbines across nearly 66% of Mannar's land mass which has been declared Energy Development Areas.

WNPS challenges the credibility of the Environmental Impact Assessment carried out by the Sustainable Energy Authority of Sri Lanka [SEASL] on behalf of Adani Green Energy. In fact, on page xxi of the Environmental Impact Assessment, it has categorically been admitted that "in the case of Thambapawani Wind Power Project, higher bird collision risks than predicted have occurred, as there are reported bird collision in the transmission lines". WNPS argues that this alone should act as a deterrent to proceed with this Project in Mannar, which contradicts the principles of sustainable development. While recognising the need for renewable energy sources, the organisation insists that such projects must be planned and executed in a manner that safeguards environmental integrity. This is particularly so when the EIA itself has identified alternative locations that are more suitable to set up a wind power farm and provides no rationale for how Mannar – the most vulnerable site – was chosen.

The Petitioner highlights a conflict of interest between SLSEA's role as regulator and their purported role as agent for the Adani group. Given that SLSEA also functions as a regulator, this dual role is inappropriate and raises concerns about the integrity of SLSEA's actions. The Petitioner deems it shocking that a regulatory body is acting as a project proponent, suggesting that SLSEA's actions are motivated by extraneous considerations and self-interest.

Under Section 16 of the Sri Lanka Sustainable Energy Act No. 35 of 2007, no entity can undertake an on-grid renewable energy project without a permit from SLSEA. Section 17 grants SLSEA's project approving committee the authority to issue provisional approvals, and Section 18 mandates this committee to approve or reject the final project applications. Thus, SLSEA is the primary licensing authority, making its role as an agent for AGESL in seeking an EIA particularly inappropriate and illegal. The Petitioner is also concerned with the SEASL's line Minister tabling power purchase prices in Parliament far in excess of those assessed in the EIA and entirely disproportionate with regional prices by the same supplier. The Petitioner is concerned that the Minister of Power and Energy Energy intends to approve the project despite lacking the statutory authority to act as the Project Approving Authority, which should be SLSEA.

The Petitioner requests the court to call for the recommendations or reports made by the Technical Evaluation Committee and the Cabinet Appointed Negotiation Committee under Article 126 of the Constitution. The Petitioner notes the project has been portrayed to the public as a Government-to-Government initiative with India, yet no details of contributions, grants, or loans from the Indian government have been disclosed. Additionally, the project lacks a competitive bidding process, and the Swiss Challenge method has not been followed, violating procurement guidelines. Given the project's proximity to protected areas, it required assessments and approvals from the Department of Wildlife Conservation (DWC) and the Coast Conservation Department (CCD), which were omitted, rendering the EIA void and unlawful.

WNPS's legal challenge seeks to ensure that the government adheres to the principles of environmental justice and accountability while supporting the Government's push towards renewable energy. The organisation calls for a thorough review of the decision-making process, emphasising the need for transparency, scientific rigour, and public participation. WNPS had also previously hosted a Press Conference to educate the nation on the issue.

The Way of the Jackal

The WNPS launched a landmark publication which has a thorough exploration of the enigmatic jackal with over 100 colour photos and insightful texts. This book unveils the intricate lives of these sometimes misunderstood creatures. The launch took place on the 16th of May 2024 at the BMICH in conjunction with the monthly lecture featuring the same species. The three authors handed over the first copies to their parents during the simple launch. The event also featured presentations sharing valuable research and background information on the Sri Lankan Jackals.


INTERVIEW

'The jackal is as amazing as your dog'

'The Way of the Jackal' co-author & Professor Sampath Seneviratne on some of the amazing facts discovered while studying SL's only wild dog

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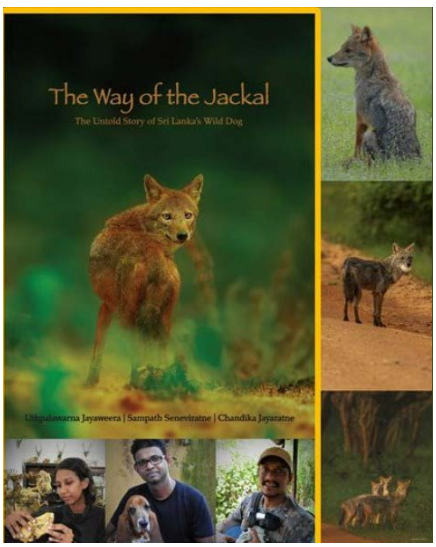

Protecting the Wedithalathive Nature Reserve

The Wildlife and Nature Protection Society filed court action against the Minister's unlawful act, seeking legal order to revoke the Wildlife and Forest Resources Conservation Minister's recent controversial decision to modify the boundaries of Wedithalathive Nature Reserve via Extraordinary Gazette

The Wildlife and Nature Protection Society (WNPS) has initiated a pivotal court action against the Wildlife and Forest Resources Conservation Minister. The legal challenge is a response to the Minister's recent and controversial decision to modify the boundaries of the Wedithalathive Nature Reserve, as documented in Extraordinary Gazette No. 2383/05, dated 6 May, which effectively disestablished a portion of this protected area. The WNPS contends that this action is wrongful, illegal, and unlawful, threatening to undermine decades of conservation efforts.


CONSERVATION

Vedithalathivu and the Lankan ecosystem


Daily FT

SC halts gazette altering Vidataltivu Nature Reserve boundaries

Celebrating World Environment Day 2024

The WNPS made significant national impacts on grassroots conservation, ecosystem restoration and awareness, as they launched multiple noteworthy initiatives and activities all over Sri Lanka on the 5th of June. Over 150 acres of new forest creation, a 13-kilometer forest corridor creation, urban greening, youth and student engagement and education sessions were among the activities this year. The WNPS with PLANT, the Wildkids, the Youthwing, the Climate Change subcommittee and the Marine subcommittee completed a series of programs in multiple locations. The programs were mainly focused on restoring the ecosystems which aligns with this year's World Environmental Day theme- Land restoration, desertification, and drought resilience.

PLANT took the lead in multiple campaigns, the largest being the launch of a 13-kilometer-long forest corridor creation in Thalawakelle in close partnership with the Talawakelle Tea Estates PLC (TTEL). The representatives from WNPS, PLANT, TTEL, CEA, the divisional secretariat, the forest department and the WNPS Youth Wing attended the planting event. The first phase of reforesting is funded by Avanti and Murtaza Esufally. A new strategic partnership and collaboration with the Colombo Municipal Council was launched and as a first step, plans to revitalise the Viharamahadevi Park were executed by planting endemic trees for canopy diversity and educational purposes. With the active support of the volunteers of the WNPS Youth Wing, 70 large root-balled endemic trees were planted in Viharamahadevi Park, belonging to 17 different species. Officials from the Colombo Municipality and the WNPS President participated in this activity.

The Wildkids of the WNPS collaborated with the Colombo Municipal Council to improve the greenery along the roads. The children from Modara Ananda Central College participated in this tree-planting activity, planting 20 tall, native root-balled trees along the Pangananda Mawatha. The Horana Plantation Group carried out a planting campaign on all their estates and along the Maskeli Oya, adding new plants to the 9km riparian forest we are creating there. Talks on "Nature-based Solutions for a Better Tomorrow" were delivered to over 100 undergraduate students at the Horizon Campus by the chairpersons of the Climate Change and Marine subcommittees. In parallel, the Youth Wing organised a programme at the British School to inspire students on the various aspects of the environment including the importance of reforestation. Some notional tree planting within the premises was also done as part of the activity.

We are proud that we were able to make the World Environment Day memorable with meaningful actions which will resonate for years to follow. We thank our many partners, teams, and volunteers who made this possible. Our work is never limited to special days, but on this day, we certainly made it special.

20 Acres of Extremely Valuable Bolgoda Waterfront Land Gifted

The pioneer in scalable private sector led ecosystem conservation, WNPS PLANT, marked another major milestone on its conservation journey when a 20-acre private land located fronting the Southern Bolgoda Lake was donated to it for ecosystem preservation and restoration under its Emerald Trails initiative. Through this generous donation made on the World Wetland Day, Chanake Seneviratne–the owner of the property, emphasized the importance of preserving natural ecosystems for future generations.

Bolgoda Lake, the largest freshwater lake in Sri Lanka, is a lifeline for many communities and home to diverse flora and fauna. It has been an Environmental Protection Area (EPA) since 2009. However, urbanisation, recreational activities, illegal encroachment, garbage disposal and invasive species threaten this ecosystem. To help preserve these ecosystems, Mr. Seneviratne donated 20 acres of land facing the Southern lake in Bandaragama, to PLANT. As the first private land donation made towards PLANT, this is a shining example of individual commitment to conservation and the welfare of future generations (see www.plantsl.org).

By securing habitats, PLANT actively helps mitigate human-wildlife conflicts, prevent species loss, serves as a wildlife refuge, and address the issue of climate change. PLANT's long-term goal is to create an 'Emerald Trail,' which is a network of natural corridors that connect fragmented forest patches and facilitate the safe migration of flora and fauna. PLANT properties currently protect many critically endangered species in several different locations. Inspired by the efforts of PLANT and its team, Mr. Seneviratne decided to donate this land, even though it has tremendous economic value. His action showcases the core values he holds as a responsible individual and his thoughtfulness speaks volumes and serves as a clear demonstration of his unwavering dedication to ensuring a sustainable environment for future generations.

Mr. Seneviratne stated: "My late father and I both enjoyed lots of time alongside these waters, with the many fish, birds, and other creatures, and his desire and mine were always to see these areas better protected. Neither of us want to exploit these beautiful areas for economic gain, and we would rather sacrifice that opportunity and give our future generations a chance to enjoy and appreciate the beauty of nature. We must preserve these intricate ecosystems for them, and that social responsibility outweighs any monetary benefit I could reap from this location. Donating this gives me immense joy and I hope this donation will support the fantastic conservation work being carried out by WNPS PLANT, and inspire others to come forward, make more land donations, and join forces with them to restore the biodiversity of this beautiful island."

STRATEGIC PARTNERSHIPS TO SAVE ENDEMIC ASOKA BARB

The Wildlife and Nature Protection Society created history by collaborating for the 1st time with the National Zoological Gardens of Sri Lanka, specifically the Dehiwela Zoological Gardens. The partnership to conserve the Critically Endangered Endemic Species *Systomus Asoka*, commonly called the "Asoka Pethiya or Asoka Barb" which was first discovered by our very own Rohan Pethiyagoda in a stream in Kithulgala in 1998, was launched on Friday 15th of March. This fish which is now considered a Critically Endangered endemic (CR) is one of the 415 species that can go extinct in Sri Lanka, according to IUCN Red list of 2020. The project which comes under the scope of the Hemas Endemic Project, will carry out a captive in-situ breeding program in the locality whilst providing the community in the locality the necessary education and awareness. This includes both the National Zoological Gardens and WNPS choosing the School Kalyani Maha Vidyalaya in Kithulgala to spearhead our education and awareness and make 10 of these children ambassadors to protect this species.

The CR Endemic Species comes under the project scope of the Hemas collaboration with WNPS where we will be choosing 52 CR endemics to protect and conserve their survival and to avoid these species going extinct. Hemas who have recognized that our country needs such conservation efforts have come forward with a significant funding and collaboration for 5 years, and they will be our backbone to help WNPS work with different researchers around the country to preserve at least these 52 CR endemics.

WNPS was represented by President Jehan CanagaRetna and the Endemic Project Coordinator, Sanjaya Weerakkody.

Learning about leopards: WNPS and LOLC carry out a countrywide school awareness program

The multi-regional monitoring system for the Sri Lankan leopard commenced in early 2022 with the overarching ambition of monitoring and safeguarding the future of the Sri Lankan leopard, with a particular focus on understanding the distribution and ecology of this elusive species. This five-year project constitutes three key pillars: ecological research, public awareness campaigns, and the execution of conservation initiatives.

"We believe that in addition to science-based research and conservation initiatives, the process of creating awareness, especially among the youth, is a key imperative in any act of conservation. In doing so, we can be certain that these principles are integrated practically into the lifestyles of the impacted communities and ensure that our efforts reap tangible results well into the future," stated Prof. Enoka Kudavidanage, representing the Wildlife and Nature Protection Society.

In line with this ambition, in the last 12 months, 92 awareness programs were conducted across regions recording a history of negative human-leopard interactions, encompassing the Eastern, Northern, North Central, Central, Uva and Sabaragamuwa Provinces. Accordingly, a collective 7,990 students participated in these programs, hailing from areas surrounding Panama, Kilinochchi, Sigiriya, Kotagala, BelihulOya, and Kalawana, to name a few. Sixty of the aforementioned programs took place in August 2023, in celebration of Sri Lankan Leopard Day, which falls on the 1st of the month, and was a proposal which originated from the WNPS itself. All programs displayed multi-stakeholder participation, with the WNPS and LOLC partnering with Grama Niladhari officers, and beat/range officers of the Department of Wildlife Conservation to deliver effective and impactful outcomes. Posters were distributed among the schools to be displayed on the notice boards, thereby continuing to reinforce the importance of conserving and protecting this species.

Panama Government Tamil Mixed School
(Conducted by Pasindu Fransisku)

Dimbula Tamil Maha Vidyalayam, Patana
(Conducted by S. Ranjith and R. Yuthahari)

Gaining International Recognition for Our Work

The collective efforts from our many teams, including both the full-time staff and our fantastic volunteer committees have not gone unnoticed by the outside world. Two of our staff members have been picked to participate in International forums, thanks to their passion and commitment, and the collective efforts of all, which lift them to greater heights. These are great examples of opportunities that WNPS staff members may receive through their roles within the organization, and we wish both our colleagues great success with their different endeavours.

Waruni Tissera will participate in the IORA Blue Carbon Hub Early Career Ocean Professionals Program 2024 in Australia. The programme will be undertaken at the CSIRO Indian Ocean Marine Research Centre in Crawley, Western Australia. CSIRO - The Commonwealth Scientific and Industrial Research Organisation, is an Australian Government agency responsible for scientific research. CSIRO works with leading organisations around the world. During her visit to Australia of several weeks, she will work on the development of policies for Carbon and Environmental Crediting in Mangrove Restoration Projects and Associated Livelihoods for Sustainable Conservation Practices and Economic Recovery in Sri Lanka. Waruni is a graduate from the Wayamba University of Sri Lanka, with a Bachelor's degree in Food Production and Technology Management with a specialization in Aquaculture and Fisheries, graduating with first-class honors. She is our Research Officer who is involved in the Accelerated Natural Regeneration of Mangrove (ANRM) project within the Anawilundawa RAMSAR Sanctuary, which is spearheaded by the Marine Subcommittee.

Pavithra Attanayake was the Project Lead – WNPS Youth Wing who engaged closely with the British Council on our work together by conducting community trainings for the Youth Leadership for Climate Action (YLCA) project. The British Council is turning 90 this year and to coincide with this, the organisation was developing a global network of 90 inspiring young leaders. With a mission to bridge cultures, spark dialogue, and drive positive change, the network serves as a platform for collaboration, learning, and action. They were seeking 90 young leaders aged 18-30 who had participated in previous or current British Council activities and who have demonstrated initiative, leadership and have made a positive change in their community, organisation or society at large.

The British Council of Sri Lanka selected Pavithra to represent Sri Lanka and present her work as a youth under this initiative. As a part of this program, there will be a study visit to the UK for the 90 selected individuals from across the world to meet and build their network. This event will happen in early July 2024. She believes it will be a great opportunity to learn from different young leaders and share her experiences. “I wholeheartedly believe these opportunities I receive are driven and strengthened by the work I get to do in the WNPS and I am thankful for the continued support extended by the WNPS to my growth” she says. Currently serving as a Senior Executive – PLANT and helping drive critical Ecosystem restoration across different locations, she works with multiple partners and stakeholders as part of her exciting role. She is in her final year, studying for a BSc. in Natural Sciences and holds an Advanced Certificate in Wildlife Conservation and Management, and an Advanced Field Course in Ecology and Conservation.

130th Annual General Meeting

As always, the AGM of the society is a significant event in our calendar and this year's proceedings at the BMICH were well attended by several youthful members and prominent personalities in addition to the strong regular membership. The new committee which took over is listed on the front page of this magazine. Making the day special was the awarding of an Honorary Life membership to Dr. Malik Fernando, our Past President, for his yeomen service to the Society and the wildlife community over the years. Proceedings ended with some refreshments and mingling, and these are some moments pictorially captured.


The Wildlife and Nature Protection Society
Honours Dr. Malik Fernando and confers an honorary membership
for your boundless dedication, guidance, and wisdom as a member, and for being a beacon of inspiration.
In recognition of your invaluable service and exceptional commitment to the Society.
Presented with deep gratitude and appreciation
at the 130th Annual General Meeting of the Society on May 11, 2024.


Wildlife and Nature Protection Society of Sri Lanka


WILDLIFE AND NATURE PROTECTION SOCIETY
EST. 1894

OUR ACTIONS TODAY DEFINE OUR FUTURE TOMORROW

LET'S PRESERVE OUR BIODIVERSITY

Sri Lanka has long been a paradise island rich in biodiversity, with conditions ideal for species to thrive. Our goal is to create greater awareness on our local ecosystems, not only to highlight the role you play in protecting our rich biodiversity, but also to inspire you to take action in preserving it for future generations.

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