



About Mandai Nature

Mandai Nature is dedicated to advancing efforts on biodiversity conservation in Asia, with a focus on averting species extinction, especially in Southeast Asia by delivering conservation programmes at scale with partners, as well as convening partnerships and collaborative alliances to address critical conservation outcomes. As the conservation arm of Mandai Wildlife Group, we also work closely with the Group to apply holistic conservation approaches by integrating ex situ and in situ conservation action.

Mandai Nature hosts the IUCN SSC Asian Species Action Partnership (ASAP) secretariat and the IUCN SSC Conservation Planning Specialist Group (CPSG) Southeast Asia Resource Centre. In 2022, we established the IUCN SSC Centre for Species Survival: Southeast Asia (CSS SEA), in collaboration with the IUCN Species Survival Commission (SSC).

Mandai Nature was jointly established by Temasek and Mandai Wildlife Group.

40

Wildlife conservation is at the heart of what we do. To conserve species, we also need to protect landscapes and create benefits for local communities.

Dr Sonja Luz CEO, Mandai Nature

OUR PURPOSE

A sustainable world where wildlife and people thrive together in healthy ecosystems.

OUR VISION

Wildlife

Mandai

Avert extinction of the most threatened species in Asia, especially in Southeast Asia.

OUR MISSION

Develop and deliver wildlife conservation programmes at scale.

CHAIRMAN MESSAGE



We stand at a pivotal moment in history, with warning bells from the Intergovernmental Science-Policy Panel on Biodiversity and Ecosystem Services (IPBES) echoing loud and clear. Approximately 1 million of the world's estimated 8 million plant and animal species are at risk of extinction, fuelled by human activity such as agriculture, hunting, logging, pollution, invasive species and climate change. If these trends are not reversed, the loss of our biodiversity will have detrimental effects not only for species, but for entire ecosystems and human populations.

The global chorus urging for united action in biodiversity conservation is growing stronger and more resounding among international bodies. The United Nations Sustainable Development Goals (UN SDGs) recognise that tackling urgent challenges to human lives goes hand-in-hand with protecting our natural world and the biodiversity within these ecosystems.

We need a nature-positive world for a sustainable future. This requires a global effort to invest more in nature and properly recognise its value. Current funding for biodiversity protection falls significantly below the mark, with estimates reaching \$166 billion per year. The actual requirement to protect biodiversity will need to be at \$1 trillion by 2030. Protecting nature comes with a hefty price tag, but it pales in comparison to the potential consequences of neglecting it. Investing in nature not only offers the prospect of reversing biodiversity decline, but also presents an opportunity to address the climate crisis, foster healthier landscapes and communities.

The establishment of Mandai Nature with financial support from Temasek Trust and Mandai Wildlife Group marked a milestone in the creation of an Asia-based conservation organisation. The goal is to drive tangible positive impact for species, landscapes and communities in the region through strategic partnerships and initiatives. An example is their involvement in a multi-stakeholder long-term conservation programme to repopulate the Critically Endangered Roti Snakenecked Turtle in the wild. Aside from species-focused conservation endeavours, Mandai Nature also believes in fostering strong connections between natural habitats and local communities. supporting projects that empower communities to actively participate in conservation efforts.

One such inspiring initiative is undertaken by our conservation partner, Ecosystem Impact Foundation, which has embarked on regenerative agriculture and conservation tourism activities to scale up community efforts in the protection of nature on Simeulue and its surrounding islands in Indonesia.

Wildlife conservation depends on a thriving natural habitat and economically engaged local community. To have a fighting chance, we must advance science, train conservationists, and attract sustainable funding in order to galvanise in situ projects with purposeful action. With continued support from our partners and sponsors, Mandai Nature will ceaselessly work towards making a Net Zero and Nature Positive world a reality.

Robin Hu Chairman, Mandai Nature Vice Chairman, Asia and Operating Partner, Temasek

CEO MESSAGE



I am excited to present Mandai Nature's inaugural impact report. This report captures key projects that we have been involved in. It is a culmination of the incredible hard work of the staff and partners in the field, and a reflection of the unwavering support from our Board, donors/funders and stakeholders throughout the year. Importantly, it presents an opportunity to underscore the importance of conserving nature.

In recent decades, the global spotlight has been on the climate crisis, drawing widespread attention and collective efforts towards finding solutions. Yet, amidst this concern, another critical catastrophe has quietly unfolded, demanding equal urgency and recognition biodiversity loss. This silent crisis presents severe and interconnected challenges to the well-being of our planet and all its inhabitants, including humanity. We must not overlook the consequences of diminishing biodiversity, for it is intertwined with the very fabric of life on Earth.

The landmark UN Biodiversity Agreement established at COP15 last year offers hope, setting unprecedented global conservation goals, and committing the world to halt and reverse biodiversity loss by 2030.

Southeast Asia's role is vital. After all, it is home to four of the planet's 25 biodiversity hotspots and boasts remarkable levels of species diversity and endemism. However, the region is also confronted by an alarming pace of species biodiversity and ecosystem decline, necessitating urgent action to prevent extinction.

Therein lies the mission of Mandai Nature – to deliver wildlife conservation programmes at scale with our partners in the field. As the conservation arm of Mandai Wildlife Group (which manages Singapore's zoological parks), we are also well placed to integrate ex situ conservation tools into in situ strategies as part of a One Plan Approach for long-term conservation success.

Over the past year, Mandai Nature has achieved significant milestones including the establishing of the IUCN SSC Centre for Species Survival: Southeast Asia (CSS SEA), the first regional centre of its kind in Asia and the convening of the Southeast Asia Climate and Nature-based Solutions (SCeNe) Coalition. Our support has enabled field programmes and research across more than 40 conservation projects in Southeast Asia, with a focus on non-marine vertebrates. These are amongst the region's

most threatened wildlife, yet do not receive the conservation attention they deserve. These include species like the Southern River Terrapin and Roti Snakenecked Turtle.

But these milestones are not ours alone to celebrate. We hope that the dedication of our staff and partners comes through as you read about the various projects in this report.

I know the journey ahead will be long and unceasing. But, it will also be an immensely rewarding endeavour that fuels our team's passion as we work towards increasing our conservation impact for a better, healthier and more biodiverse world for generations to come.

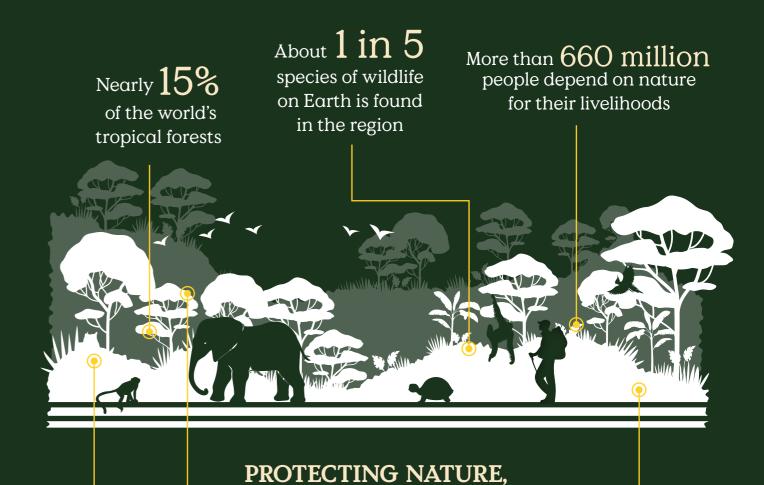
I would also like to take this opportunity to express our appreciation for Kavita Prakash-Mani, my predecessor. Her wealth of experience and visionary leadership has been instrumental in steering the organisation forward. She has left an indelible mark on our collective aspirations, and we thank her for her friendship and contribution during her tenure.

Dr Sonja Luz CEO, Mandai Nature

CONTENT

Southeast Asia's Biodiversity Challenge	9
Areas of Work	10
Conservation Impact	12
Wildlife Conservation Starts at Home	14
Powering Change through Partnerships and Collaborations	22
Extending Conservation Impact in the Region	32
Harnessing Strategic Partnerships for Conservation	44
Financial Statement	49
Looking Ahead	50
Board of Directors	52
Strategic Advisory Panel	53
Singapore Advisory Panel	54
Annex	55

SOUTHEAST ASIA'S BIODIVERSITY CHALLENGE



IMPORTANCE OF SOUTHEAST ASIA'S BIODIVERSITY Much of Southeast Asia's rich biodiversity is endemic to the region Up to 42%
of these species
could be lost by the
turn of the century
at current rates of
biodiversity loss¹

PROTECTS OUR FUTURE

S\$46 billion
in investments to
protect the biodiversity
of Southeast Asia's
forests and seas are
needed by 2030²

^{1.} Source: World Economic Forum, <u>How to address Asia Pacific's biodiversity crisis and encourage nature-positive growth</u>
2. Source: World Economic Forum, <u>How Southeast Asia can simultaneously protect nature and generate \$2 trillion a year</u>

Mandai Nature aims to avert extinction of threatened species in Southeast Asia through its roles as a:



Builder

Build conservation, research and management capacity of local and national NGOs, students and academics, and other stakeholders.



Catalyst

Catalyse and enable conservation field programmes and research to be delivered through partners. Co-design solutions and research projects, as well as support partners through grants, expertise, and conservation networks.



Convenor

Convene partnerships and host multi-stakeholder collaborative alliances to address critical conservation outcomes.

BUILDER - CATALYST - CONVENOR

Save Southeast Asian species by linking ex situ and in situ conservation interventions



Save Southeast Asia's most threatened species

Conservation projects and partnerships for α City in Nature

SINGAPORE

RESERVE

MANDAI WILDLIFE



AREAS OF WORK

Protect critical ecosystems, engage communities and promote conservation tourism

Biodiversity conservation and management at the Mandai Wildlife Reserve



Address illegal and unsustainable wildlife trade

Conservation research, training and capacity building



Assess-Plan-Act to save species

BUILDER - CATALYST - CONVENOR

MANDAI NATURE IMPACT REPORT 2022/2023

CONSERVATION IMPACT



More than 40
projects supported
and funded in Singapore
and Southeast Asia

Created positive impact for more than 30 partners in Southeast Asia

Targeted conservation action for over 50 threatened Southeast Asian species*

Scaled up on 5

projects to ecosystem restoration and nature-based solutions for climate and community development

Over \$\\$3.6 million invested in biodiversity conservation

*In partnership with IUCN SSC Asian Species Action Partnership (ASAP)

^{*}For the full list of conservation projects supported by Mandai Nature, please refer to the Annex on Page 55.



oto credit: Mandai Wildlife Group

As the conservation arm of Mandai Wildlife Group, Mandai Nature has the unique opportunity to achieve greater and direct conservation impact for species through the One Plan Approach (OPA), particularly for those threatened and endemic to Southeast Asia.

Through strategic collaborations, the two organisations work together to build capacity and strengthen their efforts to address environmental challenges and safeguard threatened species.

378 native species

studied to drive a comprehensive strategy for biodiversity in the Mandai Wildlife Reserve

threatened Over / Southeast Asian species identified to be managed under

species bio-banked

for conservation research

By establishing Mandai Nature as our conservation arm, we have been able to expand both the scale and impact of our work to protect threatened species across Southeast Asia. We go to great lengths to ensure that Mandai Nature's excellent conservation projects are strongly supported by the breeding, research and education programmes we pursue in our wildlife parks at Mandai.

Mike Barclay Group CEO, Mandai Wildlife Group Director, Mandai Nature

MANDAI NATURE IMPACT REPORT 2022/2023

A ONE PLAN APPROACH FOR SPECIES CONSERVATION

Mandai Wildlife Group and Mandai Nature have collaboratively identified more than 20 highly threatened species under the Group's care that will benefit from an integrated One Plan Approach. The organisations will initiate the development of action plans for these species, with the objective of successful conservation breeding and the eventual repatriation to their native habitats for repopulation in the wild.



hoto credits: Mandai Wildlife Group, Lorenzo Vinciguerra



The "One Plan Approach" to species conservation planning refers to an integrated conservation strategy that unites ex situ conservation work done within zoos and aquariums with in situ conservation led by conservationists in the field, hence bridging the gap between wild populations and populations under human care.







CONSERVING LOCAL BIODIVERSITY FOUND IN THE MANDAI WILDLIFE RESERVE

Together with Mandai Wildlife Group, Mandai Nature developed and implemented management and conservation strategies for several native wildlife which reside in the Mandai Wildlife Reserve.



STRAW-HEADED BULBUL

A study was carried out by a Masters' student to establish current population size in the Mandai Wildlife Reserve, as well as gather information on behaviour and key habitat areas - especially feeding and breeding.

Longer-term studies to identify and establish trends such as movement, habitat use, dispersal and seasonality will help conservationists better protect them and their habitats, and explore habitat enhancement approaches.



SUNDA COLUGO

A colugo identification guide was developed to understand more about this species that occurs naturally in the Mandai Wildlife Reserve. Through recognising colugos by physical characteristics like unique coat patterns, staff identified 56 individuals in the Singapore Zoo. In preliminary surveys, 23 individuals were identified in the Night Safari.

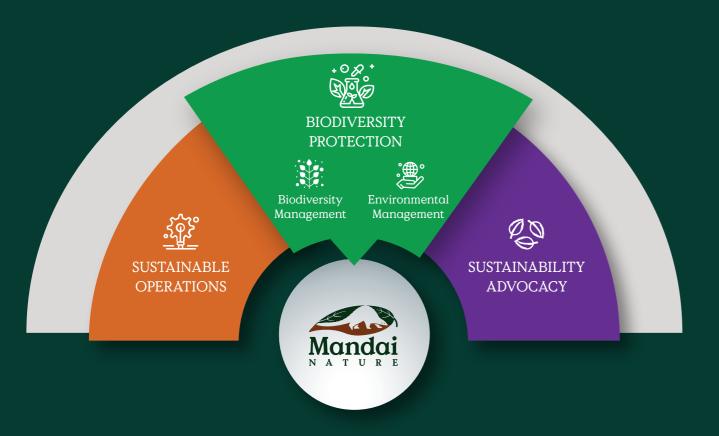
This study presents a unique opportunity to understand the colugos' social dynamics and ecology, and how they have adapted to disturbed forests and human presence in the parks. There is also the potential to utilise artificial intelligence software to aid identification for future research and conservation efforts.

Photo credits: Mandai Wildlife Group

MANDAI NATURE

IMPACT REPORT 2022/2023

Mandai Nature contributes to Mandai Wildlife Group's wider environmental sustainability strategy to meet the Group's core objectives of protecting nature and supporting a low carbon future.



The biodiversity protection pillar focuses on conserving the environment and enhancing biodiversity for an ecologically connected precinct.

One of the initiatives include joint biodiversity surveys between Mandai Nature and Mandai Wildlife Group to better understand and determine the status of wildlife present in the Group's wildlife parks and its surroundings. This data also helps inform researchers on conservation and management actions such as rescue and rehabilitation, ex situ protection, as well as further research and monitoring.



Mandai Nature led a team supported by staff from Mandai Wildlife Group and members from the Herpetological Society Singapore to conduct a herpetofauna survey across Mandai Wildlife Reserve's four parks. A total of 29 species were spotted, including the Red-tailed Racer, Malaysian Giant Frog (above right) and Copper-cheeked Frog.



Mandai Nature joined a team led by the Freshwater and Invasion Biology Lab and Lee Kong Chian Natural History Museum, National University of Singapore, to assess aquatic fauna within a freshwater stream at Night Safari. Species found included two crustaceans of local conservation significance, including the Johnson's Freshwater Crab (above).





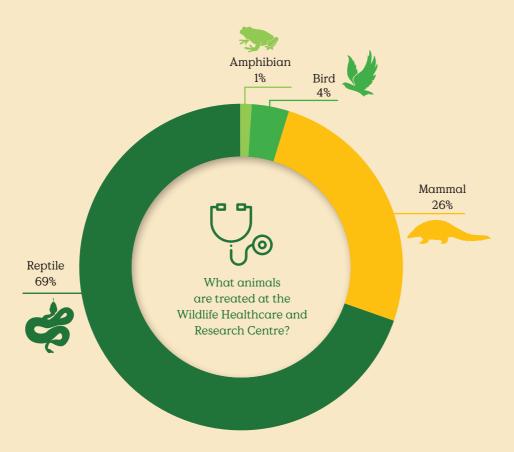
BUILDING CAPACITY IN WILDLIFE REHABILITATION

Mandai Nature and Mandai Wildlife
Group jointly contribute to the
protection of native biodiversity through
the rehabilitation of rescued local
wildlife found across Singapore. These
animals are brought to the Wildlife
Healthcare and Research Centre at the
Mandai Wildlife Reserve where they
receive dedicated care and treatment
from Mandai Wildlife Group's Veterinary
Healthcare team.

The rehabilitation work provides an opportunity to gather valuable data about the species, particularly those less studied. Such information plays a crucial role in enhancing the understanding of local biodiversity including parasitology, pathogens, physiology, ecology and more. The knowledge gained bolster efforts to strengthen Singapore's environmental knowledge base that can also inform on population management or conservation programmes of native wildlife.

Photo credits: Mandai Wildlife Group

In 2022, 1,147 rescued wildlife from across
Singapore were admitted to the Wildlife
Healthcare and Research Centre. Of these,
62 per cent were successfully nursed
back to health at the facility and
released back into the wild.



BANKING ON SCIENCE FOR WILDLIFE CONSERVATION

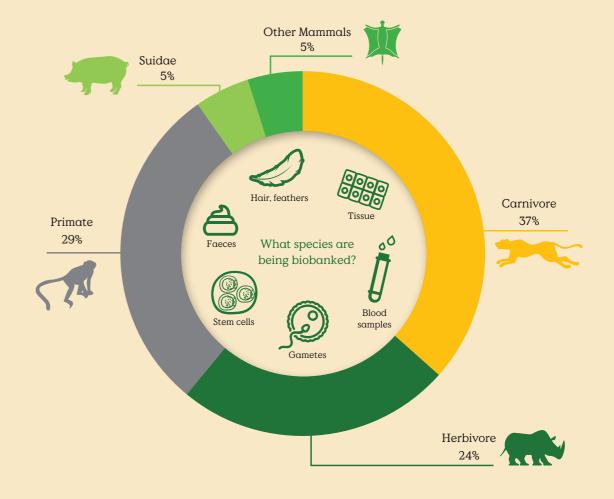
Four of the world's 25 biodiversity hotspots found in Southeast Asia are also hotspots for species extinction. Given the high species endemism and extinction risk in Southeast Asia, these biobanks are a key component to the One Plan Approach (see Page 16) as a safeguard to live populations.

Biobanking involves the collection, storage, and management of biological samples, with a focus on live cells such as somatic cells, gametes, DNA, tissues and reproductive materials from animals. Mandai Nature manages a bank of biological samples as part of a joint reproductive and research effort with Mandai Wildlife Group. This helps to preserve genetic diversity, support research, assist

in reproductive technologies, hormone surveillance, population management and more. Biobanking serves as a valuable resource to protect and sustain threatened species, while advancing knowledge and understanding of wildlife biology to further inform conservation strategies locally and regionally.

In 2022, Mandai Nature co-organised the first Southeast Asia Regional Biobanking Network Meeting, bringing together representatives from 22 organisations working in the area of wildlife biobanking.

Participants outlined objectives for the Southeast Asian Biobanking Network and identified next steps to formalise the network among regional stakeholders.





EMPOWERING THE NEXT GENERATION OF **CONSERVATIONISTS IN SOUTHEAST ASIA**

Around 200 young conservationists from 15 countries around the region gathered for the World Wildlife Day Regional Youth Symposium in March 2023.

Based on the theme "Partnerships for Wildlife Conservation in Southeast Asia", the two-day event was organised by National Park Board's Youth Stewards for Nature, with Mandai Nature as a key supporter. Over 20 representatives from Mandai Nature's conservation partners participated in the symposium which aimed to raise international awareness of biodiversity conservation in Southeast Asia and grow future generations of conservationists in

On Day 2 of the event, Mandai Nature hosted a workshop at Singapore Zoo, where 40 participants got to learn how conservation assessment and planning is being carried out for some of Southeast Asia's most threatened species.





Dr Jessica Lee, Head of Avian Programmes and Partnerships at Mandai Nature, speaking at a fireside chat on the role of youths in growing the region's conservation network.



Participants penning down their learnings and Mandai Nature team with workshop reflections during a focus group discussion.



participants on Day 2 of the symposium

Photo credits: WWD Regional Youth Symposium 2023

66

I feel it is important for us, Singaporeans who lead such hectic lives. to remind ourselves of the beautiful natural environment we have in Singapore and to realise it is not that there is no nature around us, but we are just not observant and observing enough.

Sim Jin Yen Raffles Girls' School (Secondary)

BUILDING A NETWORK OF CITIZEN SCIENTISTS ACROSS SINGAPORE

'Every Singaporean A Naturalist (ESN)', Nature Society (Singapore)'s flagship citizen science programme provides opportunities for students, teachers and the wider public in Singapore to interact with, study and conserve nature.

With Mandai Nature's support, ESN has expanded their programme with 40 schools recruited and more than 200 students certified as "Novice Naturalist" based on their knowledge of biodiversity. At least 5,600 observations of plants and animals were recorded in iNaturalist over a period of five years of the programme.

An inaugural ESN Symposium was held in 2022, with Mandai Nature in attendance as Guest-of-Honour, to recognise the achievements and performances of budding naturalists in schools under the ESN network.



Mandai Nature with representatives from participating schools under ESN's network at the inaugural symposium.





Students spotting and recording wildlife at Singapore's nature parks during the ESN Biodiversity

Observing wildlife during a guided walk at

Photo credits: Nature Society (Singapore)

IMPACT REPORT 2022/2023 MANDAI NATURE



Mandai Nature team at the launch of the OWN campaign at Thomson Nature Park.



LIVING WITH 'OUR WILD NEIGHBOURS'

As part of Singapore's ambition to become a City in Nature, learning to co-exist with native wildlife is key to fostering positive human-wildlife relationships and safely sharing the island's urban spaces with them.

In April 2022, the 'Our Wild Neighbours' (OWN) campaign was launched by the Urban Wildlife Working Group (UWG), a collective of various nature and conservation groups in Singapore, including Mandai Nature. To mark the launch, Minister for National Development and Minister-in-charge of Social Services Integration Desmond Lee as well as OWN partners planted 20 native trees at Thomson Nature Park.

OWN'S OBJECTIVES



Promote coexistence with Singapore's wildlife



Equip the public with knowledge of what they can do during wildlife encounters



Raise awareness about ongoing wildlife rescue, rehabilitation and release efforts



Mandai Nature's booth highlighting the OWN campaign at the Festival of Biodiversity 2022

Since the launch of the campaign, OWN has hired a Campaign Manager, Jasvic Lye, to plan and implement its programmes largely funded by Mandai Nature. In FY22/23, various OWN partners have been conducting outreach efforts to share about Singapore's native wildlife and encourage the wider community to get involved in local conservation efforts. These include guided walks, storytelling sessions at public libraries, booth exhibitions at the annual Festival of Biodiversity organised by NParks, and even being featured in Quirky Creatures, a children's book.

Learn more about the campaign at www.ourwildneighbours.sg.



Monthly storytelling at Choa Chu Kang Library



ACRES conducting a guest lecture on the OWN campaign

Photo credits: Our Wild Neighbours, Mandai Wildlife Group

ENABLING CONSERVATION RESEARCH IN SINGAPORE

Mandai Nature funded 12 local wildlife projects that capture and analyse crucial data on local species, to inform conservation actions and strategies.

HAWKSBILL TURTLES IN SINGAPORE

The conservation of Critically Endangered Hawksbill Turtles will protect coral reef ecosystems and contribute to the marine diversity of Singapore's waters. Researchers from the Nanyang Technological University are conducting genome sequencing and population genetic studies on nesting populations on Singapore's beaches to assemble the first Hawksbill Turtle genome and examine their genetic diversity.

In collaboration with:





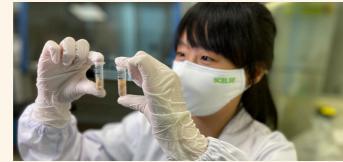


Photo credit: Singapore Centre for Environmental Life Sciences Engineering

DUNG BEETLE-MAMMAL INTERACTIONS

Invertebrates like dung beetles play an important role in Singapore's complex ecosystem network. By reconstructing interactions between dung beetles and mammals in Singapore's regenerated forests, the research assessed the diversity and inform conservation assessments of mammals across Southeast Asia.

In collaboration with:







Photo credit: Tropical Ecology and Entomology Lab

STUDYING SHARKS AND RAYS IN SINGAPORE'S FISHERY PORTS

Every day, seafood harvested from regional waters pass through Singapore's fishery ports. Researchers are studying the volumes, life cycles, diets and habitats of sharks and stingrays which are commonly consumed in Singapore to better determine how vulnerable these species are to the pressures of fishing.

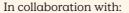








Photo credit: Naomi Clark-Shen

WORKING WITH STAKEHOLDERS ON BIODIVERSITY ISSUES

Mandai Nature is represented as core members across several species working groups in Singapore, contributing to the conservation and management of native wildlife. The working groups are a collaboration of multiple stakeholders including non-government organisations, government agencies, other organisations and independent parties.



Singapore Pangolin Working Group Chaired by Mandai Nature



Raffles' Banded Langur Working Group Chaired by Mandai Nature



Urban Wildlife Working Group Chaired by Mandai Nature



Long-tailed Macaque
Working Group



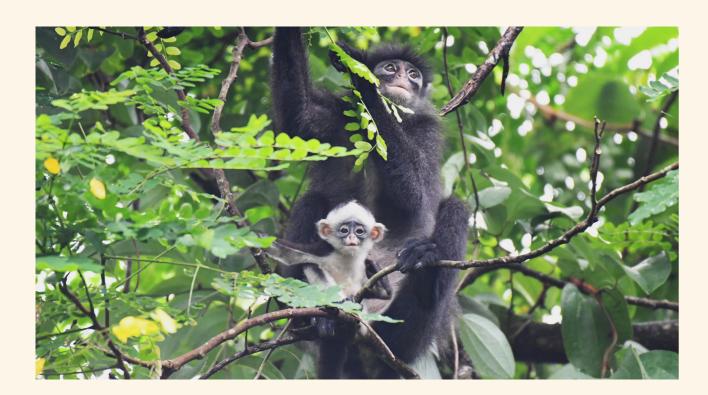
Straw-headed Bulbul Working Group



Freshwater Crab Working Group



Otter Working Group



PROTECTING SINGAPORE'S **RAREST PRIMATE:** THE RAFFLES' BANDED LANGUR

Only one of three native non-human primates found in Singapore, the remaining populations of the Raffles' Banded Langur can be found in the Central Catchment Nature Reserve.

Today, conservation work for this species, which first began in 2016. is actively managed and funded by Mandai Nature.

Overall, these measures have led to improved habitat protection, population research and public awareness. However, isolation of the groups in fragmented habitats means the langurs continue to face extinction from genetic deterioration and inbreeding. To safeguard their long-term survival, cross-border conservation is urgently required between Singapore and Malaysia.



Recognising the Raffles' **Banded Langur**

The Raffles' Banded Langur is characterised by its black fur with prominent white eye rings and a white stripe that extends from its chest to its belly and inner thigh. The species primarily feeds on leaves, fruits and various plant parts found in the treetops.



Monitoring Populations

24 CAMERA TRAPS INSTALLED IN TREES IN CENTRAL CATCHMENT NATURE RESERVE

Field research, such as using camera traps, provide researchers with important data about their population, ecology and behaviour for conservation planning.





Connecting **Forest Habitats**

AT LEAST 293 SUCCESSFUL CROSSINGS ON ROPE BRIDGES IN 19 MONTHS

In collaboration with the National Parks Board, two rope bridges were installed within Singapore's nature parks to facilitate the safe crossing of the langurs between fragmented forests.







Citizen Science and Public Outreach

SINCE 2016

Researchers have reached out to dedicated volunteers to conduct field surveys and collect data on the species.



OVER 69 ENGAGEMENTS REACHING MORE THAN 6,000 PEOPLE

> To raise the profile and increase conservation awareness, researchers conduct educational and public outreach activities.

Photo credits: Dr Andie Ang, Sabrina Jabbar, Nick Baker

THROUGH THE YEARS: CHARTING THE RAFFLES' BANDED LANGUR IN SINGAPORE

The Raffles' Banded Langur is discovered by Sir Stamford Raffles in Singapore.

1822

The Raffles' Banded Langur is thought to be on the verge of extinction in Singapore, with low population numbers and limited distribution.

1990s

First scientific study on Raffles' Banded Langur done by Carsten Huttche.

1994

Second scientific study on The Raffles' Banded Raffles' Banded Langur done by Dr Andie Ang (supported by Ah Meng Memorial Conservation Fund).

2008-2010

Langur population is estimated to be at least 40 individuals.

2011

Following a workshop held at Singapore Zoo, a Species Action Plan supported by the Wildlife Reserves Singapore Conservation Fund (now defunct) to conserve the species is launched. The Raffles' Banded Langur Working Group is formed and the 1st citizen science programme is launched.

2016

2022

The Raffles' Banded Langur is listed as one of the top 25 most endangered

The first academic book on the Raffles'

Banded Langur is published.

primates in the world.

The Raffles' Banded Langur population is estimated to be at least 70 individuals. The citizen science programme is in its 7th year.

2023

IMPACT REPORT 2022/2023 31



IUCN SSC CENTRE FOR SPECIES SURVIVAL: SOUTHEAST ASIA (CSS SEA)

In 2022. Mandai Nature established the CSS SEA through a formal partnership with the **IUCN Species Survival Commission (IUCN** SSC). CSS SEA aims to catalyse assessments, planning and action for highly threatened species in the region within the IUCN SSC's "Assess-Plan-Act" conservation framework.

ASSESS

Strengthen the IUCN Red Listing processes by providing training and support for species assessments and Assess-to-Plan workshops in Singapore and Southeast Asia.



PLAN

Mandai Nature hosts the IUCN SSC Conservation Planning Specialist Group (CPSG) Southeast Asia Resource Centre, which seeks to streamline and prioritise conservation action planning for threatened species in the region.

Photo credits: Sanjitpal Singh



Participants during a breakout session to identify conservation actions needed for specific threats.

SETTING UP A CONSERVATION PLAN FOR SABAH'S HORNBILLS

In March 2023, Mandai Nature co-organised the Sabah Hornbill Action Plan workshop with the Sabah Wildlife Department, Xploregaia, and other wildlife conservation organisations to develop the Sabah Hornbill Action Plan, which will prioritise measures to ensure all eight hornbill species in Sabah can thrive over the next 10 years.



VIPs who attended the workshop signed on the cover page of the Sabah Hornbill Action Plan as a commemorative to mark the conclusion of the workshop

In addition to providing funding and support for over 40 regional projects, Mandai Nature Action Partnership (ASAP), a network of more than 225 partners tackling the species extinction crisis in Southeast Asia.







ASAP WOMEN IN CONSERVATION LEADERSHIP **PROGRAMME**

This first-of-its-kind programme in Southeast Asia supports gender equity in conservation leadership by equipping female conservationists with the tools to elevate and amplify their impact.

Following the success of the first phase, ASAP launched the second phase of the programme focusing on specific aspects of leadership and well-being through the Visible Leadership Programme. Over the course of the programme, 11 women from six countries were guided through a process to strengthen their self leadership and resilience, build their influence and confidence, while also developing strategies for self-care and well-being.

In March 2023, the programme concluded with a face-to-face session in Cambodia, marking the first time the group had met in person due to the pandemic.

Participants gathered for a well-being session outside Angkor Wat,



Programme participants at the 3-day retreat and workshop in Siem

ACT

continues to host the IUCN SSC Asian Species



ACTION PARTNERSHIP

OUTCOME: CATALYSED EFFECTIVE CONSERVATION OF ASAP SPECIES

SCALING UP FUNDING

To increase the financial resources dedicated for ASAP species conservation, ASAP has a growing suite of interlinked ASAP grant programmes

STRENGTHENING CAPACITY

To strengthen regional capacity, leadership and organisational resilience for effective conservation, ASAP runs targeted training programmes and gives direct support

RAISING THE PROFILE

To increase conservation attention. ASAP publishes reports and runs campaigns to drive action for ASAP species conservation

ASAP'S GRANT PROGRAMMES

This year, ASAP's two grant programmes, the ASAP Species Conservation Grant and the ASAP Species Rapid Action Fund have directly supported the conservation of 15 Critically Endangered species that may otherwise have been neglected by conservation.









Big-headed Turtle

Read more about ASAP's key impacts in the ASAP Annual Report and on the ASAP website.

Photo credits: Paul Yambun, Ray So, Elizabeth Zhang

MANDAI NATURE IMPACT REPORT 2022/2023 35

Center for Species Survival

ACT

TACKLING THE ILLEGAL AND **UNSUSTAINABLE BIRD TRADE**



Southeast Asian songbirds



Various locations across Kalimantan and Sumatra, Indonesia

PARTNERS:







THE CHALLENGE

Songbird keeping is a long-standing tradition in many countries across Southeast Asia, including Indonesia, and high demand for the bird trade is a major driver behind the decline of many species, including the Straw-headed Bulbul, White-rumped Shama and Greater Green Leafbird.

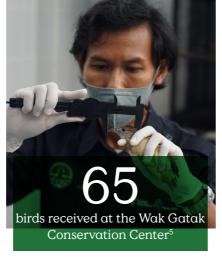
ACTIONS TAKEN

Mandai Nature supports FLIGHT's efforts in tackling wildlife trade in Sumatra, including providing resources for operational support for law enforcement such as surveillance, investigations and confiscations.

As part of Planet Indonesia's ongoing efforts to combat the illegal songbird trade in West Kalimantan, Mandai Nature's funding went towards the construction of the Wak Gatak Songbird Rescue Center which officially opened in June 2022. This is the first such facility in Kalimantan to support the welfare, rehabilitation and release of rescued songbirds.







CONSERVING CAMBODIA'S ROYAL TURTLE







Southern River Terrapin



Sre Ambel River System, Koh Kong Province, Cambodia

PARTNER:



THE CHALLENGE

The Southern River Terrapin, also known as the Royal Turtle in Cambodia, was thought to be extinct in the country until the species was rediscovered in 2001. Since then, Wildlife Conservation Society (WCS) Cambodia and the Cambodia Fisheries Administration have been working to restore the wild population of the species.

ACTIONS TAKEN

Mandai Nature supports conservation measures to save the species. These include nest protection, conservation breeding and implementing head-starting programmes at the Koh Kong Reptile Conservation Centre, release and monitoring activities, and conducting community outreach activities.



6, 7. Figures for nesting season of 2023 8, 9. Figures for reporting period Apr 2022 - Mar 2023 Photo credits: WCS Cambodia

RESOLVING HUMAN-ELEPHANT CONFLICT IN WAY KAMBAS NATIONAL PARK



Sumatran Elephant



Way Kambas National Park, Sumatra, Indonesia

PARTNER:



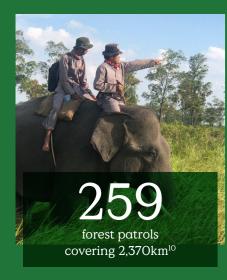


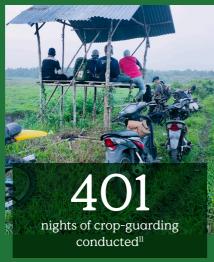
THE CHALLENGE

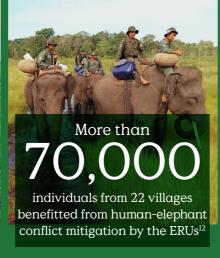
The 126,000 hectare Way Kambas National Park in Sumatra is home to nearly 180 wild Sumatran Elephants, about 10 per cent of the remaining wild population. But loss of forest habitat for illegal logging and agriculture has resulted in wild elephants crossing paths with local villagers, damaging crops and property, giving rise to local community hostility towards these wild elephants.

ACTIONS TAKEN

Mandai Nature supports the field operations of Elephant Response Units (ERUs) by Community for Sumatran Nature Conservation, which conduct regular patrols, monitor and prevent illegal activities while keeping watch on wild herds venturing out of the Park.







MOBILISING COMMUNITIES TO DRIVE YAKI CONSERVATION









THE CHALLENGE

Endemic to North Sulawesi where it is commonly known as "yaki", the Celebes Crested Macaque faces extinction due to habitat loss and the illegal bushmeat trade. Its population has declined by more than 80 per cent in the last 40 years.

ACTIONS TAKEN

Mandai Nature supports a multi-faceted approach led by Yakin Pas focusing on education and outreach, protected area management and sustainable development, and biodiversity monitoring. A key programme is the Yaki Pride Campaign, which aims to raise awareness of this iconic species and drive positive behaviour change in the community.



Celebes Crested Macaque



North Sulawesi, Indonesia

PARTNER:





PROTECTING THE NANTU RAINFOREST AND ITS BIODIVERSITY





Multiple threatened species, including the Babirusa, Anoa and at least 35 endemic bird species



Nantu Rainforest, Sulawesi, Indonesia





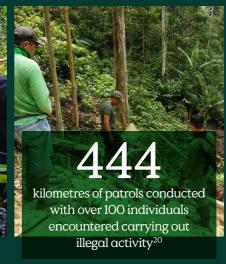




THE CHALLENGE

Mandai Nature supports Yayasan Adudu Nantu International (YANI) in conducting communityled patrols to strengthen forest protection, and capacity building efforts for field-based conservation education programmes involving local government, civil society, students and local villagers.







19, 20, 21. Figures for reporting period Nov 2022 - Mar 2023 Photo credits: YANI

GROWING 'CRANE RICE' IN THE LOWER MEKONG WETLANDS



Sarus Crane



Anlung Pring Protected Landscape, Cambodia

PARTNERS:









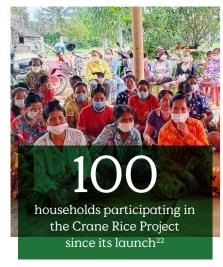
THE CHALLENGE

The Anlung Pring Protected Landscape in the Lower Mekong is a key site for migratory waterbirds in Cambodia, including the threatened Sarus Crane. But in recent years, crane populations have been declining due to a high mortality rate, low nesting success, deteriorating habitats, and poisoning from pesticide use, among other factors.

ACTIONS TAKEN

The Wildfowl and Wetlands Trust (WWT) and NatureLife Cambodia, a conservation organisation established with support from BirdLife International, have been jointly working with local farmers on their own initiatives to scale up cultivation of wildlife-friendly "Crane Rice".

This includes providing farmers with seeds and organic fertiliser to grow varieties of rice which also serves as a food source for the cranes, conducting training and outreach to educate communities on the negative impacts of chemical pesticides, and addressing illegal hunting activities through tighter enforcement and community-led patrols.







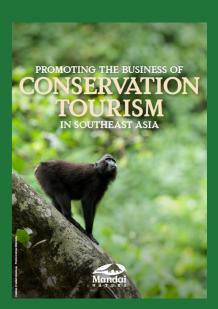
DRIVING INTEREST IN CONSERVATION TOURISM IN SOUTHEAST ASIA







Photo credits: Rainforest Expeditions, Cardamom Tented Camp, The Long Run



Mandai Nature commissioned a report on Promoting the Business of Conservation Tourism in Southeast Asia in April 2022. The report explores the potential for the growth of conservation tourism in Southeast Asia, based on case studies from good practices in Asia, Africa and South America.

To raise awareness of conservation tourism, Mandai Nature organised a webinar in March 2023 titled 'The Future of Conservation Tourism: Regenerating nature and empowering communities in Southeast Asia' featuring a panel of three experts and practitioners, Marjorie van Strien, Dr Anne-Katherin Zschiegner and Willem Niemeijer.

50 attendees from around the world tuned in to learn about the key concepts of conservation tourism and real life examples of how it has benefitted biodiversity, ecosystems and local livelihoods in Southeast Asia and around the world.



44 MANDAI NATURE MANDAI NATURE





MOBILISING PARTNERSHIPS FOR NATURE-BASED SOLUTIONS IN SOUTHEAST ASIA

The Southeast Asia Climate and Nature-based Solutions (SCeNe) Coalition is a collaboration between leading non-governmental organisations with an established presence in Southeast Asia aimed at accelerating and increasing implementation of and investment in high-quality, high-integrity, triple-benefit nature-based solutions (NbS) across the region.

Mandai Nature is represented on the Steering Committee of SCeNe and is leading the NbS Incubator workstream.







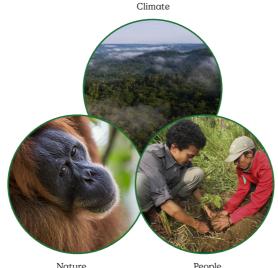












In August 2022, Google.org, Google's philanthropic arm, announced a grant of US\$1 million to Mandai Nature, in support of the SCeNe Coalition to deliver on projects to drive investment into climate mitigation through nature-based solutions. The coalition has since commenced development on several workstreams that will be progressively rolled out in the next year.



NbS Tool

This web-based tool offers essential features for frontline organisations and investors seeking to make informed decisions for the development of NbS projects. These include spatial analysis of baseline and triple-benefit data for selected project areas, which can generate early project documentation for more effective project proposals.



NbS Portfolio

The shared portfolio offers comprehensive profiles of NbS projects in Southeast Asia, including projects at various stages of development and in-depth information on climate, community and biodiversity impacts.



This programme will deliver scientific, regulatory, technical, technological, financial, and business development support to frontline organisations at various stages of NbS project development, building on the NbS tool and NbS portfolio to address challenges faced and demonstrate best practices.



With support from





Photo credits: Wildlife Alliance

Photo credits: YANI, Orangutan Information Centre, Planet Indonesia

INFLUENCING GLOBAL POLICY FOR ILLEGAL WILDLIFE TRADE

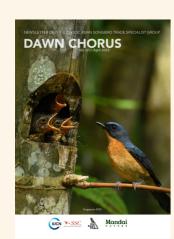
Mandai Nature supports partnerships to address the illegal wildlife trade, especially of Asian songbirds and hornbills, with the aim of driving coordinated efforts to influence policy and regulation at a global scale.

IUCN SSC ASIAN SONGBIRD TRADE SPECIALIST GROUP (ASTSG)

Together with TRAFFIC Southeast Asia, we provide institutional framework and support for ASTSG, the first conservation body dedicated to addressing songbird conservation in the region. ASTSG maintains a priority taxa list to identify songbirds most threatened by trade in Asia, for future interventions, research and funding.

> Sondbird Фïrade SG

Visit ASTSG's website: www.asiansongbirdtradesg.com



Dawn Chorus, ASTSG's newsletter showcasing projects and activities

IUCN SSC HORNBILL SPECIALIST GROUP & IUCN SSC HELMETED HORNBILL **WORKING GROUP**

Mandai Nature hosts the Asian arm of the IUCN SSC Hornbill Specialist Group and the IUCN SSC Helmeted Hornbill Working Group, which were formed to unite experts in establishing and guiding a global conservation strategy to address threats faced by these species.



SUCCESSFUL SONGBIRD UPLISTING **AT CITES COP19**

Mandai Nature is part of a local coalition supporting the National Parks Board (NParks) in making amendments to strengthen the Endangered Species Act in Singapore. The change was effected in July 2022 to include stiffer fine and longer jail terms for illegal wildlife traffickers.

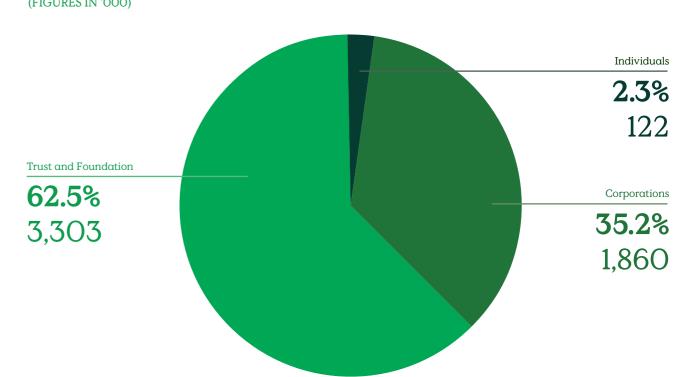
In November 2022, Mandai Nature joined the Singapore delegation, led by NParks, at the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) COP19 to present proposals for the uplisting of the Critically Endangered Strawheaded Bulbul and White-rumped Shama. Both species were successfully uplisted to CITES Appendix I and II respectively, allowing them to receive more protection against international trade.



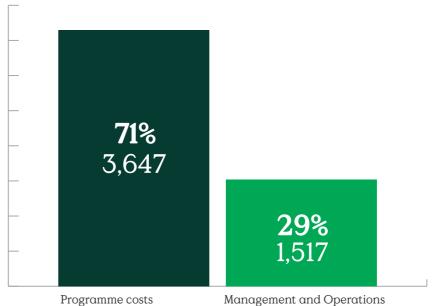
Dr Jessica Lee from Mandai Nature with representatives from NParks at a CITES COP19 side event, "Keeping the Music Alive".

FINANCIAL STATEMENT FY22/23

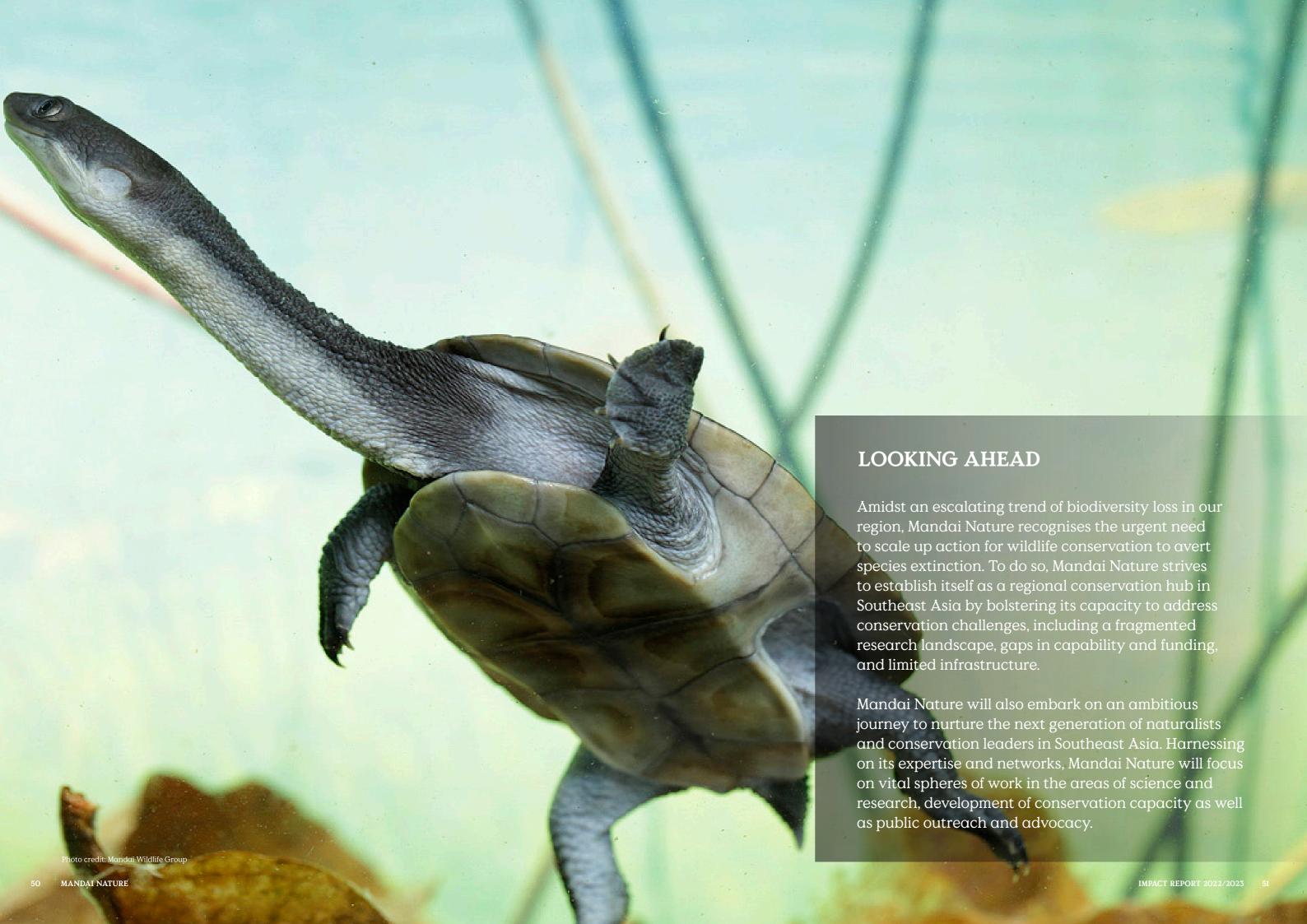
TOTAL FUNDING (\$\$5.285 MILLION)



TOTAL EXPENDITURE (S\$5.164 MILLION)



MANDAI NATURE IMPACT REPORT 2022/2023



BOARD OF DIRECTORS



Robin Hu
Chairman

Vice Chairman, Asia and Operating Partner, Temasek



Claire Chiang

Director

Co-founder, Banyan Tree Group Senior Vice President, Banyan Tree Holdings Limited



Melissa Ong

Director

Director, Mojo Pte Ltd

Vice President Business Development and Director of Activities, COMO Hotels and Resorts



Mike Barclay
Director

Group CEO, Mandai Wildlife Group



Simon Stuart

Director

Executive Director, A Rocha International

Chief Scientific Advisor, Synchronicity Earth

STRATEGIC ADVISORY PANEL



Dr Ruth Nussbaum

Director, Proforest



Erik Meijaard

Managing Director, Borneo Futures



Dr Sejal Worah

Programme Director, WWF India



Caroline Lees

Director of Science, Multispecies Planning, IUCN SSC Conservation Planning Specialist Group

Co-convenor, IUCN SSC Conservation Planning Specialist Group, Australasia



Justin Adams

Co-Director, Nature Based Solutions, World Economic Forum



Dr Shawn Lum

Senior Lecturer, Nanyang Technological University



Dr William Duckworth

Independent Advisor

52 MANDAI NATURE

IMPACT REPORT 2022/2023 53

SINGAPORE ADVISORY PANEL



Dr Benjamin Lee

Director (Wildlife Management Research), National Parks Board



Dr Cheng Wen-Haur

Deputy CEO and Chief Life Sciences Officer, Mandai Wildlife Group



Assoc. Prof Darren Yeo

Head (Lee Kong Chian Natural History Museum), National University of Singapore

Associate Professor (Department of Biological Sciences), National University of Singapore



Dr Danwei Huang

Assistant Professor (Department of Biological Sciences), National University of Singapore



Dr Janice Lee

Assistant Professor (Coupled human-natural systems), Nanyang Technological University



Dr Norman Lim

Lecturer (Natural Sciences and Science Education), National Institute of Education, Nanyang Technological University

ANNEX

List of conservation projects supported in FY22/23

No.	Project Name	Country	Species	Taxon Group	Partner Organisation
1	Critical law enforcement support for Cambodia's Cardamom Rainforest	Cambodia	Multi taxa	Multi taxa	Wildlife Alliance
2	Conservation of the globally threatened Southern River Terrapin (<i>Batagur affinis</i>) in the Sre Ambel River System in Cambodia	Cambodia	Southern River Terrapin	Reptile	Wildlife Conservation Society
3	Building on success - strengthening ex-situ infrastructure and capacity at the Koh Kong Reptile Conservation Centre to ensure a long-term future for Southern River Terrapin (Batagur affinis)	Cambodia	Southern River Terrapin	Reptile	Wildlife Conservation Society
4	Restoring a viable population of Siamese Crocodile within the Sre Ambel River system, Cambodia	Cambodia	Siamese Crocodile	Reptile	Wildlife Conservation Society
5	Advancing conservation of lower Mekong wetlands at Anlung Pring, Cambodia: towards a Sarus Crane safe landscape	Cambodia	Sarus Crane	Bird	BirdLife International (Asia)
6	Climate-resilient sustainable agriculture to improve livelihoods and biodiversity habitat quality at Anlung Pring Protected Landscape	Cambodia	Sarus Crane	Bird	Wildfowl and Wetlands Trust
7	Conserving Sumatran Orangutan (Pongo abelii) and Tapanuli Orangutan (Pongo tapanuliensis) by Addressing Human Orangutan Conflict in Collaboration with Key Stakeholders	Indonesia	Sumatran Orangutan, Tapanuli Orangutan	Mammal	Orangutan Information Centre
8	Sustainable Operation Of The ERU as part of the Way Kambas National Park ERU Programme for Habitat Protection and HEC Mitigation	Indonesia	Sumatran Elephant	Mammal	Community for Sumatran Nature Conservation
9	Conservation of Rote Island Snake-necked Turtle (Chelodina mccordi)	Indonesia	Rote Island Snake-necked Turtle	Reptile	Wildlife Conservation Society
10	Human-wildlife co-existence strategy and outreach campaign to reduce the immediate threats to Sulawesi crested black macaques (Macaca nigra) and protect the community livelihoods	Indonesia	Celebes Crested Macaque	Mammal	Yakin Pas
11	Project Kopi Owa: Javan Gibbon Conservation in Central Java, Indonesia	Indonesia	Multiple primate species	Mammal	SwaraOwa
12	Conservation of the Bali Starling within the Melinggih Kelod village through the Open Community Learning Programme	Indonesia	Bali Starling	Bird	Begawan Foundation
13	Mitigation Extinct Threat of Yellow-Crested Cockatoo on Pasoso Island, Central Sulawesi	Indonesia	Multiple bird species	Bird	Perkumpulan Konservasi Kakatua Indonesia
14	Saving the Indonesia's Wild Bird Populations	Indonesia	Multiple bird species	Bird	Yayasan Terbang Indonesia (FLIGHT)
15	Preservation of Indonesian endemic species through conservation breeding and other conservation programs at Cikananga Wildlife Center (West Java, Indonesia)	Indonesia	Multi taxa	Multi taxa	Yayasan Cikananga Konservasi Terpadu
16	Assessment and conservation of primates on the Mentawai Islands, Indonesia	Indonesia	Multiple primate species	Mammal	SwaraOwa
17	An integrated project to combat climate change and songbird trade in West Kalimantan, Indonesia	Indonesia	Multi taxa	Multi taxa	Planet Indonesia
18	Nantu Forest Conservation Programme, Sulawesi, Indonesia	Indonesia	Multi taxa	Multi taxa	Yayasan Adudu Nantu International

ANNEX

List of conservation projects supported in FY22/23

No.	Project Name	Country	Species	Taxon Group	Partner Organisation
19	An Opportunity to Save Simeulue's Critically Endangered Songbirds from the Brink of Extinction Through Community Conservation, Regenerative Agriculture and Eco-tourism	Indonesia	Barusan Shama and Simeulue Hill Myna	Bird	Ecosystemimpact Foundation
20	Collaborative Grass-roots Conservation of a Landscape of Hope: The Leuser Ecosystem	Indonesia	Multi taxa	Multi taxa	Orangutan Information Centre
21	Assessing the freshwater biodiversity of the Muara Siran Peatland Landscape and Kelay River Ecosystem, East Kalimantan Province, Indonesia	Indonesia	Multi taxa	Multi taxa	The Nature Conservancy
22	Disrupting illegal trade in bears within Lao PDR	Lao PDR	Multiple bear species	Mammal	Free the Bears
23	Biodiversity conservation in Nakai – Nam Theun National Park in the Annamite Mountains of Lao PDR	Lao PDR	Multi taxa	Multi taxa	Association Anoulak
24	Rediscovering Saola and securing a future for the Annamite Mountains	Lao PDR	Saola	Mammal	Saola Foundation
25	Salary support for the Lao Programs Director in 2022	Lao PDR	Saola	Mammal	Saola Foundation
26	Citizen Action for Tigers: engaging people to value and protect tigers and their habitat in Malaysia	Malaysia	Malayan Tiger	Mammal	Malaysian Conservation Alliance for Tigers
27	Sabah Hornbill Action Plan Workshop, Kota Kinabalu Sabah, Malaysia	Malaysia	Multiple hornbill species	Bird	Explore Gaia Enterprise
28	Combatting the illegal and unsustainable trade in songbirds in Sarawak, Malaysia	Malaysia	Multiple bird species	Bird	Monitor Conservation Research Society
29	Translocating Burmese Star Tortoises <i>(Geochelone platynota)</i> at Shwe Settaw Wildlife Sanctuary: Reinforcing Success	Myanmar	Burmese Star Tortoise	Reptile	Turtle Survival Alliance
30	Safeguarding critically endangered endemics in Palawan	Philippines	Palawan Pangolin Palawan Forest Turtle	Mammal Reptile	Katala Foundation Inc
31	Tamaraw: One Plan Approach Conservation Project	Philippines	Tamaraw	Mammal	D'aboville Foundation
32	West Visayan Species Recovery Project	Philippines	Multi taxa	Multi taxa	Talarak Foundation Inc
33	Project Palaka- Emergency Support	Philippines	Gigante Wrinkled Ground Frog	Amphibian	Project Palaka; The Harris Conservation Initiative for Reptiles and Amphibians
34	Philippine Eagle Wildlife Loan Agreement/MOU	Philippines	Philippine Eagle	Bird	Philippine Eagle Foundation
35	Saving Indigenous Cultures, Rivers, and Endangered Biodiversity within Indigenous territories through Nature-Based Solutions (SACRED-NBS)	Philippines	Multiple bird species	Bird	Philippine Eagle Conservation Program Foundation
36	Arboreal camera trapping and citizen science management of Raffles' banded langurs in Singapore	Singapore	Raffles' Banded Langur	Mammal	Raffles' Banded Langur Working Group

ANNEX

List of conservation projects supported in FY22/23

No.	Project Name	Country	Species	Taxon Group	Partner Organisation	
37	World Wildlife Day Regional Youth Symposium 2023: Partnerships for wildlife conservation in Southeast Asia	Singapore	Multi taxa	Multi taxa	National Parks Board Singapore	
38	Genome sequencing and population genetic studies of the hawksbill turtles nesting around Singapore to protect the species	Singapore	Hawksbill Turtle	Reptile	Nanyang Technological University	
39	Integrating genetic data to construct dung beetle- mammal trophic networks in Southeast Asian forest canopies	Singapore	Multi taxa	Multi taxa	Nanyang Technological University	
40	Creating positive change for animals in Southeast Asia through humane education	Regional	Multi taxa	Multi taxa	Wild Welfare	
41	Safeguarding Southeast Asia's wildlife from illegal and unregulated trade	Regional	Multi taxa	Multi taxa	TRAFFIC (SEA)	
42	Strengthening the conservation of hornbills	Regional	Multiple hornbill species	Bird	Mabula Ground Hornbill Project	
43	Understanding the trade in hornbills and Southeast Asian parrots	Regional	Multiple bird species	Bird	Monitor Conservation Research Society	
44	Action for ASAP freshwater fishes	Regional	Multiple freshwater fish species	Fish	Synchronicity Earth, SHOAL	
45	Species Conservation Toolkit Initiative	Global	Multi taxa	Multi taxa	Chicago Zoological Society	
46	Species360 Conservation Science Alliance Support	Global	Multi taxa	Multi taxa	Species360	
47	IUCN SSC Chair Support	Global	Multi taxa	Multi taxa	IUCN Species Survival Commission	
48	Amphibian Ark	Global	Multiple amphibian species	Amphibian	Amphibian Ark	
Ongoing projects with grant funding disbursed before FY22/23						
49	Assessing the feasibility of Conservation Translocation for the Great Philippine Eagles	Philippines	Philippine Eagle	Bird	Philippine Eagle Foundation	
50	Species Action Plan for the Conservation of Raffles' Banded Langurs in Singapore: Phase III (Extension)	Singapore	Multi taxa	Mammal	Raffles' Banded Langur Working Group	
51	Biology and distribution patterns of "near threatened" sharks (Phase 2)	Singapore	Local biodiversity	Multi taxa	James Cook University Singapore	
52	Novel techniques for the conservation of the Cave Nectar Bat <i>(Eonycteris spelaea)</i> in Singapore	Singapore	Multiple bird species	Mammal	National University of Singapore	
53	An investigation into sharks and rays imported to Singapore ports to uncover characteristics of this fishery and understand shark and ray biodiversity in the region	Singapore	Hawksbill Turtle	Multi taxa	The Dorsal Effect	
54	Phenology of Singapore's Resident Avifauna	Singapore	Multiple bird species	Bird	National University of Singapore	

ANNEX

Ongoing projects with grant funding disbursed before FY22/23

No.	Project Name	Country	Species	Taxon Group	Partner Organisation
54	Phenology of Singapore's Resident Avifauna	Singapore	Multiple bird species	Bird	National University of Singapore
55	Understanding the mechanisms underlying diversity patterns in rocky intertidal systems for creating sustainable coastal eco-engineering solutions in Singapore	Singapore	Multi taxa	Multi taxa	Macquarie University
56	Every Singaporean A Naturalist	Singapore	Local biodiversity	Multi taxa	Nature Society (Singapore)
57	Using genomic data to elucidate transmission dynamics of blood parasites across bird hosts, mosquito vectors and endosymbionts in Singapore	Singapore	Multiple bird species	Bird	National University of Singapore
58	Vietnam Pheasant Stakeholders Workshop: Engendering local support for species recovery	Vietnam	Vietnam Pheasant	Bird	Viet Nature Conservation Centre
59	4th Himalayan Otter Network Workshop	Regional	Multiple otter species	Mammal	Four Corners Institute
60	Publication support for 'Gajah' Journal	Regional	Asian Elephant	Mammal	IUCN SSC Asian Elephant Specialist Group
61	Improving EEHV diagnostic capacity in Southeast Asia	Regional	Elephant	Mammal	Smithsonian Institution, National Zoological park
62	Development of a metabarcoding protocol for prey species of the fossa to reduce carnivore-human conflict	Global	Fossa	Mammal	Chances for Nature
63	Guideline for responsible conservation translocation of displaced organisms	Global	Multi taxa	Multi taxa	Wildlife Impact
64	Save the Tasmanian Devil - Veterinary expenses to contribute to the goal of creating a resilient wild devil population	Global	Tasmanian Devil	Mammal	Department of Primary Industries, Parks, Water and Environment - Tasmania, Australia

Species and programmes featured on Page 2 and 3:

- 1. Straw-headed Bulbul. Photo credit: Mandai Wildlife Group
- 2. Owa Coffee Festival. Photo credit: SwaraOwa
- 3. Citizen Action for Tiger (CAT)walks. Photo credit: Malaysian Conservation Alliance for Tigers
- 4. Saola. Photo credit: Wildlife Conservation Society
- 5. Negros Bleeding-heart. Photo credit: Mandai Widllife Group
- 6. Crane Rice. Photo credit: Wildfowl and Wetlands Trust
- 7. Sumatran Orangutan. Photo credit: Orangutan Information Centre
- 8. Releasing confiscated songbirds. Photo credit: FLIGHT
- 9. Tamaraw. Photo credit: D'aboville Foundation
- 10. Southern River Terrapin eggs. Photo credit: Wildlife Conservation Society Cambodia
- 11. Simeulue Hill Myna. Photo credit: Ecosystem Impact Foundation
- 12. Siamese Crocodile. Photo credit: Wildlife Conservation Society Cambodia
- 13. Wildlife rangers. Photo credit: Wildlife Alliance
- 14. Raffles' Banded Langur. Photo credit: Sabrina Jabbar
- 15. Mangrove. Photo credit: Planet Indonesia
- 16. Sumatran Laughingthrush. Photo credit: Cikananga Wildlife Centre
- 17. Roti Snake-necked Turtle: Photo credit; Mandai Wildlife Group
- 18. Asiatic Black Bear. Photo credit: Free the Bears
- 19. Palawan Forest Turtle. Photo credit: Katala Foundation Inc
- 20. Bali Myna. Photo credit: Begawan Foundation
- 21. Gigante Wrinkled Ground Frog. Photo credit: Project Palaka
- 22. Sumatran Elephants. Photo credit: Komunitas Untuk Hutan Sumatera
- 23. Sarus Crane. Photo credit: BirdLife International
- 24. White-cheeked Gibbon. Photo credit: Association Anoulak
- 25. Burmese Star Tortoise. Photo credit: Turtle Survival Alliance/Wildlife Conservation Society
- 26. Yellow-crested Cockatoos. Photo credit: Konservasi Kakatua Indonesia
- 27. Celebes Crested Macaque. Photo credit: Andrew Walmsley

CONNECT WITH US: www.mandainature.org

- in https://www.linkedin.com/company/mandai-nature
- f https://www.facebook.com/mandainature

SUPPORT OUR CONSERVATION WORK:

https://www.giving.sg/web/mandai-nature-fund-ltd