

An aerial photograph of a mangrove ecosystem. A winding waterway, likely a river or canal, flows through the dense green mangrove forest. The water is a light blue-grey color, reflecting the sky. The mangrove trees are lush and green, with some areas showing more open water and others more densely packed. The sky is a pale blue with some light clouds. The overall scene is a vast, natural landscape.

PROGRESS REPORT 2023

: RESTORASI EKOSISTEM RIAU



Tasik Tengah Floating Ranger Post, Kampar Peninsula



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Brown-throated sunbird (*Anthreptes malacensis*)
Photo courtesy: Basrie Kamba, 2023

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FOREWORD



This year, Restorasi Ekosistem Riau (RER) celebrates a decade of progress, demonstrating the power of collective action to bring about a lasting impact on nature. It is a world-class example of business leadership in nature protection demonstrating how strong partnerships with local communities, conservation organisations, scientific researchers and government can create a model of sustainable conservation that benefits nature, advances science and supports education.

Established in 2013 and spanning more than 150,000 hectares on Kampar Peninsula and Padang Island in Riau province, Sumatra, RER has evolved to become a haven for biodiversity including numerous endangered species. The area of valuable peat swamp forest, which is twice the size of Singapore, is also a globally significant carbon store. By preventing on average 6.8 million tons of CO₂ equivalent per year being released into the atmosphere, it is an important contributor to national and business net zero targets.

The RER project also continues to form part of APRIL Group's 1-for-1 commitment, through which the company aims to conserve and restore one hectare of forest for every hectare of plantation. APRIL has adopted an innovative funding mechanism through its APRIL2030 strategy, which sees the company committing US\$1 for every tonne of delivered fiber to conservation and restoration activities, including the infrastructure, operational activities and community programs in the RER area.

With assured long term funding, RER is able to scale its global impact as a source of knowledge and an example of what is possible in emerging economies, where the need to balance development alongside natural forest protection is extremely relevant. As global civil society wrestles to achieve the right mix of incentives and gearing to finance and support the protection of nature and biodiversity, RER stands as a compelling case study of what can be achieved when you are guided by the purpose to strike the right balance of development and sustainability.

As we enter a second decade when nature protecting is receiving more attention in the global agenda, RER's forest has also emerged as a vital educational experience and a platform for scientific research, either through first-hand engagement or visually through media and technology. As part of the project's anniversary celebration, RER hosted screenings of the feature-length documentary *Frontier Sumatra* in six major Indonesian cities. This initiative captivated more than 1,200 university students with its story of RER's beginnings and the challenges involved in managing and protecting such a vast, uncharted landscape. The aim of this initiative is to engage and inspire the next generation of environmental stewards through the power of visual storytelling.

Frontier Sumatra is working as a vehicle to engage and deepen stakeholder understanding too. Screenings are now a central component of visits to the Eco-Research Camp, established in 2021 on the edge of the RER forest area to facilitate greater access to scientists and researchers, and to provide a diverse range of stakeholders with a first-hand experience of ecosystem restoration in action. This aligns with the Eco-Research camp's mission to serve as a hub for education, research and collaboration to advancing our collective knowledge of Indonesia's vital tropical peatland landscapes.

One major research highlight in 2023 was the publication in *Nature* of a paper by APRIL's peatland science team in collaboration with international researchers that compared the balance of greenhouse gas emissions and sequestration by different landscapes. The data, which was presented by the Indonesian government at COP28 in the UAE, will be crucial for understanding the climate implications of land-use changes on tropical peatland. This study adds to a growing list of research collaborations. Since 2016, RER has hosted research teams from ten universities in eight countries, including UK, Germany, Sweden, Canada, Singapore, Australia, Netherlands and the U.S.

RER and the Eco-Research Camp continue to receive researchers, acknowledging the scientific value of the program and its vast store of knowledge yet to be explored. With every step it takes, RER contributes to tackling climate change, empowers communities and safeguards biodiversity, while sustainable livelihood programs create economic opportunities for local people. This holistic approach directly supports the Indonesian government's goals for climate protection, including its commitment to achieve FOLU Net Sink by 2030.

In conclusion, I take this opportunity to express my gratitude to the RER team for their extraordinary achievements in the past year, and over the past decade. I also wish to express my deep appreciation to our partners and supporters, and for the invaluable and ongoing contributions of our Advisory Board Member. RER's continued success depends on collaboration with diverse stakeholders, including government agencies, research institutions, and the communities living within the restoration landscape even as we embrace the challenges and opportunities involved in a project of such significant scale to ensure an enduring legacy for climate, nature and people. We know that to go further in our endeavor, we need to do it together.

BEY SOO KHIANG

Chairman, Advisory Board
Restorasi Ekosistem Riau



MAP OF RESTORASI EKOSISTEM RIAU (RER)



RIAU,
SUMATRA

- RESTORASI EKOSISTEM RIAU (RER)
- APRIL CONSERVATION
- APRIL PLANTATION
- CONSERVATION AREA
- OTHER COMPANIES





ABOUT RER

Restorasi Ekosistem Riau is a nature-based solution to the climate and nature crises

ECOSYSTEM RESTORATION OVER A DECADE

The Restorasi Ekosistem Riau (RER) project was initiated in 2012 after APRIL Group received its first Ecosystem Restoration Concession (ERC) license from Indonesia's Ministry of Environment and Forestry. Today, this private-sector initiative includes five ERC licenses covering 150,693 hectares (twice the size of Singapore) across the Kampar Peninsula and Padang Island in Riau province, Sumatra, Indonesia. The 60-year licenses were issued by the government to protect and restore degraded forest productivity and ecosystem balance. RER aims to achieve those objectives by protecting the peat domes and their associated biodiversity; restoring degraded forest and hydrology; and creating meaningful employment for local

residents that will conserve forest resources. In addition, the project aims to deliver essential ecosystem benefits including clean water, carbon storage, managed fisheries, and sustainable provision of non-timber forest products.

The RER program began with the protection and restoration of 20,000 hectares of peat forest in the Kampar Peninsula in 2013. At COP21 in Paris in 2015, APRIL Group expanded the program to 150,000 hectares and pledged US\$100 million for long-term protection and restoration over an initial ten years. In 2020, the APRIL Group raised its conservation impact by linking its commitment to the company's fiber supply. It pledged to invest US\$1 for every tonne of plantation wood delivered to the mill. This new funding arrangement has delivered approximately US\$50 million for conservation so far.

Concessions	Size (ha)	Location
PT Gemilang Cipta Nusantara (GCN-KP)	20,123.33	Kampar Peninsula
PT Gemilang Cipta Nusantara (GCN-PPD)	20,598.53	Padang Island
PT Sinar Mutiara Nusantara (SMN)	32,781.06	Kampar Peninsula
PT The Best One Timber (TBOT)	40,665.67	Kampar Peninsula
PT Global Alam Nusantara (GAN)	36,524.78	Kampar Peninsula
TOTAL	150,693.37	
RER concessions on Kampar Peninsula and Padang Island in Riau Province, Indonesia		

PRODUCTION-PROTECTION LANDSCAPE MODEL

RER's restoration area benefits from its strategic location within the Kampar Peninsula. Surrounding the peat swamp forest are APRIL's sustainably managed plantations that act as a buffer zone from unwanted threats to the forest. This "production-protection approach" is critical in safeguarding the peat swamp forest from illegal logging, fire and wildlife poaching.

As well as acting as a physical barrier against threats, the sustainably-managed fibre plantation forests also generate reliable and consistent funding for conservation management.

At the heart of RER's production-protection approach is a robust partnership with the local fishing communities who have long relied on the peatland forest. RER, with support from APRIL Group, actively engages with these communities through educational programs, training initiatives on value-added products, and regular dialogue opportunities.





Production-Protection Landscape Model

This collaboration fosters a shared understanding of sustainable practices with the aim of helping the community members improve their livelihoods in harmony with the protection and restoration of the forest. The focus is on upskilling local communities so they can access alternative income sources, while at the same time reducing dependency on potentially unsustainable practices within the natural forest.

PARTNERSHIP AND COLLABORATION

Collaboration has been a cornerstone of RER's achievements over the past ten years. The project relies on strong partnerships with various organizations to provide insights into landscape management and the social dynamics of forest-dependent communities. Here is an overview of our key partners:

Fauna & Flora brings expertise in science-based restoration approaches, allowing RER to implement innovative restoration methods that address socio-economic needs. Fauna & Flora's support in baseline surveys of biodiversity, carbon storage, and local community conditions has been invaluable for guiding RER's strategies.

To strengthen relationships with the local community in the Kampar Peninsula, RER collaborates with BIDARA, an organization specializing in community empowerment and social capital initiatives. BIDARA ensures long-term community well-being by providing education, healthcare, and economic diversification programs that emphasize responsibility and sustainability. Some initiatives include promoting forest-based alternative income sources; enhancing land management skills for farmers; advocating for non-burning approaches to land management; and supporting environmentally friendly agriculture.

RER also has worked with Tropenbos Indonesia to evaluate wood supplies and address the livelihood needs of the Serapung and Segamai villages adjacent to the Kampar Peninsula. Serapung holds a permit for 1,956 hectares of village forest adjacent to RER.

In 2023, RER entered into a collaboration with the Borneo Orangutan Survival Foundation (BOSF) and the Indonesian Orangutan Habitat Restoration (RHOI). This partnership has pursued three main aims: supporting the Indonesian government's goals in promoting forest protection, conservation and restoration; supporting the conservation of endangered species like orangutans, and their habitats; and implementing effective partnerships among stakeholders, including local communities, as a way to achieve conservation goals.

RER's commitment to conservation goes beyond habitat restoration. In 2023, RER also collaborated with the Wildlife Conservation Society (WCS) to initiate the APRIL-WCS Strategy to Prevent Illegal Wildlife Trade. This focuses on providing RER and APRIL field teams with the latest technology and training to mitigate the risks of illegal wildlife activities within the APRIL landscape.

One key method has been to implement SMART (Spatial Monitoring and Reporting Tool) Patrols, a powerful conservation technology used by protected area managers and rangers worldwide. Developed through a global partnership of leading conservation organizations, SMART provides a standardized and streamlined approach to collecting, analyzing, and reporting vital field data. This information helps decision-makers to manage resources effectively, combat threats like poaching, and track progress towards conservation goals. Currently, SMART is deployed in over 1,000 sites across nearly 100 countries.



LANDSCAPE MANAGEMENT

The RER team's mission to protect the forest and repair damage that occurred before the project's inception poaching requires intensive and active management. This includes regular surveys and studies on biodiversity; guard posts at the primary access of corridors in the forests; routine wildlife patrols; partnerships with communities; collaborations with neighboring land managers and restoration activities such as tree planting.

The team uses a four-phase model known as PARM which acts as a framework for landscape protection activities: Protect (landscape protection), Assess (community, carbon and biodiversity assessments), Restore (restoration of natural tree species and wildlife), and Manage (sustainable management).

One tangible impact of this approach is the absence of hotspots or fires in within RER since 2014. This is a key achievement because it has allowed the ecosystem to begin to recover and prevented further damage. Key to avoiding fires — which in the region are almost exclusively caused by human activities — are the consistent efforts of the RER operational team. They monitor weather conditions, ensure the readiness of firefighting teams and their equipment, and communicate with fishermen and other forest users to prevent fire use. The project has also provided for 18 solar panels for local communities so they don't need to use kerosene lamps, which present a fire risk.

As part of enhancing active protection capabilities, in 2023, RER completed the renovation of the forest protection post on the Sangar River. This site, located on the boundary of the RER concession, provides a base from which forest rangers can inspect, monitor and advise forest users of their rights and responsibilities when entering the RER area. It also serves as an overnight facility for researchers interested in studying the region.

In 2023, all five RER concessions on Kampar Peninsula and Padang Island have received certifications from the Indonesian Forestry Certification Cooperation (IFCC) following the standards of the Programme for the Endorsement of Forest Certification (PEFC). This certification marks the first in Indonesia for Ecosystem Restoration Concessions.

ADVISORY BOARD

To ensure the effectiveness and long-term success of its restoration and conservation program, RER benefits from the guidance of a distinguished Advisory Board. It comprises a diverse group of Indonesian and international third-party experts with extensive experience in conservation science, community engagement strategies, and landscape management best practices.

The Advisory Board provides strategic direction by offering advice and independent perspectives on RER's restoration and conservation goals. This ensures alignment with global best practices and encourages innovative approaches. It also facilitates knowledge-sharing and capacity-building within the RER team by

connecting them with the latest research, scientific advancements, and best practice in the field. The board members also contribute to peer review and evaluation processes, offering objective assessments of RER's work to promote continuous improvement and maintain relevance. Lastly, the diverse expertise of the Board strengthens RER's engagement with stakeholders, including government agencies, research institutions, and local communities.



Bey Soo Khiang

Chairman, APRIL Group &
Chairman, RER Advisory Board



Jeffrey Arthur Sayer

Professor of Forest Conservation,
University of British Columbia



Paul Hotham

Senior Conservation Director,
Fauna & Flora



Kartini Sjahrir

Indonesian Anthropologist



Lucita Jasmin

Director for Sustainability &
External Affairs, APRIL Group



Sangar Post in the heart of Kampar Peninsula

RANGER POST: SANGAR

The remote Sangar ranger post plays a vital role in supporting RER's operational teams by providing a base inside the forest. This isolated post, nestled 7.3 km from the nearest road within the depths of the RER forest, takes about 60 minutes, by a combination of car and small boat (ketinting) to access.

The completion of this work means that RER now has four remote outposts on the Kampar Peninsula, including Serkap Post (2016) and GHG Flux Tower Post (2017) and Tasik Tengah Post (2020).

Additionally, a new Post Makmur was set up in 2024 located more than 10 km from the nearest road within a six-year-old restoration site at RER. These investments in infrastructure will enhance RER's protection capabilities and provide improved access for researchers.



A 1.1km Eco-Trail extends from the Serkap River to the Eco-Research Camp

ECO-RESEARCH CAMP

In 2023, RER completed a significant renovation project to enhance the visitor experience along its popular Eco-Trail. This 1.1 km elevated walkway which runs from the Serkap River to the Eco-Research Camp, offers a unique opportunity to observe the diverse wildlife and to safely explore the flooded peat swamp forest ecosystem.

The renovated Eco-Trail walkway, which meanders past trees and vegetation that are uniquely adapted to seasonal flood conditions, is 2-meters wide and elevated 1.5 meters above the ground. Three shelters have been strategically placed along the walkway at 50m, 500m, and 1,025m from the Serkap River. These shaded rest areas offer visitors a welcome respite during their journey through the forest. The renovation project took three months to complete, and was finished in December 2023.



A decade anniversary of RER

RER 10TH ANNIVERSARY CELEBRATION

In celebration of RER's 10th year of operation, the organization held a series of screenings of the documentary "Frontier Sumatra" to share the story of RER restoration and conservation programs across the Kampar Peninsula and Padang Island. Thousands of students from six major cities in Indonesia — Pekanbaru, Medan, Malang, Yogyakarta, Bandung, and Greater Jakarta — had the opportunity to learn about RER's vital work. Additional screenings were also shown in Singapore, further expanding the documentary's reach and inspiring the next generation of conservationists across Southeast Asia.

To commemorate the 10th anniversary, RER honoured its dedicated team members at a celebration in Pangkalan Kerinci, Riau province, acknowledging their achievements and dedication. The management team presented awards in ten distinct categories to individuals who had made exceptional contributions to RER over the past decade.



Brown-throated sunbird (*Anthreptes malacensis*)
Photo courtesy: Basrie Kamba, 2023

PLANT AND ANIMAL MONITORING

Understanding the biodiversity within the restoration area is a crucial component of RER's journey. Since 2015, with Fauna & Flora's support, intensive biodiversity monitoring has been a core operational activity. A comprehensive 2015 baseline survey by Fauna & Flora established initial species records across 92,000 hectares in the Kampar Peninsula. RER field teams continue to gather information and add to this baseline data each year through remote camera trapping, bird monitoring and plant surveys in both the Kampar Peninsula and Padang Island parts of RER.

Taxa	Total	IUCN			CITES	Government of Indonesia
		CR	EN	VU		
Mammals	78	3	9	9	26	18
Amphibians & Reptiles	106	3	3	3	19	5
Birds	319	2	6	18	46	78
Plants	201	3	1	5	28	0
Fish	89	2	1	3	0	0
Odonata	100	0	1	3	0	0
Total	893	13	21	41	119	101
Plant and animal species recorded in RER in 2023						



BIODIVERSITY

During the first decade, through year-round monitoring, 893 species of plants and animals were identified in RER. Of these, 75 species are listed in the IUCN Red List with 13 classified as Critically Endangered, 21 as Endangered, and 41 as Vulnerable.



Sumatran Tiger (*Panthera tigris sumatrae*) captured by camera trap



The 893 species of animals and plants identified in biodiversity survey in 2023 was 47 higher than the tally for 2022. This increase includes two birds, three plants, and an impressive 42 Odonata (dragonfly and damselfly) species. The latter was due to a comprehensive survey conducted by Dr. Rory Dow, a leading expert on tropical Odonata species. His study began in 2020 and completed in 2023.

Among the 893 plant and animal species identified in the RER area, 75 species are categorized by the IUCN Red List as Vulnerable (41), Endangered (21), and Critically Endangered (13). Additionally, 119 species are protected by CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) and 101 species are designated by the Government of Indonesia as conservation priorities.

For the past eight years, RER has conducted two Avian monitoring programs: The Asian Waterbird Census (AWC) and Migratory Raptor Monitoring. It has also initiated a program to certify RER staff as skilled in banding birds for catch-and-release population monitoring. These programs support both global conservation initiatives and RER's own targeted conservation efforts.





Wildlife watching in Eco-Research Camp

No.	Survey	Period	Highlights
1.	Asian Waterbird Census	February 2023	73 birds of 10 waterbirds species (Waders, Egret/Heron) were observed. The observation of a non-waterbird species, the Oriental reed-warbler (<i>Acrocephalus orientalis</i>), represents a new record for Kampar Peninsula.
2.	Padang Island Baseline Camera Trap Survey	May - September 2023	Including 58 grids of camera trapping, the Padang Island camera trap survey was the first baseline camera trap study in RER Padang Island. Eight of 22 species observed are listed on the IUCN Red List, including Sunda Pangolin (<i>Manis javanica</i>), Long-Tailed Macaque (<i>Macaca fascicularis</i>), Southern Pig-Tailed Macaque (<i>Macaca nemestrina</i>), Sunda Slow Loris (<i>Nycticebus coucang</i>), Bearded Pig (<i>Sus barbatus</i>), Binturong (<i>Arctictis binturong</i>), Silvered Leaf Monkey (<i>Trachypithecus cristatus</i>) and Sambar Deer (<i>Rusa unicolor</i>). The critically endangered Sunda pangolin was found in 10 camera trap grids. Five observed species are protected by the Indonesian government. No Sumatran tigers or Malayan sun bears were observed on Padang Island (the two largest mammals on the Kampar Peninsula).
3.	Bird Banding Training	July - November 2023	223 birds from 44 species caught and banded to monitor population size, migration patterns and behavior. The information gather will also help develop policies and inform conservation planning, as well as raising public awareness and educating the community.

RER biodiversity surveys in 2023

The Asian Waterbird Census (AWC) is conducted annually in January and February across the Asia-Pacific region. In collaboration with Indonesia's Ministry of Environment and Forestry (KLHK), the NGO Wetlands International oversees the census. The data collected are shared with global conservation organizations including IUCN and the Ramsar Convention, while KLHK uses the data to ensure the sustainable conservation and management of wetlands in Indonesia. During the 2023 AWC, 10 waterbird species were observed, with a total of 73 individuals, including the first-ever sighting of the Oriental reed-warbler (*Acrocephalus orientalis*) in Kampar Peninsula during the census period.

COMPLETION OF ODONATA SURVEY

The first Odonata survey in RER was conducted in 2020 by Dr. Rory Dow, an expert who has published numerous papers on Odonata species and is also a member of the IUCN Odonata Specialist Group. The objective was to establish a baseline for Odonata biodiversity data in RER and to develop the Dragonfly Biodiversity Index (DBI) for the Kampar Peninsula, as well as specific habitat preference of different species in the group. The survey was initially halted due to the COVID-19 pandemic and subsequent travel restrictions. However, it resumed with three surveys conducted in 2023.

The Odonata order is made up of predatory flying insects that include dragonflies and damselflies. Both groups are important to the peat ecosystem because they prey on

mosquitos and serve as prey to birds and fish. Odonata require stable oxygen levels and clean water for their early lifecycle stages as aquatic larvae; therefore, scientists consider them reliable bio-indicators of ecosystem health.

The survey identified 100 species, of which two were new to science and 39 were new to Riau province or the island of Sumatra. Forty-nine of the total are dependent on forests. The large number of new records demonstrate that there is still a great deal to be learned about the RER's Odonata with further study. And since the group is particularly sensitive, their high diversity increases confidence that the ecosystem is functioning well. In addition to the species count, the RER team learned valuable information that will inform restoration and conservation programs.



Black-kneed Featherleg (*Pseudocopteryx ciliata*)

BIRD BANDING

The Kampar peninsula is home to a wide variety of rare, threatened and endangered birds. In 2003, it was designated an Important Bird Area (IBA) by BirdLife International due to the presence of globally threatened species, and biome-restricted wetland species.

Across Indonesia, birds are under serious threat from the illegal wildlife trade, with populations of wild songbirds in decline due to their popularity as pets, and as contestants in songbird competitions run by collectors.

RER provides a vital refuge for significant numbers of Indonesia's bird species. To date, 319 species have been documented, including 26 listed on the IUCN Red List and 78 that are protected by the Government of Indonesia. This biodiversity makes RER a focus for research and conservation efforts. One key monitoring technique is bird banding (sometimes referred to as 'ringing'), which provides a simple and effective way to register individual animals, while also building up a picture of population numbers, trends, and movement. The information gathered can contribute to population monitoring, migration studies, behavioral research, policy and conservation planning and public awareness and education.

From July to November 2023, RER organized an intensive bird banding training session for its staff with the help of licensed bird banders from Yayasan EKSAI (Indonesia Wildlife Ecology Foundation) and under the guidelines of the official Indonesian Bird Banding Scheme (IBBS). The main objective was to gather much-needed data on heavily trafficked songbirds, while also providing RER staff with the equipment and necessary skill they would need to potentially conduct long term monitoring.



First bird banding process in RER this year

Data collected from these activities will help illustrate the impacts of the illegal wildlife trade on bird populations on the Kampar Peninsula. In addition, by banding birds and recapturing them at intervals in future, we can track population density and ecosystem health.

During the latest round of RER bird banding, our team captured 57 individuals over 12 days. The results of this relatively small sample reveal the stunning biodiversity RER has to offer — including babblers, bulbuls, kingfishers and cuckoos.

From 44 species identified in this bird banding exercise, 14 species classified as Vulnerable and Near Threatened on the IUCN Red List:

Bird Species	IUCN Red List
• Brown-chested jungle flycatcher (<i>Cyornis brunneatus</i>)	VU
• Hook-billed bulbul (<i>Setornis criniger</i>)	VU
• Streaked Bulbul (<i>Ixos malaccensis</i>)	NT
• Fluffy-backed tit-babbler (<i>Macronus ptilosus</i>)	NT
• Short-tailed babbler (<i>Malacocincla malaccensis</i>)	NT
• Sooty-capped babbler (<i>Malacopteron affine</i>)	NT
• Grey-breasted babbler (<i>Malacopteron albogulare</i>)	NT
• Buff-necked woodpecker (<i>Cyornis brunneatus</i>)	NT
• Bar-winged prinia (<i>Prinia familiaris</i>)	NT
• Bulbul (<i>Pycnonotus eutilotus</i>)	NT
• Chestnut-rumped babbler (<i>Stachyris maculata</i>)	NT
• Black-throated babbler (<i>Stachyris nigricollis</i>)	NT
• Sumatran Babbler (<i>Trichastoma buettikoferi</i>)	NT
• Rufous-tailed shama (<i>Trichixos pyrropygus</i>)	NT

Overall, 223 individual birds received bands, representing 44 species. The majority, 144 birds (comprising 68% males and 26% females), were immature, indicating that the species are breeding successfully. And the high level of bird diversity and abundance at the Eco-Research Camp area, indicating sufficient food sources and nesting sites are available.

Working together with the EKSAI (Indonesia Wildlife Ecology Foundation) and as a part of the nationwide IBBS (Indonesian Bird Banding Scheme) program, RER is committed to conserving Indonesia's remaining wild bird populations, and avoid the risk of extinction. Results from these studies can increase public awareness, inform government policy, and expand our understanding of bird behavior – and ultimately to protect Indonesia's remaining wild bird populations.



Great Hornbill (*Buceros bicornis*)

BIODIVERSITY OF RER



78

Mammals



106

Amphibians & Reptiles



319

Birds



201

Plants



89

Fish



100

Odonata



893

TOTAL

CASE STUDY

SAMBAR DEER RELEASE

This year, on National Nature Conservation Day, RER released four sambar deer into the wild. Guided by research from academics at Gadjah Mada University, the Riau Nature Conservation Agency (BBKSDA Riau) teamed up with the RER to translocate a group of Sambar deer from the Meranti Islands to the Kampar Peninsula. The release was a collaborative effort between RER, academia, government, communities, and conservation partners.

This initiative aims to reduce human-tiger conflicts in the Kampar Peninsula Landscape by enhancing the availability of prey for tigers. This project follows the release of a Sumatran tiger named Corina on December 20, 2020. The latest initiative, along with our collaborative approach in its execution, is part of the RER's commitment to the conservation of protected species in Riau.

Sambar deer (*Rusa unicolor*) are native to various countries across South Asia, including Nepal, India,

Thailand, Taiwan, and Malaysia. An adult sambar deer can grow up to 160 cm tall and may weigh as much as 545 kg, although most are smaller, at around 100cm and 350 kg. During the mating season, males grow distinctive three-pronged antlers, which they shed once the annual rut concludes. They are generally yellowish brown or grey in color, with occasional chestnut markings on their rump or underbelly.

The species features on the IUCN Red List as Vulnerable. In many places, their habitat is disappearing due to deforestation, while animals themselves are trapped, hunted, and sold for bush meat by humans.

The newest residents of RER are a group of four deer, comprising two adult females, one adult male, and one adolescent male named Hasan, Vina, Mina, and Abeng. They were previously under the care of a local community member in Meranti Islands Regency, who initially intended to breed the animals



Newest RER Residents, four Sambar deer (*Rusa unicolor*), comprising two adult females, one adult male, and one adolescent male (fawn)

in captivity. However, after receiving legal advice from the Riau Regional Police (Ditreskrimsus POLDA RIAU) and the Riau Nature Conservation Agency, they had a change of heart. When relocating these animals and returning them to the wild, the primary focus was to assess their health and well-being to ensure they were fit for the journey. The Riau Nature Conservation Agency's team of veterinarians provided guidance at every step of the relocation process to minimize stress on the deer.

The relocation process involved several steps. Initially, the deer were sedated and carefully transferred to a transit cage. From there, they were transported to the port of Selat Panjang, where they boarded a boat headed for the port on the Kampar Peninsula, which then brought them to RER. Upon arrival in the afternoon, the deer were placed in a temporary enclosure where they could recuperate from the journey – this period allowed them to adjust to the new surroundings, including novel

scents, sounds and climate. The entire journey lasted approximately 18 hours. Once settled, the deer underwent another thorough health assessment by a veterinarian.

Before their release into the wild, the four deer underwent a five-day acclimatization phase. Following observations and evaluations, all four were declared ready for release on the sixth day, which coincided with National Nature Conservation Day on August 10, 2023. The release ceremony was led by Andri Hansen Siregar, Head of Region I, Riau Nature Conservation Agency.

According to a research project conducted at Gadjah Mada University, human-tiger conflicts in the Kampar Peninsula landscape are largely attributed to a lack of prey species. Wild tigers may target livestock during food scarcity, leading to conflicts with humans. By securing the natural prey species for tigers, RER is helping to restore natural balance to the ecosystem and mitigate human-tiger conflict.





WEATHER MONITORING AND FIRE MANAGEMENT

The landscapes of the Kampar Peninsula and Padang Island experience a warm, moist tropical peat swamp forest climate. Using data from 10 weather stations within RER and with comprehensive year-round monitoring in 2023, the average annual rainfall is significant, measuring 2,543 mm in the Kampar Peninsula and 2,427 mm on Padang Island. Rainfall fluctuates seasonally, with dry seasons typically occurring twice per year: from late January to February and from June to September.

In 2023, rainfall was higher than average across both regions. The Kampar Peninsula received 15% more rainfall than its long-term average, while Padang Island saw a 7% increase. Despite this overall increase, dry seasons led to months of decreased rainfall – October experienced the lowest rainfall in the Kampar Peninsula (83.3 mm), while February was the driest month in Padang

Island (98.4mm). On average, RER receives 212 mm of rainfall per month in the Kampar Peninsula (RKP) and 202.3 mm in Padang Island (RPP). December is typically the wettest month, with peak rainfall reaching 331.0 mm (RKP) and 508.0mm (RPP).

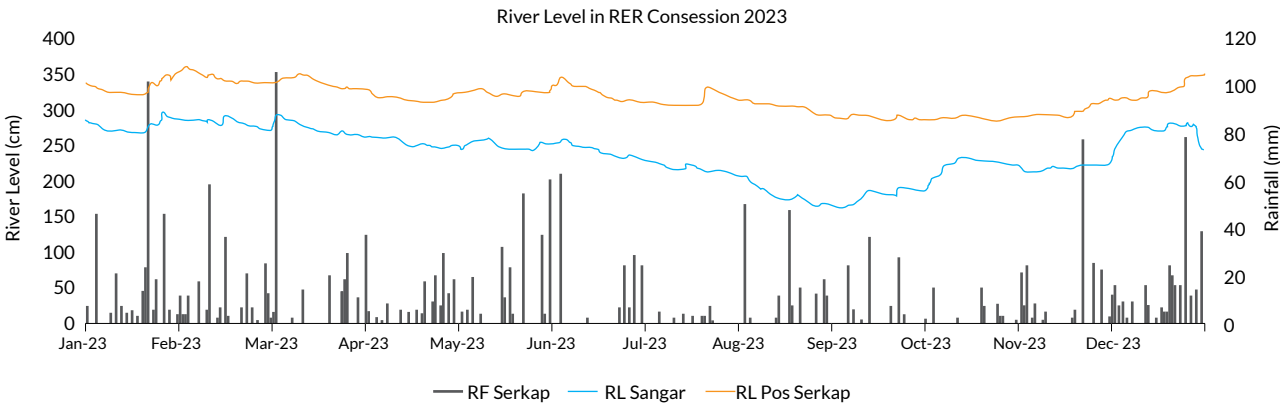
Understanding Rainfall Patterns in the Kampar Peninsula

Rainfall data analysis indicates that precipitation levels in September and October 2023 were below the long-term average in the Kampar Peninsula. The major factor contributing to this decreased rainfall was the 2023 El Niño weather phenomenon that compounds the impact of Indonesia's typical dry season (June-September).



CLIMATE

In 2023, The Kampar Peninsula received 15% more rainfall than its long-term average, while Padang Island saw a 7% increase.



Rainfall and river levels in RER Consession 2023

Understanding River Levels in RER: Rainfall's Direct Impact

Data graphs demonstrate a clear positive correlation between rainfall and river levels within RER. In 2023, this pattern is evident:

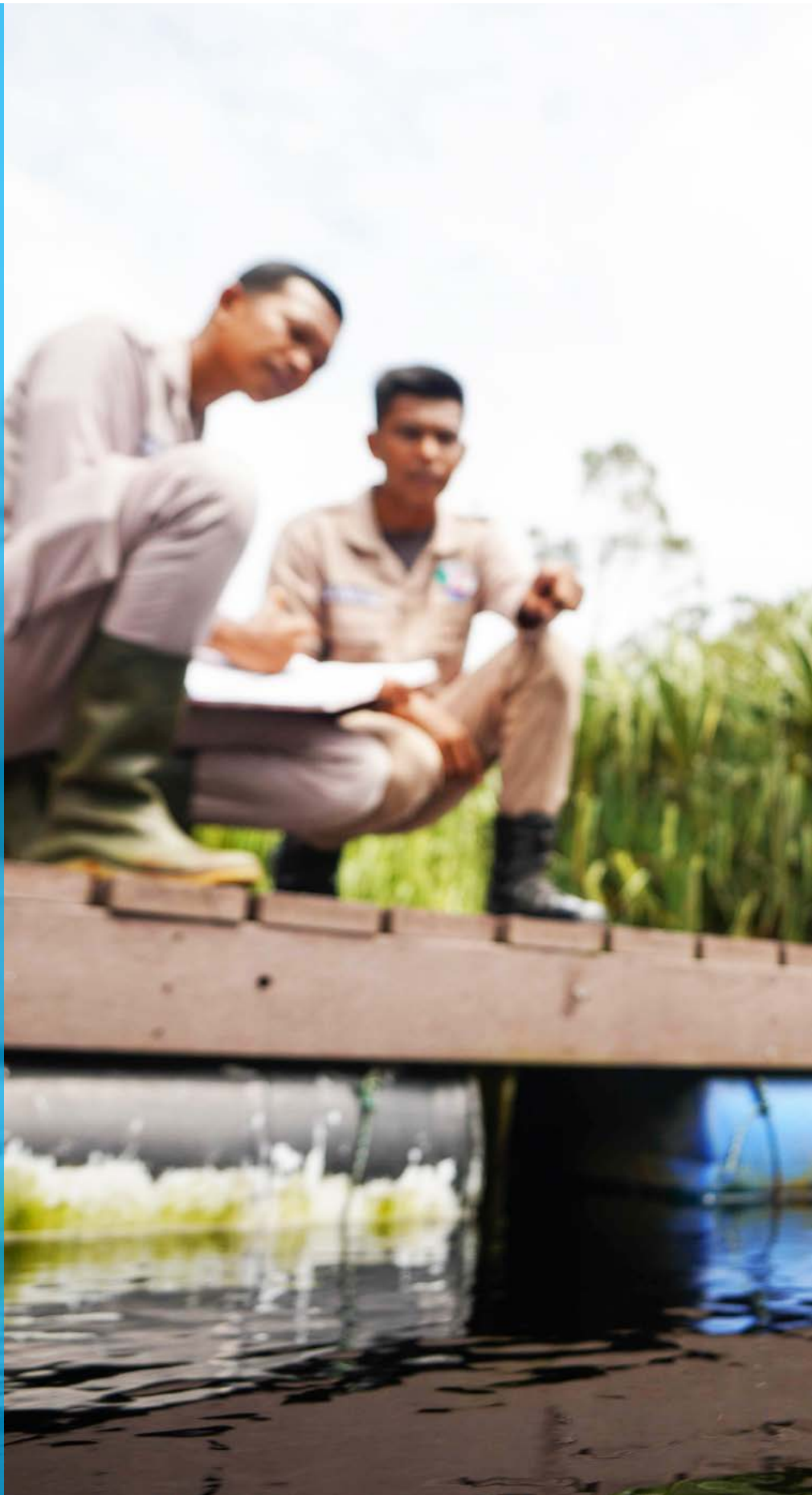
- **Lowest Rainfall = Lowest River Levels**

October 2023 experienced the year's lowest rainfall, resulting in the lowest recorded river levels 167 cm at the Sangar monitoring point and 290 cm at Serkap.

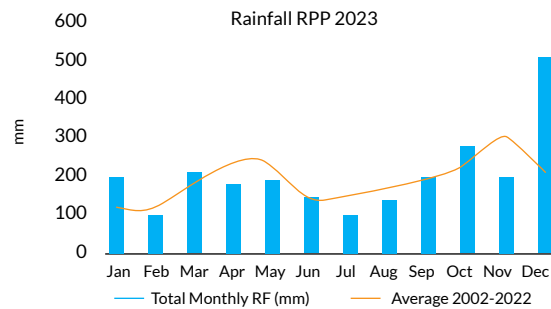
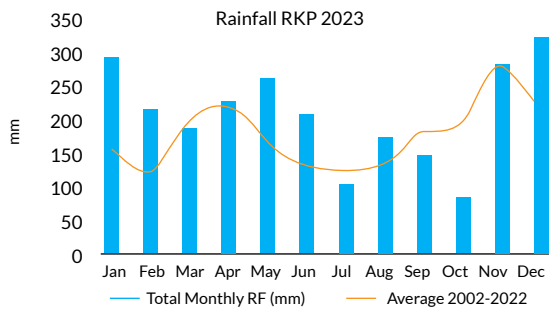
- **Highest Rainfall = Highest River Levels**

Peak rainfall occurred in January 2023, and this directly corresponds to the year's highest river levels 305 cm at Sangar and 371 cm at Serkap.

These fluctuations emphasize the significant influence rainfall patterns have on river levels within the peat swamp forest areas of RER.







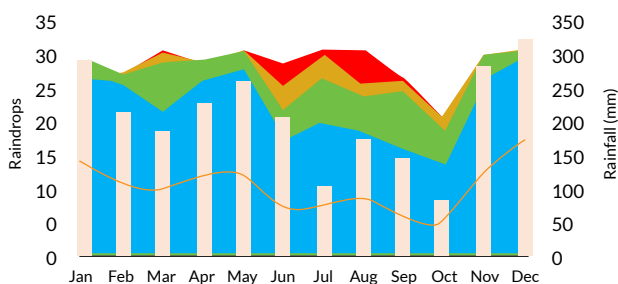
Summary of rainfall on Kampar Peninsula and Padang Island

Understanding Fire Hazard-Risk and RER's Response

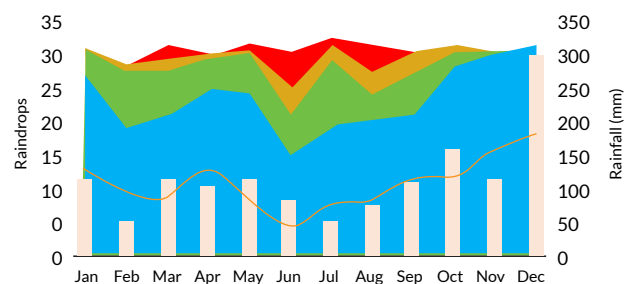
RER utilizes satellite imagery to monitor fire risk and conducts daily fire hazard assessments through weather monitoring of rainfall, humidity and fuel condition. The success of RER's fire management strategy is evident as demonstrated by the absence of fire incidents within the concessions since 2014. To ensure preparedness for responding to fire threats, RER maintains a two-pronged approach that includes actively engaging local communities in fire prevention efforts and having the capability to effectively respond to a fire at the earliest possible stage.

- **Fire Prevention:** Given the absence of natural fire causes within tropical peat swamp forests, prevention of human-caused fires is a priority. RER's proactive approach includes monitoring human activity within concessions and extensive community engagement efforts in the surrounding areas. RER informs forest users of daily fire danger, prevents illegal land claims and forest clearing, and educates adjacent farmers in "no-burn" agricultural techniques to prevent fire threats to the peat forest.
- **Fire Detection and Preparedness:** Satellite imagery allows for the detection of "hotspots" which indicate active fires. Based on daily weather monitoring, fire patrols are conducted in high risk areas where people are present. Specialized, light-weight forest firefighting equipment and teams can be mobilized rapidly by air or ground to respond to a fire.

Weather Condition on RKP 2023



Weather Condition on RPP 2023



Low Medium High Extreme Monthly RF (mm) Raindays Low Medium High Extreme Monthly RF (mm) Raindays

Summary of Fire Danger Rating (FDR) on Kampar Peninsula and Padang Island

FOREST RESTORATION

More than 60% of the RER forest on Kampar Peninsula has intact forest cover and another 39% has experienced selective logging and some drainage. Therefore, natural regeneration combined with canal blocking is the most cost-effective approach in these large areas. However, there are small, isolated locations where past drainage, intensive logging and fire occurred before RER began managing the concessions. These are the areas where restoration efforts are most concentrated. To assess these highly-degraded sites the RER team utilizes satellite imagery, aerial reconnaissance using helicopters, and drone photography. Based on monitoring results, less than 900 hectares or 1% of the total area in RER require human-assisted restoration, while the rest can recover naturally.

Year	Planting	ANR/Enrichment	Maintenance	Natural Regeneration
2014	0.26	0.00	0.00	0.00
2015	5.41	3.23	0.00	2,072.00
2016	4.57	0.00	6.58	2,043.50
2017	0.09	0.00	0.63	11,835.00
2018	19.34	24.67	4.37	12,833.00
2019	4.67	5.47	162.00	11,943.00
2020	0.00	4.00	182.52	24,603.20
2021	45.68	6.48	174.06	11,668.00
2022	0.00	0.00	399.43	17,865.60
2023	0.00	0.00	341.41	19,399.92
Total	80.02	43.85	1,271.00	114,333.22
Annual restoration and maintenance progress (in Ha)				

After verification supported by field inventories, the team develops specific restoration plans for each site. These identify suitable native tree species; planting techniques to be employed; as well as monitoring and maintenance needs. In the absence of new human disturbances like illegal logging and forest fires, tropical peat swamp forests can recover quickly, especially if the area is less than two hectares. At times, forest restoration requires human intervention, prompting the RER team to conduct direct planting, enrichment, and assisted natural regeneration (ANR). To establish adequate tree cover on a highly degraded site may require 5-7 years of repeated effort planting, maintenance and continuous protection because of the seasonal challenges of flooding that cause mortality in young seedlings as well as the rapid growth of competing vegetation such as ferns and vines that overtop young trees.

The restoration goals for each location may vary, encompassing objectives such as increasing forest canopy cover, providing fruiting trees as habitat for birds, enriching the site with rare or endangered tree species or a combination of these goals.



Makmur Restoration Site October 2019



Makmur Restoration Site October 2023

TREE NURSERIES

Restoring a vast and remote peat swamp forest landscape presents significant logistical hurdles. To overcome these challenges, RER strategically establishes small-scale nurseries near restoration sites. These nurseries maintain a diverse stock of native seedlings, totalling 60 species carefully collected from the surrounding peat swamp forest. This approach ensures ready access to the tree seedlings for restoration efforts.

In 2023, RER's nine nurseries across the Kampar Peninsula and Padang Island nurtured a total of 32,600 natural seedlings. These seedlings play a vital role in replacing poorly performing or dead trees from previous restoration efforts – 10,100 seedlings were used for this purpose in 2023. Additionally, 5,100 seedlings are ready and waiting to be planted in restoration areas in 2024, demonstrating RER's commitment to long-term success.

Estate	Number of Nurseries	Number of Species	Number of Seedlings	Seedlings Planted in RER	Seedlings Ready to be Planted
Kampar Peninsula Restoration	7	60	26,102	10,177	2,617
Padang Island Restoration	2		6,514	0	2,507
Total	9	60	32,616	10,177	5,124

Nursery stock in 2023



RER Nursery on Kampar Peninsula

HYDROLOGICAL RESTORATION

Unlike mineral soil, tropical peat swamp forest soil consists of 80% water and 20% organic material. The water table describes the boundary between water-saturated ground and unsaturated ground below the soil surface. In peatlands, this level is very close to the ground surface for most of the year, but does fluctuate based upon seasonal rainfall. It can rise several centimeters above the peat surface during the rainy season and drop up to 100 cm below the peat surface during prolonged dry seasons caused by El Niño.

In 2013, it was discovered that parts of the Kampar Peninsula and Padang Island were in a degraded state due to commercial and illegal logging in previous decades. Logging activities involved cutting down large trees and creating a network of canals and extraction trails (rails) as timber transport routes out of the forest. The width of these canals varied from one to nine meters, with depths ranging from 50 to 150 centimeters. The presence of these canals led to a lowering of the peat water table,

increasing the risk of forest fires due to the dryness of the peat surface. An unseen consequence of the drying peat surface is the heightened oxidation and decomposition of organic peat, releasing carbon dioxide into the atmosphere. This adds to increasing temperatures and contributes to long-term climate change.

To maintain peat moisture within normal seasonal fluctuations, RER has been working to close old drainage canals scattered across the landscape.

To date, RER teams have verified 39 canal systems covering 202 kilometers in length across the RER area. The Kampar Peninsula hosts 25 of these canal systems, totaling 137 kilometers and affecting 8,678 hectares. The remaining 14 canals, totaling 65 kilometers and impacting 3,966 hectares, have been verified on Padang Island. RER has chosen to leave two research canals open to assess the effect of canal closure activities on water table conditions. This long-term research is estimated to be completed in 2025.

As of last year, RER had achieved 72% of the canal closure target, with the construction of 87 dams successfully closing 28 canal systems, totaling 148.6 km in length. This has impacted an area of 9,359 hectares in the Kampar Peninsula and Padang Island. The data in the table below has been corrected for miscalculations in the achievements of previous years.

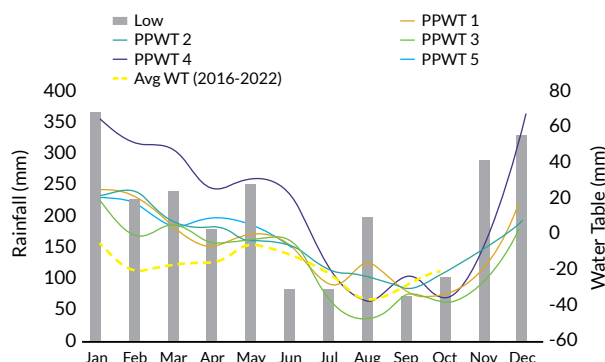
Year	Canal	# of Dams	Length (m)	Impacted Area (Ha)
2015	1	2	2,704	109.4
2016	5	17	20,269	1,320.90
2017	2	4	15,045	915.0
2018	13	30	49,623	3,245.2
2019	5	15	45,454	2,845.1
2020	2	11	15,480	923.7
2021	0	6	0	0
2022	0	2	0	0
2023	0	0	0	0
Total	28	87	148,575	9,359.3

Annual canal closures in RER

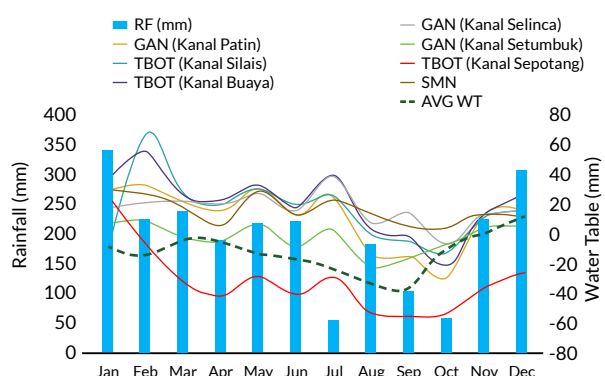
To assess the impact of canal closure on the peat water table, water monitoring is conducted manually through dip-wells. These well are placed at various locations across the landscape, from river edges to deep within the forest, with distances of several kilometers between each. The peat water table level is measured every one-to-three months. The collected data allows the RER team to monitor seasonal water table height trends relative to

monthly rainfall figures. To help with monitoring, RER has installed automatic recorders that consistently record water level fluctuations throughout RER to improve the quality of water level and peatland subsidence monitoring data. Additionally, the RER team monitors water level in the Sangar and Serkap Rivers.

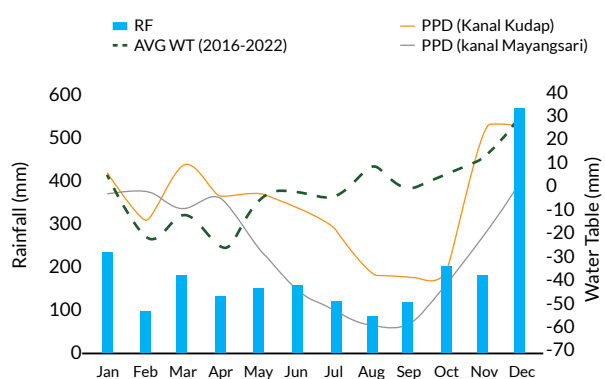
Water Table in Sangar River



Monthly Water Table Serkap River



Monthly Water Table PPD River



Water table in RER river

CASE STUDY

RER ECO EDUCATION

Since 2018, RER has been dedicated to hosting Eco Education initiatives to educate individuals of all ages about the importance of caring for our planet.

A primary objective of Eco Education is to cultivate a deep appreciation for the need to protect and conserve biodiversity in the next generation.

As part of RER's Eco Education program, the team hosted high school students from SMAN 1 and SMAN 3 Teluk Meranti at our Eco-Research Camp, the operations base, and Tropical Peatland Science Center.



RER team introduces RER natural seedlings to Eco Education participants





Situated on the east coast of Sumatra, the Kampar Peninsula is adjacent to nine villages situated along the opposite riverbank along the Kampar River. Approximately 18,400 people inhabit this area, comprising several ethnic groups, the majority being Malay and Javanese, along with some other ethnicities that migrated to the Kampar Peninsula in search of a better life.

To meet their livelihood needs, they engage in various economic activities, combining multiple sources of income. Unlike other regions, their livelihoods are often influenced by market trends or favorable commodity prices. These activities include farming, fishing, laboring, trading and entrepreneurial activities. For example, from March to May, some community groups focus on gathering honey, while in other months, they catch fish in the Kampar River and its tributaries. Broadly, their livelihoods are categorized into four main groups:

agriculture and forest products (rice, maize, betel nut, chili, vegetables, and honey), plantations (sago, coconut, palm oil, and rubber), freshwater fishery and most recently swiftlet bird nest harvesting from multi-storied bird houses. The community also utilizes non-timber forest products found in the peat swamp forest, such as fish, forest honey, and various medicinal plants.

Apart from the Kampar Peninsula, RER also has close ties with 34,200 people divided among 20 villages on the east coast of Padang Island. Padang Island is inhabited by diverse ethnic groups, including the indigenous Akit, Malay, Banjar, Javanese, Batak, and Bugis. Their primary livelihoods on Padang Island stem from rubber, sago, and coconut plantations, which they have been engaged in since the 1960s. Additionally, their main sources of income come from agriculture and fishing.



COMMUNITY

More than 50,000 people live in the vicinity of the RER program area, making community participation in sustainable livelihoods a crucial aspect of environmental and biodiversity conservation in the Kampar Peninsula and Padang Island.

FARMING

RER and its partners carry out diverse programs aimed at enhancing agricultural skills, thereby reducing threats to the nearby forest. These initiatives involve implementing community livelihood improvement programs on the Kampar Peninsula and Padang Island, empowering individuals and small farmer groups to adopt sustainable practices and abandon unsustainable methods in their activities.

BIDARA, RER's partner in Kampar Peninsula, assists local communities in planting vegetables and fruit crops at the village level on unused or fallow lands. Through this program, communities can harvest commodities such as chilies, eggplants, green beans, celery, bananas, and cassava up to three times a year, diversifying their livelihoods to achieve greater economic independence.

As an initiative, RER has partnered with Tropenbos Indonesia to enhance agricultural livelihoods in Serapung village, a small community located on Serapung island 4-km east of the Kampar Peninsula. This collaboration was initially established based to the community's dependency on wood as the primary raw material for their boat building culture and livelihoods. Despite receiving a permit for a 1,956 ha village forest from Indonesia's Ministry of Environment and Forestry in 2016, timber harvesting in deep peat was not allowed by regulation. Despite this, illegal harvesting began, and government actions were needed to end the unsustainable harvesting activities. The RER-Tropenbos Indonesia partnership aims to provide medium and long-term solutions to revitalize agricultural and fishery livelihoods that are not dependent upon forest exploitation.

The community mentoring collaboration between Serapung Village and Tropenbos Indonesia has been ongoing since September 2023. Activities conducted in the first quarter of this phase include Participatory Rural Appraisal (PRA), Field School (Sekolah Lapang) for rice and chili cultivation, as well as trials for rice cultivation on acidic land.

The Field School for rice cultivation has held nine sessions with 29 participants, divided into two demonstration plots: an organic plot (intervened according to field school learning) and a farmer treatment plot (managed according to the village farmers' cultivation practices), each with an area of 20x20 meters. Meanwhile, the Field School for chili cultivation was attended by 24 participants. This land also consists of two plots, an organic plot, and a farmer treatment plot, with a total of 1,200 chili plants, each with an area of 650 square meters, currently undergoing the seedling process.

Following discussion with village farmer group leaders, the community plans to increase household income by diversifying crops in coconut plantation, including planting cacao. Interest on cacao cultivation amidst coconut trees has risen during Field School sessions for rice cultivation. Currently, 14 farmers are committed to cocoa seedling propagation.





Local fishermen in Tasik Tengah

Agreements between Tropenbos Indonesia and the group members regarding cacao seedlings: group members will provide land and construct basic seedling nurseries voluntarily: they will also fill polybags, sow seeds, and nurture seedlings until ready for planting. Seedlings will be evenly distributed among group members, with Tropenbos providing 1,200 cocoa seeds and polybags. Tropenbos will provide technical support for seedling care until planting and facilitate learning of vegetative propagation techniques such as top grafting and budding, as well as the production of organic compost (POC) and botanical pesticides.

PARTNERSHIP WITH SEGAMAI VILLAGE FOREST

Segamai Village Forest was granted management license approval to the Segamai Village Forest Management Institution (Lembaga Pengelola Hutan Desa-LPHD) by the Indonesian Ministry of Environment and Forestry in 2017, in accordance with Ministerial Decree No. 1012/Menlhk-PSKL/PKPS/PSL.0/3/2017 dated March 10, 2017.

Due to the absence of support, especially financial support required to carry out village forest management activities, not many activities can be carried out as directed. This situation was exploited by illegal loggers within the village forest area. Illegal logging activities are a serious threat to the existence of the village forest and have occurred since the initial receipt of the management agreement, peaking in 2019. In 2019, 16 illegal logging perpetrators were arrested and prosecuted with the help and support of the Riau Police.

These prosecutions do not appear to have had a significant deterrent effect however, more illegal logging activities were discovered in the Segamai area. LPHD Segamai does not have the ability to overcome this illegal logging problem alone; therefore, LPHD Segamai and RER collaborate to address these threats. RER is directly adjacent to the Segamai area, which is in effect, the last bastion of defense to withstand the threat of illegal logging before it reaches the RER concession.

A 5-year partnership agreement was made in 2023 between RER and the Segamai. The aim is to assist in protecting and managing the village forest while providing support to improve residents' livelihoods. Activities under this partnership include training in forest protection and wildlife identification, capacity building in forest management, and the utilization of non-timber forest products. Additionally, infrastructure support for forest protection such as posts, watchtowers, and signboards are provided.

Through the collaboration, more than 20 Segamai officials actively participate in the program, and more than 30 residents experience positive impacts. Furthermore, two residents have joined RER as forest rangers. So far, this collaboration has proven successful in preventing illegal logging in Segamai, and RER also experiences positive impacts as the sustainability of its adjacent forest area with Segamai continues to be preserved.



Segamai LPHD Guard Post

FISHING

RER is traversed by four rivers: Kutup, Sangar, Serkap, and Turip, which serve as seasonal fishing grounds for several groups of fishermen in Kampar Peninsula. These fishermen usually reside in fishing huts along the riverbanks during fishing season. The main attraction for these fishermen is the diverse species of local fish available, including Gabus, Baung, Lais, Toman, Tapah, and Tapah Koro.

RER collaborates with these various groups to ensure that they fish sustainably, without causing harm to the river and forest ecosystems. For fishermen, abundant fish stocks are a vital source of income that must be managed sustainably. In 2023, 5,946 kg of fresh fish was harvested, 1,157 kg of dry fish produced, and there were approximately 550 entries in the Serkap River. Danau, Rasau Panco, and Tasik Guntung are the primary sources of fish products. In Sangar, 491 kg of fresh fish were harvested from 79 entries by fishermen.



Local Fisherman in the Serkap River

COMMUNITY RELATIONS

In 2023, RER conducted 167 activities in 26 villages around the RER concessions on Kampar Peninsula and Padang Island. RER community welfare programs included support for sports and religious activities, eco-education and fishery programs, campaigns to encourage clean and healthy living behavior.

OUTREACH AND ENGAGEMENT

RER developed comprehensive, long-term management plans with international and local specialists to ensure the sustainability of the restored areas. These incorporated consultations with local communities, government and adjacent forest concession license holder.

FIELD VISITS

Field visits are crucial in aiding stakeholders' comprehension of RER's scale and the operational hurdles it faces. In 2023, 36 group visitors visited the RER area, partaking in visits to Eco-Research Camp and RER-owned Tropical Peatland Science Center. These facilities help visitors get a comprehensive understanding of RER and offer direct observations of the implementation of the production-protection approach, which underpins our restoration and conservation efforts.

Visits to RER in 2023 encompassed various interests, including programs related to restoration and conservation activities, research, wildlife release planning, carbon surveys, operational safety assessments, and business visits.

EXTERNAL ENGAGEMENT

To enhance awareness of the restoration program, the RER team shared their expertise, knowledge, and technical skills through various national and international activities throughout the year 2023, including:

1. Indonesia Green Forestry Environment Expo on March 2-5, 2023, in Yogyakarta. Both RER and APRIL presented their business and ecosystem restoration program.
2. The Steep Road of Ecosystem Restoration and Carbon Trading from Forest Concessions held by DIPI and RCCC UI on May 31, 2023, in Jakarta. The dialogue discussed challenges faced by concession license holders in Indonesia.



3. International Symposium on Wildlife Biodiversity Conservation (ISWBC), Yogyakarta, in September 2023. RER ecologist, Prayitno Goenarto, shared how private sector commitment can support the protection and enhancement of nature.
4. At the IUCN Leaders' Summit titled "Who does what for Global Biodiversity Framework (GBF) Implementation," held on October 11, 2023, in Geneva, Switzerland, Anderson Tanoto, Managing Director of RGE, underscored the advancements made by the RGE Group in integrating biodiversity-focused initiatives into its business model. This progress has been ongoing since the group pledged US\$100 million to nature and conservation at COP 2015 in Paris.
5. RER collaborated with IDN Times & Kompas.com as media partners for Frontier Sumatra screening in six cities, engaging at least 1,200 students from universities across Indonesia.
6. Ambitious Biodiversity and Green Recovery for Climate Resilience at the Indonesia Pavilion in COP 28 UNFCCC Dubai, on December 3, 2023. Nyoman Iswarayoga, APRIL Group Head of External Affairs & RER Communications, presented on how biodiversity and peat restoration can support Indonesia FOLU Net Sink by 2030.

CASE STUDY

SERIES OF FRONTIER SUMATRA SCREENINGS IN INDONESIA AND SINGAPORE

In partnership with IDN Times and Kompas.com, RER hosted screenings of the documentary film, *Frontier Sumatra* in six major cities in Indonesia in 2023. The response was positive and approximately 1,200 students from various prestigious Indonesian universities participated in these events. The screenings were also shown in Singapore throughout the year.

Frontier Sumatra is a documentary film focused on conservation and restoration that illuminates the work of RER's scientists and forest managers and gives voice to local communities and conservationists on the positive impact of APRIL's production-protection landscape approach on the Kampar Peninsula.

University students from Universitas Negeri Riau (Pekanbaru), Universitas Sumatera Utara (Medan), Universitas Gadjah Mada (Yogyakarta), Universitas Brawijaya (Malang), and Universitas Padjajaran (Bandung), took part, gaining an insight into the

workings of the team responsible for its protection and restoration. In Greater Jakarta, students from Universitas Indonesia, Universitas Pertamina, Universitas Pelita Harapan, Universitas Pembangunan Nasional, and Universitas Tarumanegara also attended the screenings.

Beyond Indonesia, screenings were also held at prominent venues in Singapore, including the UN Global Compact Network Singapore Youth, the World Business Council for Sustainable Development APAC, and Raffles Institute. These engagements extended the documentary's reach and facilitated cross-cultural dialogue on issues of global significance.

Produced by the independent film company Beach House Pictures, the 52-minute documentary "*Frontier Sumatra*" premiered on Discovery Asia in September 2021 and was positively received by critics and the film community.



Frontier Sumatra Screening Roadshow in Universitas Sumatera Utara (Medan)

FINANCIAL SUMMARY

in USD ('000)

No	Description	2013-2018	2019	2020	2021	2022	2023
1	Employees	3,164	1,141	1,214	1,176	1,254	1,479
2	Total Operational & Overhead Costs	3,545	869	959	1,468	1,390	1,564
3	Legal and License Costs	7,816	334	237	179	183	208
4	Partnerships*	4,623	379	154	430	336	230
5	Advisory Board	171	19	-	-	64	63
6	Capex	1,431	1,260	1,953	110	483	225
Total		20,750	4,002	4,517	3,364	3,710	3,769

* Dependent on the phasing of the implementation of agreed activities



Restorasi Ekosistem Riau Kampar Peninsula Forest



