



Riau Ecosystem Restoration: Integrated Landscape Restoration Model

Nyoman Iswarayoga | Restorasi Ekosistem Riau

3 May 2017



Restorasi Ekosistem Riau (RER)

- **Private-sector Initiative:** Integrated sustainable landscape management that includes local communities, government, forestry experts, and NGOs.
- **License:** 60-year Ecosystem Restoration concessions (2013) from Indonesian Ministry of Environment and Forestry
- **Restoring:** 150,000 ha of degraded peat forest in Kampar Peninsula and Pulau Padang, Riau province, Indonesia
- **Funding:** APRIL commitment of US\$100 million for the next 10 years
- **Partners:** Fauna & Flora International (FFI), The Nature Conservancy (TNC), and BIDARA
- **Approach:** Protect, Assess, Restore, Manage



Tasik in PT SMN





RER Partners

1. **Asia Pacific Resources International Ltd (APRIL):** Project sponsor, concession license holder and land manager that provides financial commitment, leadership and technical expertise.
2. **Fauna and Flora International (FFI):** (2015 – 2017), Conduct baseline forest management studies in RER based upon Community, Carbon, Biodiversity (CCB) standards.
3. **Bidan Sumberdaya Masyarakat (BIDARA):** (2015 – 2017), To develop Eco-Village concept in two communities by establishing baselines needs assessment and implementing community empowerment activities.
4. **The Nature Conservancy (TNC):** (2016-2017): Prepare Kampar Peninsula preliminary landscape assessment based on existing and available data, and provide recommendations on sustainability measures, co-finance and sustainable financing models, and synthesize recommendations for a Strategic Plan to be developed in Phase 2 (2017-18).





RER's Purpose



- To **protect and restore the core peat dome areas** of Kampar Peninsula and Pulau Padang through a sustainable landscape approach for Community, Climate, Biodiversity and Conservation
- Contribute to the APRIL Group's Sustainable Forest Management Policy commitment to **achieve a 1:1 target of conservation : planted area**
- **Provide jobs and empower communities** to improve human well-being, while reducing drivers of deforestation as well providing environmental services



History: Kampar Peninsula 2007



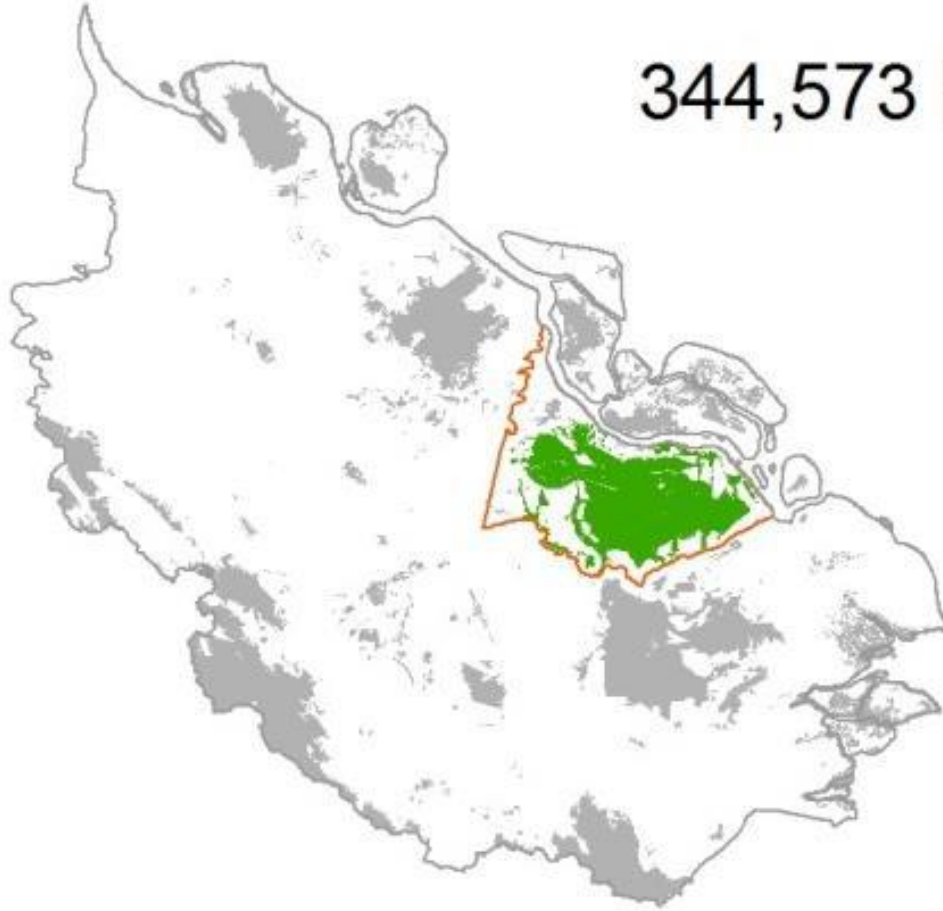
Unsustainable Land Use Activities

- Uncontrolled drainage from central core to coastline
- Deforestation by:
 1. Illegal logging
 2. Land claims
 3. Slash-n-burn
- Wildlife poaching
- Haze and carbon emissions

 Deforested land



344,573 ha

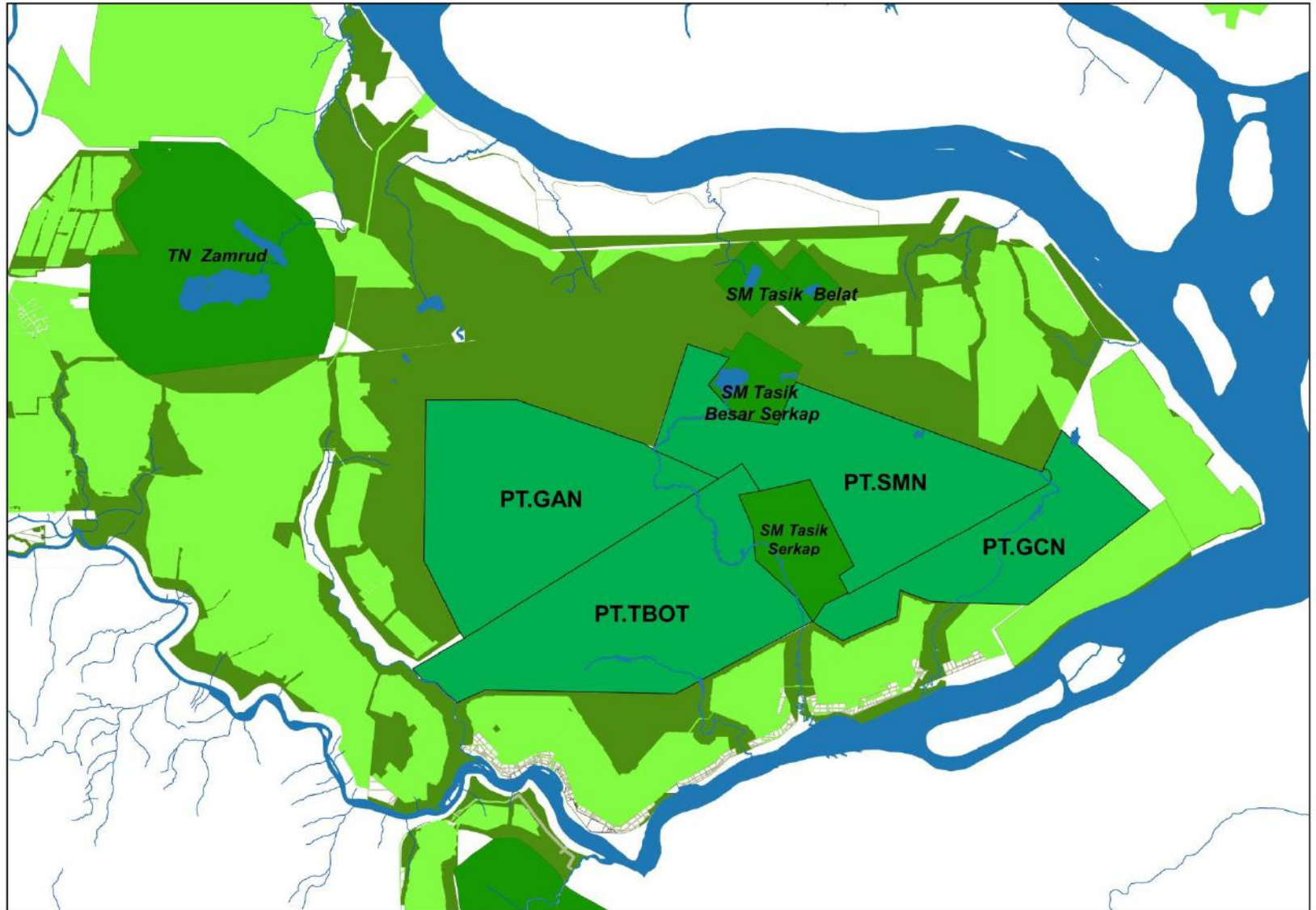


TNC Findings

1. Forest in KP is largest patch of peat swamp forest in Riau.
2. Based on LAI, forest quality in RER is maintained and improving.
3. Forest connectivity has decreased by 54% in Riau. Forest in KP provides important link between remaining block and Kerumutan.



RER in Kampar Peninsula





Eco-Restoration Approach

PROTECTING

The landscape



RER adopts appropriate protection strategies that include the establishment of a formal guard and patrol function and bespoke community resource management and protection schemes. RER works with local community groups to ensure that solutions are practical and effective.

ASSESSING

The ecosystem and the social environment



We investigate and assess the present conditions of the flora, fauna and wildlife habitats, assisted by expert partners. Initial assessments of the area, physical and social environments are also completed to establish a baseline against which future assessments can be benchmarked, and to ensure that communities are part of this process.



Eco-Restoration Approach

RESTORING

Native plant and
wildlife species



Once protected and assessed, RER carefully restores degraded sites through a process of restocking, using seedlings from surrounding forests. We establish nurseries to cultivate seedlings collected from the wild before carrying out a program of staged replanting. Water level restoration will be developed to maintain water levels critical to the health and functioning of the peat forest ecosystems, with continual evaluation of the effectiveness of our efforts.

MANAGING

For sustainability



We develop comprehensive, long-term management plans with our advisory panel of international and local specialists to ensure the sustainability of the restored forest areas. These incorporate consultation with local communities, government and adjacent forest concession license-holders, and are distributed widely for feedback.



Why are Kampar Peninsula and Pulau Padang Landscapes Important?

- Last and largest Sundaic lowland (peatland) rainforest in Sumatra.
- Provide forest habitat that contains 574++ species of plants and animals:
 - **44 IUCN** Threatened species
 - **64 CITES Appendix I and II** listed species
 - **83** Government of Indonesia protected species
- Sequesters and stores massive amounts of carbon
- Absorbs and provides millions of gallons of fresh water for downstream communities
- Provides forest resources (wood and NTFP's) that support local communities
- Kampar Peninsula is a:
 - **BirdLife International** *Important Bird Area*
 - **IUCN** *Key Biodiversity Area*
 - **WCS, WWF, et al.** *Tiger Conservation Landscape Class II (habitat for 50 tigers)*



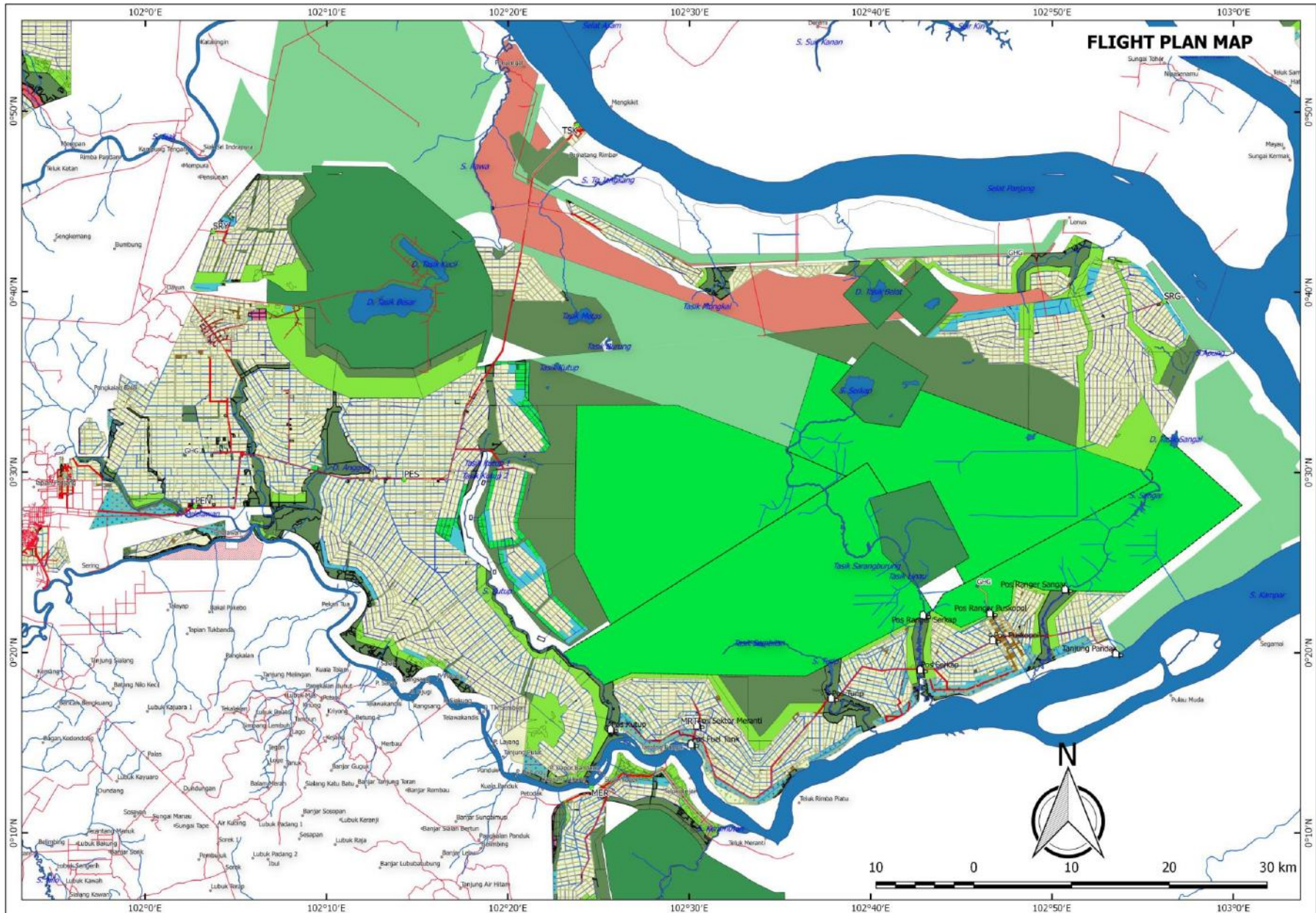
RER Species Summary

Summary of species identified in RER and conservation status (Dec 2016)

Taxa	Species	IUCN	CITES	GoI
Mammals	70	16	18	19
Amphibians & Reptiles	107	10	19	3
Birds	221	10	34	55
Plants	152	8	8	6
Fish	34	-	-	-
Total	574	44	79	83



Plantation-Ring Protects Natural Forest Core





Canal Blocking

Objective: To raise water levels by 40-cm steps and restore water table changes to natural seasonal fluctuations.



- 106-km of canals mapped (34 canals)
- Identify priority canals
- Conduct leveling surveys
- Assemble sand-bags (25-kgs each)
- Mobilize sand-bags (100-400/dam)
- Construct dam(s)
- Monitor/compare water table response
- Maintain water control structures

Year	Canals	Length (km)	Dams
2015	1	1.7	2
2016	6	13.3	19
Total	7	15.0	21
2017	7		

Canal Blocking



Item	Cost (Rp/sandbag)
Materials	47,000
Transport	12-16,000
Construction	5,000
Total	67,000

Cost / Dam: Rp15-25 million



Social Empowerment

2,63 hectares was planted by 12,000 crops as result of participatory village development programs

50 cattle breeding for organic fertilizer to utilize the availability of local bushes for fodder.

950 local indigenous nursery trees for restoration based economic empowerment.

Red ginger RER supported zero burn farming trial for about 200 red ginger on 32 m² community area.

1 hectares demonstration area for non-burn farming and 1,300 m² for organic farming by trainer from Pulau Muda at Segamai.





Restorasi Ekosistem Riau

Thank you

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White Winged Duck (EN)



White winged duck
(*Asarcornus scutulata*)





Crocodylus porosus (LC)



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Marbled cat (VU)



Marbled cat
(*Pardofelis marmorata*)



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Agile Gibbon (EN)



Agile gibbon
(*Hylobates agilis*),



Wallace's hawk-eagle (VU)



**Wallace's hawk-eagle
(*Nisaetus nanus*)**