

# Protecting Sumatran Rhinos through Reforestation Efforts in Way Kambas National Park

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***“By making the forest’s neighbors stakeholders in its restoration, its founders believe the project could achieve lasting change.”***

### **PROTECTING A SPECIES, ONE SEEDLING AT A TIME**

Indonesia’s Way Kambas National Park shelters some of the world’s most unique and threatened mammal species, including Sumatran elephants, tigers, and rhinos. Fewer than 80 Sumatran rhinos survive in the wild; the species faces an immediate risk of extinction. Experts estimate that Way Kambas is one of only two wild populations in the world large enough to reproduce and sustain itself.

Way Kambas is also the only protected area in Indonesia with no buffer zone - villages surround the park on three sides, with the fourth open to the Sunda Strait, and human settlements have frequently encroached into the park, destroying the habitat that rhinos and other wildlife need to survive. Around one-third of the rhinos’ rainforest habitat has already been lost to human encroachment.

Based on the recommendations from the U.S. Fish and Wildlife Protected Area Assessment of Way Kambas in 2017, the International Rhino Foundation (IRF) and local NGOs, including Yayasan Badak Indonesia (YABI) and the Indonesian Rhino Initiative (IRI), began working with the park and local communities to replant degraded land to create more habitat for the elusive Sumatran rhino

and other endangered wildlife like elephants, tigers, bears and tapirs. The goal of this reforestation project is to restore degraded habitat within Way Kambas National Park so that its population of critically endangered Sumatran rhinos can survive and grow. Sumatran rhinos are browsers, eating leaves from herbaceous plants, shrubs and trees. Studies have shown that per-acre, Sumatran rainforests contain the highest levels of plant diversity on Earth. The rich plant life consumed by Sumatran rhinos in their rainforest habitat is essential to their survival, and rhinos, in turn, are essential to maintaining the rainforest’s health. Rhinos provide a valuable seed-dispersal function; as they process their plant diet, they disseminate seeds in their feces, which ensures that diverse plant life disperses throughout the forest and will persist in the long term.

The pilot program (which launched across two sites in 2018) has been successful. IRF collaborates with YABI, IRI, Way Kambas National Park and local communities and farmer groups to expand critical habitat for Sumatran rhinos. To date, we have planted 50 hectares (or 124 acres) at two sites (about three quarters the size of Disneyland).

### **RESTORING THE RAINFOREST Restoration Site 1 (Rawa Bunder)**

Restoration site one is located at Rawa Bunder Resort in the Way Kanan Region 1 of the National Park Management Section in Way Kambas National Park, Lampung Province. This area was used as a cassava plantation by the local community and became severely degraded between 1998 and 2010. The area frequently experiences forest fires and has a high prevalence of invasive plant species, making it unsuitable to herbivores like rhinos.

The site is surrounded by riparian forest and lowland forest, making it an important region to reforest. This site served as our pilot location and in 2019, local workers planted 15,000 seedlings. Unfortunately, in November 2019, the



*Restoration site one (Rawa Bunder) from drone.*



Site #1, Rawa Bunder. Image on the left shows the condition of the restoration site in the wet season. Image on the right shows the restoration team maintaining the grass before planting new seedlings. This helps minimize competition between established grasses and new seedlings.

Rawa Bunder site was damaged by a forest fire (likely intentionally set by poachers) and all the seedlings died. Poachers take advantage of the dry season to set fires. After a fire is put out, deer visit the burned areas to consume the young leaves and shoots of new-growth plants. Illegal hunters follow the concentration of deer - hunting them and other wildlife in burned areas. The prevalence of invasive plant species, particularly *Imperata cylindrica* grass, makes the area more susceptible to fire. IRF and our local partners built a fire control tower near the reforestation site to anticipate, deter and put out forest fires.

In addition to planting new seedlings

in Rawa Bunder, the park maintains a Reforestation Protection Unit (or RePU) to monitor the replanting efforts and protect the area and its wildlife through regular patrols. Four rangers are now permanently assigned to oversee the reforestation activities and prevent poachers from using the area to access rhino habitat. Over the past two months, the rangers have arrested several individuals for illegal activity, and removed traps and snares set for macaques, deer and wild boar. The rangers have identified Rawa Bunder as a major entry point for poachers and encroachers into Way Kambas National Park. The presence of the RePU is

Reforestation Protection Unit at Site # 1 (Rawa Bunder). The RePU is responsible for monitoring the replanting efforts, detecting fires and removing snares from the reforestation site.



beneficial in protecting both the park and restoration site, in addition to the wildlife that frequent both areas. In 2021, two poachers were arrested and 109 snares were removed, thanks to the RePU.

We are partnering with several local primary schools and scout groups at Rawa Bunder to provide educational opportunities for local students. Since the project started, more than 250 students have participated. Students learn about their local Sumatran forests and wildlife, and about the importance of protecting them. The students learn hands-on forestry skills by planting and caring for seedlings.

### 2021 UPDATES SITE #1 (RAWA BUNDER)

- We planted 10,000 seedlings at Rawa Bunder in 2021.
- More than 15 native species have been planted at Site #1. These include Agarwood (*Aquilaria malaccensis*), Pulai tree (*Alstonia scholaris*), Indonesian laurel (*Syzygium polyanthum*) and jackfruit (*Artocarpus heterophyllus*).
- In 2021, we expanded site #1 by 10 hectares (or 25 acres). By the end of 2021, we will have restored a total of 35 hectares (or 86 acres) at Rawa Bunder.
- We began working with a forest farmer group at Rawa Bunder to enhance the restoration work. We purchase seedlings from local people, providing critical income to communities bordering the park.
- 109 snares were removed by the RePU team in 2021. This number is significantly lower than the 2020 figure (254 snares), suggesting that the presence of the RePU team is effective in deterring illegal activity.
- In anticipation of the dry season, IRF provided additional funding to local partners to purchase tools and equipment to fight fires. Further, we will add more deep wells and water towers near Rawa Bunder to aid in fire suppression.
- In January and May 2021, site #1 experienced several small fires but they were easily extinguished by the Reforestation Protection Units (RePUs).



Image on the left shows the restoration team teaching young kids near WKNP about native seedlings and how to plant the seedlings at the restoration site. Image on the right shows a scout group helping to plant seedlings at the restoration site.



Image on the left shows the plant nursery and stock of seedlings that are ready to plant at the restoration site. Image on the right shows the restoration team loading up seedlings in preparation for planting.



A forest fire surrounding restoration site one - the RePU team managed to put the fire out using tools at their basecamp.



## RESTORATION SITE 2 (RAWA KIDANG)

The Way Kambas National Park (WKNP) management team, with support from IRE, YABI and IRI, collaborates with the forest farmer group, Rahayu Jaya, to conduct restoration activities in Rawa Kidang. This site is part of the park's rehabilitation zone and covers 155 hectares (383 acres). The site is divided into three blocks, block 1 covers 10 hectares and is the intensive planting area, block 2 covers 20 hectares and is the intensive restoration area, while block 3 covers 125 hectares and serves as the intensive protection area. The activities at Rawa Kidang include:

1. Planting in block 1 to increase the availability of rhino food
2. Maintaining seedlings in Block 2
3. Safeguarding Block 3 from forest fires
4. Community empowerment
5. Preparing reforested areas to harvest rhino food crops

In 2020, over 21,550 seedlings were planted at Rawa Kidang. The local community provided the seedlings to plant at the restoration site. We are pleased to report that the survival rate of seedlings at this site is more than 70% - an extremely high survival rate for reforestation efforts. The collaboration at this site between the local community, the park and conservation organizations is significantly reducing the illegal activity pressure on the national park. When the restoration work first began at Rawa Kidang, 22 families committed to participating. Now, more than 62 families have committed to the reforestation efforts. All community members, farmer groups and families who participate, sign voluntary agreements pledging not to encroach into the park for farming or hunting.



14 Sep 2021 08:07:25  
48M 574499 9444893  
RESOT RAWA BUNDER  
Preparing new areas at Rawa Bunder for seedlings.



239° SW  
#PURNA IRAWAN  
Index number: 131  
22 Nov 2021 14:53:52



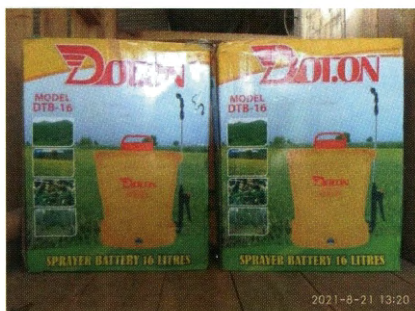
Snares were removed from Rawa Bunder by the RePU team.



2021-9-11 19:36



17 Oct 2021 14:15:16  
48M 572920 0441225



2021-8-21 13:20



Additional firefighting tools and equipment provided by IRF to local communities in anticipation of the next dry season.

## 2021 UPDATES SITE #2 (RAWA KIDANG)

- In 2021, we reforested another 10 hectares at Rawa Kidang.
- We have planted more than 25,000 seedlings this year.
- We provided 5,000 additional seedlings to replace those that were broken or eaten by wildlife.
- 51 species of wildlife have been identified using the Rawa Kidang site.
- In 2021 we completed several new infrastructure projects to deal with ongoing forest fires. We built a new watch tower, dug new wells and created a reservoir for additional water to fight fires, irrigate seedlings and provide drinking water to wildlife.
- We provided additional financial support for local community members to purchase firefighting equipment.
- In November 2021, we donated a car to the farmer group to speed up restoration activities and help fight fires. Teams can also use the car to transport water for new seedlings during the dry season.
- More than 50 species have been planted at Rawa Kidang since the start of restoration activities. These include Salam (*Syzygium polyanthum*), Jambon (*Syzygium sp.*), Bayur (*Pterospermum divesifolium*), Gaharu (*Aquilaria mallacensis*), wide fig (*Ficus elastica*), sempu (*Dilenia excelsa*), jitan root (*Cuminum cyminum*), Laban (*Vitex quinata*), Mahang (*Macaranga mouritiana*), Pulai (*Alstonia scholaris*), forest banyan (*Ficus benjamina*), Apak (*Ficus sp.*), and Luwingan (*Ficus sp.*).



Local reforestation volunteers celebrate IRF's 30<sup>th</sup> anniversary in May 2021.



Site #2, Rawa Kidang. Image on the left shows the watchtower which will be used to spot nearby fires. Image on the right shows the newly created water reservoir.



Site #2, Rawa Kidang. Top image shows the condition before planting (April 2020). Bottom image shows the growth of the seedlings after one year (June 2021).



The car (above) was donated to the head of Margahayu village at the Rawa Kidang restoration site.



Site #3, Susukan Baru. The nursery has been prepared by local people. Each member can prepare 1,000 seedlings for the restoration program

### RESTORATION SITE 3 (SUSUKAN BARU)

Susukan Baru is the newest restoration site and we plan to begin replanting efforts there in January 2022. IRF and local partners will restore an additional 10-15 hectares at Susukan Baru, utilizing best practices from sites 1 and 2. We are excited to collaborate with an additional local NGO, the Indonesian Rhino Initiative (IRI) and three forest farmer groups in the area.

Unlike other Sumatran rhino conservation activities which continue to be delayed due to the ongoing

pandemic, the reforestation efforts have continued, expanded and thrived over the past several years. We are making significant progress in Way Kambas National Park - restoring 20 hectares of primary forest in 2021 alone. The reforestation efforts are proving beneficial for all wildlife in the area, not only Sumatran rhinos. Further, by replanting native species within degraded primary forests, we can slow the disastrous impacts of climate change. Thank you to AAZK for making this work possible and helping expand the habitat for some of Sumatra's most threatened species! 🐘



Eager farmers who began planting seedlings at site #3 already!

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