

Javan Rhino Study and Conservation Area: Restoring habitat for one of the world's rarest mammals

The Javan rhino (*Rhinoceros sondaicus*) is one of the rarest large mammals on the planet. Formerly ranging across South East Asia, from India to Indonesia, the species has suffered massive declines due to poaching and habitat loss. The Javan rhino is now a critically endangered species, with only 69 individuals clinging to existence in Indonesia's Ujung Kulon National Park, on the western tip of the island of Java.

The broad extent of hunting led to colonial powers protecting the Javan rhino in 1910, and in 1921 Ujung Kulon was declared a 'nature preserve'. Despite these measures, rhino poaching continued due to lax law enforcement. In 1967, a survey of the rhinos in Ujung Kulon estimated that just 21 to 28 individuals were left in the National Park. Thanks to improved conservation and monitoring efforts, camera trap surveys have shown that the population of Javan rhinos in Ujung Kulon now stands at 69 animals. Calves have been recorded on the camera traps, showing the population is successfully breeding, and is stable and steadily growing.



Fig. 1: Javan rhinos are facing extinction. Credit: Alain Compost

Whilst the population of rhinos has been slowly growing in Ujung Kulon throughout the past few decades, outside of the park, the species suffered disaster. In 2010, the last remaining Javan rhino outside of Ujung Kulon was found shot dead, its horn removed by poachers, in Vietnam's Cát Tiên National Park. Ujung Kulon became the last hope for the Javan rhino.

In 2008, Yayasan Badak Indonesia (YABI; the Rhino Foundation of Indonesia), in collaboration with experts and other NGOs, began work to identify a suitable site within UKNP which the Javan rhino population could expand into, to help boost the species' breeding potential. A 5,000 ha area in the Gunung Honje habitat, in the east of the park, was chosen and named the Javan Rhino Study and Conservation Area (JRSCA). This new area has allowed YABI and its partners to closely monitor, manage and protect this unique species. Nine rhinos have been recorded using this area, but work is needed to secure the habitat from a pernicious invader.



Fig. 2: The pristine habitat of Ujung Kulon is under threat from the invasive Arenga palm. Credit: Save the Rhino International

Invasion of the Langkap: *Arenga* palm threatens the habitat of Javan rhinos

The Javan rhino population is currently stable but is unable to grow significantly because its habitat is limited by *Arenga* palm, known locally as Langkap. *Arenga obtusifolia* is a rapidly-growing species of palm tree that creates a thick canopy, drastically reducing the amount of sunlight that reaches the forest floor. This shading effect prevents other plants from growing, creating a monoculture of Langkap. The plant has taken over more than 60% (18,000 hectares) of Ujung Kulon's

forests, preventing the growth of rhino food plants and, therefore, threatening the population's survival and growth.

In 2013, it was found that *Arenga* dominated 1,730 ha in the Javan Rhino Study and Conservation Area of Ujung Kulon National Park, greatly reducing the extent of suitable habitat for the rhinos to use. Without action, the palms threatened to take over even more of the JRSCA, further impacting the population of these critically endangered rhinos.

Attacking the *Arenga*: teams set to work to clear the Javan Rhino Study and Conservation Area

Thanks to funds received from generous donors such as Paignton Zoo, YABI has embarked on a project to help clear *Arenga* from the JRSCA. This has allowed the rhinos' food plants to recolonise the area, encouraging the rhinos to use the area, providing them with more space in which their population can grow.

In January 2017, five teams, totalling 50 people, set to work to clear large swathes of *Arenga*. Each team was assigned a 3 ha plot to clear of seedlings and mature trees, using hand tools only. In total, the five teams cleared more than 31,800 *Arenga* palms from the JRSCA. This fantastic effort has contributed to the ongoing removal work, which has seen approximately 150 ha of Langkap cleared. More than 90% of this area has since been repopulated by rhino food plants, showing how effective the programme of *Arenga* removal has been in restoring rhino habitat.

Continuing the battle against *Arenga*: the next steps

In April 2018, YABI and UKNP staff surveyed the 1,000 ha corridor connecting the original Javan rhino habitat to the JRSCA area. Whilst they recorded signs (including tracks and mud wallows) that rhinos were using the corridor, they found that more than 50% of the corridor was overgrown with *Arenga*. Such dense swathes of the invasive vegetation make it almost impossible for females with calves to use this route. In the next year, the team aims to clear the *Arenga* from around the areas where rhino signs have been found, making it easier for the rhinos to travel back and forth between the JRSCA and the rest of UKNP. Workers have already cleared 15 ha from the corridor, and in 2019 are working towards clearing another 35 ha of Langkap.



Fig. 3: Javan rhino footprint. Credit: Save the Rhino International

Update from Ujung Kulon

In addition to the work funded by Paignton Zoo, YABI and their partners have been implementing a range of other activities to help protect the Javan rhino and its habitat. RPU's – Rhino Protection Units – operate throughout the park, patrolling the habitat and monitoring the rhino population, whilst also remaining alert for signs of illegal activity. The RPU's collect data on the presence of rhinos and other endangered species in the park, and any evidence of illegal activities, such as poaching and human encroachment into Ujung Kulon.

We are pleased to confirm that, during the reporting period, no Javan rhinos were poached, continuing almost two decades of zero rhino

poaching in Ujung Kulon NP. The RPU are continuing to perform to the highest standard, acting as a strong deterrent to would-be poachers.

Eruption of Anak Krakatau, December 2018

On 22 December 2018, Indonesia's Anak Krakatau volcano violently erupted, triggering a tsunami affecting both southern Sumatra and western Java. More than 500 people were killed by the tsunami, and over 1,000 were injured. Almost directly in the tsunami's path was Ujung Kulon National Park. Sadly, one member of the National Park's staff lost their life. Thankfully, none of the RPU members or their families were harmed.

We are relieved to report that the Javan rhinos were left unscathed by the tsunami, as they occupy higher ground in the National Park. However, the incident highlights the vulnerability of the species. This has been a wake-up call to secure a second, protected habitat for the Javan rhino within its historic range. A similar disaster could wipe out the bulk of the species' population, significantly increasing the risk of extinction. The Indonesian Government and conservation partners have begun discussions to identify a second site where a subset of the Ujung Kulon rhinos could be moved, so that the entire species' population isn't "all in one basket".



Fig. 4: Anak Krakatau before the violent eruption in December 2018. Credit: Save the Rhino International

Thank you Paignton Zoo and the Rhino Club Owners!

On behalf of Save the Rhino International, we would like to say a huge thank you to Paignton Zoo and the Rhino Club Owners for your generous support with the Great Big Rhino Project for raising a fantastic sum of £15,000 to protect Javan rhinos. We really value your kind donation to the Javan Rhino Study and Conservation Area, helping to contribute to the long-term viable conservation and management of the Javan rhino and their habitats in Java.

To find out more about Save the Rhino International (UK registered charity 1035072), please visit www.savetherhino.org.