

## **Building a Bright Future for Javan Rhinos**

*S. Ellis, Ph.D., Executive Director, International Rhino Foundation  
Virginia, USA  
[s.ellis@rhinos-irf.org](mailto:s.ellis@rhinos-irf.org)*

Javan rhinos may be the most threatened large mammal on the planet - in peril from forest loss, habitat conversion, and from human settlements encroaching on their habitats. Nevertheless, the species is in better shape because of the partnership between AAZK's Bowling with the International Rhino Foundation (IRF), which has supported Rhino Protection Units (RPUs) in Ujung Kulon National Park for almost 10 years. Thanks to this protection, not a single Javan rhino has been poached in Ujung Kulon in the past 5 years and the population has stabilized at about 50 animals.

### **Status of the Javan Rhino**

The Javan rhino (*Rhinoceros sondaicus*) is Critically Endangered, with fewer than 55 animals believed to exist in two known populations. Between 35 and 50 individuals inhabit Ujung Kulon National Park in West Java, Indonesia, and between 3 and 5 individuals live in the Cat Loc section of Cat Tien National Park in Vietnam.

### **Ujung Kulon National Park**

Since the establishment of the Ujung Kulon peninsula as a National Park, considerable emphasis has been placed on studying and monitoring its Javan rhino population. Every few years, a census has been conducted using track analysis along transects. The population appears to have peaked in about 1980 at about 63 animals. After 1980, the population stabilized slightly below the peak, between 50 and 60 animals, and now is presumed to be between 40 and 60 animals and has not grown since that time. It is possible that the population has saturated its carrying capacity and no longer has potential for expansion within the area available – or, perhaps, other factors may play a role. Ujung Kulon is a small area and the total habitat available for the rhino is probably no more than about 30,000 ha, or an average density of about 1 rhino per 400 ha. Compared to other large forest herbivores, this is a normal figure at the high end of the range (Sumatran rhinos 1 per 700-1000 ha, Malayan tapir 1 per 400-500 ha).

The area now known as Ujung Kulon National Park has a long history of protection. It received modest protection status in 1910 when it was declared a hunting reserve. In 1921, its status was upgraded into a nature reserve, and in 1980, it was declared as one of the first five national parks in Indonesia. In 1992, the Park and the Krakatau archipelago were declared Indonesia's first UNESCO World Heritage Site.

The Park now is staffed by about 120 people, 80 of which are rangers. The Park operates 19 guard stations of which nine are located within the rhino range. With the assistance of WWF-Indonesia, the Park also operates two marine patrol teams by boat to discourage violators from entering the Park by sea. The presence of an additional WWF camera trap team has an additional deterrent effect. Fishermen and bird catchers are, however, regularly encountered within the rhino range.

### **Rhino Protection Units and Park Encroachment by Local Communities**

Since 1998, Rhino Protection Units (RPUs), funded by IRF, have been operating in Ujung Kulon under Yayasan Badak Indonesia (YABI or the Indonesian Rhino Foundation). Since the start of the RPU program, no poaching has occurred, although the risk has steadily intensified, as has the need for vigilance. Even before the establishment of the RPUs, detected cases of rhino poaching were few. Therefore, the lack of growth of the population of Javan rhino in Ujung Kulon can probably not be attributed to poaching. Experts now agree that the species more likely is restricted by other limiting factors: food availability, food competition with other species, and fragmented habitat. With its severely restricted distribution and small population size, the situation of the Javan rhino is a matter of serious concern, which will certainly over time lead to a decline in the genetic health of the species. Unless new habitat or additional resources can be provided, the population will remain at the current level, and likely decline.

As the human population and its demands on the environment around Ujung Kulon grow, people in the numerous villages along the eastern buffer zone of the Park are converting land for agriculture and other activities. This causes the rhino distribution to shrink back into the core areas of the park, thereby reducing the amount of suitable rhino habitat in this already limited area. Domestic livestock, which sometimes wander into the park, also expose rhinos to disease risk. RPUs safeguard rhinos from local threats, and aid park authorities in responding to encroachment and other problems. This year, a fourth RPU was recruited and trained in order to protect two male rhinos that strayed into Gunung Honje, in the southeastern part of the park.

Because park encroachment has been increasing significantly in recent years, IRF and its partners are in the process of establishing a new Intelligence and Law Enforcement Unit in Ujung Kulon, to investigate and arrest encroachers, and also to work closely with local communities to build closer relationships and support for rhino conservation.

### **The Biggest Threat is “All the Eggs in One Basket”**

The overriding problem now is that although the Javan rhino population in Ujung Kulon has stabilized, this species has only one reproducing population in one location. Thus, there is still significant risk of extinction from a single natural disaster or introduced disease. Ujung Kulon and surrounding areas were decimated by the eruption of Krakatau in 1883, one of the most violent volcanic events in modern times. Anak Krakatau (“son of Krakatau”) is still active, and the risk of another eruption, and the possibility of a resulting tsunami, still exists.

### **The Way Ahead**

In February 2006, a workshop was conducted in Jakarta on the Evaluation and Update of the Indonesian Rhino Conservation Strategy. The ultimate goal articulated at this workshop was “to create conditions conducive to and then actually to develop viable populations of Javan rhinos in the wild.” The workshop outlined a strategy focusing on maintaining and then expanding by 20 percent the wild population in Ujung Kulon, and (2) to establish an additional wild population elsewhere through translocations, after identifying and securing additional, suitable habitat (> 400,000 ha) (Indonesian Ministry of Forestry, 2007).

The Indonesian Rhino Conservation Action Plan, launched in 2007, laid out a number of recommendations for Javan rhinos. Whereas it was formerly believed that Ujung Kulon had the holding capacity for more than 100 Javan rhino, today it is suggested that the park's carrying capacity has diminished to as low as 70 due to habitat changes and possible food competition. One of the strategies outlined in the 2007 action plan was to relocate a second population of Javan rhino to another area in order to increase carrying capacity and to sustain overall health of the population. At another meeting of the Indonesian Rhino Task Force, on 9 May 2008, it was agreed that habitat surveys, along with a rhino and banteng census, are an immediate priority. It was also agreed that the habitat assessments for both Ujung Kulon National Park (UKNP) and possible second habitat-relocation sites outside Ujung Kulon peninsula should be carried out by an independent agency to ensure critical information would be unbiased.

### **Javan Rhino “Insurance Policy”**

In early 2009, IRF's Dr. Susie Ellis, Dr. Bibhab Talukdar, and Kerry Crosbie (Asian Rhino Project), and others visited Ujung Kulon and then convened with about 40 members of the [IUCN/SSC Asian Rhino Specialist Group](#) to identify priority actions for both Javan and Sumatran rhinos in Indonesia. The group agreed that a major priority was to establish a second viable population of Javan rhino in Indonesia as an 'insurance' population, to prevent the extinction of this critically endangered species.

This program will be implemented by IRF, Yayasan Badak Indonesia (YABI), WWF, the Asian Rhino Project, the Government of Indonesia, and other partners. The first portion of this program will take at least 2 years to design, fund and implement. The first step has been to conduct surveys of a few promising sites within the species' historic range in Java and then to determine which one best meets the rhinos' needs with respect to a carrying capacity, adequate food and water resources, low adjacent human populations, and a number of other factors. With funding from IRF, WWF and Asian Rhino Project, IRF hired Dr. Andy Gillison, a world-renowned rapid habitat assessment expert to co-lead the survey with Widodo Ramono from YABI. A small team first collected baseline data on a series of representative transects in Ujung Kulon, followed by intensive data collection on transects in Gunung Honje and in Gunung Halimun National Park. Other team members conducted parallel work including socio-cultural assessments and geo-referencing of transect data. The 2009 Bowling for Rhinos trip overlapped a portion of the survey, so AAZK members had an opportunity for dialogue and to see transects laid out and the methodology applied first-hand.

### **Upcoming Priority Steps**

Primary recommendations of the survey were to:

1. Establish a Javan rhino research and conservation area inside the Gunung Honje area to focus on the localities covering Legon Pakis, Cihujan, Cikarang, Cikalejetan, Ranca Gebang and Aermokla to Cimahi.
2. Support establishing a Javan rhino research and conservation area through intensification of active management such as:
  - a. Reforestation (replanting natural forest vegetation with rhino foodplants) around Legon Pakis and Cihujan.

- b. Implementing controlled slash and burn patch management in designated and closed forest areas with careful consideration in order to promote regeneration of rhino foodplants.
  - c. Increased patrol and government-initiated protection measures to ensure against poaching in both Ujung Kulon National Park and Gunung Honje National Park.
  - d. Establish new patrol paths and additional guard posts for both RPUs and National Park staff in Gunung Honje.
3. Reduce infestation by Langkap (*Arenga*) palm through a well-planned operation using environmentally friendly herbicides (e.g., glyphosphate) as applied elsewhere in national parks in other countries such as Australia.
4. Increase education programs in areas adjacent to Gunung Honje to explain the benefits of rhino conservation, thereby facilitating the groundwork for establishing second rhino habitat.
5. Conduct a detailed consultative study to explore the likely benefits of rhino-tourism.
6. Use the study outlined in this report as a framework for a more comprehensive study of the socioeconomic issues surrounding the establishment of a rhino sanctuary and related infrastructure in Gunung Honje.
7. Explore alternative approaches to land management as a means of improving livelihoods linked to active rhino management (e.g., wildlife tourism, cottage industries, agriculture intensification outside the designated conservation area).
8. Include financial and other incentives for villagers who support conservation efforts.
9. Identify families living inside the park boundary whose circumstances can be reconciled either by relocation and compensation, or by re-aligning the park boundary. Arbitration should be carried out on a case-by-case basis.
10. Establish a conservation extension and interpretative center in the Gunung Honje area.
11. Promote national and international awareness of the rhino conservation program and consider additional avenues for conservation support to include local and national governments.
12. Re-examine existing policy incentives and legal instruments surrounding rhino conservation with a view to improving conservation management.
13. Ensure funding mobilization from related government institutions, rhino conservation NGOs, and other related rhino conservation stakeholders in order to support the development of a second Javan rhino habitat.

While all of this new work is being implemented, the highest priority is maintaining and protecting the current population in Ujung Kulon. The number of rhinos in the Park must be maintained at current levels. We will secure and enhance management in the eastern part of the park, with the aim of achieving a small increase in numbers inside Ujung Kulon, with a target of about 70 animals. As that effort moves ahead, we concomitantly must identify a third site, most likely in Sumatra, that can support a larger population of Javan rhinos, to which they can be translocated to secure their survival in perpetuity.

The IRF is grateful to the AAZK Bowling for Rhinos program for its role in this important work, and for its commitment to preventing the extinction of this magnificent species.

## **References**

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