

by Dr. Susie Ellis

# Enhancing the Survival of the Javan Rhino

**I**ndonesia, the world's fourth most populous country, ranks first in combined terrestrial and marine biological diversity. Without action, however, much of its natural heritage could soon be lost. Almost 850 species of Indonesian plants and animals are believed to be in danger of extinction. Some, including the Bornean and Sumatran orangutans (*Pongo pygmaeus* and *P. abelii*, respec-

tively), Sumatran tiger (*Panthera tigris sumatrae*), Javan gibbon (*Hylobates moloch*), and Bali mynah (*Leucopsar rothschildi*), are found nowhere else on Earth.

Two of the world's five rhino species live in Indonesia: the Sumatran rhino (*Dicerorhinus sumatrensis*) and the Javan rhino (*Rhinoceros sondaicus*). Both are critically endangered. Fewer

than 55 Javan rhinos are believed to exist in two populations; between 35 and 50 Javan rhinos inhabit Ujung Kulon National Park (UKNP) in West Java, Indonesia, and only three to five live in Vietnam's Cat Tien National Park. Little is known about the demographic or genetic structure of either population.

When Indonesia's Ujung Kulon Peninsula became a national park in

A rare photo of the extremely endangered Javan rhino in the wild.



Alain Compost

1980, its Javan rhino population numbered about 63 animals. Since that time, researchers have conducted a rhino census every few years. The park's carrying capacity is believed to have diminished to as few as 70 animals today due to habitat changes and possibly competition with other animals for food (Ramono et al., 2009).

For more than a decade, a consortium including the International Rhino Foundation, Asian Rhino Project, Save the Rhino, World Wildlife Fund, and U.S. Fish and Wildlife Service (through its *Wildlife Without Borders* Rhino and Tiger Conservation Fund) has donated money for Rhino Protection Units (RPUs) in the park. The RPUs are administered by a local organization, Yayasan Badak Indonesia. In each unit, four-person teams patrol an average of 15 days per month, safeguarding rhinos from local threats and helping park authorities respond to encroachment and other problems. Since the program's inception, no poaching has occurred. Even before RPUs were established, however, poaching of Javan rhinos in UKNP was uncommon. This leads conservationists to conclude that the lack of growth in the UKNP population is due to other factors, such as habitat fragmentation and reduced food availability.

UKNP has no buffer zone. As human populations and the demands of villages along the park's eastern boundary have grown, more land has been converted to agriculture and domestic livestock, which sometimes wanders into the park, exposing rhinos to disease risk. Rhino distribution has contracted into the park's core areas.

An overriding problem for the Javan rhino is that there is only one viable population in one location, which makes events such as earthquakes or disease outbreaks a great threat to the species. In 1883, Ujung Kulon was decimated by the eruption of Krakatau. Anak Krakatau ("son of Krakatau") is still active, and the risk of another eruption or earthquake, and a resulting tsunami, loom large.

The Indonesian Rhino Conservation Action Plan (Indonesian Ministry of Forestry, 2007) sets a goal of "creating conditions conducive to, and then actually developing, viable populations of Javan rhinos in the wild." The aim is to expand the wild population in UKNP by about 20 percent and relocate small groups to other areas.

The first step has been to conduct surveys of a few promising relocation sites within the species' historic range in Java to evaluate carrying capacity, adjacent human populations, and other relevant characteristics (Ramono et al., 2007). For a comparative analysis, a small team of researchers applied the same methodology to a survey of known rhino habitat in peninsular UKNP, followed by surveys of potential habitat in adjacent Gunung Honje and Gunung Halimun National Park. Suggested alternative areas in Masigit Kareumbi and Leuweung Sancang were examined using remotely sensed imagery. Other team members conducted socio-economic interviews and assessments in surrounding villages.

Some key steps remain in our effort to ensure the survival of the Javan rhino. One is establishing a Javan rhino research and conservation area inside Gunung Honje, with active management through reforestation, control of slash-and-burn deforestation, and increased patrolling. Another important step is developing education programs in adjacent areas to explain the benefits of rhino conservation. Included in these plans is a conservation extension and interpretive center. The project will study the potential benefits of "rhino tourism," followed by a more comprehensive study of the socio-economic effects of establishing a rhino sanctuary and related infrastructure. It is also important to explore alternative land management approaches that can improve livelihoods linked to active rhino management, including incentives for villagers to support conservation efforts.

On a broader scale, the conservation partners will reexamine existing policy

incentives and legal instruments with a view to improving rhino management. National and international awareness also must be raised, along with the funding necessary to support the expansion of 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. As efforts in UKNP move forward, a third site to which Javan rhinos can be translocated and protected will need to be identified.

For more information, please visit [www.rhinos-irf.org](http://www.rhinos-irf.org) or [www.badak.or.id](http://www.badak.or.id).

### Literature Cited

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