

Indian (or greater one-horned) Rhinoceros (*Rhinoceros unicornis*)

The old adage about not putting all your eggs in one basket apparently also applies to rhinos. More than two-thirds of the world's Indian rhinos reside in Kaziranga National Park, a protected area in Assam, northern India. Fearing that the park is reaching its carrying capacity for these massive mammals, the International Rhino Foundation (IRF) and its partners established Indian Rhino Vision 2020, a program aimed at restoring the species to portions of its former range. The goal is to establish, by the year 2020, a population of 3,000 Indian rhinos in Assam—distributed over seven protected areas.

Spreading the Indian rhino population over multiple suitable habitats will increase the odds of the species' survival, reducing the possibility that disease, natural disaster, or other catastrophe could wipe out all the remaining animals. But relocating rhinos is a complicated process. Measures must first be taken to address infrastructure concerns and establish security patrols. Prior to translocation, rhinos are immobilized, crated, and fitted with radio-collars for future monitoring. The project also engages the local community, creating jobs for people living near the national parks.

A 2011 grant from the L.A. Zoo helped fund the translocation of several rhinos from Kaziranga and

Pobitora Wildlife Sanctuary (another rhino-dense region), to Manas National Park. Manas was once home to more than 100 Indian rhinos, but the original population had been poached by 1996.

Indian Rhino Vision 2020 is a collaborative effort of the IRF, World Wide Fund for Nature (WWF), the government of Assam, and the U.S. Fish and Wildlife Service. The program receives funding from zoos worldwide, including San Diego Zoo Global, Denver Zoo, Zoo Miami, Zoo Basel in Switzerland, Australia's Taronga Conservation Society, and the Los Angeles Zoo.

"The L.A. Zoo was one of the first partners in the door to join Indian Rhino Vision 2020, one of the staunchest supporters and believers in the project," says IRF's Executive Director, Susie Ellis.

The Zoo also participates in the AZA Species Survival Plan (SSP) for Indian rhinos, which currently manages 55 animals in 19 AZA institutions, and another 10 animals in non-AZA partner institutions. "That number has been increasing, as has the number of holding and breeding institutions participating in the program," says SSP Coordinator Randy Rieches, Curator of Mammals at the San Diego Zoo Safari Park.

"San Diego Zoo Global sent three females back to Indian zoos in 2007, and brought back three



TAD MOTOYAMA

males to establish new bloodlines. All of these new males have bred females in the SSP, resulting in calves," says Rieches. Such exchanges, while extremely expensive and difficult to coordinate, are vital for the preservation of the species' genetic diversity.

Rieches also reports good news from Assam, where Indian Rhino Vision 2020 is showing signs of success. "Calves have already been born in the parks to females that were translocated."

A new generation of rhinos inhabiting regions in which the species had been wiped out ... now that's a vision!

—Brenda Posada

Javan Rhinoceros (*Rhinoceros sondaicus*)

In 1292, the great Italian explorer Marco Polo encountered what he believed to be unicorns on the island of Sumatra during a voyage from China to Persia. Centuries later, we know that what he most likely saw was a Javan (or lesser one-horned) rhinoceros. In Polo's time, this species probably ranged from northeast India, Bangladesh, Myanmar (Burma), Thailand, Lao PDR, Cambodia, Vietnam, and probably southern China, through peninsular Malaysia to Sumatra and Java. It is difficult to know precisely because historical accounts make little distinction between the Javan, Sumatran, and Indian rhinos. What is certain is that this species now has the unfortunate distinction of being the rarest of all rhinos, with fewer than 50 individuals remaining.

"Researchers recently discovered a new population in Vietnam," Curator of Mammals Jeff Holland explains, "but poachers killed the last rhino there in 2010."

All of the surviving Javan rhinos reside in Ujung Kulon National Park, which is situated at the extreme western end of the island of Java, on a peninsula separated from the main island by

a narrow strip of land. This geography benefits the rhinos because it isolates the park, making it difficult for poachers to access and easier for Rhino Protection Units (RPUs) to guard the boundary. Unfortunately, nature is not deterred by RPUs.

Indonesia is home to more active volcanoes than any other region in the world, and Krakatoa ranks among the most active. A massive eruption in 1883 and numerous subsequent ones have had major effects on Java, and specifically Ujung Kulon. Disturbed habitat often opens the way for opportunistic and invasive plant species to take over, and the many cycles of volcanic fallout on the area have enabled the domination of the sugar palm, *Arenga obtusifolia*. This palm is an aggressive grower that chokes out competing species, including many plants favored by Javan rhinos. Because their range is so restricted due to habitat loss and poaching, these animals do not have the option of moving on to fresh habitat when food resources are depleted.

As part of its effort to save the dwindling population of Javan rhinos, the International Rhino Foundation (IRF) initiated a program to

remove sugar palm and restore habitat. Biologists have cleared palms from about 100 acres within the Javan Rhino Study and Conservation Area (JRSCA), and the native vegetation—including prime rhino browse plants—is recovering with surprising speed.

While winning the war against poaching will require changing deeply ingrained cultural attitudes and rampant misperceptions about rhinos, the sugar palm issue is relatively easier to combat. Holland comments, "This is one battle that seems to be working in the rhinos' favor."

—Sandy Masuo



KLIA US LANG/WWF/INDONESIA