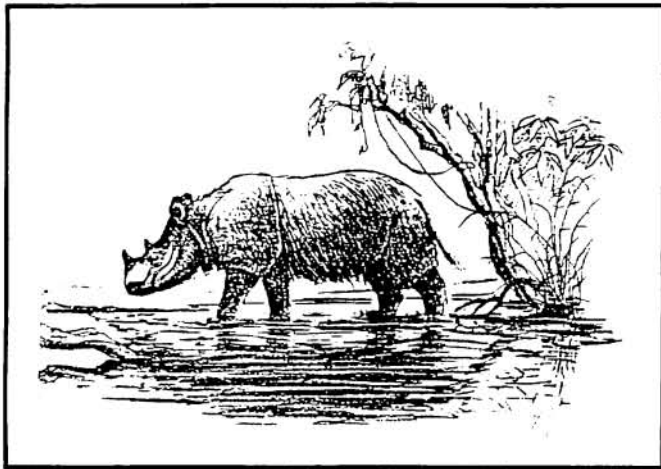


# Saving the Sumatran Rhinoceros

By John Lukas

The Sumatran rhino (*Dicerorhinus sumatrensis*) is probably the most endangered of all rhinoceros species. Numbers have declined by 50% due to poaching over the last ten years, leaving fewer than 400 Sumatran rhinos surviving in very small and highly fragmented populations in Southeast Asia. Furthermore, there is no indication that the situation is stabilizing. In response to this crisis, the International Rhino Foundation (IRF) has become involved in both *in situ* and *ex situ* efforts for this species.



The Sumatran rhino, the smallest of the five rhino species, survives in isolated pockets in the rainforests of Indonesia and Malaysia.

## In Situ Efforts

Since 1993, the World Conservation Union's (IUCN) Species Survival Commission (SSC) Asian Rhino Specialist Group (AsRSG) has been facilitating and coordinating the development of a \$2 million grant from the Global Environmental Fund (GEF) to support a three year project to initiate more vigorous programs for *in situ* protection of Sumatran rhino in Indonesia and Malaysia, the last strongholds of this species. The IRF has played a central role in the development of this project by providing the Program Office for the AsRSG and by attempting to provide and procure additional support to supplement the GEF funds and sustain the project beyond the next three years. IRF administers GEF funds which are used to train, equip, and support the anti-poaching teams in Indonesia and Malaysia.

## Ex Situ Efforts

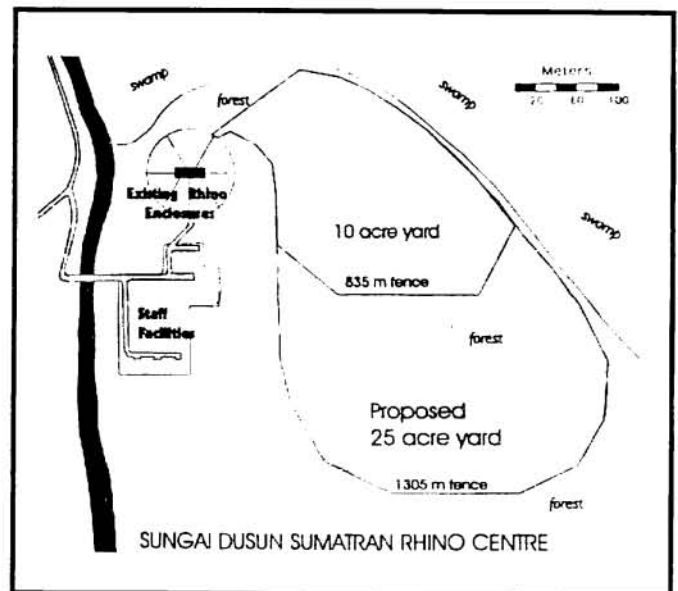
*Ex situ* captive propagation efforts have been considered an important component in the strategy of Sumatran rhino conservation. However, since the inception of the *ex situ*

programs in 1984, of the 39 captured for captive breeding, 19 of these have died, a mortality of nearly 50%. Exacerbating the high mortality has been the lack of any reproduction in captivity.

The reasons for the high mortality and lack of reproduction are not completely understood. However, there is a significant and growing opinion that the success of intensive (i.e., captive) management and managed breeding of Sumatran rhinos may require that they be maintained in much larger enclosures under more natural conditions. Furthermore, some rhino ecologists suggest that females and males be totally separated except when females are in estrus, a social system believed to prevail in the wild. As a consequence of these special requirements, there have been recommendations for development of managed breeding centers in native habitat. Two major initiatives are under development to create such Sumatran rhino centers.

## Sungai Dusun

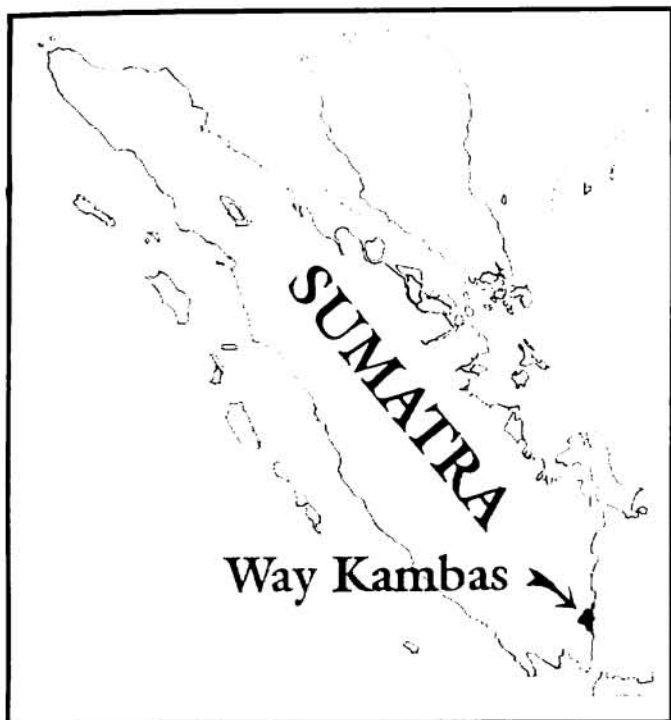
The Department of Wildlife and National Parks in Malaysia has actually been moving in this direction for some time. They have established a breeding center at the edge of Sungai Dusun Wildlife Sanctuary. The rhinos' diet is largely natural browse collected from the adjacent forest. However, the enclosures are relatively small, females cannot be widely separated from males, and the rhino have no opportunity to select browse from the forest for themselves. This situation has been recently improved with a \$50,000 grant from the International Rhino Foundation which was used to enlarge an existing enclosure to include ten acres of natural forest. More large enclosures will be added when additional funds are available.



## Way Kambas National Park

As recommended by the Indonesian Rhino Conservation Strategy and the 1993 Indonesian Sumatran Rhino Population and Habitat Viability Analysis, efforts are in progress to

establish a managed breeding center, known as the Sumatran Rhino Sanctuary (SRS), in native habitat in Way Kambas National Park in Sumatra. This project is being developed in an area of 100 sq km as a joint venture by the Indonesian Department of Forest Protection and Nature Conservation (PHPA), the Indonesian Center for Reproduction of Endangered Wildlife at Tamin Safari Indonesia, the Indonesian Friends of Rhino Foundation (Yayasan Mitra Rhino), and the International Rhino Foundation. Moreover, the SRS will comprise two major programs: a biological program for the rhinos and an eco-tourism program that is envisioned as capable of generating revenue to support not only the SRS but also to contribute to rhino conservation elsewhere in Indonesia.



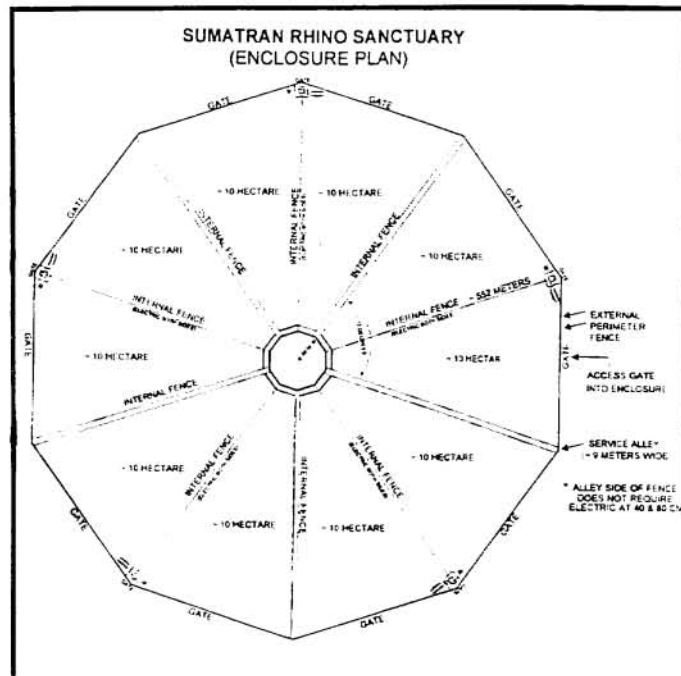
Way Kambas National Park is located in the southern end of the Island of Sumatra, just across the Sunda Strait from Java.

### Biological Program

The biological program concentrates on providing protected, natural habitat enclosures for the rhino with experienced animal support staff. Dr. Nico van Strien, an Indonesian rhino specialist, has been engaged as field coordinator to facilitate further development. The IRF is covering all funding for the construction of the rhino and staff facilities through support from the Howard Gilman Foundation and the Disney Wildlife Conservation Fund. The official inauguration ceremony for the sanctuary was conducted in May 1996 by the Indonesian Director for Nature Conservation and attended by John Lukas, IRF President, and Tom Foose, IRF Program Officer.

A complex of ten, large enclosures encompassing 25 acres each is being constructed within the forest with as little disturbance to the vegetation as possible. An electric fence, similar to models developed in New Zealand and being used

successfully in Africa to contain rhinos, is being constructed. This fence will also serve to exclude wild elephants from the rhino areas. Current projections are that the enclosures will be completed, and five rhino (two males and three females) will be in residence by April 1997.



A rhino management plan is being supervised by a board of technical advisers which includes people who have investigated this species in the wild, as well as in captivity. Under this plan, initially each rhino will be provided with two enclosures between which they will be rotated. Males and females will be separated except when females are believed to be in estrus. The IRF is funding research on the reproductive biology of the Sumatran rhinoceros to determine estrus cycles. To improve the chances for successful reproduction, it is essential to establish an informational database of reproductive biology and associated behaviors. The goal of this joint project between the Metro Toronto Zoo and the Department of Wildlife and National Parks, Peninsular Malaysia, is to generate an increased understanding of reproductive biology and to improve reproductive management of the critically endangered Sumatran rhinoceros. Through the transfer of technology and academic expertise, the ability to conduct hormonal analyses for evaluating estrous cyclicity will be most useful towards the conservation of this critically endangered species. Detection of estrus in females, through endocrine and behavioral methods, will allow for more coordinated introductions of males and females (who can be aggressive with each other) with a higher potential for successful reproduction.

Rhino for the sanctuary will come from captive facilities holding animals in non-productive situations. The captive facilities in Indonesia and the United Kingdom have already committed to place their rhino in the SRS, thus providing a nucleus of two males and three females. Negotiations will

continue with captive managers in the United States, who now have one male and two females available for possible placement in the SRS.

### Eco-tourism Program

Development of the conservation tourism facility and program in the Park will commence as soon as the rhino facilities are completed and the biological component of the project is in operation. The eco-tourism component is expected to generate sufficient funds to render the SRS financially self-sufficient within three to five years.

Way Kambas seems well situated to become a major income-generating tourist operation. The Park is the home of many tigers which are the subject of an on-going research program being supported by Exxon and its Esso subsidiaries worldwide. Way Kambas also is the home to 250 wild elephants and is the site of an extensive elephant training center that has been developed to rescue and rehabilitate 150 "problem" elephants from unprotected areas. Presently, the elephant center attracts many day tourists. Overnight lodging facilities are planned in the center of the Park where visitors will be able to view wildlife along the river by boat and in the forest by elephant-back. A personal encounter with a Sumatran rhino in the SRS will be the highlight of a visit to Way Kambas.

The tourism program in Way Kambas may also attempt to coordinate with similar programs for the Javan rhino in Ujung Kulon to provide a package that will virtually ensure visitors of observing both species in their natural habitat. This opportunity has indeed been rare. Since World War II, there has probably been less than 60 minutes of total observation time of these forest rhinos in the wild by the substantial number of managers and researchers who have worked on these species.

Finally, the Sumatran Rhino Sanctuary will also serve as a base of operations and training for anti-poaching units that will attempt to provide better *in situ* protection both in Way Kambas and two other National Parks, Kerinci-Seblat and Barisan Selatan, which are the major habitats for the rhino in southern

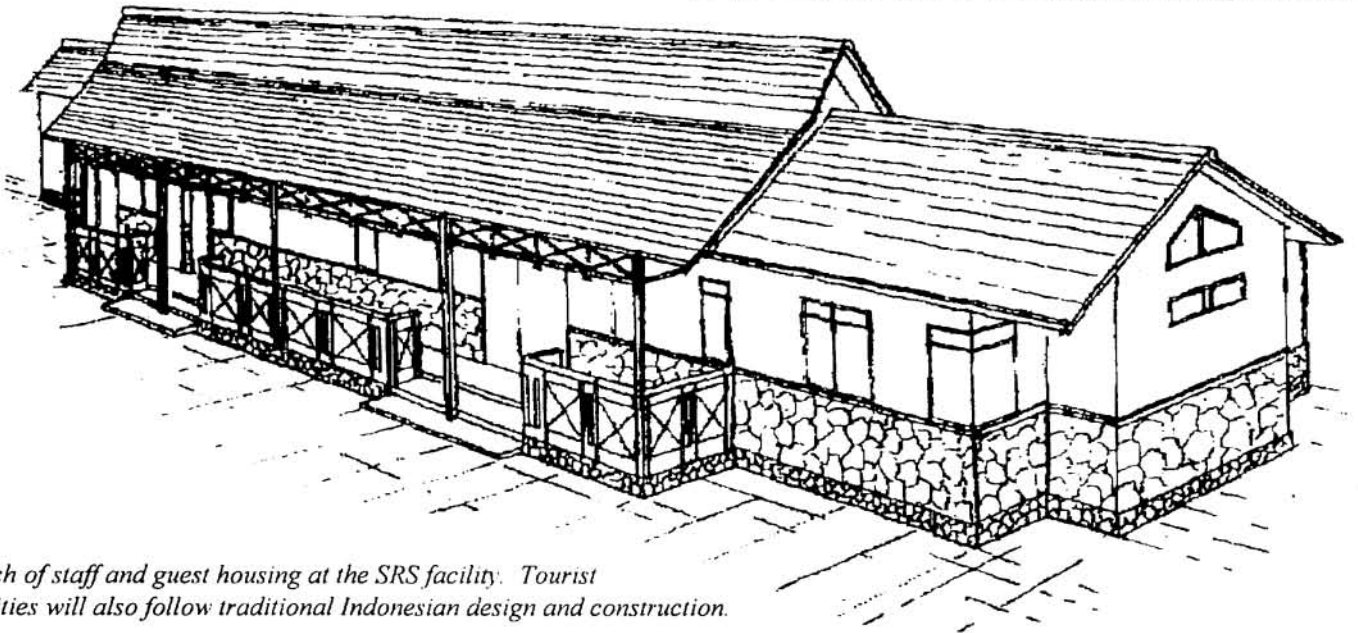
Sumatra. The SRS will contribute to the infrastructural support for the anti-poaching operation and will eventually provide financial support through the tourist program.

### Anticipated Benefits of the SRS

- Inducement of currently non-reproductive Sumatran rhino to breed.
- Development of an eco-tourism program that will generate income toward self-sufficiency for the SRS and rhino anti-poaching teams in southern Sumatra.
- Provide a base of operations for anti-poaching teams in Way Kambas for effective protection of the 15-30 rhino currently free-ranging in Way Kambas.
- Creation of a secure haven where unprotectable rhino from other locations might be concentrated to maximize protection resources.
- Establishment of a model that may be extended to the Javan rhino. The Indonesian Rhino Conservation Strategy has strongly recommended that a second population of Javan rhino be established as soon as possible and has identified Way Kambas as the most appropriate site. The SRS, both through its performance and its eventual expansion, can facilitate this future action for the Javan rhino.



If You Want To Contribute To These Efforts To Help Save The Sumatran Rhinoceros, become a member of the International Rhino Foundation. For more information call (614) 638-2286; fax (614) 638-2287; or visit IRF's homepage on the worldwide web at <http://www.irhinof.org/home.htm>



*Sketch of staff and guest housing at the SRS facility. Tourist facilities will also follow traditional Indonesian design and construction.*