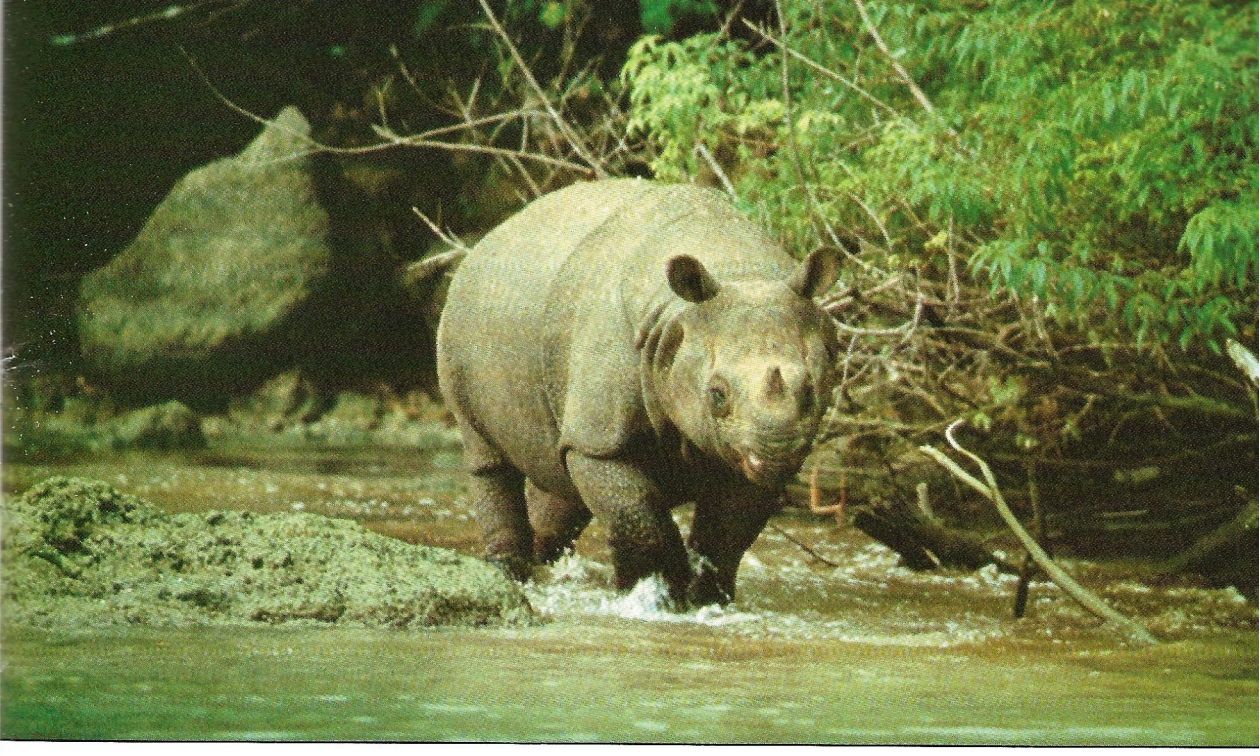


The Conservation of the Javan Rhinoceros

(Rhinoceros sondaicus)

A PROPOSAL

by Francesco Nardelli, October 1986

I would like to preface this paper with mention of my deep respect for the work of Professor Dr Rudolf Schenkel of Switzerland, and of his wife Dr L. Schenkel, on the Javan Rhinoceros, as well as the Sumatran Rhinoceros, dating back at least to 1967.

Without Prof. Schenkel's work on these species, also largely thanks to WWF funding, we would hardly be aware of the problems I intend to discuss here.

I must also acknowledge a debt to Mr. Hartmann Amman of Basel University, Switzerland for his recently published and invaluable doctoral thesis on the Javan rhino.

As both these experts' studies have clearly revealed, the situation for the Javan rhino today is even more serious than it is for the Sumatran rhino: there is only one remaining viable population, of 40-60 individuals, concentrated in the 30,000 hectare (about 300-400 square kilometres) Ujung Kulon National Park in Java, Indonesia.

The Javan rhino therefore has the dubious claim to fame of being probably the rarest mammal on Earth. And, as you know, as yet there is not a single individual in any zoo in the world today.

A single population concentrated in a single location like this is of course extremely vulnerable: to natural disasters, drought or flood, poaching, demographic instability, inbreeding etc.

There is also some tentative evidence that the Ujung Kulon area may have reached its maximum carrying capacity for the Javan rhino, with the population levelling out in 1975. The

The Javan rhino taken in Ujung Kulon *(Photograph by Alain Compost)*

numbers of rhino had actually doubled over the previous 17 years since Professor Schenkel's successful joint effort with the Indonesian authorities to improve management and quash the poaching rampant until the late 1960s.

Studies so far have further pointed to evidence that there may have been a relatively recent vegetation change in the area disadvantageous to the rhino in terms of its foodplant preferences. Possibly linked with this is potential competition for resources with a burgeoning banteng population within the same area.

The peculiar economic and demographic dilemma in which Indonesia finds itself unfortunately makes the continued survival of the Javan rhino in the long term a matter for debate. Should local population pressures lead to any human intrusion into rhino habitat in the future, the animals are bound to suffer. The Javan rhino's tremendous sensitivity to sustained human intrusions into its own natural habitat has also been underlined in recent studies; such intrusion can disturb vital courtship and mating patterns, for instance.

But nothing has highlighted the potential threat to this last population more dramatically than the death in 1982 of five rhinos. Investigations revealed only that they died suddenly from a still mysterious epidemic and infectious disease apparently resembling anthrax and possibly connected with the intrusion of Man's domestic animals into wild rhino habitat.

Professor Schenkel has made some excellent recommendations on future management aimed at avoiding a recurrence of this tragedy. In summary, these are:

- Careful monitoring and censusing of the rhino both during the dry and during the wet seasons;
- Drafting of a detailed vegetation map of the area paying special attention to the rhino's foodplants;
- Deliberate vegetation management so as to encourage growth of the rhino's preferred foodplant environment — open unshaded areas with saplings and bushes etc. This would mean the cutting back of certain palms etc.
- Control of the banteng population, only if further studies prove the animal is in competition with the rhino;
- Translocation of about 10 rhino to a second location, perhaps in southern Sumatra, to start a second viable population. This only to be embarked upon when the Ujung Kulon population has recovered from the effects of the 1982 disease and begun to reproduce again.

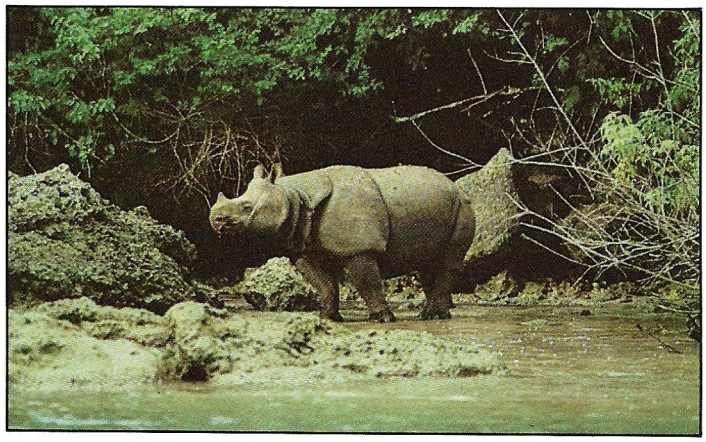
The new site to be selected with maximum care, bearing in mind foodplant availability, fresh water, clay-soil wallows, salt licks, existence of predators and other species now unfamiliar to the rhino, such as tigers and elephants, the ease with which the new site can be patrolled and protected, the attitude of the people living in or near the area.

Another major factor to be tackled, in Professor Schenkel's view, was working conditions for the Indonesian rangers and guards assigned to protect the rhino. He felt they needed field allowances to enhance their salaries, better clothing and equipment, better medical care and better training, for example on how to collect blood and tissue samples during any emergency like the 1982 epidemic.

I heartily concur with Professor Schenkel's diagnosis and prescription in all except one important respect: he emphasised translocation before any attempt at captive breeding and indeed was generally opposed to captive breeding, partly because of the fragility of the species and partly because he felt the primary need was simultaneously to conserve the rhino and its natural habitat. I suggest that the situation is too critical to wait, that capture and captive breeding should commence as soon as feasible, applying the lessons already learned in the current Sumatran Rhinoceros Capture Operation.

This does not mean that Professor Schenkel's proposals should not be implemented at Ujung Kulon — indeed they should. But the capture operation should be accorded urgent priority. In my opinion, captive breeding is far safer than natural gene-pool arrangements etc. from the point of view of monitoring disease, poaching and territorial competition, amongst other likely problems. Captive breeding also allows closer observation so that valuable data on the animals' habits can be gathered for application to better management of populations still in the wild.

Translocation is too risky and difficult a venture, as well as costly — funding might prove a problem. However, it could be integrated into a conservation project as a second stage, to follow only after a captive nucleus has been safely established and funds made available to local agencies in Indonesia.



Javan rhino in Ujung Kulon *(Photograph by Alain Compost)*

As with the Sumatran rhino operation, transfer of both technology and funds to the host country, Indonesia, would be an integral part of the conservation plan.

I propose, therefore, that an operation to capture some Javan rhino for captive breeding be instituted as soon as possible. I suggest that the capture operation be concentrated along the eastern fringes of the Ujung Kulon National Park, where poachers and disease are a more likely threat to the animals, thus leaving the core area's population as undisturbed as possible.

Experience with the Sumatran rhino operation so far should have given us the confidence and courage to proceed with this venture, which I now consider to be of the highest importance to the survival of the species.

References:

Situation of the Javan Rhino in Ujung Kulon National Park: assessment in March 1982 after the sudden death of five rhinos — prepared by Prof. Dr. R. Schenkel and Dr. L. Schenkel for WWF/IUCN Gland (Switzerland), April 2 1982;

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PLAN FOR CAPTURE OPERATION

- In order to determine more accurately the sex ratio, age and number of the rhino population, we should survey the whole area and in particular the eastern fringes. Surveys based on the dimensions and shape of tracks, especially with plaster casts, are reliable, but time consuming. Furthermore, we already have an accurate report by Dr. Hartmann Amman. In this case, I recommend the use of remote-controlled cameras. 20-30 of 35mm still cameras could be purchased cheaply or even be supplied free (in exchange for publicity) by a big company.

  These cameras, with a flash incorporated, should be placed on rhino trails, in several places in Ujung Kulon. Professional photographer, Indonesia based, Alain Compost, has already confirmed he's available to set up the cameras and indeed he has already got pictures of leopard, tiger, etc. using this method. A couple of rangers can check the cameras every few days. The whole operation will require only a few months and will not disturb the rhinos.
- The base camp should be set up along the eastern fringes of the park, as well as the holding pens for the captured rhinos.
- The use of pit traps instead of stockade ones is highly recommended as negative experience has indicated during the capture operations in 1960 and in 1986 (Torgamba). Professional animal collector Tony Parkinson is the best person to carry on with the capture professionally and he will give the best advice on this matter.
- The use of local trees for the construction of the holding pens and traps should be avoided for obvious reasons, but carrying the necessary poles from outside the park might not be feasible or very expensive.
- As with the Sumatran rhino a long period of acclimatization (at least two months) should follow after the capture of the rhino, before transporting them to the zoos.