

*Mr. Francesco Nardelli and Dr. Thomas J. Foose, representing The Howlett and Port Lympne Zoo and the American Association of Zoological Parks and Aquariums (AAZPA) respectively during the Technical session.*



*Mr. Jansen Manansang, owner of The Indonesian Safari Park, seen here with Dr. Chira Meckvichai and Mr. Mohd. Khan bin Momin Khan, during their visit to the Safari Park in Cisarua, about 20 km south of Bogor.*

# CONSERVATION OF THE SUMATRAN RHINOCEROS IN SABAH, MALAYSIA

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## 1.0 REVIEW OF THE PREVIOUS GROUP MEETING

The contents of the last Asian Rhino Specialist Group Meeting (28 June - 4 July, 1982) report relating to Sabah are reproduced here for easy reference.

**Silabukan, Sabah :** Present situation: For practically the whole Silabukan rhino range, the Sabah Foundation has a logging concession. At present, several logging teams are operating.

Evidently, this causes serious disturbances to the rhinos. In addition, some time ago, a rhino was shot by loggers. The objectives in the interest of rhino conservation are :

- (a) to stop illegal hunting of rhinos,
- (b) to save as large an area as possible from being logged,
- (c) to select patterns of logging to which the rhinos are able to adapt.

Evidently these objectives necessitate negotiations with the Sabah Foundation and supervision of the loggers' activities by guards.

**Proposed actions :** (see project 1972 — Sabah, Conservation of the Sumatran Rhinoceros in the Silabukan area).

**First priority :** Danum Valley, Sungai Imbak, Kuamut, Gunung Lotung. These remote areas have never been the concern of a biologist or conservation survey. They might still harbour rhinos.

**Proposed actions :** To survey the areas mentioned and to take the steps best suited for rhino conservation. It was also suggested that rhinos might survive in the Sabah—Kalimantan (Indonesia) border area, and a joint survey was therefore proposed, possibly with the support of WWF/IUCN and ASEAN.

The specific suggestions made at the 1982 meeting have been carried out, but much progress has been achieved on other fronts, as circumstances relating to rhino conservation in Sabah have changed considerably since that meeting. The comments in this paragraph are placed in perspective in the following sections below.

Poaching (illegal hunting) of rhinos continues wherever they occur, and logging in the Silabukan area has continued. Two 4-wheel drive vehicles have been purchased through IUCN/WWF Project No: 1972 to assist Rangers of the Game Branch, Sabah Forestry Department in protecting rhinos in the Silabukan region. A short survey has been done in Danum valley, since access to this area is much easier now than in 1982. The other regions mentioned (Sungai Imbak, Kuamut, Gunung Lotung and the Sabah—Kalimantan border area) are still the remotest parts of Sabah and primarily for this reason have not been surveyed. Instead, it has become apparent that rhinos are still present in a number of much more accessible areas where they are under the greatest threat, and so attention has focussed on these accessible areas. There is actually no immediate urgency to conduct thorough surveys in the most remote areas where rhinos are relatively safe.

## 2.0 NEW DATA ON DISTRIBUTION OF RHINO IN SABAH

The Game Branch (= Wildlife Section) of the State Forestry Department is the Government Agency responsible for the conservation of wildlife including the rhinos in Sabah (except in the Parks, which cover about 3% of Sabah, and in which there is no evidence of any rhino). Other duties which the Game Branch is obliged to perform, prevent any major survey effort for rhinos except in special cases (see section 3.0), and instead personnel working in appropriate areas (logging camps, new plantations etc) are encouraged to report any evidence of rhinos to the Game Branch Staff.

Records of the presence of rhinos received over the past five years are shown in Fig. 3, under four somewhat arbitrary but not mutually exclusive categories.

- (a) Tabin Wildlife Reserve (see sections 3.0 & 4.0) contains the largest known concentration of rhinos remaining in Sabah. Roughly one quarter of the reserve's boundary is shared with oil palm and cocoa plantations, the remainder with contiguous logged dipertocarp forest in which rhinos undoubtedly occur.
- (b) Places marked "evidence of 1 or 2 rhinos remaining" indicate where rhinos or their footprints have been found by the authors, Game Rangers or others who, when interviewed, appeared reliable.
- (c) Places where rhinos are believed to have been killed between 1980 - 1985 are marked, on the basis of reports from various sources (all unproven

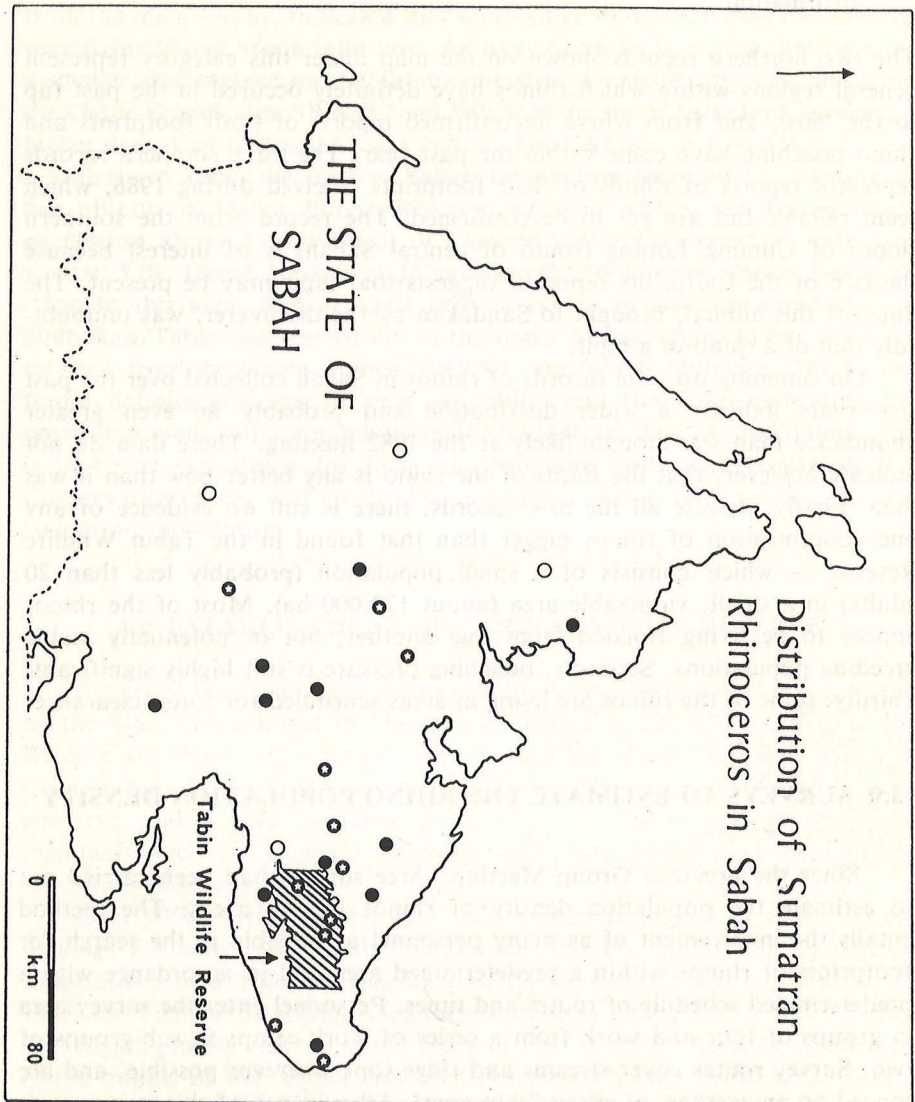


Fig. 3. Map of Sabah showing the distribution of the Sumatran rhinoceros.

- Evidence of 1 or 2 rhinos remaining
- \* Locations where there is evidence that the animals were killed between 1980 - 1985
- Unconfirmed but probably reliable accounts of the presence of rhinos

but considered to be reliable). It may be that more rhinos still survive in the vicinity of these locations.

- (d) Places marked "unconfirmed reports" represent mixed sources of information.

The two northern records shown on the map under this category represent general regions within which rhinos have definitely occurred in the past (up to the '60s), and from where unconfirmed reports of both footprints and rhino poaching have come within the past year. The three southern records represent reports of rhinos or their footprints received during 1986, which seem reliable but are yet to be confirmed. The record from the southern slopes of Gunung Lotung (south of central Sabah) is of interest because the size of the footprints reported suggests that tapir may be present. The dung of this animal, brought to Sandakan by the discoverer, was undoubtedly that of a rhino or a tapir.

On summing up : the records of rhinos in Sabah collected over the past five years indicate a wider distribution and probably an even greater abundance than was thought likely at the 1982 meeting. These data do not indicate however, that the status of the rhino is any better now than it was then. Firstly, despite all the new records, there is still no evidence of any one concentration of rhinos bigger than that found in the Tabin Wildlife Reserve — which consists of a small population (probably less than 20 adults) in a small, vulnerable area (about 123,000 ha). Most of the rhinos appear to be living isolated from one another, not in potentially viable breeding populations. Secondly, poaching pressure is still highly significant. Thirdly, some of the rhinos are living in areas scheduled for forest clearance.

### 3.0 SURVEYS TO ESTIMATE THE RHINO POPULATION DENSITY

Since the previous Group Meeting, three surveys had been carried out to estimate the population density of rhinos in two areas. The method entails the involvement of as many personnel as possible in the search for footprints of rhinos within a predetermined area and in accordance with a predetermined schedule of routes and times. Personnel enter the survey area in groups of four and work from a series of work camps in sub-groups of two. Survey routes cover streams and ridge tops wherever possible, and are spaced on an average, at about 2 km apart. All evidence of rhinos is recorded, in particular measurements of fresh footprints. The data are used to calculate the minimum number of animals present in the survey area. Methods are similar to those used by rhino researchers in Peninsular Malaysia and Sumatra.

Personnel from the Game Branch of the Sabah Forest Department, the Sabah National Parks, the Department of Wildlife & National Parks (Peninsular Malaysia), Sabah Foundation and the World Wildlife Fund

(Malaysia), all participated in a survey conducted in an undisturbed forest in the Silabukan area in August 1982. Definite evidence was found of the presence of seven adult rhinos within an area of 28,000 ha. Additional surveys conducted before and after the main survey, and ambiguous data from the main survey, indicated that up to 14 animals, including one juvenile were living in and around this area. A survey of the same region, but covering a smaller area centred on the Tabin watershed, conducted by the staff from the Game Branch, the SRWCC and WWF Malaysia in June 1986 revealed a higher density of rhinos than was indicated in 1982 (see section 4.0).

Early in 1986, the staff of Sabah Foundation reported the sighting of two rhinos in Malua Forest Reserve, an area within the Foundation's concession about 25 km north of Danum Valley Conservation Area (see section 5.0). Game Branch staff subsequently confirmed the presence of rhino in this area, and in April 1986, a survey of the type conducted in Silabukan/Tabin was carried out in the upper Malua/upper Bilong drainage by staff from the Game Branch, SRWCC and WWF Malaysia. The survey found definite evidence of only one rhino and footprints indicating the possible presence of three adults in the 13,000 ha. The Malua/Bilong area is in forest (scheduled for logging) contiguous with the Danum Valley Conservation Area, and so the Danum-Malua rhinos may in fact, be one contiguous population.

#### 4.0 ESTABLISHMENT OF TABIN WILDLIFE RESERVE

A part of the region referred to previously as "Silabukan" was gazetted by the State Government in March is estimated at 120,000 ha. Within the Reserve are seven virgin jungle reserves totalling about 2009 ha., which in practice may be regarded as part of Tabin. The purpose of Tabin is to conserve viable wild breeding populations of Sabah's large terrestrial mammals such as elephant (*Elephas maximus*), rhino and banteng or tembadau (*Bos javanicus*).

Over 90% of the Reserve has been selectively logged or allocated for logging. Formerly, the Sabah Foundation (Sabah's largest logging concession-holder) held 100-year logging rights over half the area of Tabin. In 1983, the Foundation relinquished those long-term rights, and it was expected that logging in the reserve would cease in 1987 or 1988. An area of 8616 ha in the middle of the reserve has been designated as the "core area" where logging is not permitted. The purpose of the "core area" (designated in 1984) was to provide a refuge for the rhinos that are displaced by the logging activity nearby. A survey conducted in June 1986 (see section 3.0) found evidence to suggest that this purpose has probably been realised. To quote the conclusions from a report :

"At least six rhinos were using the 'core area' of Tabin Wildlife Reserve and the adjacent, undisturbed forest (an area of about 11,700 ha) in

June 1986. All of them were adults or nearly so; no evidence of juvenile rhinos was found. The population density of rhinos in 1986, in the undisturbed forest adjacent to the 'core area' is estimated at 1/2,000 ha. This is the highest density yet recorded in Sabah. The population density of rhinos in the same area in August 1982 was probably significantly lower, possibly only half the density as in 1986 \*

\* The survey method was the same in both years, but in 1982 the survey covered about 28,000 ha, took 5 teams and 8 days spread over a 12-day period; while in 1986, the survey took 3 teams and 7 continuous days.

The most likely cause of the apparent higher population density after a four year period is that the rhinos are using the 'core area' more intensively than previously because of logging pressure from the vicinity."

A management plan has already been prepared for Tabin, and is currently being printed. Many of the suggestions contained in the plan are geared to the conservation of the rhinos. Two key factors are :

- (i) the establishment of a reserve headquarters (a site has already been selected on the western boundary and it takes 2h to drive to it from Lahad Datu Town.
- (ii) the general upgrading of the Game Branch of the Sabah Forestry Department.

There is good evidence from Tabin and elsewhere that rhinos can live and breed exclusively in logged forests. It is believed that the presence of at least seven natural mineral sources within Tabin may be an important reason for the rhino's relatively high population density in the area, despite poaching pressure. If the level of poaching can be kept very low (which will be feasible once logging ceases), then there is no reason why rhino numbers should not increase several folds.

## 5.0 DANUM VALLEY CONSERVATION AREA

Long before the importance of Tabin was recognised, at least two survey reports had recommended that the Danum Valley area of the Upper Segama River in eastern Sabah be declared a wildlife conservation area, especially for large mammals. Following a biological survey in 1976, a WWF-Malaysia report recommended that Danum Valley be gazetted as a National Park. This was not to be since the area lies within the Sabah Foundation's 100-year logging concession, and the Foundation was unwilling to relinquish it.

Since the 1982 Group Meeting, Sabah Foundation has officially designated Danum Valley (42,755 ha) as a Conservation Area in its long-term management plan for its concession, in which no logging will be allowed. A road has been constructed to meet the eastern boundary of the Conservation

Area, and there are several buildings at the site including permanent staff quarters, two classes of visitor accommodation, laboratory and meeting room. Many people and research institutions, both within and outside Malaysia, have expressed interest in conducting research at Danum Valley, and several projects are underway. Thus, Danum Valley has evolved as a major new field research Centre in Southeast Asia. There is evidence of the presence of several rhinos in the area, but no large scale survey of the type outlined in section 3.0 has been organised for Danum Valley.

The protection afforded to Danum Valley by the presence of a research station, the fact that the area is a part of a much bigger forest block (Sabah Foundation's concession) and the discovery early in 1986 of the presence of rhinos in a forest some 25 km to the north (see section 3.0) indicates the value of this area to rhino conservation.

## 6.0 POACHING

Between 1981 and 1984, the Game Branch obtained reports of at least two rhinos being killed annually in Sabah. Except in one case in 1981, there was insufficient evidence for any prosecution. There has been no report of any death of rhinos from early 1985 to date. It is not known if this apparent decrease in rhino poaching might be related to the frequent publicity within Sabah during this period regarding rhino conservation (generated chiefly from public discussion over the plans for breeding rhinos in captivity, see section 8.0). Possibly, either poachers are more careful now, and reports are not reaching the Game Rangers; or poachers have reduced their activity, fearing a greater likelihood of detection and prosecution than was the case before. The latter scenario is more likely, as Sabah being a small state, the likelihood of rhino poaching being reported will be high. In addition it is conceivable that despite more records of rhinos in recent years, the number of rhino has in fact decreased so much that constant hunting efforts are now giving poor returns to the poachers.

Although there are no reliable reports of poaching since early 1985, there are still verbal reports and at times even direct evidence of poaching (in the form of unexpected human footprints in hitherto inaccessible areas inhabited by rhinos). Poaching remains a serious threat to the long-term survival of the species in Sabah. No evidence has been obtained of rhino parts or products being on sale in Sabah since the last meeting. This is not surprising, since these are quickly smuggled out of the state. Ethnic Chinese traders in Sabah are known to maintain close links with their counterparts in Hong Kong and Singapore.



## 7.0 PROTECTIVE MEASURES

A comprehensive series of amendments to the Sabah legislation relevant to rhino conservation were drafted earlier this year, and are currently under review. Suggested amendments include a mandatory minimum jail sentence for anyone found in possession of rhino part or product. At present heavy penalties apply only to hunting of rhino which normally cannot be proven, while penalties for possession of parts of rhino are not commensurate with the black-market value of those parts. Passage of new legislation is unlikely until 1987. The Game Branch of the Sabah Forestry Department remains too small to provide adequate protection for rhinos. No new posts have been created for the Game Branch recently. New posts created under SRWCC (see section 8.0) are expected to be transferred to the Game Branch at some stage, however, thereby increasing significantly the guard capability in Tabin and other important areas.

## 8.0 THE SABAH RHINO & WILDLIFE CONSERVATION COMMITTEE

In 1985, the Sabah Government formed the Sabah Rhino & Wildlife Conservation Committee (SRWCC) in response to the need for urgent measures to save the endangered Sumatran rhino in Sabah. The committee was given a grant of MR 3,000,000 and the responsibility of translocating or capturing isolated individuals for captive breeding in cooperation with the Game Branch of the Forestry Department.

## DISCUSSION

**RUBINI** : pointed out that there might still be some rhino in Kalimantan (especially in the eastern part) despite earlier reports to the contrary. He was particularly anxious to know what measures were being taken to protect such an important conservation area as the Tabin Wildlife Reserve in Sabah ?

**ANDAU** : agreed with Prof. RUBINI and disclosed that there were good indications for the presence of 2 - 4 Sumatran rhino in Sarawak, in particular along the Sarawak/Kalimantan border. As far as the Tabin Wildlife Reserve was concerned, he pointed out that a number of measures were being taken to save this area and its fauna. The boundary was being demarcated properly, but the task of protecting the reserve still was paramount. There were no staff based permanently at the reserve, but it was being patrolled by personnel from the nearby stations. About MS\$ 400,000 had been allocated to develop this reserve and for the recruitment of personnel. It was hoped that the AAZPA would still get involved. But the State Government was more anxious to see that local people took on the initiative in the capture/breeding of rhino. Some degree of collaboration

between Sabah and AAZPA was welcome especially in training local personnel and for the provision of financial assistance.

ROEDJAI : discussed the possibility of rhino being still found in East Kalimantan. In 1985, he pointed out, when Prince Bernhard of the Netherlands visited Indonesia, an area of 1.2 million ha was set aside as a reserve between the State of Sabah (Malaysia) and Kalimantan (Indonesia). Such a trans-border conservation area could be jointly protected by both countries.

MANAN : wanted to know whether habitat loss or poaching posed the greatest threat to the long-term survival of the rhino.

ANDAU : pointed out that the selective logging need not be incompatible with rhino conservation. But he added that in Sabah, poaching would seriously affect the rhinos remaining. Logging operation indirectly help the poachers in that they open up forests (along the roads) thereby providing easy access for the poachers to enter the hitherto inaccessible areas. Furthermore, a number of home-made firearms were still available in Sabah. The rhino according to Mr. ANDAU was very valuable either dead or alive: valuable when dead to the poachers, and 'valuable when alive to the conservationists. He also commented on the presence of specialised gangs of poachers operating in Sabah with impunity.

WIDODO : wanted to know that system of logging was practised in Sabah ?

ANDAU : Selective logging was used in Sabah. Relogging of an area had been stopped. First logged forest could be a useful habitat for the rhino since it is a browser. If the forest was logged only once, Mr. ANDAU pointed out that it provided an excellent habitat as it regenerated, and so, the rhinos were more likely to repopulate such areas.