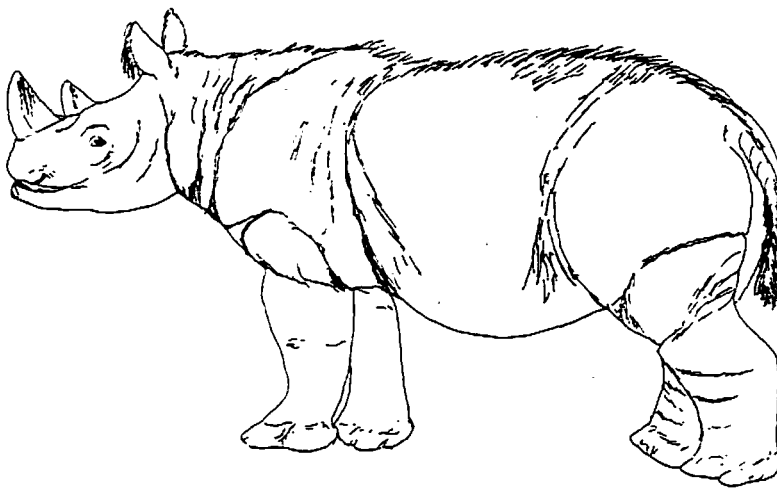


**DRAFT PROPOSAL
FOR ESTABLISHMENT OF
SUMATRAN RHINOCEROS SANCTUARY**

International Rhino Foundation

15 January 1995



SUMMARY OF THE WORKSHOP ON ESTABLISHMENT OF SUMATRAN RHINOCEROS SANCTUARY

The workshop was initiated with an overview by Bapak Sutisna Wartaputra of the conservation situation for the Sumatran rhinoceros.

This overview emphasized that the Sumatran Rhinoceros (*Dicerorhinus sumatrensis*) is probably the most critically endangered of all the rhinoceros species. It is true that the population of Javan Rhinoceros (*Rhinoceros unicornis*) is lower in numbers with only about 50 surviving in Indonesia and perhaps 10 to 20 in Vietnam. However, the numbers of this species have been stable over the last few years in Indonesia. It is also true that among the rhinoceros species, the rate of decline has been greatest in the African Black Rhinoceros (*Diceros bicornis*) whose population has decreased 85% over the last 10 years. However, there are still an estimated 2,400 Black Rhino in Africa; wild population numbers appear to have stabilized, and ; there is a self-sustaining captive population. In contrast, the population of the Sumatran Rhino is very low (fewer than 500), the rate of decline is high (at least 50% over the last 10 years); there is no indication that the situation is stabilizing and ; the captive population is not reproducing at all.

Protection and management of the Sumatran rhinoceros is being accorded the highest priority in Indonesia, as indicated by

- the promulgation of the Indonesian Rhinoceros Conservation Strategy,
- the establishment of Yayasan Mitra Rhino,
- the entry of the rhinoceros conservation program into the BAPPENAS Blue Book, and
- the development of a Global Environment Facility (G.E.F.) Project on rhinoceros conservation
- the establishment of a Rhino Desk Officer within PHPA.
- the conduct of a Population and Habitat Viability Assessment (PHVA) Workshop and process for Sumatran rhinoceros

However, despite these efforts, wild populations of Sumatran rhino continue to decline.

As early as 1984, Indonesia recognized that intensive management and controlled propagation would be important components of the strategy to conserve the Sumatran rhinoceros. Developing on the proposals formulated at the Singapore Conference on Sumatran Rhino co-sponsored by the IUCN SSC and PHPA, Indonesia entered into a series of partnerships, first with the Howlett's-Port Lympne Foundation, and later with the Sumatran Rhino Trust (SRT), to rescue "doomed" rhino and develop captive breeding programs in Indonesia and abroad. "Doomed" rhino are defined as individuals which:

- (1) are not protectable with available or acceptable levels of resources and/or
- (2) are not part of populations that could be viable demographically or genetically.

Similar rescue efforts and captive programs have been initiated in Peninsular Malaysia and in Sabah.

Unfortunately, none of these captive breeding programs have been successful. The reasons why the Sumatran rhino has been so difficult to breed in captivity are not certain. The species will reproduce under captive conditions. Indeed, the very first rhinoceros ever born in captivity was of this species, at the Calcutta Zoo in 1989. The 3 other rhinoceros species which have been in captivity (the African Black and White Rhinoceros (*Ceratotherium simum*) and the Indian/Nepalese Rhinoceros (*Rhinoceros unicornis*) do reproduce regularly there.

There are some possible causes for the difficulties with breeding the Sumatran rhino in captivity. It is true that there have been some problems with the sex ratio of rhinos captured. The result has been that adult females have not been in the same place as adult males a significant amount of time.

However, there have now been mature pairs together at Port Lympne, Ragunan, Taman Safari, Surabaya, Cincinnati, San Diego, and Sungai Dusun for some time. There have been some reservations about placing the sexes together because courtship is so violent. At least one of the deaths in captivity, the female that died at the Cincinnati Zoo, was almost certainly caused by trauma inflicted during courtship. Other facilities have had significant injuries. It has been very difficult to detect estrus in the Sumatran rhino, compared with the other 3 rhino species regularly reproduced in captivity. This difficulty has prevented managers from regulating introduction of males to females to times of estrus when it might be expected that courtship would be less violent.

A number of the persons who have studied the Sumatran rhinoceros in the field believe the problem has been the limited space and the less-than-natural conditions for the rhino in the captive facilities. One aspect that has been emphasized in particular is the need for total separation of males and females except when females are in estrus. Such separation is almost certainly the natural situation in the wild.

As a consequence, there have been strong suggestions to establish an rhino sanctuary or intensive management center *in situ*, inside or nearby a major protected area, to provide more much larger areas and more natural conditions that hopefully will induce Sumatran rhino to reproduce. Such a rhino sanctuary can also serve as a base of operations for more intensive protection of rhino that inhabit the larger protected area around the sanctuary. Finally, the rhino in the breeding enclosures can be a tourist attraction that can contribute to financial self-sufficiency of the sanctuary and rhino conservation programs in general.

Bapak Sustisna's overview emphasized that time is running out for the Sumatran rhinoceros. The wild population continues to decline. The captive population grows older by the day without producing replacements. The establishment of an Sanctuary seems imperative. It is crucial that every one with relevant resources whether it is money, rhino, or expertise, must contribute to the Sanctuary if the Sumatran Rhino is to be conserved. Ultimately, it is Indonesia that must conserve this species.

As documented in the Indonesian Rhino Strategy, the Government of Indonesia has for some time been proposing to establish sanctuaries for Sumatran rhino. These sanctuaries would be contained but very large and entirely natural areas in native habitat where the rhino could be intensely protected and their breeding still be under some management.

There was much further development of this rhino sanctuary concept at the Population and Habitat Viability Analysis (PHVA) Workshop that was conducted in Bandar Lampung in November 1993, although the terminology used at that time was an *in situ* intensive management center ISIMC. Dr. Ronald Tilson summarized the results of the Population and Habitat Viability Analysis (PHVA) Workshop for Sumatran Rhino. Copies of the final report of the PHVA were distributed. In particular, Dr. Tilson emphasized the major results and recommendations that emerged from the PHVA to guide further development of a Sumatran rhino Intensive Management Center. The major points included:

- (1) Support for the center should be sought from national and international, governmental and non-governmental agencies;
- (2) The center should be located within or adjacent to a major conservation area for Sumatran rhino to encourage and support better wildlife management in the conservation area.
- (3) Rhinos for the center should be derived both from animals already in captivity as well as rhinos rescued from the wild as determined and recommended by PHVA.
- (4) The center should have an eco-tourism component to provide on-going support for operation of the center.

Philip Wells and Neil Franklin then presented a summary of the results of their recent surveys of the parts of Kerinci Seblat National Park in West Sumatra, Bengkulu, South Sumatra. In contrast to previous estimates of 100-200, their surveys suggest no more than 40-60 rhinoceros survive in Kerinci Seblat National Park. Mr. Sukianto Lusli of WWF-Indonesia concurred that the same dire status for the rhinoceros applied in the Jambi parts of Kerinci Seblat National Park.

Dr. Tom Foose of the International Rhino Foundation provided an overview of the global captive population and program for the Sumatran Rhinoceros. Attached is a table summarizing the history of this program. Salient points are:

- a total of 37 rhino (16 males and 21 females) have been captured: 18 in Indonesia (7 males and 11 females) and 19 in Malaysia (9 males and 10 females);
- 22 (8 males and 14 females) survive in captivity;
- mortality has therefore been 40%; no rhino have been bred in captivity although one calf has been born there from a female captured pregnant.
- Of the Indonesian rhino captured, 10 rhino survive: 5 males 6 females.
- Of these Indonesian rhino, 2 are in England (1 male and 1 female), 5 are in the United States (2 males and 3 females) and 3 are in Indonesia (1 male and 2 females). In addition, there is also female which is in captivity in Indonesia but which was captured in Peninsular Malaysia. Thus, there are a total of 4 Sumatran Rhinoceros (1 males and 3 females) in captivity in Indonesia: 1 male and 1 female at Taman Safari Indonesia; 1 female at Ragunan Zoo; and 1 female at Surabaya Zoo.
- None of these Sumatran rhinos have bred in captivity although one calf has been born in Malaysia to a female which was pregnant when captured.
- The 22 Sumatran Rhinoceros in captivity worldwide represent about 5% of entire global population of this species, perhaps an even higher percentage of the adult world population.
- It is imperative that these rhino in captivity be propagated to contribute to survival of the species.

At the request of Mr. Widodo Ramono, Dr. Tom Foose then described the current state of thought about a Sumatran Rhino Sanctuary and delineated the questions that needed to be considered and the recommendations that were desired from this workshop.

It was agreed that there were 3 products to be produced by the workshop:

- (1) A more detailed set of recommendations for further development of a Sumatran Rhinoceros Sanctuary.
- (2) A draft press release on the plight of the Sumatran Rhinoceros and the Sumatran Rhino Sanctuary initiative.
- (3) A draft letter to Mr. John Aspinall responding to his proposal of 16 July 1994.

The workshop decided to develop more detailed recommendations in 4 major areas which became the subject of the working groups:

- (1) Site requirements and selection for the sanctuary
- (2) Principles of Animal Management and Facility Design
- (3) Management framework for the sanctuary
- (4) Funding of the sanctuary

The results and recommendations of these working groups are attached.

EXECUTIVE SUMMARY OF RECOMMENDATIONS

The major recommendations were:

- (1) the first Sumatran Rhino Sanctuary be located in Way Kambas National Park.
- (2) the protocol for rhino management and the design of their enclosures must maximize natural conditions;
- (3) The Sumatran Rhino Sanctuary Program will consist of both:
 - (A) the Animal Programs and
 - (B) a Conservation Tourism Program developed to provide financial self-sustainability for the program.
- (4) The Sumatran Rhino Sanctuary Program should be managed by private companies who receive concessions from and ultimately report to PHPA:
 - (A) A new Managing Company will be formed:
 - (a) the Board of this Company will consist of major stakeholders
 - (b) at least 51% of the voting stock will be maintained by a partnership of Yayasan Mitra Rhino (YMR) and the International Rhino Foundation (IRF)
 - (c) the partnership between YMR and IRF will be established through an M.O.A. among PHPA, YMR, and IRF.
 - (d) other major "investors" in the program (money, rhino, etc.) will be receive share in the company and be represented on the Board.
 - (B) An Operating Company with experience and expertise in both animal management and tourism development will be engaged to operate the Sumatran Rhino Sanctuary.
 - (a) the Operating Company will operate under contract from the Management Company.
 - (b) an example of a company with the desired qualifications is Taman Safari Indonesia.
- (5) The funding strategy will consist of both a short-term and a long-term plan:
 - (A) Short-term: The initial funding during the first 3 years for the Sanctuary would be provided by national and international contributors which would be known as "investors".
 - (a) It is the hope and expectation that The International Rhino Foundation would provide up to \$ 500,000
 - (b) Other Sumatran rhino Stakeholders both inside and outside Indonesia will be approached to provide the remainder.
 - (c) YMR will lead this fund-raising campaign in Indonesia.
 - (B) Long-term: A conservation tourism program will be developed with the objective and expectation that it will provide financial self-sufficiency and sustainability for the entire program by within 3-4 years.

**SCHEDULE FOR FURTHER DEVELOPMENT OF
SUMATRAN RHINO SANCTUARY**

Draft of the Memorandum of Agreement Among PHPA YMR, and IRF	19 Aug 1994
Approval of M.O.A.	15 Sep 1994
Establishment of Managing Company	15 Oct 1994
Production of Management Plan for the Center	31 Dec 1994
PHPA Approval of Plan for Sumatran Rhino Sanctuary	31 Mar 1995
Initial Construction of Facilities at the Sanctuary	31 May 1995
Movement of First Rhino to Sanctuary	1 Jun 1995

**IRF FUNDING STRATEGY FOR
SUMATRAN RHINO SANCTUARY (SRS)
1995-1997**

NEEDS
(Details in Draft Plan)

Biological Program Infrastructure and Start-Up	\$ 550,000
Tourist Program Infrastructure and Start-Up	\$ 550,000
Establish Joint Venture Company with YMR	\$ 50,000
First 3 Years Operational Costs	<u>\$ 450,000</u>
Total	\$ 1,600,000

PROJECTED/PROPOSED RESOURCES

IRF Core Funds (Including new donations from ZPBNSW, Disney, Atlanta)	\$ 500,000 *
ARAZPA/ASMP (Australasian Zoos apart from N.S.W.)	\$ 75,000
SRT (Unfulfilled Commitment)	\$ 50,000
AZA (Unfulfilled 1993 Pledge)	\$ 100,000
European Union	\$ 150,000
Howletts-Port Lympne Foundation	\$ 50,000
YMR Fundraiser	\$ 100,000
U.S. Rhino and Tiger Act	\$ 250,000
U.S./Japan AID	\$ 250,000
Other Zoological Institutions	<u>\$ 175,000</u>
Total	\$ 1,600,000

* \$ 300,000 yet to be recruited through new donations from existing or potential IRF Members

- (2) Over the past decade rescue programs in Sumatra have captured a total of 18 Sumatran rhinos: 7 males and 11 females. To day of these only 10 survive: 4 males 6 females, 2 in England, 5 in the United States and 3 in Indonesia. It is imperative that these rhino, currently in captivity, propagated to contribute to survival of the species.
- (3) The persons who have studied the Sumatran rhinoceros in the field, believe the problem with reproduction has been the limited space and the less-than-natural conditions for the rhino in the captive facilities. As a consequence, there have been strong suggestions to establish a breeding center inside an area of natural habitat (a 'Sanctuary'), to provide much larger areas and more natural conditions that hopefully will induce Sumatran rhino to reproduce.
- (4) A Sumatran Rhino Sanctuary (SRS) can also serve as a base of operations for more intensive protection of rhino that inhabit the larger protected area around the center. Finally, the rhino facility can be a tourist attraction that can contribute to financial self-sufficiency of the SRS and rhino conservation programs in general. A breeding program for the Sumatran rhino will be a long-term undertaking and the development of a revenue-generating wildlife tourism facility is essential for the continuity of its operation.

Article 2

Objective

The objective of this LETTER OF INTENT is to establish and operate a **SUMATRAN RHINO SANCTUARY** (hereafter to be referred to as SRS) operating through a **Management Company** (to be formed as Memorandum of Understanding between PHPA, YMR and IRF), under the advice of a **Steering Committee**, with the objective to:

- (a) Breed Sumatran rhino under semi-natural and natural conditions in Way Kambas National Park utilizing only Sumatran Rhinos currently in captivity in Indonesia and abroad and Rhinos that must be salvaged from non-viable wild populations
- (b) To contribute to the survival of the Sumatran Rhinos by natural growth of the managed population to be able to reinforce existing wild populations and to reintroduce Sumatran Rhino into secure natural habitats in range states.
- (c) To develop an income stream for the Sanctuary from conservation tourism in order to make the sanctuary self sustaining in the future.
- (d) To promote the preservation and sustainable utilization of the Way Kambas National Park.
- (e) To promote international and national awareness and concern for the future of one of Indonesia's most unique natural resources, the Sumatran Rhino, and to convert this concern into meaningful action to help insure that future generations have the benefit of this resource.

Article 3

Activities

Both parties agreed to further develop a collaboration needed to reach the stated objectives which consist among others the arrangement of:

- (a) Formation of a **STEERING COMMITTEE** to oversee and advise on the establishment and operation of the SRS.
- (b) Establishment of the **MANAGEMENT COMPANY**, holding the development concession, and responsible for the development and operation of the SRS.
- (c) Develop a Animal Management Plan, Site Plan, and Business Plan.
- (d) Granting of a concession to the Management Company.
- (e) Raising the capital needed to construct and operate the SRS.
- (f) Construction of the facilities for the SRS.
- (G) Obtaining rhinos for the SRS.

Article 4

Result

It is hoped that the result of this project will be an expanding managed population of Sumatran Rhino to help insure the continued survival of the species. It is further envisioned that the project will become self-sustaining and will in fact generate funds to support protection of rhinos in other parks within Indonesia.

Article 5

Final

- (1) Anything that has not been specified or has not been sufficiently specified in this LETTER OF INTENT will be subsequently governed the cooperative agreement between PHPA, The YMR, and The IRF or by further agreement between the parties.

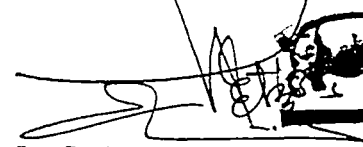
Signed in three original copies in English on9 DECEMBER 94..... in Jakarta.

FOR THE MINISTRY OF FORESTRY
DIRECTORATE GENERAL OF
FOREST PROTECTION AND
NATURE CONSERVATION OF
THE REPUBLIC OF INDONESIA


Ir. Sudjadi Hartono
(Acting) Director General

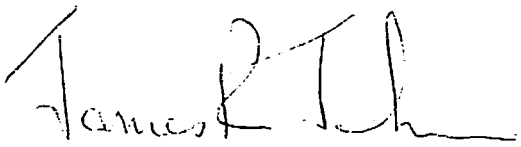


FOR THE YAYASAN MITRA RHINO


Ir. Sutisna Wartaputra
Chairman



FOR THE INTERNATIONAL RHINO FOUNDATION


Mr. James R. Jackson

Vice President for Field Conservation

**SUMATRAN RHINOCEROS
LIVING IN CAPTIVITY
(31 December 1994)**

<u>COUNTRY</u>	<u>INSTITUTION</u>	<u>MALES</u>	<u>FEMALES</u>	<u>TOTAL</u>
Indonesia	Jakarta	0	1	1
	Surabaya	0	1	1
	Taman Safari	1	1	2
	<i>Subtotal Indonesia</i>	<i>1</i>	<i>3</i>	<i>4</i>
Malaysia				
Peninsula	Malacca	1	2	3
	Sungai Dusun	1	4	5
	<i>Subtotal P. Malaysia</i>	<i>2</i>	<i>6</i>	<i>8</i>
Sabah	Sepilok	3	2	5
	Tabin (Released)	(1)	0	(1)
	<i>Subtotal Sabah</i>	<i>3</i>	<i>2</i>	<i>5</i>
United Kingdom	Port Lympne	1	0	1
	<i>Subtotal U.K.</i>	<i>1</i>	<i>0</i>	<i>1</i>
United States	Cincinnati	1	1	2
	Los Angeles	0	1	1
	New York	0	0	0
	San Diego	1	1	2
	<i>Subtotal U.S.A.</i>	<i>2</i>	<i>3</i>	<i>5</i>
WORLD TOTAL		9	14	23

**SUMMARY - CAPTIVE PROGRAMS
SUMATRAN RHINO - 1984 TO 1994**

<u>COUNTRY</u>	<u>CAPTURED</u>	<u>BORN</u>	<u>IMPORTED</u>	<u>EXPORTED</u>	<u>RELEASED</u>	<u>DIED</u>	<u>ALIVE</u>
P. MALAYSIA	3/9	0/1	1/0	0/2		2/2	2/6
SABAH	7/2	0/0	0/0	0/0	1/0	3/0	3/2
INDONESIA	7/11	0/0	0/1	4/7		2/2	1/3
THAILAND	0/0	0/0	0/1	0/0		0/1	0/0
U.K.	0/0	0/0	1/2	0/0		0/2	1/0
U.S.A.	<u>0/0</u>	<u>0/0</u>	<u>2/5</u>	<u>0/0</u>	—	<u>0/2</u>	<u>2/3</u>
TOTAL	17/22	0/1	4/9	4/9	1/0	7/9	9/14

T.J. Foose
31 December 1994

WORKING GROUP ON SITE SELECTION AND REQUIREMENTS FOR SUMATRAN RHINO SANCTUARY

Participants: *Haerudin R. Sadjudin (facilitator); Drs. Pudji S. Pratjihno; Dadan Dani Subrata; Ron Tilson; Neil Franklin; Ir Hendrik Siubelan; Marcellus Adi Cahyo; Dr Nico van Strien; Sukianto Lusli (partly).*

The site selection matrix developed during the Sumatran Rhino PHVA in Bandar Lampung, November 1993, was reviewed and revised with:

- Additional information supplied by S. Lusli for the site in Jambi;
- The field observations made during the site inspection to Bukit Barisan Selatan National Park on 11 August 1994;
- The field observations made during the site inspection to Way Kambas National Park on 12 August 1994.

SELECTION OF SITE FOR THE IN SITU INTENSIVE MANAGEMENT CENTER :

Criteria for Selection of Site for Permanent Intensive Management Center

Essentials :

- Located in or adjacent to a national park
- Area of primary forest with appropriate food for rhino
- Plentiful water/stream
- Good topography/no swamps/fertile soil
- Potential tourist attraction
- Ease of securing long-term use of land
- Security situation/community or land use in surrounding area;

Important :

- Elevation 200-1000 meters
- Few or no elephants (cost consideration/exclusion of elephants expensive)
- Near (within 5 km) of a paved road

Desirable :

- Access to airstrip
- Communications/utilities
- Natural boundaries

These criteria have been prioritized : 3 = *Essential*; 2 = *Important*; 1 = *Desirable*.

EVALUATION OF POTENSIAL SITES FOR THE SUMATRAN RHINO ISIMC

AREA	SCORE	T A M A N A S	F O R E S T	W A T E R	T E R R A I N	T O U R I S M	T E N U R E	S E C U R I T Y	E L E V A T I O N S	E L E P H A N T S	P A V E D R O A D	A I R S T R I P	U T I L I T I E S	N A T U R A L B O U N D
Sukaraja, Barisan Selatan	22,5	+	+	+	+	+	+	+	+	-	+	+	-	-
Bangko, Jambi, Kerinci Seblat	20,5	+	+	+	+	-	+	+	+	+	+	-	-	-
Air Seblat, Kerinci Seblat	20	+	+	+	-	-	+	+	+	-	+	+	-	+
Sungai Lapan, Gunung Leuser	15,5	+	+	+	+	+	+	-	-	-	-	-	-	+
Way Kambas, Lampung	23	+	+	-	+	+	+	-	-	+	+	+	+	+

CONCLUSION

Way Kambas has the highest score, but the first three sites all have good scores and would all qualify for the siting of the ICIMC, considering the quality of the environment for Sumatran Rhino.

Considering:

(a) the security situation, especially the current situation and the prospects for further development to the desired level of security;

(b) the possibility for the speedy development for revenue generating wildlife tourism activities;

we conclude Way Kambas National Park definitely offers the best prospects,

RECOMMENDATIONS

The Working Group therefore recommends that Way Kambas NP is chosen as the initial site and that a thorough SITE EVALUATION AND SITE OUTLAY be made for the area between the Way Negara Batin and the Way Kanan in Way Kambas National Park.

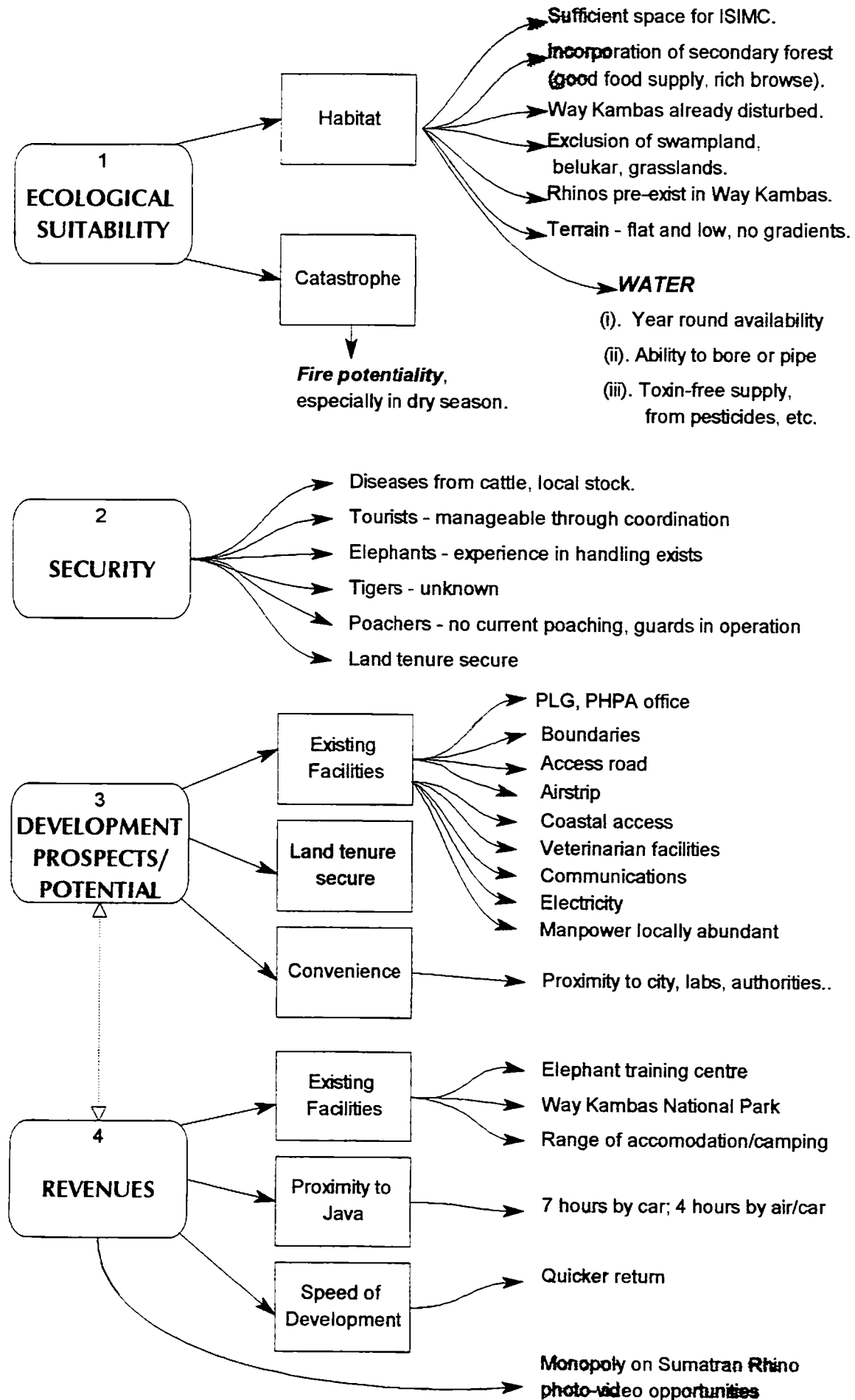
It is also recommended that the part of Barisan Selatan National Park south of the new road from Sukaraja is established and secured as a site for future release of captive-born rhinos.

The other two good sites can be considered for future expansion of the operations or in case unexpected problems arise from the site evaluation.

See overleaf:

I. Analysis of the issues, both positive and negative, that relate to the establishment and operation of the ISIMC in Way Kambas.

II. Short Terms of Reference for the Site Evaluation and Site Outlay Mission.



II. SHORT TERMS OF REFERENCE FOR SITE EVALUATION AND SITE OUTLAY MISSION

ACTIVITY	OUTPUT
- HABITAT EVALUATION by survey	SITE MAP
- 1000 ha. of mature secondary forest	
- Close to existing roads	
- WATER - Quality of river water	DESIGN OF WATER SUPPLY
- Potential for bore holes	
- Potential for piped water	
- Sum. Rhino water requirement evaluation	
- Existing water features, gradients,	
- FIRE	RISK ASSESSMENT
- Elephants and tigers, distribution	RISK ASSESSMENT
- Sumatran rhino, present distribution	"
- Diseases, transmission from local stock, elephants, etc.	"
- EXISTING FACILITIES/UTILITIES/LOCAL SUPPORT	INVENTORY/ASSESSMENT
- BASIC SITE LAYOUT AND DEVELOPMENT	PLAN
	TIMETABLE OF EXPANSION
	REQUIREMENTS

REQUIREMENTS

- TIME (2 weeks field, 2 weeks report writing)
- Personnel - Hydrological engineer
- Rhino biologist
- Park planner

COSTS

- Approximately US\$ 5,000 (plus cost of hydrological survey)

WORKING GROUP ON MANAGEMENT FRAMEWORK FOR THE SUMATRAN RHINO SANCTUARY

Participants: Widodo Ramono (Facilitator), Effendi Sumardja, Hadi Alikodra, Haerudin Sadjudin, Sukianto Lusli, Jansen Manansang, Bambang Suhardjito, Drh. R. Soebarkah, Peter Stroud, Philip Wells, Tom Foose

At the outset it was agreed that the goal of management of the Sumatran Rhino Sanctuary would be to maintain the rhino so that it can breed under natural conditions and to operate this program on a sustainable basis.

There was then much general discussion of the characteristics that the management framework needed to possess.

There was consideration of the staff that would be needed at the Sanctuary. The results were:

- 1 center manager
- 1 biologist/curator
- 3 keepers
- 1 veterinarian
- 10 guards (1 chief; 9 rank-and-file)
- 1 cook

These staff will be paid and will be employed by the Operating Company it the possible exception of the biologist who may be employed directly by the Managing Company.

In addition to these paid staff, other scientists and biologists will be invited to participate in the program under guidance of the staff biologist and center manager.

It was emphasized that the sanctuary had to be adaptively managed according to the best scientific advice, and evaluation.

At the suggestion of Mr. Widodo Ramono, a matrix approach was adopted to evaluate various options or scenarios for the management framework for the Sumatran rhino Sanctuary.

One axis of this matrix consisted of various kinds of organizational entities that might provide the management framework. These included:

- (1) Government Organization
- (2) State Enterprise
- (3) A Foundation, of which several specific ones were considered:
 - (A) Yayasan Mitra Rhino
 - (B) International Rhino Foundation
 - (C) Indonesian Wildlife Foundation
- (4) Private Company

The other axis of the matrix were Characteristics/Capabilities considered essential or desirable for the managing entity to possess: They included:

- (1) The ability to generate capital, both short-term and long-term
- (2) Good financial management including flexibility to use income for operation
- (3) Good public image and support
- (4) Amount of bureaucracy
- (5) Land rent
- (6) Staff Management
- (7) Efficiency
- (8) Effectiveness
- (9) Experience in producing financial gain
- (10) Animal management Capability
- (11) Legal Consideration
- (12) Accountability
- (13) Security
- (14) Tourist Management

As a result of this assessment, it was concluded that a private company approach would best satisfy the criteria desired for the management framework.

There was then an attempt to decide if a new or existing company would be serve as the management framework for the center. Again a matrix approach was used.

	Pro	Con
New	<p>Could be designed specifically to needs of the program</p> <p>Liability would be limited</p> <p>Company could concentrate on the center exclusively</p>	<p>Valuable time would be lost establishing</p> <p>There would be more cost for 1. Set-Up 2. Initial Capital</p> <p>There is no performance record</p> <p>No pre-existing organizational infrastructure</p>
Existing	<p>No time loss</p> <p>No start-up costs</p> <p>There is a performance record</p> <p>There is an organizational infrastructure</p> <p>There will be financial depth</p>	<p>Company could have competing interests because of existing activities.</p> <p>There may not be enough incentive to attract an existing company</p>
New or Existing		They will be unable to operate without a concession from the government.

In the end, there was consensus that the best system would be two private companies who receive concessions from and ultimately report to PHPA:

- (A) A new Managing Company will be formed:
 - (a) the Board of this Company will consist of major stakeholders
 - (b) at least 51% of the voting stock will be maintained by a partnership of Yayasan Mitra Rhino (YMR) and the International Rhino Foundation (IRF)
 - (c) the partnership between YMR and IRF will be established through an M.O.A. among PHPA, YMR, and IRF.
 - (d) other major "investors" (money, rhino, etc) will also receive shares in this company and be represented on the Board.
- (B) An Operating Company with experience and expertise in both animal management and tourism development will be engaged to operate the Sumatran Rhino Sanctuary.
 - (a) The Operating Company will operate under contract from the Management Company.
 - (b) An example of a company with the desired qualifications is Taman Safari Indonesia.

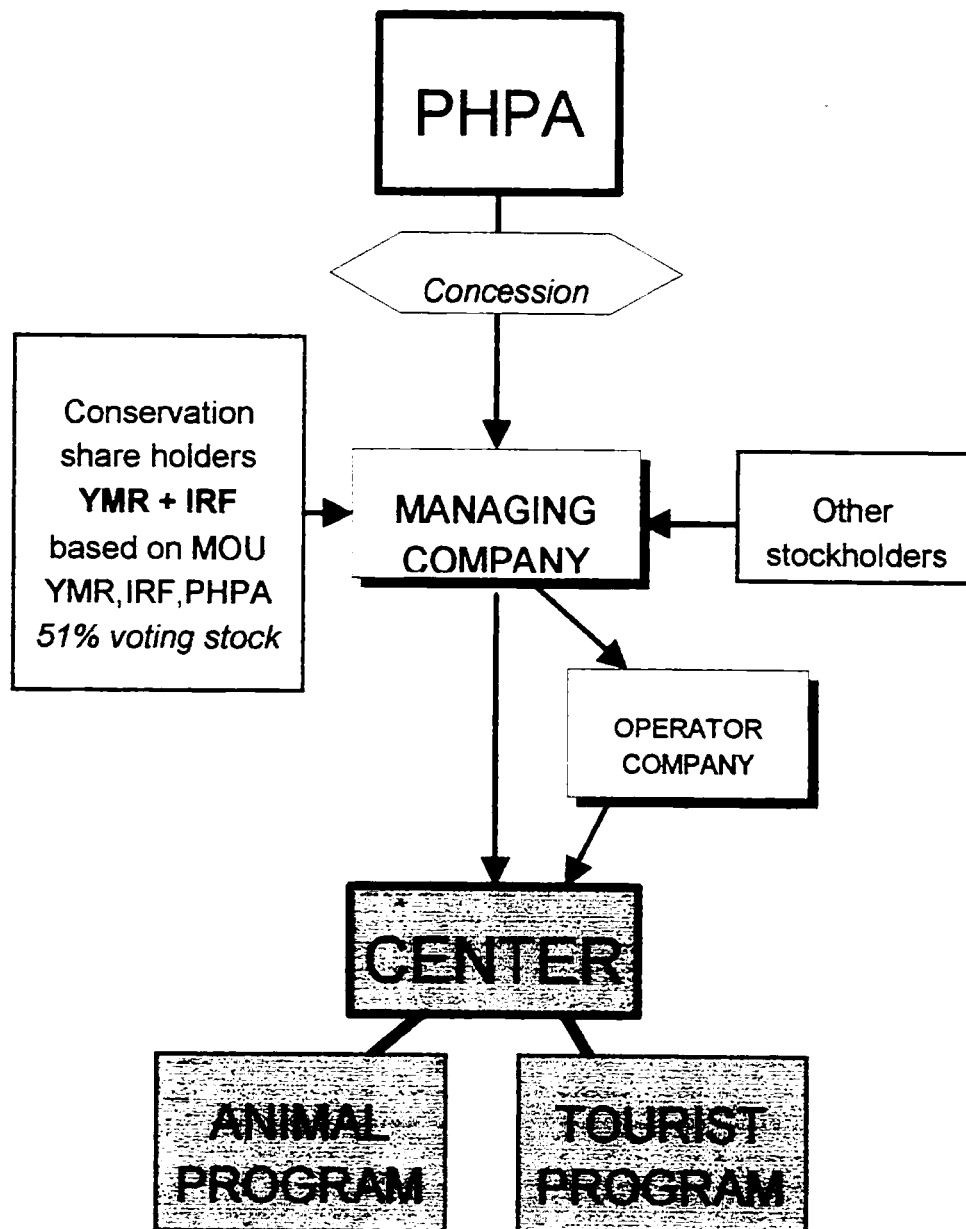
This recommended management framework is depicted in the attached diagram.

It was stated that a Management Plan for the Center would be developed by IRF and YMR. This Plan would include:

- (1) A site survey (tentatively to be conducted by Dr. Nico van Strien)
- (2) An ecological impact assessment (tentatively to be contracted to a local company)
- (3) A biological plan
- (4) A business plan
- (5) Legal considerations

It was also emphasized that a yearly plan would be required from the Operating Company.

Proposed Mangement Structure for Sumatran Rhino Sanctuary



SUMATRAN RHINOCEROS SANCTUARY

ANIMAL HUSBANDRY PRINCIPLES FOR DESIGN OF FACILITIES

Participants: Peter Stroud (Facilitator), Bambang Suhardjito, Nico Van Strien, Philip Wells

Governing principle: The chances of, and opportunities for, the successful breeding of Sumatran Rhinoceros will be increased if the rhinos currently held in zoos are placed in more natural conditions where they can behave more naturally and have access to a more natural diet.

The best place where these conditions can be provided is within natural rhino habitat.

Aim: To create facilities for breeding of Sumatran Rhinoceros in Way Kambas National Park to eventually provide animals to reinforce existing safe populations and to re-populate safe habitats within the historic range.

Purpose: To receive rhinos from Zoos in Indonesia and other countries. To provide conditions for their care and management that will approximate, natural conditions encountered by wild rhinos. To attempt to maximise chances of, and opportunities for, breeding.

For each rhino the facilities should:

- Be able to provide clean drinking water.
- Allow free range feeding to fulfil most of dietary (all?) requirements.
- Provide all the main elements of natural habitat including:
 - Appropriate density of vegetation cover.
 - Wallows.
 - Water for bathing/swimming (?)
 - Access to Salt Lick.
 - Etc..
- Allow regular visual monitoring of individuals and continuous telemetric monitoring of all animals.
- Allow rapid access to individuals for health treatment.
- Provide appropriate shelter where animals are confined for any reason.
- Provide for as full a repertoire of natural behaviours as possible.
- Allow animals to be readily moved between enclosures and between enclosures and holding pens.

- Allow behavioural management as necessary including:
 - Complete separation of individuals.
 - Controlled contact between individuals to detect compatible periods (female cycle).
 - Introduction of males to females in
 - females space (initial procedure)
 - males space (?)
 - neutral space
 - combined space of male and female
 - Acclimatisation of "new" animals (Zoo or wild caught).
 - Rapid separation of individuals.
 - Behavioural conditioning to facilitate monitoring and handling for health care.
- Allow daily care routines that are as non-invasive as possible given all requirements.
- Provide highest practical level of physical security.
- Allow animals to live within stress levels they would encounter naturally (emotional security).
- Allow regular scientific environmental monitoring within and around facility.
- Allow use of a selected animal for PR and as a public educational display.

DRAFT DESIGN BRIEF FOR ANIMAL FACILITIES SUMATRAN RHINOCEROS SANCTUARY

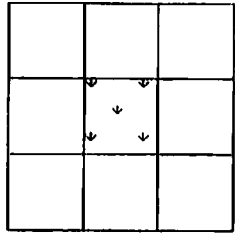
This project necessarily is highly innovative and as such an evolutionary approach should be taken to design of facilities.

There must be balances between management of individuals for their welfare and avoidance of intervention in order to encourage the natural behaviour in native habitat believed essential for breeding.

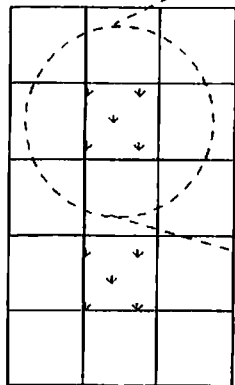
- The facility may consist of a series of enclosures arranged as shown.
- Eight enclosures each provide access to a central enclosure in which a salt-lick is located.
- Animals do not occupy all eight enclosures. Alternate enclosures around the central salt-lick enclosure would be occupied at any one time. As vegetation is browsed and enclosures require resting, animals can be moved to empty enclosures.
- An animal drafting area acts as the interchange between one enclosure and another. One drafting area may serve up to 4 enclosures. Each enclosure will have access to all other enclosures adjacent to it through such drafting areas.
- The central salt-lick area can contain an inner enclosure around the actual salt-lick. This can act as a catch-up or trap area. It can also act as a monitoring area with video camera installations.
- There will also need to be some fencing within the salt-lick area to maintain separation of animals except at the salt-lick area.
- The facility can be expanded in units of 5 enclosures plus a salt-lick as shown.
- Each enclosure should be between 5 and 10ha in size.
- Each enclosure will be fenced appropriately.
- Each enclosure will have access to a holding pen and shelter for acclimatisation of newly arrived animals or for confinement of animals for any other reason.
- Holding pens will be constructed with solid visual barriers.
- There will be an outer elephant proof barrier around the entire facility.
- The facility will be guarded appropriately 24 hours a day.
- The facility will be located no closer than 500m to any external public road or other disturbing influence.
- All materials and methods used to create the facility must be non-injurious to the animals.
- The facility must be able to be operated in a way that fulfils the husbandry principles outlined while ensuring the safety of all staff and animals.

CONCEPT PLAN FOR S.R.S. ENCLOSURES

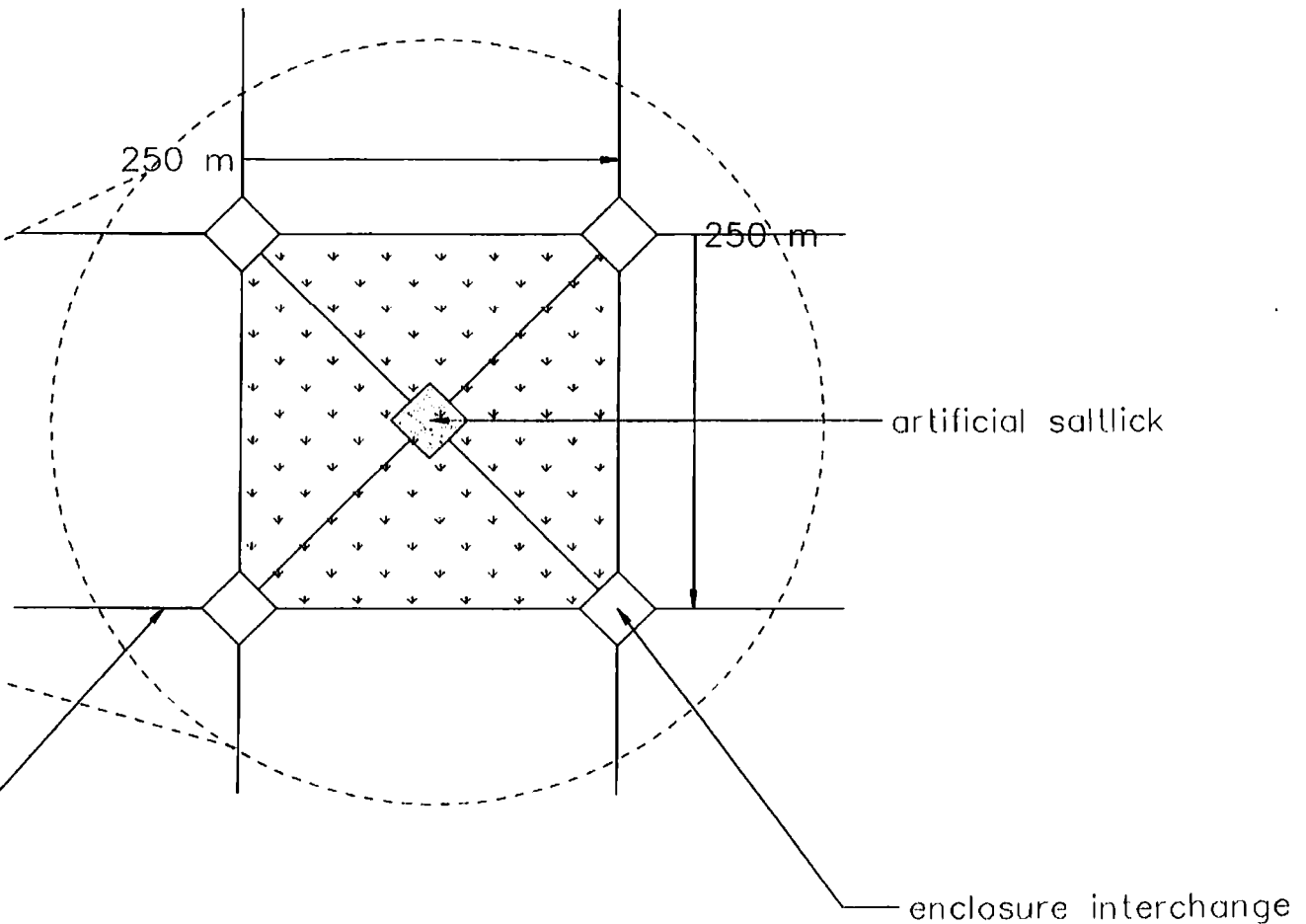
System of Enclosures for Upto Four Rhino



An Extension of the Site for Three Additional Rhino



A Detail of the Saltlick Enclosure



suitable fencing

WORKING GROUP ON FUNDING OF SUMATRAN RHINO SANCTUARY

Participants: Jim Jackson (Facilitator), Benni Sormin, Marcellus Adi, Charles Santiapillai

Introduction

This conservation project should take a new approach to the financial aspects of its operation. The basic premise is that we are asking for "investors" in a meaningful conservation project and in return we will provide a well run rhino sanctuary, financial accountability for the operation and the goal of financial sustainability for this project and possibly the generation of excess revenues to support other conservation projects.

We will need to provide our potential "investors" with a professional business plan and a strong management team with a high likelihood for success, for both the conservation and financial goals. This approach is in contrast to typical conservation projects which ask a donor agency for funding which will be expended through traditional government programs over a fixed period of time, expecting only that reports of the expenditure of funds in return.

This kind of business approach to conservation we feel will allow us to attract a different type of funder, one who is perhaps disillusioned with traditional programs, and will allow us to explore new avenues to the increasingly difficult funding process. As the conservation challenges continue to grow world wide so will the competition for limited financial resources available to fund solutions. To compete effectively we need innovative and effective programs to present to "investors". The days of non accountable spending of donor money for marginally effective programs is rapidly drawing to a close.

Summary and Recommendations:

- It is extremely important that there be both national and international support for the program.
- There needs to be both a short-term and a long-term strategy. The short-term strategy will concentrate on "investors". The long term strategy will concentrate on self-generation of revenue by the program.
- The goal is U.S. \$1,500,000 for the first 3 years as start-up costs of the project.
- There should be some fund-raising activity as soon as possible to indicate that we are serious.
- Potential "investors" include:
IRF, YMR, EU, USAID, AIDAB, WORLD BANK, SULTAN OF BRUNEI, FOREST CONSORTIUM, TAIWAN DEVELOPMENT FUND
- YMR will be responsible for coordination of fund raising in Indonesia in close cooperation with PHPA and the Ministry of Forestry. Their goal will be 25% of the capital costs and one half of the first three years operating loss.

- The IRF will be responsible for international fund raising with a goal of 75% of capital costs and one half of the first three years operating loss.
- Conservation tourism will be developed as an integral component of the program with the objective and expectation that it could support operation within 3-4 years.
- There should be an attempt to promote the seriousness of the situation as a result of this meeting:
 - loss continues
 - "rescue" animals from zoos and later from wild
 - it is important to learn from things that haven't worked and try something with high likelihood of success
- A full business plan for center and its operation will be developed over the next 3 months.

INITIAL PROJECTION OF COSTS

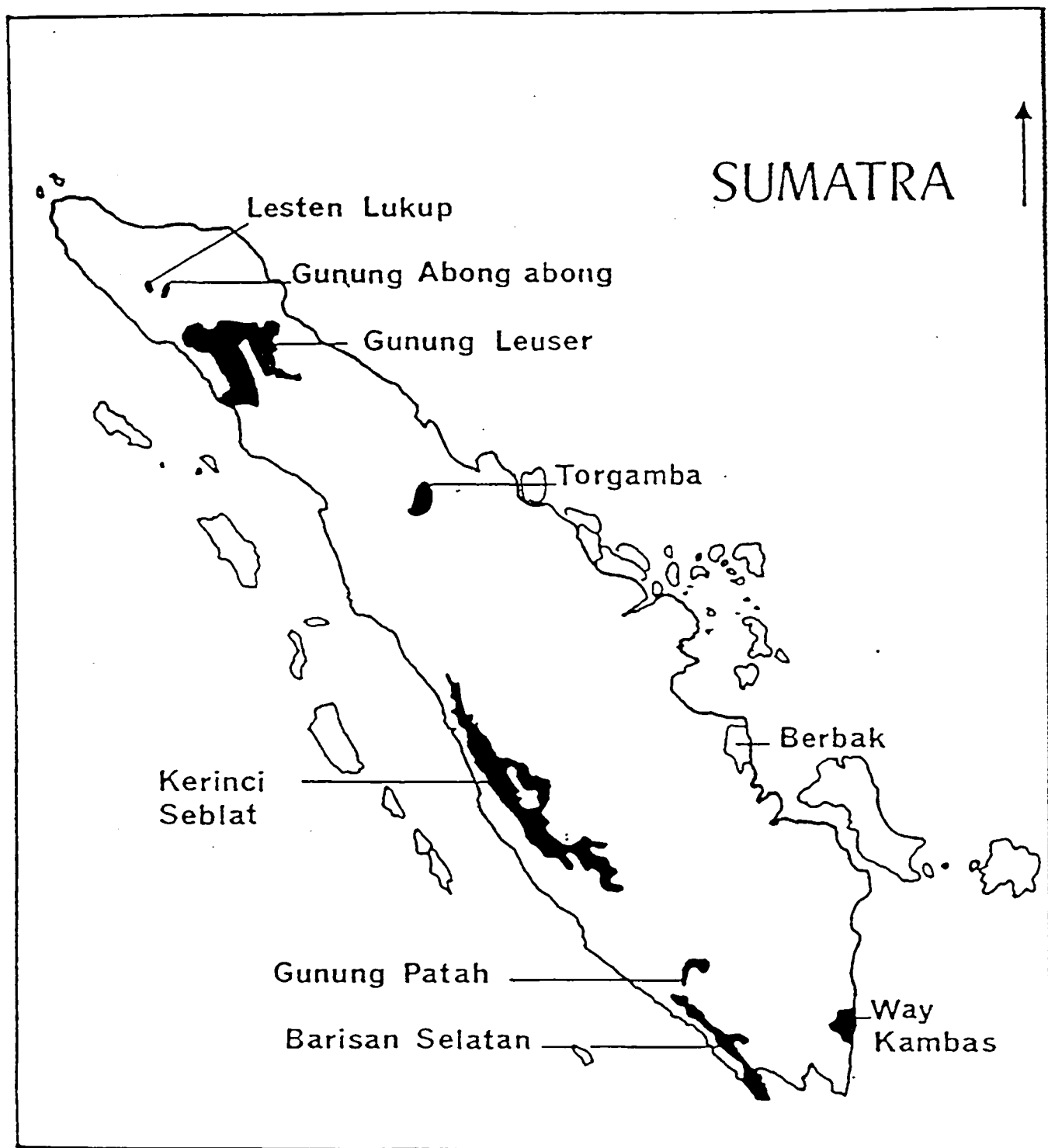
Enclosures	10 Ha each	1264 m ea	6320 m	
Fill fence			1264 m	
Viewing area			2844 m	
10% contingency			758 m	
Total (cost US \$ 20/meter)			11186 m	\$ 223,728
Other site costs minus road expense				\$ 125,846
Total site costs				\$ 349,574
River site support facilities				\$ 70,400
Subtotal of site and support facilities				\$ 419,974
Total tourist camp and equipment				\$ 511,750
TOTAL CAPITAL FOR PROJECT				\$ 931,724
Cost for Start Up				
Site visit and evaluation				\$ 5,000
Planning documents				\$ 22,000
Ecological Impact Assessment (EIA)				\$ 12,500
Legal fees				\$ 5,000
Travel				\$ 27,000
Coordination				\$ 18,000
Local expenses				\$ 6,000
TOTAL START UP COSTS				\$ 95,500
TOTAL START UP AND CAPITAL				\$ 1,027,224
Operation Costs:				
Site operation per year				\$ 94,727
Company 1 operating costs per year				\$ 50,270
Total Operating Costs per year				\$ 144,997
TOTAL CAPITAL/START-UP/OPERATING COSTS FOR 3 YEARS				\$ 1,462,215

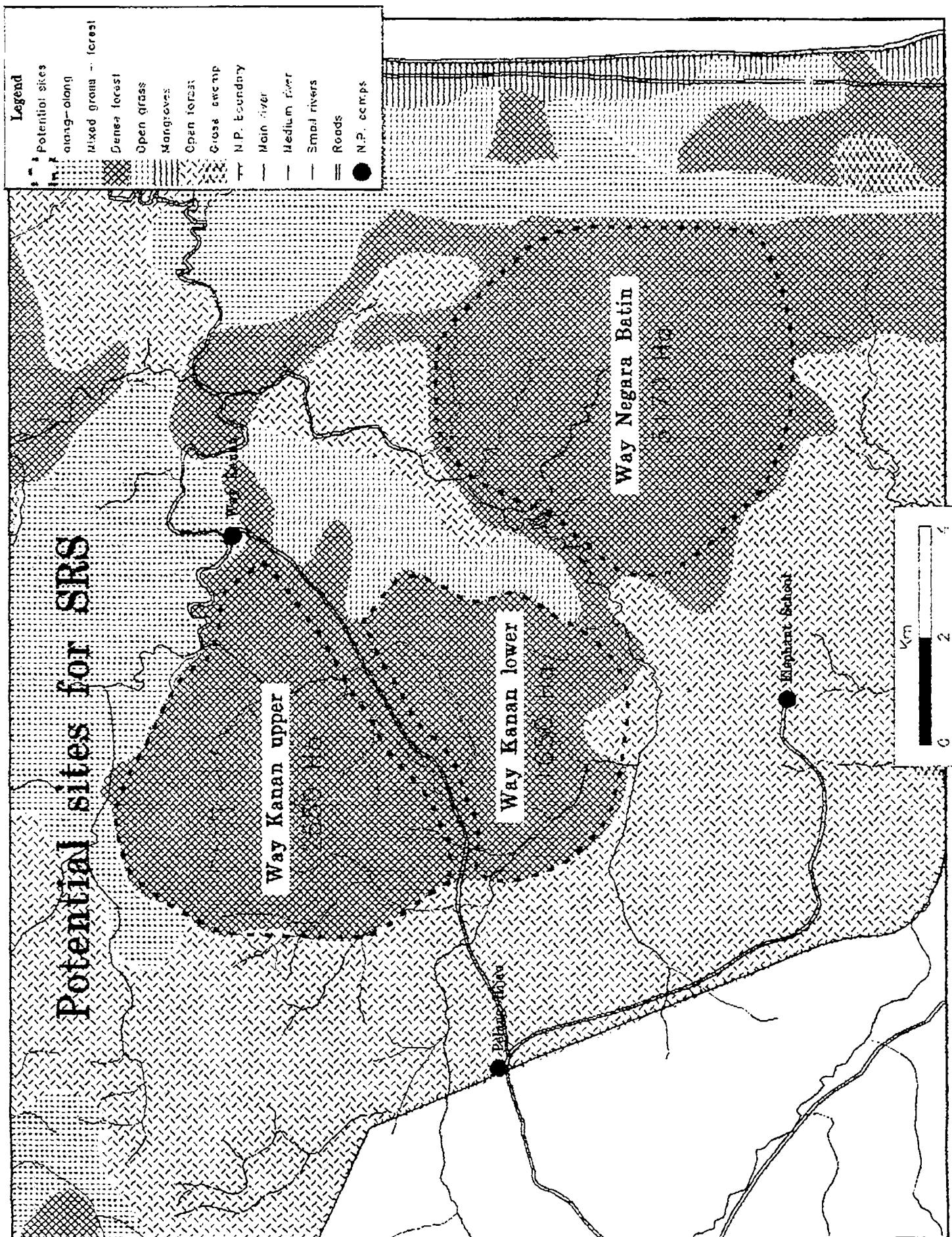
The List of the Participants
WORKSHOP ON
SUMATRAN RHINO *IN-SITU* INTENSIVE MANAGEMENT CENTER
IN INDONESIA

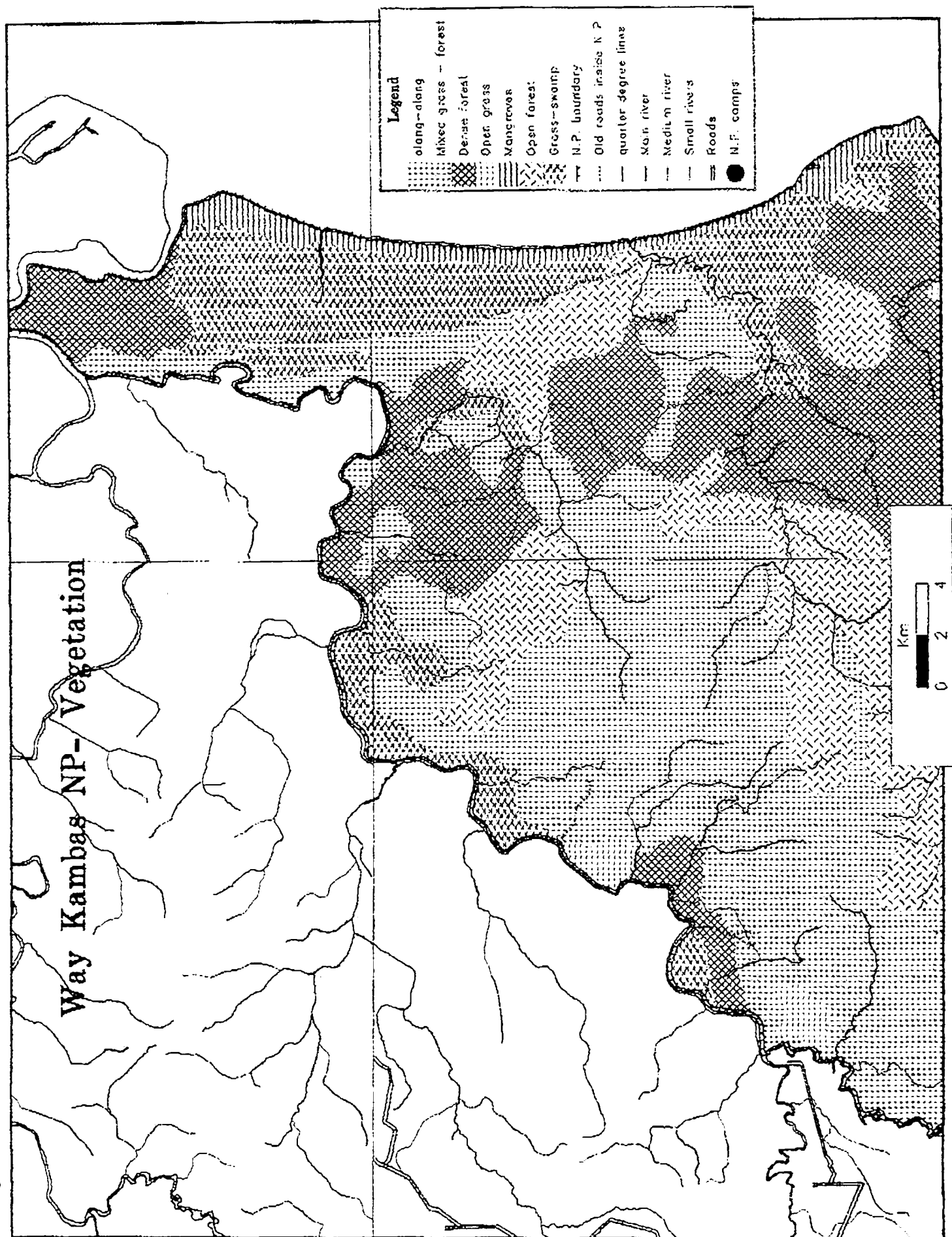
15 - 16 AGUSTUS 1994
 SAFARI GARDEN HOTEL, CISARUA, BOGOR

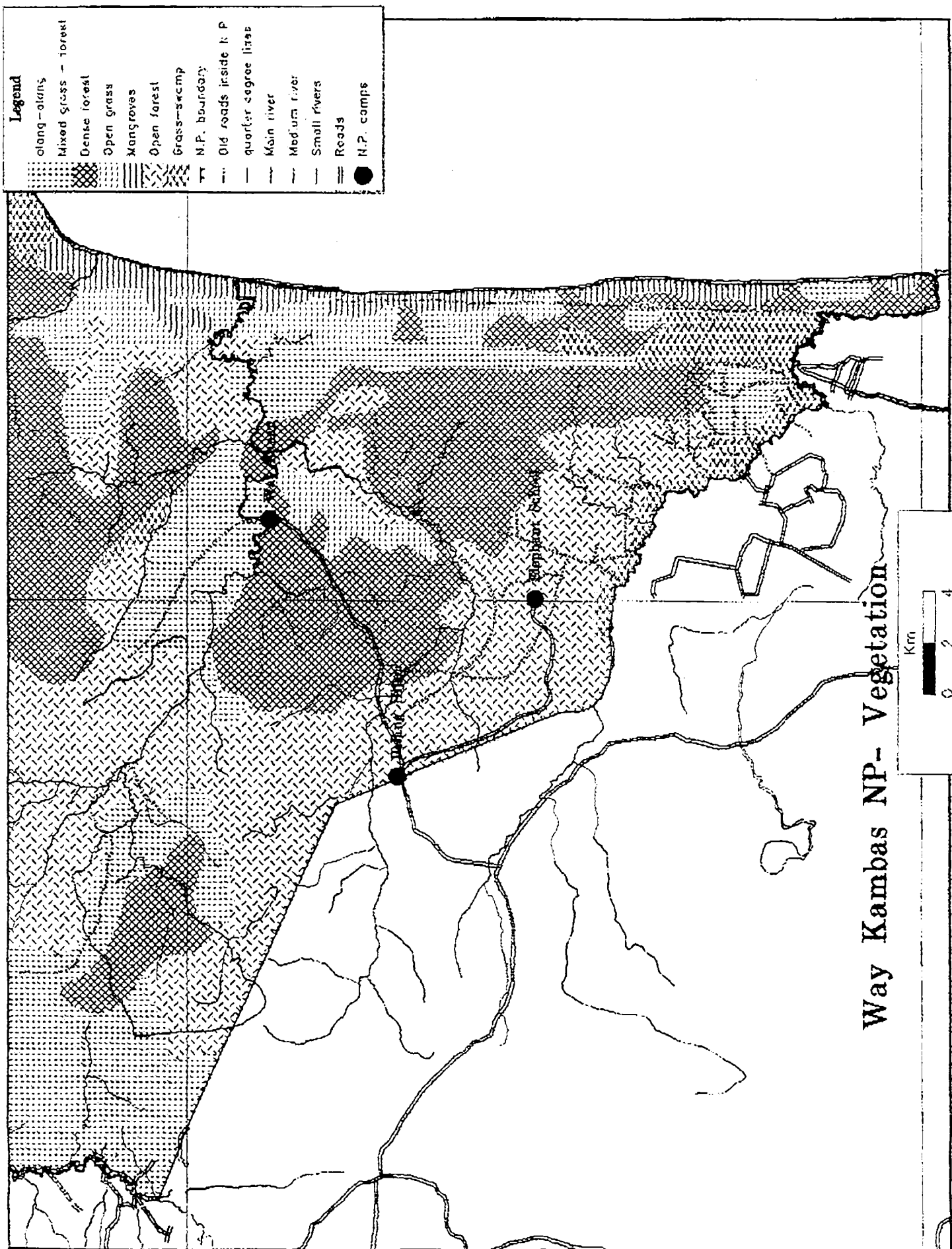
-
- | | | |
|-----|----------------------------|---|
| 1. | PHPA | |
| | Dit. Bina Program | Effendy A. Sumardja |
| | Dit. BKSA & KFF | - |
| | Dit. BKPA | Hendrik Siubelan |
| | Dit. Perlindungan Hutan | Daniel W. Sinaga |
| | Kasubdit KFF, | Pudji S. Pratjihno |
| | Kasubdit Evaluasi | Widodo S. Ramono |
| 2. | PKBSI | D. Ashari |
| 3. | Biro KLN Kehutanan | Benni H. Sormin |
| 4. | Biro Kehutanan BAPENNAS | - |
| 5. | Kantor Lingkungan Hidup | Hadi S. Alikodra |
| 6. | KB Ragunan | - |
| 7. | Yayasan KB Ragunan | - |
| 8. | KB Surabaya (3) | Bambang Suhardjito, R. Soebarkah, Indah Kesuma |
| 9. | WWF-IP | Sukianto Lusli |
| 10. | Yayasan Mitra Rhino (2) | Haerudin Sadjudin, Marcellus Adi C.T.R., Dadan D. Subrata |
| 11. | IRF (2) | Tom Foose, Jim Jackson |
| 12. | CBSG | Ronald Tilson |
| 13. | ARAZPA | Peter Stroud |
| 14. | AsRSG | Nico van Strien |
| 15. | SRS (3) | Phillip Wells, Neil Franklin, Arief Rubianto |
| 16. | Taman Safari Indonesia (2) | Yansen Manansang, Nining |

MAJOR PROTECTED AREAS SUMATRAN RHINO IN SUMATRA









THE HOWLETS AND FORT LYMPNE FOUNDATION

(Registered UK Charity No. 326567)

Trustees:
John Aspinall
Sir James Goldsmith
J.F. Osborne

64 Sloane Street,
London SW1X 9SH
Telephone: 071-235 2768
Fax: 071-235 4701
Telex: 965032 HPL ZOO

8th July, 1994.

Mr. Ir. Sudjadi Hartono,
Director General of Forest Protection & Nature Conservation,
Manggala Wanahakti 8th Floor,
Jalan Gatot Subroto,
Jakarta,
INDONESIA.

Dear Mr. Hartono,

I have a proposal which might be instrumental in helping to save the most famous species of mammal in your country, the Sumatran rhinoceros.

Your government entrusted my organisation with the rescue of some of these animals from the forests near Torgamba. Of the ones we caught, five are alive today: a pair we have here in England (Torgamba and Meranti), a pair in Rangun zoo and the male in Taman Safari Park. This animal has never bred in captivity anywhere in the world. Nobody has uncovered the secret that enables them to breed. In America several have died and none have ever bred in Malaysia except one cow but that birth had been conceived in the wild. My view is that they will only breed in a wild or semi-wild condition and that they need the stimulation of the presence of other members of their species near by in the forest.

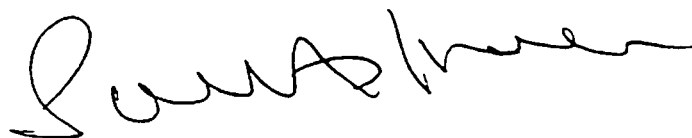
One of the directors of my organisation, Dr. Chris Furley, on my instructions has written to your excellent Sub-Director of Evaluation, Mr. Widodo Ramono that we would like to return to you Torgamba and Meranti with the suggestion that they, along with all the Sumatran rhino in captivity you have at your disposal, should be released on the safest site you can find to intermingle and breed. Mr. Widodo Ramono thinks the idea is an imaginative one and suggests several different locations, including Way Kambas, Air Hitam and Sukaraja.

An idea of my own which you might find agreeable would be to give them Panatan Island next to Ujung Kulon. There you could release all 7 and have a manned outpost to monitor them using the experienced wardens and rangers you have in your extremely well run, well protected Ujung Kulon Peninsula Reserve. The island would be safe from poachers and the animals could be fed at several depots until they learn to feed themselves on the natural vegetation which I am confident would be suitable for them.

There is a real urgency in this as our two Sumatran rhino, though in excellent physical shape, have probably got only 8 - 10 reproductive years left to implement this scheme which would set an example to the whole of Asia and the world. It would need a directive at the highest level to put it into operation to cut through the bureaucratic entanglements that throttle so many initiatives. Though it cost us \$1 ½ million to rescue the five rhinos, we would be happy to return them to their motherland, pay for the cost of crateage and freightage and help in anyway we could.

There has always been a very positive experience between your government and my organisation in any project we have undertaken. I would like to express here and now how much better you have managed to preserve your great mammals than the European countries have done. In Europe the megafauna have long ago been wiped out by development and human greed, yet in the island of Java - the most heavily populated per capita in the world for its size - wonderful species survive even though your civilisation goes back 1,000 years longer than our own. It is now up to you to preserve the work your ancestors have done in protecting the treasures of nature so abundant still in your beautiful land.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'John Aspinall', written in a cursive style.

John Aspinall
Chairman of the Trustees

DRAFT LETTER OF RESPONSE TO JOHN ASPINALL

Date

Mr. John Aspinall
The Howletts and Port Lympne Foundation
64 Sloane Street
London SW1X 9SH
UNITED KINGDOM

Dear Mr. John Aspinall:

Thank you for your kind letter 8 July 1994.

We also appreciate your idea and offer to return the two Sumatran rhinoceros (Torgamba and Meranti) entrusted to you to Indonesia so that there can be an attempt to breed them in more natural conditions. Your proposal is most magnanimous, has great merit, and is very timely.

As documented in the Indonesian Rhino Strategy, Government of Indonesia has for some time been proposing to establish sanctuaries for Sumatran rhino. These sanctuaries would be contained but very large and entirely natural areas in native habitat where the rhino could be intensely protected and their breeding still be under some management.

Mr. Peter Litchfield, a member of your staff, participated in our Rhino PHVA Workshop last year in Lampung, Sumatra. There was much further development of this rhino sanctuary idea at that time although the terminology used was an in situ intensive management center. A copy of the final report of the PHVA workshop is enclosed. The report includes the summary and recommendations of the ISIMC working group.

Since then, as correspondence between Mr. Widodo Ramono and Mr. Chris Furley, has indicated, there has been further development of thought on both the possible location and the exact nature of such a center and program. It has also been decided to revert to the terminology Sumatran Rhino Sanctuary (SRS) rather than ISIMC for this effort. Our current ideas are summarized in the attached draft report of this latest working session.

Among the main recommendations are that the first SRS be located in Way Kambas National Park. We do believe it is important to place the SRS in the native habitat of this species. The recent evidence of a small remnant population of Sumatran rhinoceros in Way Kambas confirms that this national park satisfies that criterion. We also believe that the security, infrastructure, and potential for tourist development to render the SRS financially self-sustaining over the long term are important reasons for this choice, as explained more fully in the report.

Panaitan Island which you mention certainly would provide advantages for security. However, there is no evidence it was ever inhabited by Sumatran or even Javan rhinoceros. Our ecological reconnaissance has also revealed there is a serious problem with fresh water during significant parts of the year.

Mr. John Aspinall - Date

Page 2

We completely agree with you about the urgency of placing your two rhino as well as the rest of the individuals of this species in captivity in a situation where they are more likely to breed. All of the rhino are growing older and the most recent surveys in the wild indicate the wild populations continue to decline. The rhino in captivity probably represent 5-10% of the entire world population. It would be our goal to initiate the sanctuary with the rhino in captivity in Indonesia and, if you agree, with the two rhino in your care. Once the sanctuary is established, we would also hope that the rhino from Indonesia in the United States might also be repatriated.

It is also, the objective of the latest plan described in the attached report to have a sanctuary operational in Way Kambas by June of 1995. It is expected that the International Rhino Foundation, in partnership with our own Yayasan Mitra Rhino (Friends of Rhino Foundation), will provide a substantial part of the funds needed to establish the sanctuary, at least for the rhino from zoos in Indonesia.

It is our hope that you will decide to participate as a partner in the program we are proposing. We would also greatly appreciate your reactions and input to our current plan.

The cooperation between Indonesia and The Howletts and Port Lympne Foundation has indeed been excellent and many good things have been accomplished. There is, however, much to be done and we hopeful we can be partners in achieving successful propagation of this species in a secure and sustainable manner.

Sincerely,

PRESS RELEASE

BACK TO THE WILD

A NEW COURSE CHARTED FOR THE SUMATRAN RHINO

The Sumatran rhino is now considered to be the most endangered large mammal in the world.

A group of international rhino experts joined the Indonesian Ministry of Forestry (PHPA), Yayasan Mitra Rhino (YMR) and other Indonesian specialists to review current Sumatran rhino conservation strategies and plan for the next decade of rhino conservation. The consensus was to move in the direction of the sanctuary system that has proved so effective for rhino conservation in African countries such as Kenya and South Africa.

In addition to the sanctuary there will also be transition facilities for rhinos being returned for the program from the currently unsuccessful captive breeding programs here and abroad. The Sumatran rhino has proven extremely difficult to manage successfully in captivity and no births have resulted from years of intensive efforts by some of the worlds most prestigious zoos.

In the past ten years 37 Sumatran rhinos have been captured in an attempt to save doomed isolated animals in the wild and begin a captive breeding program for this species. World wide only 22 remain alive in captivity and no successful breeding has taken place in these programs. Currently there are captive programs in England, Indonesia, the United States and Malaysia.

A unique feature of the new strategy is that it incorporates a conservation tourism component designed to fund the continuing Sumatran rhino conservation efforts necessary to preserve this Indonesian national treasure. The plans call for facilities catering to day visitors and a range of overnight programs designed for every budget. This facility will provide the only opportunity in the world to view the Sumatran rhino, the Sumatran elephant and the Sumatran tiger all in a natural setting. These programs will help to educate the public to the plight of this magnificent species and promote public support for its continued conservation.

The plans call for funding the program entirely from monies raised in the private sector both in Indonesia and abroad. It is estimated that the program will cost over one and a half million U.S. dollars to establish and represents one of the most extensive rhino conservation efforts ever undertaken. The size of this commitment alone indicates the great significance placed on this species and the level of threat it is considered to be under. Without successful intervention the Sumatran rhino is expected to go extinct by the year 2000. Innovative efforts such as the Sumatran Rhino Sanctuary Program are all that stand between the Sumatran rhino and extinction.

For more information on this program contact:

*In Indonesia: The Directorate General of PHPA tel. and fax 62\21\584818
Yayasan Mitra Rhino tel. 62\251\360737 and fax 62\251\313985*

*In the United States International Rhino Foundation tel. 1\614\228\0402
and fax 614\228\7210.*