

**POPULATION MONITORING AND CONSERVATION OF
MALAYAN TAPIR (*Tapirus indicus*)
IN TARATAK FOREST RESERVE, SUMATRA INDONESIA**

A report to Rufford Small Grant (for Nature Conservation)



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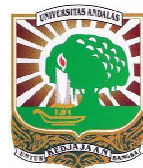
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SUMMARY

Previous studies have figured the important role of protected forest of Taratak for Malayan tapir and other endangered Sumatran wildlife. This report covers all activities completed during Second Year (SY) Monitoring Program.

The main objectives of this SY program are to monitor Malayan tapir in study area and use the information gained to improve local participation on tapir conservation. Monitoring program was conducted by using camera trap. Public awareness initiated by conducting and dissemination information of Malayan tapir to local people, colouring competition and baby tapir naming contest at local elementary school, promoting youth conservation club in village community, and also moving library and video showing for children in Taratak village.

The occurrence of Malayan tapir varied throughout the year, however the variation did not show a clear pattern. In total, Malayan tapir images captured 31 times (2.65 %). Only 3 picture that showing Malayan tapir in pair, other images only caught single tapir in each image.

Totally 1172 images were captured during the study, which consists of 22 species. Eight species are new record for this area. 36.04 % of image taken were pig tailed macaque followed by mouse deer (12.81 %) and wild boar (11.61 %). Other wildlife images that captured during the study are Sumatran tiger, Serow, Golden cat, Clouded leopard and Asian wild dog.

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CONTENTS

Summary	i
Acknowledgment	ii
Contents.....	iii
Introduction	1
Current Project Status	3
Appendix	19

I. INTRODUCTION

The tropical rainforest of Sumatra are recognized internationally as a world biodiversity hotspot; however forest loss in Sumatra lowland forest is also ranked as one of the highest in the world. Further loss of Sumatran lowland forest poses a serious danger for their continuing existence of Malayan tapir and others wildlife in Sumatra. Therefore, identification of distribution, protection and monitoring of key areas that contain significant tapir populations are a high priority for their conservation.

Malayan tapir is the only Old World extant tapir species. These tapirs are herbivores and one of the least studied large mammals of Asia. Even though experts claim there are still healthy populations present in some countries, their precise numbers remain unknown. Today their major threat comes from human-caused habitat destruction and accidentally trapped on snared setting up by local people for subsistence hunting.

The studies of Malayan tapir in Taratak forest was conducted since 1998. Several aspects has been studied, such as feeding biology (Novarino *et al.* 2000), population monitoring by using track plot (Novarino *et al.* 2004), daily activity and also monitoring their population (Novarino *et al.* 2005). The evidence of 14 mammals and one bird species such as Sumatran tiger and Serow was recorded during the last study.

Malayan tapirs play a very important role as seed dispersers and contributing to the regeneration process in forest. However, only few attentions have been paid on this species in Indonesia. Due to the habitat loss and subsistence hunting, status of Malayan tapir was

proposed to moved into Endangered (IUCN, 2004), it's mean more attention and work must be conducted to conserve them.

Contrast with other tapirs in Latin America which almost studied seriously by many researchers, recently only limited information about Malayan tapir available. Based on this, conducting monitoring study and getting more information about Malayan tapir in Sumatra gain high priority.

Community based conservation believed is a key point for sustainability use of natural resources. This project introducing local people about sustainable harvest of natural resources and also supporting local initiatives for the long term conservation of Malayan tapir and others wildlife in Taratak.

II. CURRENT PROJECT STATUS

2.1. PROJECT LOCATION

Sumatra is a large island in the west part of Indonesia. Up to 80% of Sumatra's rainforest has already been destroyed (Whitten *et al.* 1984), so what remains is of crucial conservation importance. West Sumatra laid on middle part of Sumatra at the west coast. The topography dominated by mountainous area called Barisan Mountain. A dry, hot period occurs from July to October, when average temperatures are 24-30°C. The rainy season is typically from November to May; with average annual rainfall is 2,300 mm, temperatures lower at this time of year.

Taratak is located under jurisdiction of district on west Sumatra province called Pesisir Selatan. Taratak lied 47 km in the Eastern West coast of Padang (Capital city of West Sumatran Province). This area located at 100-900 m asl, the slope is varies from 0-2%, with fluctuations in several areas that can reach 40%. The habitat includes primary and mature secondary forest, traditional plantations and riverside forest vegetation dominated by Dipterocarpaceae, Myrtaceae and Fagaceae. Rubber, Durian, gambir (*Uncharia gambir*) is the main product from this village. Like other villages in West Sumatra, the people of this village work as farmer.

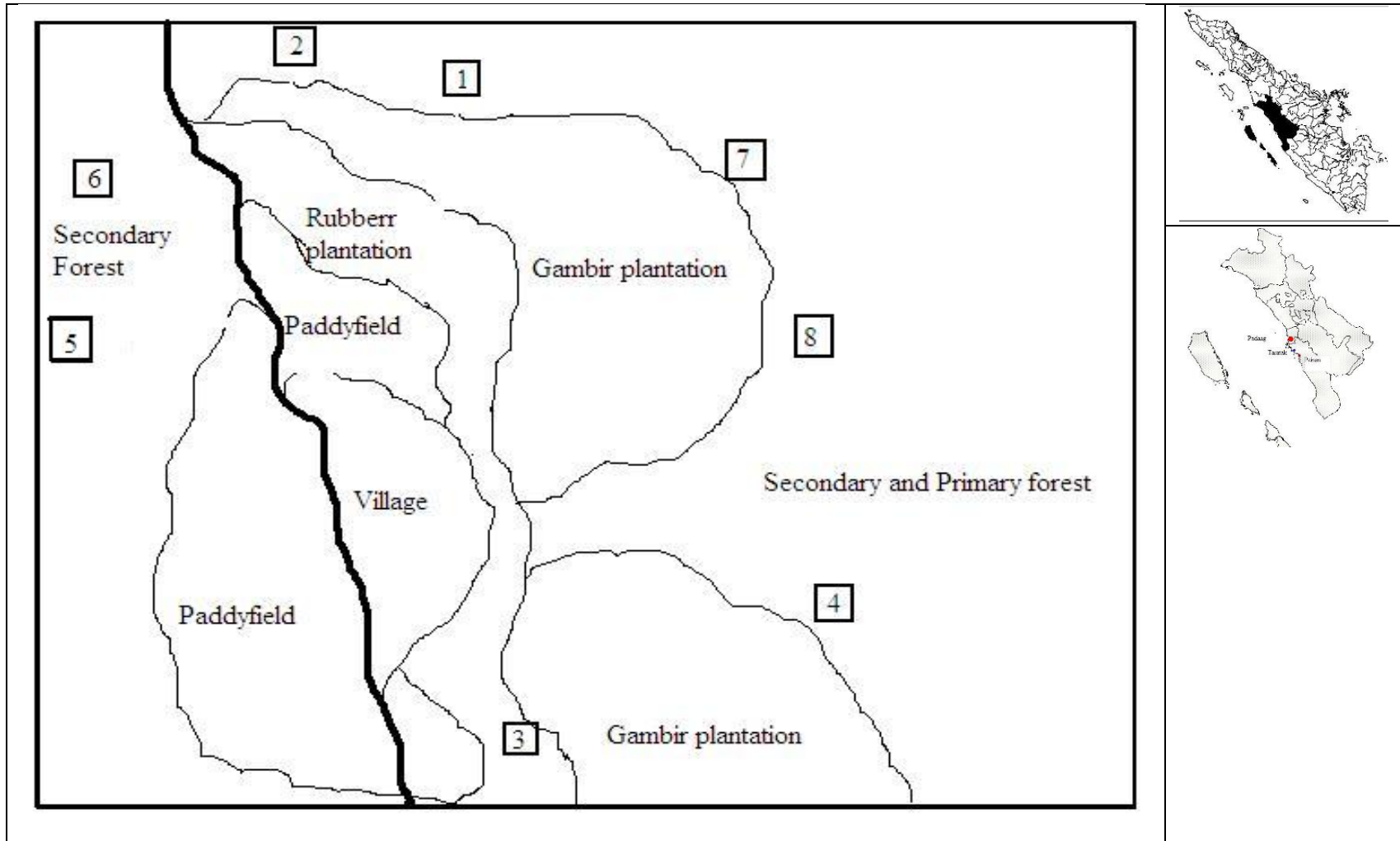


Fig 1. Map of study location

2.2. PROJECT ACTIVITIES

2.2.1. Monitoring the Malayan tapirs

Monitoring of Malayan tapir was conducted by using camera trapping technique. Eight camera traps were using on this study which deployed purposively. In total 340 days camera operated were spend during this study. One camera was broken during the operation (June) due to the weather condition and died branch fallen into camera. Two other camera were stolen, which one happened in early stage (March) and another one in last stage (December).

Table 1. List of camera location

Camera	Lokasi	Habitat	Remark
1	Bukik Palanta	Mature secondary	
2	Ulu aia panjang	Mature secondary	
3	Sapan dakek	Forest edge	Stolen
4	Sapan talang	Mature secondary	
5	ulu aia papo	Mature secondary	broken
6	Bukik dama dulang	Primary	Stolen
7	Bukik aia lundang	Mature secondary	
8	Bukik sipatai	Forest edge	

2.2.2. Community Development

Local community participation on conservation was initiated by conducting environmental education which consists of:

- Moving library scheme which conducted as media for environmental education. 200 children books which telling about the nature and conservation were purchased. By using interactive games, short movies, they are also introduced with nature and conservation.
- Colouring competition. The 5th and 6th grades of local elementary school were invited to participate on colouring competition. Before and after competition we were informing the students with issue regarding the conservation issue in Indonesia, Malayan tapir biology and rule in ecosystem.

- Baby tapir naming contest. The participants of colouring competition also asked to give a name for baby tapir which born in Woodland Park Zoo in July 2007.
- Youth conservation was promoted during the project. Member of club informed with basic conservation issue and trained for simple field technique. They are also involved for the camera checking.

2.3. PROJECT RESULTS

2.3.1. Malayan tapir population status

In total 31 images of Malayan tapir capturing during this second year monitoring program. The locations of image captured only occur on location 1, 2 and 3 and only 3 image that showing Malayan tapir in pair. Since Malayan tapir has a common coloration pattern, identification of Malayan tapir individual slightly difficult. However images analysis by using scared, ear tip, and boundary between the colouration (black and white) we can identify each individual. Based on analysis of image captured (ear truncated) we know that 3 tapir currently occupy the area around Taratak village.



Fig 2. Malayan tapir in Taratak Kida (left), Sati (middle) and Suok (right)

Malayan tapir image captured almost throughout the year. The result did not show the tendency of seasonality of tapir occupy the habitat in Taratak. However, data that gained on this study is too small/weak for kind of seasonality analysis. We still need more effort to elaborate about this point.

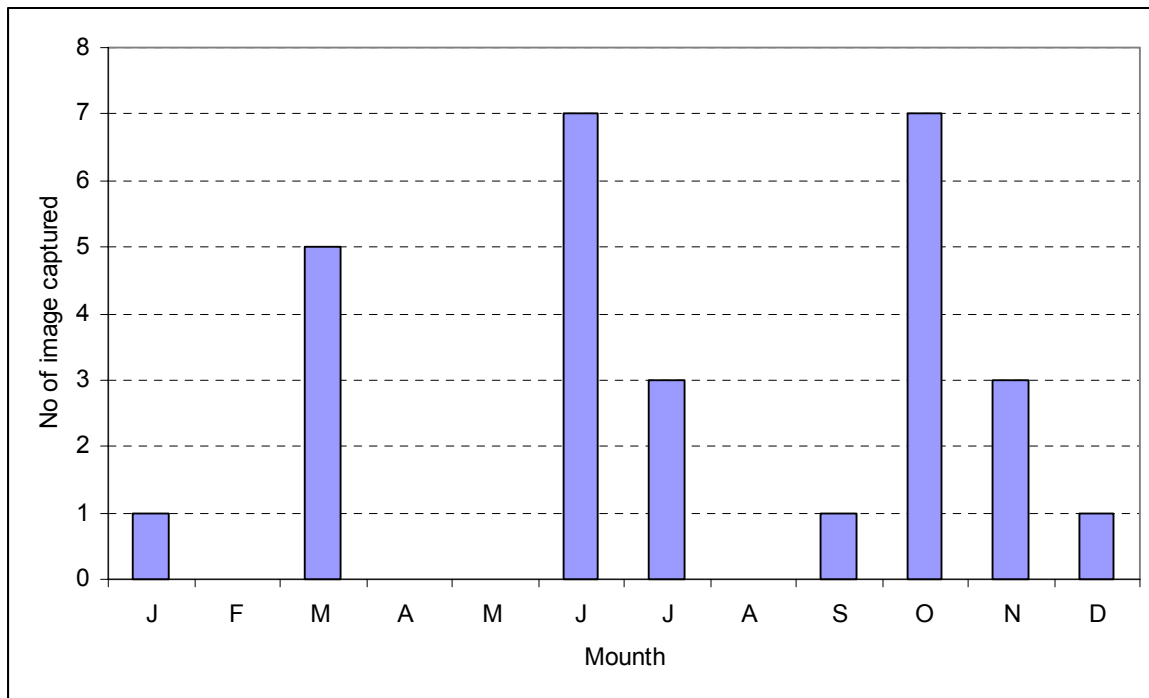


Fig 3. Number of Malayan tapir images capturing during the study

Previous study (Novarino *et al.* 2005) was showing the pattern of Malayan tapir occurrence on this location; however based on longer time period we found that the activities also have longer periods. Current study results show that Malayan tapir has starting their activity since 18.38 and this activities continuing until 06.14. When the tapir image captured in lower location in January and October (Camera 3), they did not captured in highland area (Camera 1 and 2).

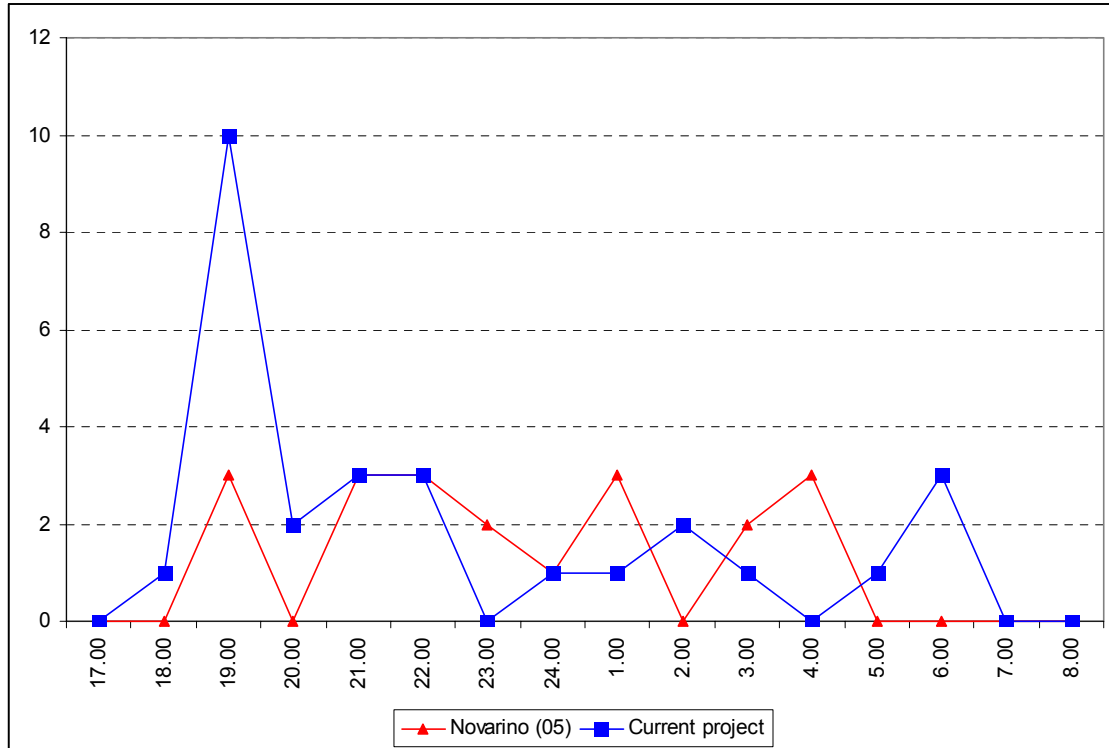


Fig 4. Number of Malayan tapir images capturing based on time captured

2.3.2. Other wildlife data coverage during the study

Present study show the higher number of species captured compared with the number of species captured on previous study. Twenty mammals' species and two birds were recorded during this study. Eight species of mammals and one bird are new record for this study area. Two mammals species which recorded during previous study did not recorded again in this study (Table 2). In total 22 mammals species and two birds were recorded in Taratak forest by using camera traps. This study also recorded the activity of human that entering the camera placements (70 images), Domestic dog / *Canis domesticus* (5 times) and also erroneous / blanks images (11 times). Totally 1172 images were captured during 340 days camera traps operation.

Table 2. List of wildlife image captured during the study

Ordo	Scientific name	Common name	2005	Present
Artiodactyla	<i>Capricornis sumatraensis</i>	Mainland serow	√	√
	<i>Cervus unicolor</i>	Sambar deer		√
	<i>Muntiacus muntjak</i>	Barking deer	√	√
	<i>Sus barbatus</i>	Bearded pig		√
	<i>Sus scrofa</i>	Wild boar	√	√
	<i>Tragulus javanicus</i>	Malay mouse-deer	√	√
Carnivora	<i>Cuon alpinus</i>	Asian wild dog		√
	<i>Felis teminckii</i>	Golden cat		√
	<i>Helarctos malayanus</i>	Malayan sun bear	√	√
	<i>Martes flavigula</i>	Yellow-throated marten	√	√
	<i>Neofelis nebulosa</i>	Clouded leopard		√
	<i>Paguma larvata</i>	Masked Palm Civet		√
	<i>Panthera tigris</i>	Sumatran tiger	√	√
Perisodactyla	<i>Tapirus indicus</i>	Malayan Tapir	√	√
Pholidota	<i>Manis javanica</i>	Sunda pangolin	√	
Primata	<i>Macaca fascicularis</i>	Crab-eating monkey	√	√
	<i>Macaca nemestrina</i>	Pig-tailed monkey	√	√
	<i>Presbytis melalophos</i>	Mitered leaf monkey	√	√
Rodentia	<i>Hystrix brachyura</i>	Common porcupine	√	√
	<i>Leopoldamys sabanus</i>	Long-tailed Giant rat		√
	<i>Ratufa affinis</i>	Common Giant squirrel	√	
	<i>Sundasciurus hippurus</i>	Horse-tailed Squirrel		√
Collumbiformes	<i>Macropygia ruficeps</i>	Little Cuckoo-dove		√
Galliformes	<i>Argusianus argus</i>	Argus pheasant	√	√

Note: (√) indicate recorded / image captured

Present study record the dominance of Pig tailed Macaque on this area (36.03 %), followed by Muntjac deer (12. 81 %) and wild boar (11.61 %). As species that lives in troop and inhabit forest, secondary and primary forest, the dominance of Pig tailed Macaque also were record widely on camera trapping project. However, result of present study slightly different compared with previous study which record Common porcupine as second dominance species (Novarino *et al.* 2005).

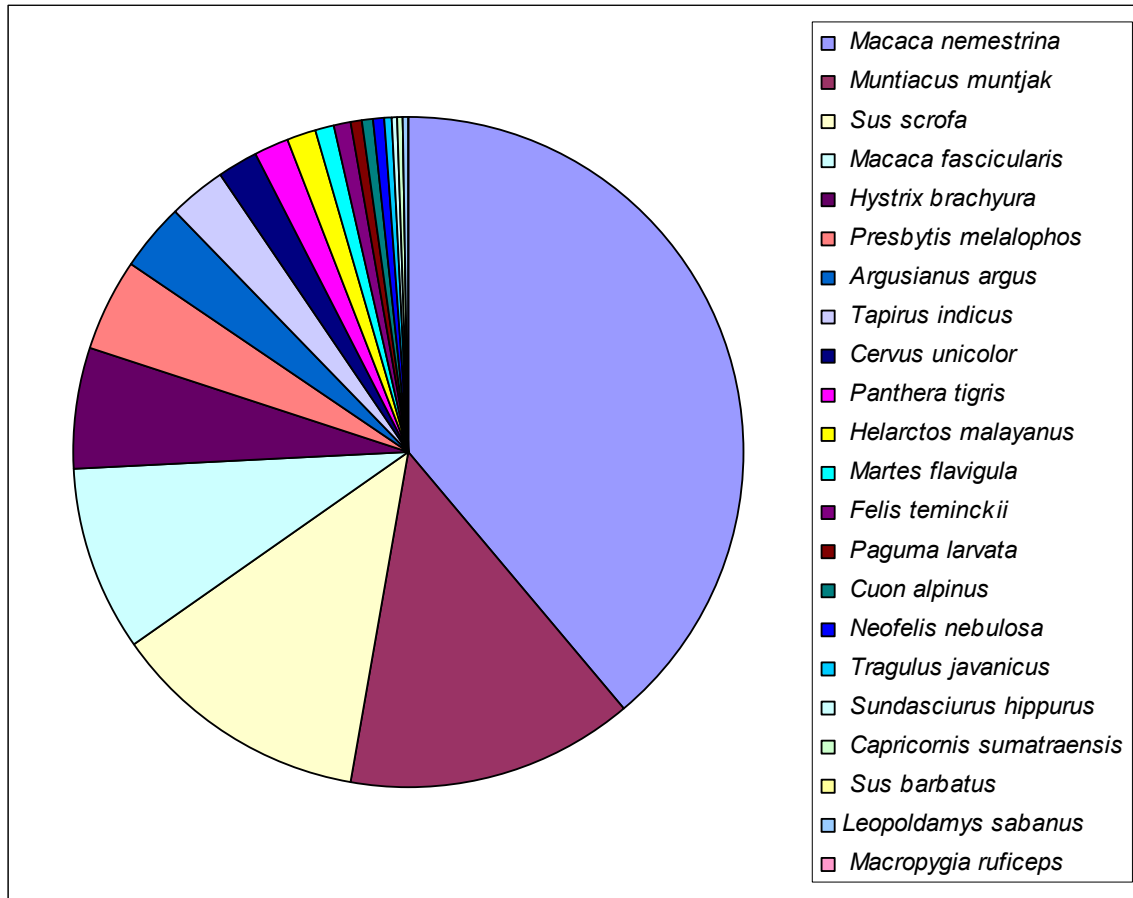


Fig 4. Composition of images captured during the study

2.3.3. Moving library activities

To improve local community participation on conservation, during this study, kind of moving libraries were conducted on local elementary school and local community. More than two hundred books has been purchased, which focused on nature, science, fables, indigenous stories, religion. Before the time for reading, kind of games were introduced to the participants. During this time, we are also showing short documentary and animation film, which informing about tapir, forest lost in Sumatra, environmental consequences of overexploitation of natural resources.



Fig 5. Books and moving library reading activity

2.3.4. Colouring competition

We provided the students of Taratak School in the 5th and 6th grades with a Malayan tapir picture and asked them to colour the picture using crayons. Forty-three students (17 in 5th class and 25 from 6th class) participated in this program. Before the competition started, we gave a short presentation to inform the students about the natural biology of Malayan tapirs, their role within the forest ecosystem and about their current conservation status. This was the first time that many of the students even heard about this unique species that lives within the forest surrounding their village. The colouring competition lasted for approximately two hours and students were very enthusiastic during the competition.



Fig 6. Colouring Malay tapir picture and winners announced

2.3.5. Baby tapir naming contest

After finishing the colouring competition, the students were asked to help select a name for the tapir calf that was born at Woodland Park Zoo on 3 July 2007. Some students came up with the same name and the list was narrowed down to 13 potential names. The students then were allowed to vote one-time on the name that they felt best described their hope for this tapir calf.

Table 3. Nominated names

Name	English	Votes
1. Rimba	Forest	10
2. Rindang	Amazing tree	9
3. Hijau	Green	5
4. Penghulu	Leader	2
5. Lebat	Leafy tree	2
6. Hutan	Forest	2
7. Jati	Jati	2
8. Timun Mas	Golden cucumber	1
9. Pohon	Tree	1
10. Landak Semut	Porcupine	1
11. Indah	Beauty	1
12. Subur	Healthy	1
13. Pemburu	Hunter	0

The students were told that the names would be sent to Woodland Park Zoo in Seattle, Washington, USA and that one name would be chosen from the list that they had created. One name would be chosen and the student that had suggested that name would be named the winner of the Naming Competition. Latest information from Woodland Park Zoo, "Rindang" has been used for name of baby tapir calf.

2.3.6. Our Guests



In January 27, 2007, Nico van Strien was spending their time to attend Taratak village, and give some advice for the project. Nico is an “Idol” in term of conservation in Indonesia. Nico was over some idea for future work of our program.



In 26 August 2007, Deborah Martyr (FFI / Tiger Protection Unit) and John Seidensticker (Smithsonian Institute – Save Tiger Fund) spend their time to see and discuss our program in Taratak. Both are surprisingly with the tiger occurrence on study site.

2.3.7. Publications

Our previous study results were published on International and national publication. We are also send semi popular paper on national magazine on conservation. We have a planning to publish current study results on International journal.

1. Tapir Conservation

Malayan tapir image which capturing during previous study, were used as front cover of Tapir Conservation News Letter volume 14/2 (December 2005). Our report also was published on this issue (See Appendix 1).

Tapir Conservation

The Newsletter of the IUCN/SSC Tapir Specialist Group

www.tapirspecialistgroup.org

Edited by Leonardo Salas and Stefan Seitz



- From the Chair
- TSG Committee Reports
- Project Updates
- News from the Field
- Contributed Papers
- Ask the Experts
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Printing and distribution of the Tapir Conservation Newsletter is supported by the Houston Zoo Inc., 1513 N. Mac Gregor, Houston, Texas 77030, United States, <http://www.houstonzoo.org>



2. Biota

We are also publishing our report focused on occurrence of mammals on salt lick in national biological journal in Indonesia. The paper has been published on *Biota* Vol. 12 (2): 100-107, June 2007, entitled "Visitation of mammals on salt licks in protected forest of Taratak, Pesisir Selatan District of West Sumatra" (See Appendix 2).

3. Tropika

As a semi popular dissemination of information we are also send short report to *Tropika* magazine which published by Conservation International Indonesia Program.

4. Tapir Seminar in Jakarta

A Seminar on Breeding Biology of Malayan Tapir was conducted at 31 October 2007 in the office of Taman Margasatwa Ragunan (Ragunan Zoo), Jakarta. Seminar was attended by more than 50 participants from Zoos, university lecturer and students, researcher, staff of ministry of forestry, with six speakers. Seminar officially was opened by Dr. Tonny Soehartono, M.Sc., as Director Biodiversity Conservation, Directorate General Forest Protection and Biodiversity Conservation, Ministry of Forestry (PHKA). As keynote speaker, Dr. Soehartono were give a talk titled "Tapir Conservation in Indonesia", which describing biology information on tapir, their global and national distribution, and the PHKA strategy on manage conservation in Indonesia both in situ or ex situ. According to Dr. Soehartono, only few attentions have been paid on the conservation issues in Indonesia. Indonesia government still focused on other issues such as poverty, education and economic sectors. Result of the study in Taratak also presented by PI. PI also informing the audience with the general information about tapir conservation effort on in Indonesia both in situ and ex situ, detailed information about biology of tapir, nomenclature, classification, feeding, daily, reproduction behavior, life cycle, and general information about Malay tapir holding zoos in global and national level. On this session participants also informed about Tapir Specialist Group IUCN (TSG), Tapir Preservation Fund as funding agency on tapir conservation, minimum husbandry standard and tapir enrichment document which distributed by TSG. Wilson also inviting the participants more active and participate on tapir conservation in global level by joining as TSG members.

2.4. PROJECT ANALYSIS

After finishing this year calendar on our monitoring project, we are conducting self evaluation on our activities.

Strengthens: This study is the only one project in Sumatra focused on Malayan tapir monitoring and also the only one such project which based on local university. This project also cover other threatened Sumatra wildlife species inhabit study area. We have a full support from Nature conservation bureau in West Sumatra.

Weakness: Coverage area to small. Number of camera traps not enough for better placement (systematically).

Opportunity: This project is potentially to linked with other large mammals survey in Sumatra

Targets: To expand coverage area and number of camera traps for future works. Conducting monitoring project by using same protocol with other large mammals survey in Sumatra. By doing this our data will useful not only for Malayan tapir but also other threatened Sumatran wildlife. Since genetics sampling also have a high priority on Tapir Action Plan, we also want to collect their sample by using non invasive method.

2.5. Target for the future

For the third Project Year (PY 3), we want to expand our activities by conducting:

- Tapir Genetics sampling
- Monitoring and distribution on West Sumatra landscapes
- Tiger, other large Sumatran mammals survey

- Comparing conservation area with non conservation area

In PY 3, monitoring project will expanded into larger coverage area. Monitoring will be conducted on 10 conservation areas in West Sumatra. Same with Malayan tapir, West Sumatra also "big hole" in conservation issues in Sumatra. However many institutions has been conducted monitoring in Sumatra, the data in West Sumatra remaining almost unknown. By conducting this program we have opportunity to comparing data from several areas, with different management and forest coverage. In the PY 3 we also want to collect DNA sample by using non invasive sampling (from faecal), and trying to link this genetic sample with other international tapir genetic project. Since camera trapping also highly potential to cover other mammals data, we want to make a link with other monitoring project in Sumatra by using same protocol with others.

**Appendix 1. Photographs of other wildlife image lives in
Taratak**



1. *Catopuma temickii*



2. *Cervus unicolor*



3. *Cuon alpinus*



3. *Neofelis nebulosa*



5. *Sus barbatus*



6. *Paguma larvata*



7. *Leopoldamys sabanus*



8. *Macropygia ruficeps*



9. *Sundasciurus hippurus*



10. *Panthera tigris*



11. *Capricornis sumatraensis*



12. *Helarctos malayanus*

Appendix 2. Publications made based on previous study