

SUMATRAN RHINO SANCTUARY - YABI, WAY KAMBAS NP



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2ND QUARTER REPORT 2010



IRF PROGRAMS:

THE 2ND QUARTER REPORT OF SUMATRAN RHINO SANCTUARY (SRS) - YABI WAY KAMBAS NATIONAL PARK APRIL - JUNE, 2010.

A. PROGRAM HIGHLIGHTS/ACCOMPLISHMENTS:

1. SUMATRAN RHINOS HEALTH CONDITION ON SRS

General conditions of the Sumatran rhinos on SRS are in healthy and good body conditions with steady body weight, except Torgamba.

Blood test:

The blood test results on April 24 and May 24, 2010., indicated that all rhino has normal blood test except Torgamba, he was in stable low of hematology and still high blood chemistry (*Ureum* and *Creatinine*) while the blood test results on June 22, indicated that all rhinos had a bit low blood test result.

TORGAMBA:

General Conditions:

- Torgamba had been in the "Boma" 1A for his daily activity, food was given by hand feeding with frequency for 3 times daily on April - June, 2010 and general condition had stable.
- Base from the past experience with Torgamba, a conditioned atmosphere of enjoyment that makes him happy is very significant to his health conditions.
- Torgamba had a bit dropped condition in the end week of May and early of June (*lost appetite and looks weak*), and stable in the middle of June but still suffering. Blood parameter on June showed chronic anemia with decreasing PCV, RBC and HB values. Supporting therapy had given for Torgamba with the increase of fruit quantity, multivitamin Neurobion tablet for four days, Torgamba's condition became normal slowly and this time still under intensive monitoring to continue the previous plan such as blood test per 2 weeks.

Torgamba Blood Test Parameter Result May - June, 2010:

Date	Condition Reports	Blood Parameter Result					Result Parameters
		BUN (mg/dl)	Creatinine (mg/dl)	PCV (%)	Hb (g/dl)	RBC (cells/ul)	
May	Bit Drop	30	4.2	26	9.2	3.31 x 10 ⁶	Stable
May 31	Stable	40	4.2	23.7	8.2	2.99 x 10 ⁶	Founded clots & gel
June	Stable	30	4.2	26	9.2	3.31 x 10 ⁶	Chronic anemia
June 22	Stable	28	4.3	27.9	9.6	3.54 x 10 ⁶	Still suffering

- Recommendation for Torgamba after discussed with Dr. Robin Radcliffe on May 2010:
 1. Blood test weekly or more frequent if his condition deteriorates.
 2. Serum analysis for serum Phosphorus and Calcium.
 3. Continue provision of 4 small cups of Phosphorus orally until blood analysis shows it health to come back.
 4. Centrifuge a hematocrit tube and examine the buffy coat for trypanosomes. Repeat this test several times at different times of day (or night) because the trypanosome organisms can be difficult to find. Test serum in Bogor for Trypanosomes using the CATT test, if available.
 5. Continue to give Torgamba the vitamin supplement (Use a multivitamin that does NOT contain Iron).

6. Give Torgamba the natural supplements you have given in the past -i.e. Noni, more fruits, etc.
7. Test Torgamba for electrolytes (Na, K, Cl, etc.) and make sure he has daily access to salt and water.
8. Make sure Torgamba has fresh water available at all times. Also, in addition to the fresh water, provide a dish of electrolyte water.

Routine Treatments:

- Routine supplement for Torgamba with doses of 3 cup Phosphorus supplement (*Gp product*) daily per oral has changed since April 13, 2010 with (*uncele product*) and continue after drop condition in the end of May and early June with the 4 small cups of *Phosphorus* orally base on analysis *Phosphorus* and Calcium results.
- Continue to give Torgamba with the vitamin supplement (*Neurobion*) on June 1-6 and given the natural supplements (*Mengkudu/Java noni and more fruits, etc*), monitoring to makes sure Torgamba has fresh water available at all times.

Health Problems:

The *Paramphistomes* fluke eggs were found in Torgamba's fecal analysis with high infection on end of May 2010 and treatment with 3.4 grams Praziquanterl on June 3, 2010. Centrifuge a hematocrit tube and examine the buffy coat for *trypanosomes*, repeat this test several times at different times of day/night because the *trypanosome* organisms can be difficult to find and the results were not found trypanosome On June 2010.

ANDALAS:

General Conditions:

Andalas has a good condition with good hand feeding, Andalas has good browse in the forest and wallowing (2-3 hours).

Health Problems:

- In April 2010, all injury (*laceration*) and wounds of Andalas completely healed and he got new head wounds post breeding with Ratu but not serious.
- Andalas has a bit decreased of body weight and drop condition after paired with Ratu on May, 2010. Treatment by given vitamin supplement and time to recovery and he becomes normal.
- The *Paramphistomes* fluke eggs were found in his fecal analysis with high infection on May, 2010.

BINA:

General Conditions:

Bina is in good condition in April 2010, she has aggressive especially in the forest and during introduce time; few times she tried to chase keepers in the forest.

Health Problems:

- Bina has intermittent problems of ocular cloudiness related to excessive exposure to UV radiation on May 2010.
- Bina was in good condition with no aggressive on June 2010, but decreased browse in the forest and need to rotate area. Has intermittent problems with ocular cloudiness related to excessive exposure to UV radiation but under control.

RATU

General Conditions:

Ratu has been in good condition; she has been active in the forest and during rainy season in April 2010, she often make new wallow in the paddock 3.

Health Problems:

Ratu got new head wounds of post breeding with Andalas but not serious. After paired with Andalas and Torgamba on May 2010, Ratu looks tired and become normal after given vitamin supplement.

ROSA

General Conditions:

Rosa has good condition. Since moved to paddock 4, Rosa has significant changed with more active in the forest and not always back to her stall daily. During this April 2010, she often approach to central fence and looks more interest to meet "Andalas" until she ovulated.

Health Problems:

The Paramphistomes fluke eggs still found on May 2010, in her fecal analysis-intermittently.

OTHER RHINOS HEALTH INFORMATION:

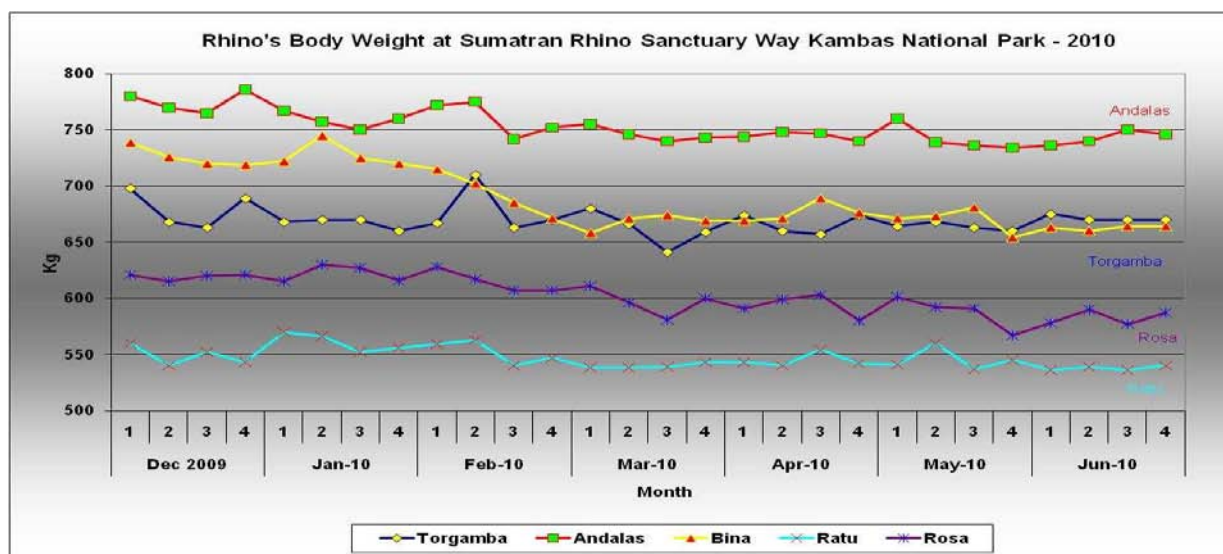
Hoof (foot) problem on April - June, 2010:

All rhinos at the sanctuary have a good hoof and pad condition just found small holes and a bit of eruption around corona.

Saltlick:

Natural saltlick is utilized in the forest, all rhinos often lick and eat mud in the wallow especially after woke up from sleep. Continued supplement saltlick in the stall, given mineral block to Bina, Rosa and Ratu, but for Torgamba and Andalas just given normal salt mix with drinking water.

All Sumatran Rhinos Body Weight:



2. RESULT OF SUMATRAN RHINOS BREEDING PROGRAM (INTRODUCE & PAIR):



❖ ANDALAS AND RATU:

Month : April 2010

Target/Priority : Monitoring Ratu behavior closely since her lost pregnancy

Day	Date	Times	Location	Activities	Results
1.	April-11			Ultrasound Result	*Ratu has lost the pregnancy after 2 month of pregnant
2.	April-12	Morning	Central Stall	Start to Introduce	Nice responses both of them
		04.00 Pm	Central Stall	Paired	Normal breeding behaviors
3.	April-13	Morning	Central Stall	Paired	Ratu already to breed
		02.00 Pm	Central Stall	Paired	Failed mounting because Ratu's body slippery
		04.48 Pm	Central Stall	Successful Breeding	Full Intromission from Andalas assist by keepers
		Afternoon	Central Stall	Successful Breeding	Couldn't collected semen (not conducive situation)
4.	April-15		Central Stall	Ultrasound Result	Ratu was confirm ovulated

*) That there is bad news about Ratu lost pregnancy, but it is still a great step knowing that have at least made it to the early fetal stage and know that Andalas and Ratu are rhino breeders.

Month : May 2010

Target/Priority : Monitoring Ratu behavior closely and monitoring early pregnancy, plan for reproductive hormone research to compare monitoring via ultrasound, increasing Ratu's diet and using Regumate.

Problems : Difficult to monitor Ratu's estrus cycle since loss pregnancy (*miscarriage*)

Day	Date	Times	Location	Activities	Results
1.	May - 1	Early Night	Central Stall	Introduced & paired	Good response but Andalas looked aggressively
		Morning	Central Stall	Paired	Many times of mounting without intromission
2.	May - 2		Central Stall	USG exam result	Bigger follicle of 25 mm in Ratu right ovary
		All day	Central Stall	Introduce & paired	They were only running & few time courtships
		Afternoon	Stall No. 5	Separated Andalas	Andalas looked drop & tired, give time recovery
3.	May - 3	All day	Laboratory	USG exam result	Didn't find any indication Ratu's pregnancy
4.	May - 4	All day	Ratu's Stall	USG exam result	Ratu hasn't ovulation & difficult predicted her cycle
5.	May 10-14	All day		Introduced Ratu	Good responses but follicle too big for breeding
6.	May - 11	Morning		Ultrasound Result	Ratu's have big follicle starts to hemorrhagic
	May - 11	All day		Introduced Ratu	Has nice responses with Andalas
7.	May - 14	Morning		Ultrasound Result	Ratu's has follicle of 19 mm on right ovary
	May - 14	All day		Introduced Ratu	Bad response from Ratu, she walked away & scared
8.	May - 19	All day		Ultrasound Result	Has follicle of 19 mm on left ovary & hemorrhagic
9.	May - 26	All day	Central Stall	Introduced	Introduced with 28 mm follicle & good response
10.	May - 27	All day	Central Stall	Introduced	Better response from Ratu and Andalas
11.	May - 28	All day		Ultrasound Result	Loss of big follicle, was ovulated without breeding

Month : June 2010

Target/Priority : Monitoring Ratu behavior closely and monitoring early pregnancy, plan for reproductive hormone research to compare monitoring via ultrasound, increasing Ratu's diet and using Regumate.

Problems : Difficult to monitor Ratu's estrus cycle since loss pregnancy (*miscarriage*)

Day	Date	Times	Location	Activities	Results
1.	June - 9	All day	Central Stall	Introduced & paired	Bad spirit from Andalas, good responses from Ratu
	June - 9		Central Stall	Separated	
2.	June - 15	Morning	Central Stall	Ultrasound result	Large follicle 24mm in Ratu left ovary, good estrus
		Afternoon	Central Stall	Introduced	Bad responses from Andalas, look doesn't care
		03.30 pm	Central Stall	Paired	Good responses from Andalas & Ratu
		Afternoon	Central Stall	Courtship	Nice courtship without fighting
		Afternoon	Central Stall	Separated Andalas	Ratu looks scared but Ratu approaches stall again
		Afternoon	Central Stall	Paired	Ratu look more enthusiastic but Andalas looked lazy
		06.56 pm	Central Stall	Courtship	The best courtship since breeding program running
3.	June - 16	05.43 am	Central Stall	Mounting - Breeding	Andalas started to mount & successful breeding happen
	June - 16	05.45-06.17	Central Stall	Successful Breeding	Andalas full intromission almost 32 minutes
	June - 16	06.17 am	Central Stall	Semen Collection	Keepers success collected semen from Andalas
4.	June - 17	Afternoon	Ratu's Stall	USG exam result	*Ovulation confirmed on Ratu's left ovary

*) Is important and very hard to check Ratu for pregnancy on day 16 or 17, since Ratu sometimes cycles back in 19 days. Hoping Ratu is pregnant again but if not success pregnant hopefully she is ready again to breed.

ANDALAS AND RATU PHOTOS ON JUNE, 2010:



They were together in front of the cage during an hours, this is the best courtship since breeding program running in SRS.



05:43 morning Andalas and Ratu were successfully breed with full intromission.

❖ **ANDALAS AND BINA:**

Month : April 2010

Target/Priority :

Day	Date	Times	Location	Activities	Results
1.	April - 6	All day	Central Stall	Start to Introduced	Good responses both of them
		Afternoon	Central Stall	Separated them	Got Accident: *Keppey Giyono attacked by Bina
2.	April - 22	All day	Bina's Stall	Ultrasound Result	Bina ovulated confirm without breeding

*) Giyono, Andalas's keeper was attacked by female rhino "Bina" when the processed of separation rhinos after introduced. Giyono attacked when he will close the Bina's door paddock. Keepers have followed all safety procedures when they separated the rhino but the rhino behavior is very difficult to predict and very quick in attack. Giyono get wound in head (5 stitches) and multiple bruises throughout the body and his already healthy condition after 3 days at Metro Lampung Hospital for medical care. Bina has very aggressive since few months ago and possible causes are:

1. Jealous of other female rhinos for breeding.
2. Keeper that was attacked is Andalas's keeper and possibly Bina thinking Giyono is Andalas because of having same odor.
3. Bina still want to be in the central area while the keeper is trying to guide her to her location.
4. Bina interfered by other rhino around the central areas like Rosa, she always noising.
5. Bina had not breed since few month ago.
6. Number of tourist activity in the cage that annoyed Bina.
7. Construction of fence including gate especially around central area need modification.

Month : May 2010

Day	Date	Times	Location	Activities	Results
1.	May - 29			Introduced	Just a few minutes of good responses both of them

Andalas and Bina were not introduced in June 2010.

❖ **ANDALAS AND ROSA:**

Month : April 2010

Target/Priority : Introduced Process of Andalas and Rosa

Day	Date	Times	Location	Activities	Results
1.	April-10			Start to Introduce	Just few minutes good responses from both of them
2.	April-11	All day	Rosa's Stall	Ultrasound Result	Rosa's follicle 23 mm, Rosa moving up her tail
		Afternoon	Rosa's Stall	Introduced	Rosa looks scare & keep distance from Andalas stall
3.	April-17	All day	Rosa's Stall	Ultrasound Result	Ovulation confirm & ovulation without breeding

Month : May 2010

Day	Date	Times	Location	Activities	Results
1.	May 17-22	All day	Rosa's Stall	Start to Introduced	They showed good responses & no aggressive
2.	May-24	All day	Central Stall	Paired with Andalas	Nice responses from Andalas but Rosa always scared

In general it was not a good introduction process of Andalas and Rosa in this June 2010. On June 7, Rosa still scared and escaped though the fences and, this bad behavior from Rosa when paired with a male is in need of solution.

❖ **TORGAMBA AND RATU:**

Month : May 2010

Target/Priority : Introduced Process of Torgamba and Ratu

Day	Date	Times	Location	Activities	Results
1.	May 2	Afternoon	Central Stall	Introduced	Showed good responses from Ratu, kept approaching
		Early Night	Central Stall	Paired	Torgamba didn't give a good response but friendly

Torgamba - Rosa and Torgamba - Bina No Introduced on April, May and June 2010

3. SUMATRAN RHINO FECAL SAMPLE ANALYSIS ON MAY - JUNE 2010 REFERENCE PARASITES LABORATORY IPB BOGOR FECAL - HELMINTHES

Quantitative and Flotation method: Negative

Sedimentation method:

Bina and Ratu negative but Rosa, Andalas and Torgamba positive (high 100-200/gram fecal).

Interpretation:

Andalas and Torgamba were possibly contaminated from the rhinos "Rosa", she was from the beginning has been diagnosed of suffering from trematode. The use of central area collectively as a place to introduce and breeding is a source of transmission. From several experimental treatments of trematodes on all rhinos at SRS has not been successful, and anticipation treatment for this problem (trematodes) is thus required. The latest treatment on January 20th, 2010; all rhinos de-wormed with Ivermectin orally.

Helminthes Post treatment Result on June 2010:

Just Rosa's fecal that still with the Paramphistomes fluke eggs after Praziquantel treatment (100/gram fecal ~ 1egg per slide) and while other rhinos have positive result. It seems that Praziquantel is not totally effective for fluke in Sumatran rhinos at the SRS especially in Rosa deriving to the need of trial of other de-worming medicine.

Treatment

De-worm all rhinos for Paramphistomes:

Use the *Praziquantel* at a dose of 5 mg/kg (last time used 3 mg/kg). This will be about 3 grams of *Praziquantel* per rhino given orally (one time dose). On June 2, has been given worm medicine *Praziquantel* at Bina and continued on June 3, for all other rhinos. Bina was give first to see the side effects and after no new negative effects

The Paramphistomes fluke eggs treatment with *Praziquantel*:

- Bina : 3,6 grams dose on June 2, 2010.
- Andalas : 3,8 grams dose on June 3, 2010.
- Torgamba : 3,4 grams dose on June 3, 2010.
- Rosa : 3,1 grams dose on June 3, 2010.
- Ratu : 2,9 grams dose on June 3, 2010.

Note: The latest treatment on January 20, 2010; All rhinos dewormed with Ivermectin orally.

Protozoa:

Fecal: negative Blood smear: Bina and Andalas positive Anaplasma sp (low infection 0.4%)

Sumatran Rhinos Serum Sample:

Prepare serum sample for iron analysis (list of sample inventory - done).

4. OTHERS PROGRAM:

COLLECT FECAL SAMPLES FOR CULTURE OF SALMONELLA:

- On June 3, 2010: Collected fecal sample from all SRS's staff and all rhinos and analysis for Salmonella culture in the Bacteriology laboratory–Faculty of Veterinary Medicine IPB Bogor. This culture we did yearly for control of *salmonella*.
- Final result: All SRS's staff and all Sumatran rhinos at the SRS negative Salmonella.

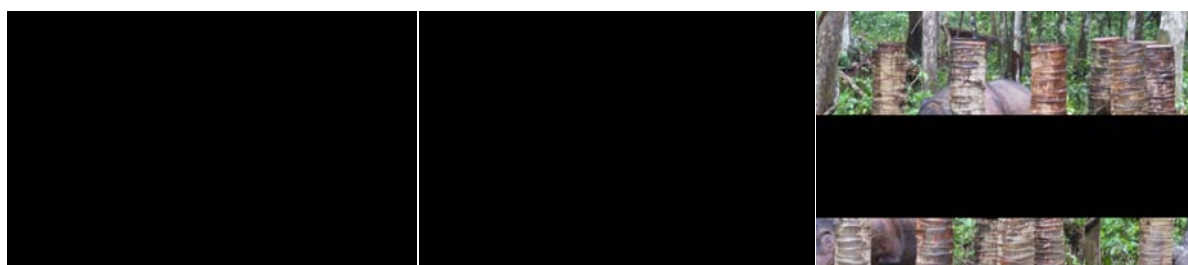
RHINO FOOD GARDEN PROGRAM:



Rhino food supply is one problem in SRS husbandry management; SRS must prepare 120-160 kg young foliage with leaf, liana and brushes composition and 40 kg of fruits daily. In respond to this, SRS prepare a proposal to develop a nursery for rhino food replanting around SRS area in order to gain a base info for a bigger plan to make a Sumatran rhino food garden.

SRS EMERGENCY PROGRAM:

1. Have upgraded rhino stall especially stall 1, 2 and 3. We make a little modification of the fence to escape people if danger situation inside the stall avail during the procedure of pairing and breeding.
2. Still in progress: Modification of central gate to ease evacuation of people and prepare save location for staff in the central forest.
3. Completed preparation of emergency protocol with Robin Radcliffe on May 2010.
4. Build new emergency place in the central area. Emergency protocol May 2010, remain caution in the breeding process by minimizing all possible injury risks, recognize all the safety procedures and 'escape' areas in breeding pen.



Emergency place in the central area – human safety during breeding program.

TOURISM PROGRAM:

1. Prepared the stall 1 (Torgamba) and the stall 2 (Bina) for visitor especially tourists from ecolodge. Other rhinos (Andalas, Ratu and Rosa are focused for breeding program).
2. Completed Barrier gate for visitor at the paddock 2-3 and 1-5 on May 2010.

5. NEW PARTNERSHIPS/COLLABORATION & FUNDING OPPORTUNITIES:

AWARENESS AND EDUCATION PROGRAM:

A short training of almost 150 Boy Scout from 6 junior high school from near Way Kambas NP on “Way Kambas Wildlife Conservation” at Resort of Plang Ijo, on collaboration with National Park, Sumatran Rhino Sanctuary, Rhino Protection Unit and Tiger Project in May 2010.



VISITING GUEST/TOURIST/ETC:

❖ May 4, 2010:

Head of Way Kambas National Park and Indonesian Police Department - Head of Lampung province (10 people).

❖ May 11-14, 2010:

National Park staff (Head section) training from various National Parks in Indonesia (30 peoples), the routine every year training that take place in the Way Kambas National Park where the SRS is included to the activities. In-house training at the SRS is practiced covering activities of presentation in visitor centre, visit to rhino stall (Torgamba and Bina) and discussions.



Indonesian Police Department – Lampung province and National Park staff training

❖ May 19-21, 2010:

BBC photographers Mark Carwardine and Suzi Eszterhas) and Guided by Sectionov (IRF Liaison) visited SRS site with the purpose of taking photographs of the rhinos at the SRS for: Save the Rhino/International rhino foundation fund rising, Commercial sales , Stock libraries, Book, Newspaper, Magazine.

- ❖ **May 19-27, 2010:** Reuter journalist, Mr. Heru cs (4 people)
- ❖ **May 28, 2010:**
Ecolodge tourists (9 peoples). This year has been a lot of tourists visited the SRS, especially from the Ecolodge and since 2010 they just seen Torgamba and or Bina. They usually give donations to the SRS YABI. In charge of tourist activities at the SRS is Mr. Sumadi.
- ❖ **June 23, 2010:**
Dr. Kees Rookmaaker (Rhino Resource Center) and wife.
- ❖ **June 25, 2010:**
Students from Faculty of Veterinary Medicine IPB Bogor (7 peoples).
- ❖ **June 26, 2010:**
Rosida Idriss (UK based Seafood Consultant) with her clients Mr William Rash (Anchor Seafoods) and Mr Mark Seagar (Cromer Crab) visit SRS. The purpose of the visit was to see the activities undertaken by SRS and to gain a further understanding of the rhino breeding program.

VISITING SCIENTISTS AND ADVISORS:

- ❖ **April, 2010:**
 1. April 2, 2010 Widodo Ramono (YABI Executive Director) & Juss Rustandi (Secretary of YABI Board of Management).
 2. April 25, 2010 Widodo Ramono (YABI Executive Director).
- ❖ **May, 2010:**
 1. May 19-21, 2010 Dr. Bibhab Kumar Talukdar (IRF).
 2. May 20, 2010 Widodo Ramono, YABI Executive Director.

6. PROBLEMS:

- ❖ **TORGAMBA'S BOMA:**
Torgamba have lived in a small location (Boma), which has run out of small shrubs and small trees. We need immediately think together how to make other new "Boma", we can create with new or old materials, able to disassemble and move. It's not easy to divide the location of Torgamba into small boxes but nothing could be done to treat such an old rhino like Torgamba.
- ❖ **RECOMMENDATION FOR THE NEXT PHOTOGRAPHER TRIP IN SRS-YABI:**
 1. Agreement between SRS and photographer shall be laid upfront to anticipate all possible uncertainties. SRS has made an agreement with the photographer before they even engaged in implementation of their activities. This is the first time that SRS made an agreement with photographer, this arrangement shall be followed in

the future.

2. Just 1-2 rhino to be pictured until we have succeeded in breeding programs. Every photographer always wants to get good pictures of all the rhinos at the SRS and this activity will be disturbing the breeding program. For example, for rhino “Rosa” with proportional and beautiful form of young rhino, she became the target of photographers. At the SRS, we have breeding programs of Rosa and make her wilder (*GMPB recommendation*) by limiting interaction with human, this because she had been very interested to human since the beginning and this is a dilemma.
3. Photographer Max. 4 days at the SRS. In the past photographers took too long in taking pictures (9 days), it should be limited to a maximum four days.
4. Photographer positioned themselves outside fences in taking pictures.
5. Photographers give Donation-conservation fee. We are happy to have photographer that gave donation to Sumatran rhinos conservation.

7. REFERENCES/NEW PUBLICATIONS:

1. SRS Monthly Report, April 2010 by Drh. Dedi Candra and Drh. Andriansyah.
2. SRS Monthly Report, May 2010 by Drh. Dedi Candra and Drh. Andriansyah.
3. SRS Monthly Report, June 2010 by Drh. Dedi Candra and Drh. Andriansyah.
4. SRS Update Report of Sumatran Rhinos Health on June 2010.
5. SRS Facilities Report (April – June, 2010) by Mr. Sumadi Hasmaran.

APPENDIX 1

DRAFT STAFF SAFETY AND EMERGENCY PREPAREDNESS AT THE SRS

Revised April 30, 2010 (Draft by Robin R; Dedi Candra, Andriansyah and Sumadi H)

Introduction

The Sumatran Rhino Sanctuary (SRS) keepers and veterinary team work closely with the five animals under their care to maintain animal health and develop and sustain a viable breeding program. The SRS Team is aware that each rhino can be unpredictable in their behavior and pose a potential danger to human safety. This is particularly evident during times of aggression when animals are placed together or across a fence for breeding purposes. This document is intended to help identify areas where safety could be enhanced for SRS staff and their interaction with the SRS rhinos.

Rhino Keeper Interaction with Sanctuary Rhinos

Each sanctuary rhino is assigned two keepers to work with the animal. These joint keepers share responsibilities and each one fills in for the other during their scheduled absences. This arrangement facilitates uninterrupted care of animals and limits the chance for errors in communication about the animal's care and husbandry. It also ensures that each caretaker builds a relationship with the animal so that the keeper learns the habits of the rhino and the rhino learns to respond to an individual person. Keepers follow the rhinos in the forest and record biological data. Keepers also walk with the rhinos to bring them back to their respective paddock 1-3 times a day for feeding, routine monitoring, and medical care (Torgamba 3x, Andalas 2x and Bina, Ratu, Rosa 1x.).

Areas of Potential Concern Where Staff Could Be Injured by a Rhino

- ❑ Breeding introductions between male and female rhinoceros
- ❑ Male rhino post-breeding collections
- ❑ Animal interactions for individuals that share a common fence in adjacent paddocks
- ❑ Interactions with female rhino and calf where mother's behavior will likely change toward keepers
- ❑ Interventions requiring medical or other animal care procedures
- ❑ Visitor and/or special guest tours of the rhino holding facility
- ❑ Emergency situations

Breeding Introductions

Perhaps the most dangerous time for staff interaction with SRS rhinos is during planned (and unplanned if a rhino inadvertently crosses a fence) animal introductions for breeding purposes. At these times rhinos are under considerable stress from the aggressive interactions that characterize the species encounters. The normal courtship process involves a period of chasing around the enclosure and sometimes fighting between animals. The SRS keeper and veterinary staff generally do not enter the enclosure at these times, unless it is deemed necessary to separate animals. This requires opening a gate and moving a rhino into an open paddock. The keepers are well trained at practicing these maneuvers and have successfully managed many Sumatran rhino introductions. However, the period of rhino

introductions is a time with increased risk and all precautions should be made to limit these risks to staff.

Male Rhino Breeding Assistance

In the past, it has been a practice at the SRS to “assist” the male rhino during intromission with the female. Although this has been done with some regularity and without injury, it is a dangerous practice. Additionally, this level of interaction by the keeper staff could interfere with the normal courtship and breeding process. It is recommended that this practice be eliminated from the SRS animal handling protocol.

Post-breeding Male Fertility Collections

Because of long-term concerns over fertility of the male rhino, Torgamba, the SRS team has become skilled at performing post-breeding collections from the male at dismount from the female. This technique has been conducted without injury, but not without risk. Given that there are other ways of collecting a post-breeding semen sample from a male rhino (i.e. Cincinnati Zoo protocol of collecting a post-breeding sample by passive collection from a recumbent female rhino), perhaps the post-copulatory male collection practice could also be eliminated from the SRS animal handling protocol to enhance safety.

Rhinoceros Chute Training and Conditioning

It is important that each SRS rhino be trained to regularly enter the chute for examination and treatment. This has been done with all three female rhinoceros because of the need to perform routine ultrasound and also with the old male Torgamba as an aid to monitor his health. The chute training for Andalas, however, has not been developed as well as the other rhinos and while the alternative of scratching him down works for some things (blood collection, foot care, etc.) there may be a medical need that requires chute restraint. Therefore we recommend that the SRS resume regular chute conditioning with Andalas (and continue with the other animals) so that each rhino enters the chute without hesitation.

Rhino Breeding Protocol at the SRS

Keepers

All rhino keepers will be in the central breeding location during a planned breeding or animal introduction. In certain circumstances of a keeper holiday, keepers can be called back to the SRS to assist. Ensure that keepers work in teams of a minimum of 4 persons during introductions.

Veterinarian

A veterinarian must be on standby at the SRS during breeding times and at least one veterinarian should assist with the animal introductions in the central location during the breeding period.

Other Staff

Stand by at the office.

Equipment prepared

- ❑ Main platform and small platform in the central area (few locations)
- ❑ 4WD Cars for evacuation of injured staff member
- ❑ Fire extinguisher
- ❑ Electric current sticks (long and short)
- ❑ Pliers
- ❑ Radios
- ❑ Raincoats
- ❑ Flashlights
- ❑ Hose length
- ❑ Microphone and sirens
- ❑ Emergency equipment (stretcher, pliers, etc.)
- ❑ Equipment for semen collection (post-breeding from female)
- ❑ Equipment for staff consumption (water, food, etc.)
- ❑ Sleeping equipment (nets, mattress and sleeping bag)
- ❑ Food (fruits and browse) for use by keepers to feed to rhinos as a distraction to aid in rhino separation and interventions

Protocol

- ❑ The main command at the time of rhino breeding is a vet in the SRS. If at the time of breeding, two veterinarians are on duty then the main command will be in the hands of the Animal Collection Manager.
- ❑ Veterinarian will be responsible for preparing personnel and, if deemed necessary, can call keepers who may be off duty.
- ❑ The veterinarian will give information related to breeding time (based on ultrasound findings and behavioral information provided by keepers) to all SRS staff and provide guidance on the breeding plan. The veterinarian will explain job descriptions, risk analysis and also the necessary emergency measures to each of the personnel who will be involved in the breeding process.
- ❑ Facility manager, or a designated individual, will check and prepare all the necessary facilities, tools and equipment.
- ❑ Keepers will be in charge of bringing rhinos into the central area and will be asked to participate in the decision-making process related to animal introductions and separations.
- ❑ A pre-breeding introduction (across the fence) will be carried out before mixing of rhinos by introduction between the fence or the stall door. The decision to mix (pair the rhinos) will be made by the veterinarian with input from the keeper staff.
- ❑ Prior to mixing of rhinos, the condition of the Central Area electric fence will be tested by the Facilities Manager to ensure the fence is operational.
- ❑ Keepers will be strategically located in a designated area around the Central Area especially close to each gate.
- ❑ Coordination of all personnel will be done before each rhino introduction and all officers will be asked to carry and test their radios.
- ❑ When the gates are opened and the rhinos are allowed into the Central Area, the veterinarian will inform all the personnel through Radio communication.
- ❑ Driver / keeper is ready with a 4WD car at the gate of Central Area in case emergency

evacuation of staff is required.

- ❑ Surono / Ratno / Gocek will stand ready to turn on water supply to Central Area.
- ❑ In case of an animal accident or other situation that requires intervention or animal separation, the veterinarian will be responsible for advising the keepers on the solution
- ❑ If a rhino is injured, the veterinarian will only examine the animal once it is safely inside the stall and not in the forest, unless there are extenuating circumstances (i.e. rhino is unable to rise or return to stall because of injuries)
- ❑ In an emergency situation, human safety will be the first priority
- ❑ Keeper should not bring a machete inside the Central Area during rhino introductions to preclude the chance for injury
- ❑ Back up personnel will be stationed in the office or camp mess (Facility managers and administration / finance)
- ❑ Forest guard will be on standby at the guard post
- ❑ During the breeding, only SRS staff or advisors will be allowed access to the breeding site or rhino locations
- ❑ Visitors or guests will not be allowed to enter animal areas

Other Ideas for Enhancing SRS Human-Animal Safety

- ❑ Keeper staff participate in cross training with other rhinos so they can safely fill in for missing staff, without additional risk
- ❑ Ensure keepers work in teams of a minimum of 4 during breeding introductions
- ❑ Keepers continue to work individually with rhinos for daily activities with enhanced safety measures (working radio contact, safety exits, safe practices)
- ❑ Ensure adequate facility maintenance so gates open readily, electric fencing is operational, double fence is securing buffer zone around Central Breeding Area, etc.
- ❑ Review breeding and paddock facilities to make sure there are appropriate measures for staff escape routes
 - o Central Breeding Area should have human-sized exits adjacent to each gate so a keeper is not required to scale the fence to evade an aggressive animal encounter
 - o All rhino paddocks should have two exit areas on opposite sides with pipe spacing that will allow the largest keeper/veterinarian to exit the stall in a hurry
 - o Observation platforms should be well maintained and upgraded with safety equipment (working ladders, flashlights, first-aid kits etc.)
- ❑ Provide a fire extinguisher in the central area for use as a tool to move off an aggressive rhino
- ❑ Separate SRS rhinos by an uninhabited fenced area so there is no sharing of a common fence among sympatric animals (this is now common practice)
- ❑ Do not allow visitors or guests to enter animal areas

General Emergency Preparedness at SRS

- ❑ Develop a written policy that outlines staff safety and emergency planning with YABI oversight and guidance
- ❑ Ensure radio communication is operational and that one SRS staff member is always “on call” at the base station to receive and act upon emergency help from keepers and other field personnel. This could involve seeking the assistance of the forest guard in this process.

- ❑ Station human safety/first-aid kits at each Rhino Paddock and at the Central Breeding area. A safety kit should include the following at a minimum:
 - Bandaging materials for managing acute wounds (band-aids, gauze wrap, cotton, Vet Wrap or similar bandaging tape, etc.)
 - Splinting materials for basic fracture stabilization
 - Antiseptics, wound treatments
 - Epinephrine stick for bee-sting or other allergic reaction
 - Sling support that could be used to transport an individual out of the forest (sling could be designed to work with hand-cut saplings for impromptu transport)