

**Sumatran Rhino Global Management  
and Propagation Board Meeting  
4&5 March 2009**

Hotel Salak, Bogor, Indonesia  
Sponsored by the International Rhino Foundation

**Summary of Primary 2009 GMPB Meeting Recommendations**

- 1) Individual animal recommendations as described in detailed charts.
- 2) Bank semen from all mature males.
- 3) Consult with geneticists to determine genetic diversity of current population and impact of specific pairings on the future of the program.
- 4) Reproductive task force to conduct further assessments and germplasm rescue attempts from non-reproductive rhinos (Torgamba and possibly Gologob).
- 5) Hold next GMPB meeting in two years in association with the SE Asia AsRSG meeting.

**Summarized Minutes and Detailed Recommendations**

1. Seventeen participants in attendance (see pg 16 for participant list)
2. Introduction By Chairman of GMPB (Widodo S Ramono)
  - Welcome members
  - 1<sup>st</sup> meeting of GMPB was in March 2005
  - Review of GMPB Charter:  
The purpose of the Sumatran Rhino **GLOBAL MANAGEMENT & PROPAGATION BOARD (GMPB)** is to develop and manage a Global Sumatran Rhino Propagation Program, involving all the countries and institutions maintaining Sumatran Rhino in Managed Breeding Centers, and the major sponsors of the centers and programs.
  - The task of GMPB
    - To recommend and decide on the management of the Global Sumatran Rhino Captive Population as a truly global population to maximize the options for reproduction and to improve its vitality and viability in a **Global Sumatran Rhino Propagation Program**.
    - To prepare and facilitate exchange of animals between all locations if indicated for the purpose of the Program.

- To facilitate exchange of experience and transfer of knowledge.
- The Composition of GMPB
  - The GMPB will consist of:
    - Representatives of the Countries or Institutions holding Sumatran Rhino in Managed Breeding Centers;
    - Representatives of Donor Agencies; and
    - Sumatran Rhino Experts.
  - The membership will be reviewed bi-annually and the GMPB will bi-annually elect a chairman from among the members
  - The Sumatran Rhino Expert members will form a Technical Committee (TC) that will function as the secretariat of the GMPB
- The vision statement is: To develop and manage a Global Sumatran Rhino Propagation Program involving all countries and institutions maintaining Sumatran Rhino in manage breeding centers, and the major sponsors of the Centers and program

### **3. Review of GMPB Goals and Achievements from 2005 Meeting - Terri Roth**

- Looking back we have accomplished many of the action steps from last meeting:
  - 1) Enhance breeding potential at the SRS and provide appropriate mate.**
    - **Actions:**
      - A. Start breeding new females with existing male at the SRS as soon as possible
        - ✓ Done with Ratu; in process with Rosa
      - B. Initiate the transfer of Andalas to the SRS as soon as possible
        - ✓ Transfer completed
      - C. Start the necessary preparations in the SRS for the acclimatization and adaptation process
        - ✓ Acclimatization and adaptation successfully completed
  - 2) Continue breeding with the pair in Cincinnati**
    - **Actions:**
      - A. Continue the program in Cincinnati
        - ✓ Third calf produced and reared
  - 3) Provide older animals that have not reproduced with new partners and/or harvest and preserve their germplasm**
    - **Actions:**
      - A. Move Bina to Cincinnati for pairing with Ipuh for 2 years
        - ✓ Not completed due to Bina's irregular cycle and age (cost-benefit analysis)
      - B. If not pregnant in 2 years, attempt gamete harvesting
        - × Not completed
      - C. Further actions will be determined by GMPB at that time
        - × Not applicable
      - D. Pair Torgamba with the young females (Ratu & Rosa) in the SRS as soon as possible for at least 1 year, and continue the pairing with Bina if possible.
        - ✓ Torgamba bred Ratu many times and continues to breed Bina intermittently; No breeding with Rosa yet.
      - E. Concurrently evaluate Torgamba's reproductive status, restore fertility if possible and collect and preserve sperm.

- ✓ Reproductive status has been assessed further; male has at least intermittent infertility; several attempts to collect sperm but no sperm collected.

Notes:

- (1B) Andalas's transaction - was a huge operation and was handled very well
- (3C) N/A Bina was not moved to Cincinnati based on cost-benefit analysis
- Current Rhino Status was presented from last meeting as a format to update later in this meeting.

#### 4) Report on current population - Moderator Terri Roth

➤ Sumatran Rhino Sanctuary (SRS) - Dedi Candra

- **Goal:** Successfully breed Sumatran rhinos in sanctuaries for reintroduction purposes
- **Objective:** To establish a centre for semi-in-situ conservation of the Sumatran rhinoceros
- **Function:** As a centre for breeding, research and conservation education of the Sumatran rhinoceros
- Current Global Captive Population = 11 (5.6.0) - Cincinnati Zoo = 1.2.0, White Oak 1.0.0, SRS = 2.3.0, Borneo Rhino Sanctuary = 1.0.0, Lok Kawi = 0.1.0.
- 41 rhino were captured between 1984 - 1995 across Malaysia and Indonesia.
- Only 5 of these 41 rhino remain
- The SRS provides a natural environment with ~10 ha forest enclosure per rhino. It lies within rhino habitat that provides natural food, topography and vegetation. We have less human interaction to allow rhino to do their natural activities (wallowing, exploring, forage their own food, etc). Intensive daily observations are made on all rhinos to monitor their behaviour pattern as important parameters for early detection of illness and we also conduct research on food preferences, reproduction behaviour and hormones, habitat use, etc. as study of Sumatran rhino ecology. The total area of the sanctuary is 100ha.
- About the rhinos:
  - **Torgamba**
    - Nov 1985: 1st rhino captured in Riau Province
    - Apr 1986: Moved to Port Lympne Wild Animal Park England
    - January 1998: Returned to Indonesia - SRS Way Kambas
    - Nov 1998: Attempted mating Bina 1st time
    - Feb 2002: 1st successful Mating
    - Estimated Age: 28 years
    - Weight: ± 700 kg
    - Current Health Status: chronic anaemia and Kidney Problem?
    - Reproduction Status: Oligozoospermia
  - **Bina**
    - May 1991 : 15th rhino captured in Bengkulu province
    - Nov 1991: Taken to Safari Park Bogor
    - January 1998: Taken to SRS Way Kambas
    - Feb 2002: 1st successful Mating
    - Estimated Age: 21 years
    - Weight: ± 700 kg
    - Current Health Status: Good

- **Ratu**
  - Female, Rescued outside Way Kambas NP & translocated to SRS on 20 Sep 2005
  - Age: ± 7 years
  - Health Status: Good
  - Reproduction status: Normal reproductive tract and good potential female for breeding
- **Rosa**
  - Female, Rescued in Bukit Barisan Selatan NP and translocated to SRS at 26 November 2005
  - Age: ± 6 years
  - Health Status: Good, monitoring parasite (fluke problem)
  - Reproduction status: Has started cycling in past year or two
- **Andalas**
  - Male, born in Cincinnati Zoo US 13 September 2001, from parent Ipuh and Emi
  - Andalas moved to LA Zoo to grow up
  - Age: 7 years
  - Health Status: good
  - Reproduction status: recently mature but fertility not yet assessed
- **Animal Health - the staff at the SRS carry out:**
  - **Husbandry Observations** - Feed intake (daily), Activities (daily), Body weight (weekly)
  - **Health Monitoring** - Blood Analysis (monthly), Mineral assays (Quarterly), I-Stat testing - (Quarterly), Urine and faecal analysis (weekly), Physical inspection (daily), Diseases surveillance (yearly)
  - **Reproductive Monitoring** - Ultrasound (3x/week then daily near estrus), Faecal sample collection (2-3 samples/week), Reproductive morphology and sexual behavioural changes (daily)
- **Current Rhino Health**
  - All Sumatran rhino at the SRS are good condition in general.
  - Previous cases include: foot problems, wounds, eye problems and parasites
    - **Torgamba**
      - Low serum phosphorus and high Ureum-Creatinine in the blood observed since 2004
      - Chronic Anaemia
      - Less strong compare to the female, he is often getting tired very soon during the courtship; Missing lower 1st molar causing history of dental disease (treated with power float)
    - **Andalas** - Intermittent reduced activity following introductions
    - **Rosa** - Fluke infestation. Although Rosa shows no evidence of disease associated with these flukes, there is concern because an elephant from the nearby sanctuary appears to have died from a severe fluke infestation.
    - **Bina and Ratu** - Healthy

- **SRS 3 Month Plan**
  - **Torgamba**
    - Continue routine blood work minimum 1x/month.
    - Quarterly mineral assays
    - Supplement of Phosphorus, 3x/day hand-feeding, white salt and herbals if necessary
    - i-Stat testing quarterly
  - **Andalas**
    - Decrease hand-feed to 2x daily + PM Exercise!
    - 1x/month blood work plus mineral assays quarterly
    - i-Stat testing quarterly
  - **Bina**
    - 1x/month blood work plus mineral assays quarterly
    - i-Stat testing quarterly
  - **Ratu**
    - 1x/3 month blood work plus mineral assays quarterly
    - i-Stat testing quarterly, if feasible
  - **Rosa**
    - 1x/month blood work plus mineral assays quarterly
    - i-Stat testing quarterly
- Blood Examinations are carried out for - Haematology, Chemistry, Minerals, Parasites, etc
- Wounds are treated
- Torgamba's teeth are floated
- Parasites monitored in the rhino:
  - Blood Parasites (Trypanosoma, Theileria, Anaplasma, Babesia)
  - Endo Parasites: Protozoa (Balantidium, Ciliata, Amoeba) and Helminth (Trematoda, Oxyuris, Strongylus, etc)
  - Ekto Parasites: Tabanide, Amblyoma, Musca, etc
- **Reproduction**
  - **Torgamba**: normal reproduction behaviour but low quality and quantity of sperm
  - **Andalas**: still learning reproduction behaviour
  - **Bina**: irregular cycle, sometimes delayed cycle - getting old?
  - **Ratu**: normal cycle, range 20-22 day, currently introducing to Andalas
  - **Rosa**: irregular cycle, close to mature, normal reproduction behaviour but still scared of male
  - Ultrasound Examination is carried out to detect/monitor: Follicle development, ovulation, early pregnancy, embryo development, pathology
  - Experienced breeding rhinos = TORGAMBA, RATU, BINA
  - Inexperienced breeding rhinos = ROSA, ANDALAS
  - Robin Radcliffe visits the SRS every 3-4 months as part of the Rhino Conservation Medicine Program to assist the SRS in its activities
  - Mentioned that they have observed female rhino ovulate after paring without copulation
- **Problems Faced**
  - TORGAMBA - Oligozoospermia
  - ANDALAS has a problem with courtship and mating behaviour (Still aggressive - fighting - playing)

- BINA has an irregular oestrous cycle
- ROSA is still young and learning
- Facilities only one breeding area
- **Breeding Priorities (Current status)**
  - **Andalas**
    - Breeding Priority #1
    - Breed with Ratu in Center Breeding Area
    - CN Zoo completed fecal testosterone study of puberty. Reached mature age Early 2008 as indicated by hormone assay.
    - Aggressive with females (only paired with Ratu lately).
  - **Torgamba**
    - Breeding Priority #2.
    - He is still interested in mating with females and is more calm and experienced.
    - Breed with Rosa in New Breeding Area (use center until new area can be built)
    - Priority is collection of post-breeding samples (Preserve all semen samples in formalin (1 part formalin to 9 parts sample) and freeze
    - SRS team to monitor health closely
    - CN Zoo testosterone assays were completed and it looks like he has good levels.
  - **Bina**
    - Lowest Priority.
    - She is still exhibiting irregular cycles; follicles often continue growth to big size (~ 40 mm) and become persistent. Too big for breeding.
    - Ultrasound 3x/week then daily near estrus
    - Breed with Torgamba, if opportunity presents
    - Jan 2009 success breeding again (two times)
  - **Ratu**
    - Highest Priority
    - She is potential female for breeding with regular cycle
    - Ultrasound 3x/week then daily near estrus
    - Breed with Andalas in Center Breeding Area
  - **Rosa**
    - High Priority
    - Ultrasound 3x/week then daily near estrus
    - Breed with Torgamba in New Breeding Area
    - Close to mature age as indicated by maturing follicle, although cycle still irregular.
    - Sometime have hemorrhagic follicles or spontaneous ovulation with luteal formation.
    - Better behavior during introductions, more interest to approach male but still alert, scares and sometimes run into or under fence.
    - She is showing better response to Torgamba.
- **Breeding Methodology**
  - **Pairing Andalas and Ratu in Center Breeding Area:** Andalas as primary breeding animal at the SRS. Priority will be to mix Andalas with Ratu

- since she is an experienced breeder of presumed normal adult reproductive function.
- **Pairing Torgamba and Rosa in second Breeding Area:** Rosa is young and maturing inexperienced female and we believe that she may learn valuable courtship lessons by mixing with Torgamba.
  - **Pairing Torgamba and Bina in second Breeding Area:** We need to pair her to induce regular cyclicity. We hope that Bina still potential female for breeding.
  - **Males to be managing for Breeding in SEPARATE Areas:** In the past, males were mixed with females in the same central area and scent of other male could be inducing aggression.
  - **Ratu's new "Home Range" to include Central Area:** This would allow Ratu to better familiarize herself with the surroundings in a positive environment.
- **SRS 2009 Program**
- Monitor Torgamba's health closely
  - Torgamba - dental float
  - Create a data base software
  - Create a second breeding area
  - Continue general health checks for staff and rhinos including Salmonella, Hepatitis B and TB
  - Research Activities
    - Surveillance of parasites - (priority Trematoda - Rosa Treatment)
    - Reproduction: focus on Andalas sexual behaviour
    - Reproduction: Continue Faecal hormone assays
    - Continue small projects especially rhino health with Cornell veterinary students via Expanding Horizons program
    - Research stress behaviours with hormone assays
    - Research DNA via faecal (blood -Done)
    - Research nutrition: variety of plants, analysis proximate, metabolism, pesticide research, manure and biogas.
    - Habitat - replanting enrichment
  - Education and Awareness in the local community (rhino dance, carving, painting, school visit, etc)
  - Continue to collaborate with Universities
  - Internship and Volunteer program (Veterinarian, Biologist, forestry, planete urgent, etc)
  - Limited tourism
  - Media information (data centre)
  - Work on Visitor Bio security pool
  - Operate more on solar cell - global warming
  - Manure and Biogas
  - Re-vegetation programe
- **Emergency evacuation plan - SRS has implemented this plan in the event of events such as forest fire evacuation in the dry season. Crates are in place in two areas already mounted on trailers ready to evacuate the rhino if needed.**

➤ **Cincinnati Zoo Update - Terri Roth**

- ❑ Cincinnati remains committed to the global Sumatran rhino breeding program. Rhinos are one of their primary conservation focuses along with a program on small cats and endangered plants.
- ❑ The Sumatran Rhino was Cincinnati's flagship species but they have broadened and are also working on Indian rhinos - Asian rhinos are the priority.
- ❑ In the 2005 GMPB meeting the recommendation was made to breed Emi and Ipuh again - this was done successfully on the first pairing and as a result a male calf 'Harapan' was born in 2007.
- ❑ Harapan was moved to White Oak Conservation Centre (Florida USA) in 2008 after weaning.
- ❑ Video clip shown of courtship prior to successful copulation above - quite aggressive behaviour was screened.
- ❑ Cincinnati has noticed that Emi has become much more aggressive towards Ipuh since she had her 1<sup>st</sup> calf. She has proven to be a good mother and has raised her calves well. All calves grew very rapidly and were weaned between 12-18 months of age.
- ❑ **Emi**
  - Proven breeder (three calves)
  - Healthy. No recent eye issues - In the past the rhino at Cincinnati have had problems with corneal clouding of the eyes however they have not seen any sign of this since a shade structure was constructed over the enclosure.
  - Cycling regularly - Generally cycles 5-6 months after giving birth
  - No reproductive pathology
  - Planning to breed with Ipuh in summer 2009
  - Had a break from breeding as she loses body condition after calves - last time it was assumed it would take time to get her pregnant but she became pregnant on first copulation.
- ❑ **Ipuh**
  - Aggressive, old male
  - Sperm quality still poor with many cells abnormal in structure - 40% of sperm structurally abnormal but still able to reproduce
  - Still fertile and healthy but corneal scarring/vision impaired
  - Semen has been cryopreserved and stored at CREW - sperm was collected from Emi post copulation and good quality samples - over 50% motility - were frozen.
  - Will try to breed with Emi this summer and preserve more sperm
  - No tooth problems in great condition for an old male
- ❑ **Suci**
  - Good health with no eye issues
  - Monitored for puberty (ultrasound and fecal hormones)
  - Currently immature
  - Will probably reach puberty this year or in 2010
  - Need to identify unrelated male or sperm for future breeding efforts - possibly develop artificial insemination program for Sumatran rhinos



➤ **Status of Sumatran Rhino in Sabah, Malaysia - John Payne**

- ❑ 25 years ago 1982 Faunal Survey report concludes:
  - Tabin area has largest rhino population - at least 7 rhino which includes 2 immature rhino. Population less than 12.
  - Recommends 100,000 ha conservation area
  - 1983 : estimated 12-20 rhinos in Tabin (2 young)
  - Danum Valley numbers less than 10 rhinos in scattered sites
- ❑ In 2000: Most “doomed rhinos” which were scattered over eastern Sabah, in 1980s, have died & not contributed to species survival. SOS Rhino (NGO) established in Sabah, at Tabin. RPUs Formed.
- ❑ May 2005 - Danum Valley survey found less than 13 rhinos in and around the conservation area, in about 60,000 hectares of forest.
- ❑ March 2007: Tabin Wildlife Reserve (120,000 ha), > 5 rhinos found (12 teams, 9 days) actual numbers known to be greater but despite periodic evidence of breeding, numbers of rhinos in Tabin seem to be less than the 1982 estimate.
- ❑ July 2007: Sabah rhino workshop concludes that isolated rhinos need to be concentrated into one area (“Borneo Rhino Sanctuary”, BRS) to improve chances of breeding.
- ❑ June 2008: SOS Rhino concluded operation in Sabah. Tasks taken over by Borneo Rhino Alliance (BORA) with the support from Sabah Wildlife Department, WWF-Malaysia, Institute for Tropical Biology and Conservation (ITBC) University Malaysia Sabah and LEAP.
- ❑ Rhino population trend graph states that population trend in decline. Why?
  - Bad habitat? Unlikely
  - Poaching? Probably occasional, although no direct evidence, last known case in March 2001.
  - Too few breeding adults that rarely or never meet? Very likely.
  - Inbreeding? Probably.
- ❑ November 2007-February 2008: Eight sites considered for Borneo Rhino Sanctuary; Tabin Wildlife Reserve chosen.
- ❑ 2007-08: design and size of BRS debated - Tabin chosen due to the fact that the habitat is known rhino habitat, surrounded only by plantations and not villages - minimising exposure to people, limited access.
- ❑ 2007-08: surveys show about 7 rhinos in scattered sites outside the Tabin and Danum populations (but only 3 rhinos currently monitored).
- ❑ 3 August 2008: One of the isolated rhinos (a mature male, tracked and monitored by WWF since early 2007 using RPU and Camera Trap), enters oil palm plantation & refuses to come to the forest. Seemed very tame. Had what looked like an old snare wound.
- ❑ 13 August the rhino was habituated and taken to Tabin enclosure by Sabah Wildlife Department.
- ❑ Enclosure old 1993 facility which needed to be upgraded with shade, general maintenance and an extension to get the rhino out to natural substrate. All with little notice.
- ❑ In Summary up to 15 scattered rhinos are thought to be in Tabin and 15 more in and around Danum Valley. Both populations are stagnant. Probably due to infrequent if ever meeting, lack of mating and presumed inbreeding in both sites and some poaching. A few (maybe 7) scattered rhinos in other wild sites - not contributing to species survival.
- ❑ Current captive population = 1 old female at Lok Kawi, 1 healthy male at Tabin.

- Basics of Sabah Rhino Plan (draft plan not approved by government as of yet) -
  - **Goal** - To prevent the extinction of the Borneo rhino in Sabah, and increase the species' population size.
  - **Main Methods - No 1.** Zero poaching and trapping of rhinos, anywhere in Sabah. **No 2.** Establishment of a fenced Borneo Rhino Sanctuary inside Tabin Wildlife Reserve, to be populated by rhinos translocated from other, isolated sites elsewhere in Sabah.
- Borneo Rhino Sanctuary plan:
  - Single fenced 4,500ha inside Tabin Wildlife Reserve (TWR) under forest. A 33km perimeter will be bounded by road and electric fence following old (1970s-80s) logging roads.
  - TWR (120,000 Hectares) located 40 km north-east & 75 minutes drive from Lahad Datu town and was established under forestry legislation in 1984 for rhinos.
  - Existing road will be extended for a further 19 km through forest.
  - Almost all of Tabin is regenerated logged forest.
  - Operate BRS as a company contracted by government.
- Fence concept - electrified fence along gravel road. Fence visibility (to rhinos) is critical. Fence will be patrolled by vehicles daily. Appropriate bridges will be constructed over creeks and rivers. Design is based on African concept.
- Future Challenges -
  - (i) capture isolated rhinos and (ii) establish adequate protection in the surrounding area of BRS.
  - Tracking and capturing the isolated rhino (current funding from WWF-Netherlands will end on coming June 2009. Financial support is needed for another 2-3 years).
  - Long term financial support is needed to maintain the RPU's team in BRS/Tabin

- **White Oak Conservation Centre - Steve Shurter**
  - ❑ A 3,000ha property in North Florida which was the Gilman Family Estate. Mr. Gilman turned White Oak into a retreat for animals which focuses heavily on ungulate species with a primary focus on endangered species conservation.
  - ❑ The breeding programs try to link to *in situ* programs.
  - ❑ White Oak conservation programs also include reintroduction programs back to the wild.
  - ❑ The facility also provides training programs for people in the field of veterinary medicine and internships as well as participating in many research projects including non-invasive hormone analysis and genome banking.
  - ❑ The facility also facilitates conservation meetings by providing their function centre and accommodation for organisations to meet
  - ❑ The rhinos are signature programs and the facility now is the only facility in the world to hold 4 species of rhino - Black, White, Indian and Sumatran rhino
  - ❑ Black rhinos have been re-introduced back into Africa from White Oak as a part of their Black rhino program
  - ❑ White Oak (WO) is one of the founder members of IRF and has been supportive of Sumatran rhino programs including RPU and SRS support. They also provide support for IRF Africa programs
  - ❑ WO would like to participate on best practice for Global SR Program and to become involved in the program in future where needed.
  - ❑ Would also like to become involved with research opportunities in the Sumatran rhino program.
  - ❑ **Harapan**
    - Arrived in Nov 2008 from Cincinnati Zoo
    - Is provided with plenty of fresh browse sourced from within Florida grown especially for the program. Browse and dry matter ~ 40kg/day
    - Shade cloth has been constructed over enclosure to prevent clouding of the eye
    - Approx 1.5ha has been provided (previously Black rhino enclosure) for him. If White Oak continues to be a part of Sumatran rhino breeding program they will construct species specific enclosure for the Sumatran rhino in their forest area.
    - Keen to apply their research resources to further investigate the browse requirement in the diet
    - Blood is taken weekly from Harapan to monitor health and reproductive status
    - Video presentation of Harapan enjoying wallow at White Oak
- **Los Angeles - Terri Roth**
  - ❑ Jeff Holland sent apologies
  - ❑ LA remains Interested in supporting the Sumatran rhino program and continues to provide strong support and donate funds through IRF
  - ❑ LA Zoo was one of the facilities identified to send Harapan to when weaned however declined as they currently have major renovations happening and felt that it would be unfair to take him on when other facilities may be in a better position to take him on at the time.
  - ❑ LA Zoo plans to have Sumatran rhinos again in the future when an appropriate exhibit can be developed.

**5) Group brainstorm on current Issues to be addressed at meeting: facilitated by Terri Roth**

- Key points identified:
  - Delicacy of moving animals and biomaterials among countries
    - Formation of 'sister' relationships among census
  - Find a mate for Suci
  - Mate recommendations for Tam and Harapan
  - Recommendations for further reproductive assessments in unproven rhino along with action steps
  - Endorsement of Borneo Rhino Sanctuary program in Sabah
  - What to do with non-reproductive rhinos - Torgamba, Bina, and Gologob.
  - Recommendations for genetic analysis
  - Rescue of doomed rhinos for sanctuary
  - Timelines for animals in breeding situations
  - Capacity of facilities needed to grow program:
    - SRS has 2.3.0 holding capacity??
  - Standard fertility assessment protocol
  - Sustainable funding for sanctuaries
  - Protocol on how to inform public on status of animals
- Issues were further discussed at end of meeting (see more detailed notes on this discussion on pages (14-15)).

6) Update Captive Rhino Status was completed

**Female Rhino Status**

Rhino	Age	W (kg)	Health	Estrous Cycle	Breeding Activity
Emi	18	710	Good	Regular	Three calves produced
Suci	4.5	702	Good	Immature	None yet
Bina	25+	726	Good	Irregular	Numerous copulation with Torgamba - no pregnancies
Ratu	9	546	Good	Regular	Numerous copulation with Torgamba - no pregnancies Introducing to Andalas
Rosa	7	606	Good	Recently started	No copulations yet Introductions in process with Torgamba
Gologob	28	575	Blind	Previously irregular, currently Unknown	Copulation with Tanjung and no pregnancies (2004-2005)

**Male Rhino Status**

Rhino	Age	Wt (kg)	Health	Breeding Activity
Ipuh	30+	716	good	Proven sire
Torgamba	30	718	Chronic health issues; currently stable	>80 copulations; no pregnancies; Oligozoospermia,
Andalas	8	757	Good	Recently mature; no mounting yet, introducing process with Ratu.
Harapan	1.5	484	Good	Immature
Tam	18+	598	Good	No opportunity yet

7) Individual Rhino Management Plans (Developed following lengthy discussions all afternoon 4 March, 2009). Actions for all recommendations are the responsibility of the institutional representative for the facility currently managing the rhino unless otherwise noted.

Female Rhino

Rhino	Facility	Action Steps Recommended	Timeline
Emi	Cincy	<ul style="list-style-type: none"> <li>➤ Breed with Ipuh in 2009</li> <li>➤ Inquire about impact of genetic contribution of this pair on population</li> </ul>	<ul style="list-style-type: none"> <li>➤ Pregnant by 2010</li> <li>➤ Within 6 months</li> </ul>
Suci	Cincy	<ul style="list-style-type: none"> <li>➤ Continue to monitor for puberty</li> <li>➤ Initiate artificial insemination program</li> <li>➤ Start banking sperm from Tam/Torgamba for Suci AI</li> </ul>	<ul style="list-style-type: none"> <li>➤ Ongoing</li> <li>➤ Start timeline once cycling regularly</li> <li>➤ Within 12 months</li> </ul>
Bina	SRS	<ul style="list-style-type: none"> <li>➤ Mate Bina with Andalas</li> <li>➤ Move Tam to SRS to breed Bina</li> <li>➤ Analyze faecal data</li> </ul>	<ul style="list-style-type: none"> <li>➤ As soon as possible</li> <li>➤ 6 months</li> <li>➤ Within 2 yrs</li> </ul>
Rosa	SRS	<ul style="list-style-type: none"> <li>➤ Mate with Torgamba for experience</li> <li>➤ Breed with Andalas for pregnancy (before or after success with Torgamba)</li> <li>➤ Move Tam to SRS to breed Rosa</li> <li>➤ If no success, consider moving or AI</li> <li>➤ Analyze faecal data</li> </ul>	<ul style="list-style-type: none"> <li>➤ Immediately</li> <li>➤ 12-18 months</li> <li>➤ 6 months</li> <li>➤ 2-3 years</li> <li>➤ Within 2 years</li> <li>➤ Within 2 yrs</li> </ul>
Ratu	SRS	<ul style="list-style-type: none"> <li>➤ Breed Ratu with Andalas</li> <li>➤ Breed Ratu with Tam</li> <li>➤ Analyze faecal data</li> </ul>	<ul style="list-style-type: none"> <li>➤ Immediately</li> <li>➤ 6 months</li> <li>➤ Within 2yrs</li> </ul>
Gologob	Lok Kawi	<ul style="list-style-type: none"> <li>➤ Assess fertility by ultrasound</li> <li>➤ GMPB re-assesses recommendation if positive result from ultrasound (i.e., ovaries active)</li> <li>➤ If result negative, develop germplasm rescue protocol*</li> </ul>	<ul style="list-style-type: none"> <li>➤ Within 6 months</li> <li>➤ Within 12 months</li> <li>➤ Within 12 months</li> </ul>

Male Rhino

Rhino	Facility	Action Steps Recommended	Timeline
Ipuh	Cincy	<ul style="list-style-type: none"> <li>➤ Breed with Emi in 2009</li> <li>➤ Collect and bank more semen for AI with other females</li> <li>➤ Inquire about impact of genetic contribution of this pair on population</li> </ul>	<ul style="list-style-type: none"> <li>➤ Pregnancy by 2010</li> <li>➤ Within 12 months</li> <li>➤ Within 6 months</li> </ul>
Torgamba	SRS	<ul style="list-style-type: none"> <li>➤ Pair with Rosa to teach to mate</li> <li>➤ Mate with Bina and Ratu to induce regular cyclicity</li> <li>➤ Repro Task Force assess and treat fertility problem*</li> <li>➤ Move to White Oak or Cincy when Tam moves to SRS (contact Port Lympne first)</li> <li>➤ Bank semen if any sperm can be produced</li> </ul>	<ul style="list-style-type: none"> <li>➤ Immediately</li> <li>➤ As necessary</li> <li>➤ Start immediately</li> <li>➤ 18 months</li> <li>➤ As soon as sperm is produced</li> </ul>
Andalas	SRS	<ul style="list-style-type: none"> <li>➤ Pair with Ratu, Bina and Rosa for breeding</li> <li>➤ Collect and bank semen</li> <li>➤ If no mating in 3 years, consider moving to another/new facility depending on problem</li> </ul>	<ul style="list-style-type: none"> <li>➤ Immediately</li> <li>➤ During next 3 years</li> <li>➤ 3 years</li> </ul>
Harapan	WOCC	<ul style="list-style-type: none"> <li>➤ Continue to mature at White Oak</li> <li>➤ Monitor for puberty</li> </ul>	<ul style="list-style-type: none"> <li>➤ Next 3 years</li> <li>➤ Ongoing</li> </ul>
Tam	BRS	<ul style="list-style-type: none"> <li>➤ Conduct fertility assessment and sperm banking</li> <li>➤ Explore possibility of moving Tam to SRS temporarily to breed with all three females</li> <li>➤ If approved, move Tam to SRS</li> <li>➤ Set up sperm bank in Sabah</li> </ul>	<ul style="list-style-type: none"> <li>➤ Within 12 months</li> <li>➤ Within 6 months</li> <li>➤ Within 18 months</li> <li>➤ Within 12 months</li> </ul>
*Repro Task Force		Robin Radcliffe, Dedi Candra, Nan Schaffer, Muhammad Agil, Terri Roth, Linda Penfold, Monica Stoops, Andriansyah, Dr. Rosa Sipangkui, Dr. Bambang Purwantara	

**8) Session on administrative topics - Led by Widodo Ramono**

- The GMPB members reviewed and agreed that the GMPB Charter was still appropriate. No changes were suggested.
- GMPB membership was reviewed in detail and all appropriate changes were made to the list for 2009 (see complete, updated list on page 20).
- GMPB Chairman asked the members if a new Chairman should be nominated for the next term. Kerry Crosbie nominated Pak Widodo Ramono to continue to serve another term as GMPB Chairman. Robin Radcliffe seconded the motion. There were no other suggestions and Pak Widodo agreed to serve another term as GMPB Chairman.

**9) Review of issues from group brainstorm to determine which still need to be addressed (highlighted issues were addressed under individual animal recommendations - Facilitated by Terri Roth**

- Find a mate for Suci -
  - ◆ Start by collecting semen from Tam and Torgamba and develop AI techniques when Suci reaches puberty. Review in two years.
- Mate recommendations for Tam and Harapan
  - ◆ Collect semen from Tam for AI in Suci (possibly others) and move Tam to SRS to breed Rosa, Ratu and Bina
- Recommendations for further reproductive assessments in unproven rhino along with action steps
  - ◆ Repro Task Force [ 7] will develop specific action steps for Torgamba and Gologob (pending ultrasound results)
- What to do with non-reproductive rhinos - Torgamba and Gologob.
  - ◆ Covered above by Repro Task Force [ 7]).
- Recommendations for genetic analysis
  - ◆ Draft plan with Peter de Groot to analyse existing animals in population for best genetic matches (Robin Radcliffe is point person)
- Timelines for animals in breeding situations
  - ◆ Timelines included in individual animal recommendations
- Capacity of facilities needed to grow program:
  - SRS has 2.3.3 holding capacity (calves would need to move as soon as weaned or facility upgraded)
  - Cincinnati has 1.2.2 maximum (calves would need to move as soon as weaned)
  - White Oak 2.2.2



- LA future capacity 1.1.1?
- Borneo Rhino Sanctuary will also have capacity (currently under study)
- Standard fertility assessment protocol
  - ◆ Repro Task Force [ 7] will draft for male and female
- Standard health assessment prior to animal management interventions
  - Develop standard health protocol (Robin Radcliffe is point person)
- Sustainable funding for sanctuaries - the SRS is operating at an escalating deficit every yr. We need to recruit other sources of funding including exploring funding from the Tropical Rainforest Conservation Act funds being managed by Kehati. (Susie Ellis is point person). SRS has capacity to raise \$10,000USD/yr.
- Protocol on how to publicly inform status of animals
  - ◆ Yabi will review information about SRS rhinos prior to public announcement
  - ◆ BORA will review information about BRS rhinos prior to public announcement
  - ◆ U.S. Zoos will review information for rhinos at their facility prior to public announcement
- Delicacy of moving animals and biomaterials among countries
  - Formation of 'sister' relationships among facilities
  - Will need to be addressed on a case by case basis with the appropriate parties
- Endorsement of Borneo Rhino Sanctuary program in Sabah
  - The GMPB welcomes BORA to the group and pledges to provide support and assistance to their managed rhino program and the future sanctuary at Tabin.
  - The AsRSG recommendation that the managed Sumatran rhino program consider all Sumatran rhinos together and not manage as sub-species facilitates the integration of the Borneo program into the GMPB.

**Additional General GMPB Recommendations:**

- 1) Bank semen from all mature males.
- 2) Establish and bank cell lines from tissue of all living rhinos opportunistically.
- 3) GMPB meets again in two years in association with the SE Asia AsRSG meeting.

**Additional Notes:**

- Some question to the ownership of Torgamba - Agil noted that he is owned by Port Lymph and authority given to Tamen Safari
- There are now new regulations for the transfer and importation of animals or samples. It can only be carried out on conservation loan and must be endorsed by Director General.
- If had to move females from SRS to USA - Rosa or Bina would be the preferred choice.
- Peter de Groot needs sample from Tam for genetic study. Study is pretty much complete. Shouldn't take long.
- Hormone assays can be carried out at SRS. It is better to do faecal sampling process than blood - less invasive and easier to collect.
- A protocol needs to be drawn up on gathering base-line data on new rhinos - especially rescued doomed rhinos for example.
- Semen storage:
  - Need to establish long term funding for semen storage.
  - Need to back up samples storing them in more than one facility to prevent accidental loss.

**2009 GMPB Meeting Participants**

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Apologies: Jeff Holland Los Angeles Zoo, PHKA members

\*Note: need ensure invitations to government bodies are general and not to an individual so that if the official can't make it, they can send someone else to represent them.

**GMPB Membership 2009**

**Chairman:** Mr. Widodo Ramono

**Range State Representatives:**

Indonesia: PHKA Director of Biodiversity Conservation and ex-officio Rhino Conservation Officer (Dr. Tony Suhartono)  
Peninsula Malaysia: Director of Dept. of Wildlife and National Parks (Mr. Abd. Rasid bin Samsudin)  
Sabah: Director of Wildlife Department (Mr. Laurentius Ambu)

**Institutional Representatives:**

Yaysan Badak Indonesia	Mr. Adi Susmianto
Cincinnati Zoo	Dr. Terri Roth
Los Angeles	Mr. Jeff Holland
White Oak	Mr. Steve Shurter
Asian Rhino Specialist Group Chair	Dr. Bibhab Talukdar
International Rhino Foundation	Dr. Susie Ellis
Asian Rhino Project	Mrs. Kerry Crosbie
Borneo Rhino Alliance (BRS)	Dr. John Payne
Lok Kawi Wildlife Park	Dr. Sen Nathan
Taman Safari Indonesia	Mr. Jansen Manansang

**GMPB Technical Committee:**

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Dr. Muhammad Agil  
Dr. Hadi Alikodra  
Mr. Dedi Candra  
Dr. Susie Ellis  
Mr. Nawayai Yasak  
Dr. Abdul Hamid Ahmad  
Dr. Sen Nathan  
Dr. Benn Bryant  
Dr. Robin Radcliffe  
Mr. Steve Shurter  
Mr. Widodo Ramono  
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Meeting closed: 11am 5<sup>th</sup> March