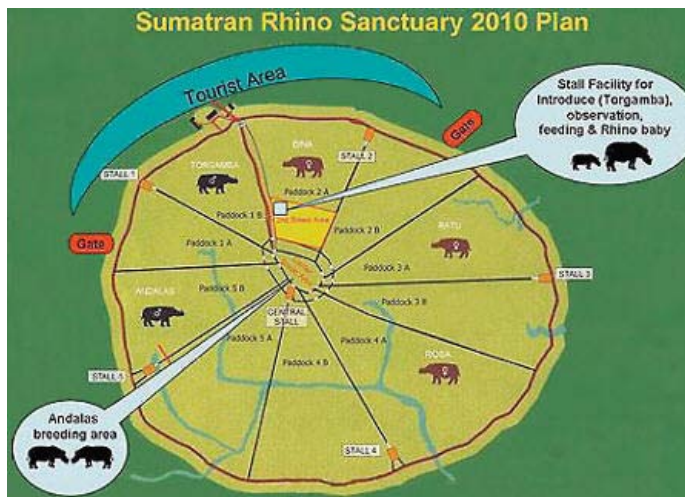


RCMP Indonesia Trip Report 6–21 January 2010

Sumatran Rhino Sanctuary, Way Kambas National Park, Lampung and Bogor, Indonesia (Submitted by Robin W. Radcliffe, DVM, DACZM Rhino Conservation Medicine Scientist, IRF, FRWC, CUCVM)

Review of SRS Reproductive Program

The Global Management and Propagation Board (GMPB) met in January of 2010 in order to update the breeding plans for the Sumatran rhino captive breeding institutions of which the SRS holds the largest number of animals (n=5). Recommendations were revised given changes in the captive population in the last year and new progress with Andalas at the SRS.



SRS Animal and Facility diagram showing current animal locations and proposed designation of tourist area to limit disruption to SRS work.

Andalas breeds with Ratu!!

On December 5 of 2009, Andalas mated successfully for the first time with Ratu after a period of courtship that included much running and fighting. This was followed by repeat matings on December 25 and January 13.

The first few days showed a poor response by the pair, but resulted in success on 5 December with Andalas mounted 17 times. On the 22nd an ultrasound showed no pregnancy, but a new follicle developing, so further mating was attempted, but response was not good. Ultrasound on the 24th indicated that the peak of Ratu's cycle was approaching. Ratu must have known what it was about as she was receptive to Andalas and presented for him; he chose to chase her instead, however they later fed happily together. Later still they mated again and a small semen sample



SRS keepers observe as Andalas and Ratu mate in the SRS. The team is waiting close by in preparation for post-breeding semen sample collection.

was collected which showed motile sperm. Andalas was learning how to take a good position and gaining experience. On 13 January, success was achieved with their breeding.



Andalas and Ratu mate for just the third time on January 13. All matings have taken place after dark in the early morning hours (close to 3 am).

GMPB Recommendations Specific for SRS

The recommendations stemming from the January 2010 GMPB meeting are specific for each animal at the SRS. The primary goal of the GMPB is to maximize the production of offspring to increase numbers of the very limited captive population.

These recommendations were made for a 2-year period, but we will review each on a 6-month basis to ensure we are meeting this goal.

Sumatran Rhino Radiotelemetry Solution



Measuring Andalus for a neck radiotelemetry collar – just one possibility.

In preparation for developing a proposal for testing radiotelemetry ideas in the Sumatran rhinoceros, Steve Shurter and I worked with the SRS team to collect preliminary information about methodology for transmitter attachment. We suggest acquiring basic information through preliminary testing at the SRS in preparation for submission of a full grant proposal that would fund this work. Preliminary testing will help provide a reasonable comfort level that what we ultimately propose is possible, safe and reliable. We took basic measurements of each rhino neck circumference (in case collars are considered) as well as horn base dimensions and molds for both the front and rear horns. In general, the male rhinoceros have a larger horn base and neck circumference than the female rhinoceros.



A Telonics TGM-4310 marine transmitter placed next to Rosa's posterior horn.

GPS Testing in Rainforest of Way Kambas

In order to test the suitability of acquiring GPS signals

from under the canopy of a tropical rainforest we tested two GPS units made by Garmin. The GPS 60 was unable to acquire satellite fixes under the forest canopy whereas the newer GPSmap 76CSx was effective in all cases in securing at least 4 satellites in various locations even from a cold start under the tall canopy inside Way Kambas National Park. Therefore, we are hopeful that the incorporation of the newer GPS technology into a hybrid GPS/ARGOS/VHF telemetry system might be a suitable approach to work towards with the Sumatran rhinoceros.



Dr. Dedi Candra obtaining a GPS fix using a Garmin GPSmap 76CSX unit in the rainforest of Way Kambas.

Review of SRS Iron Levels and a Plan to Monitor Hemochromatosis

Given the recent loss of Emi (Andalus' mother and the breeding female at the Cincinnati Zoo) related to hemochromatosis (iron storage disease) we agreed at the GMPB meeting that a more comprehensive iron monitoring program would be useful for the global management of Sumatran rhinoceros. A regular iron monitoring program for captive browsing rhinoceros may help us better understand the disease. At the SRS, we have been measuring serum iron on a regular basis and banking samples since 2005. Because assay of serum iron in itself is an relatively inaccurate measure of body iron loads we feel it is important to plan a CITES importation of Sumatran rhinoceros serum from all Southeast Asian breeding sites for assay at the Kansas State University. Testing for serum iron stores of

the Sumatran rhinos at the SRS do not show a trend in iron loading, however, it will be important to conduct further testing, including assay for serum ferritin, transferring saturation, and iron-binding capacity to determine if hemochromatosis is a problem in this population and for comparison to US zoological animals.

General Rhino Health Update

All of the rhinos are healthy and in excellent body condition. Rhino body weights are steady other than Torgamba who shows a minor decline in weight over the past twelve months.

RPU Activities and Performance

The Critically Endangered Javan and Sumatran rhinoceroses are two of the rarest and most threatened mammal species in the world - only around 200 Sumatran rhinos and 55 Javan rhinos exist in the wild. Both species could easily become extinct within our lifetimes if we



do not take proactive measures to protect them. The viable Javan rhino population is essentially confined to one national park in Indonesia, while the viable Sumatran rhino population is spread across three major parks. These national parks contain some of the most critical remaining tropical forest habitats in Indonesia – they are each home to numerous threatened species and provide critical ecosystem services for local populations. Each of these parks is also under extreme threat – up to 30% of their area has already been lost to illegal encroachment and conversion of land for agriculture. And the unique species living within these parks, including Javan and Sumatran rhinos, are declining due to poaching and habitat loss.

Through Yayasan Badak Indonesia (YABI), ARP partner the International Rhino Foundation (IRF) funds and operates Rhino Protection Units (RPUs) in these parks, to prevent poaching and encroachment, and to monitor and protect threatened species and the overall habitat. RPUs are highly trained four-person anti-poaching teams (made up of local community members) that intensively patrol key areas within national parks, deactivating traps and snares; identifying and apprehending illegal intruders, including poachers; and investigating crime scenes, thus preventing or reducing the loss of wildlife. The RPU program has essentially helped put a halt to rhino poaching in these three parks. The successes of these units have kept Javan and Sumatran rhinos

from extinction and remain critical for their continued survival. Eight anti-poaching units now operate in Barisan Selatan National Park (BBS), and regularly patrol the entire Park. Way Kambas National Park (WK) five rhino protection units have been fully functional since 2001, and there are now four RPUs active in Ujung Kulon National Park.

Each park has a RPU coordinator, and each RPU is led by a wildlife ranger who has qualifications of a civil investigating officer. The rangers have the authority to carry firearms and arrest suspected poachers; the other three members of the RPU are armed only with pepper spray for subduing uncooperative suspects. Other members are recruited from local communities. Recruits undergo a rigorous selection process that includes running, swimming, hiking, and other physical activities, followed by an intensive training course. Each RPU spends at least 15 days per month, every month, on patrol. RPUs use standard field data sheets and record detailed data on: all rhino tracks and sign encountered, other endangered or important wildlife, and on human disturbance encountered. Any traps or snares discovered during patrols are removed immediately and any illegal activity is investigated. If appropriate, evidence is collected, arrests are made, and a crime report prepared. This work is augmented by a law enforcement and advocacy program (Intelligence and Law Enforcement Unit or ILEU) that facilitates prosecution of poachers. Perpetrators are taken to the National Park headquarters for further processing by a civil investigator from the Park or the police. Beyond this point the RPUs have no further role, but are called as witness if the case is brought to court. The National Park and the police are the two bodies responsible for preparation of a case and formally charging suspects.

RPU patrols increase the risks for potential poachers, while their chances for a good 'take' are decreased.

This deterrent has worked well over the past years, and once an area is regularly patrolled, normally no more poaching is detected and all wildlife benefits from the presence of the RPUs. In the parks where the RPUs operate, there have been no Sumatran rhinos poached in more than 3 years, and no Javan rhinos poached for over a decade. Thanks to community development activities, the RPUs have also been successful in halting and even turning back encroachment in some areas of the parks. By preventing encroachment and thus keeping the forests intact, RPUs also help ensure that these critical forest habitats can keep providing important ecosystem services (clean water, clean air, reduced erosion, carbon removal) for local communities.

The RPU program is strongly supported by local communities, because it provides a source of employment and income – all RPU members are recruited from local communities. IRF works to ensure that local communities living in closest proximity to the parks serve as active partners in wildlife protection and reap direct benefits from conservation efforts. With partners, we also conduct alternative income generation and education programs for local communities living near rhino areas. These activities are essential to obtaining a sense of ownership by local communities of their rich biological heritage, and to providing incentives for local people to help prevent encroachment and other illegal activities.

2009 RPU Results in Bukit Barisan Selatan NP

In the calendar year 2009, RPUs averaged over 15 days/person/month on patrol and walked more than 3,600 kilometres on patrol and surveys. Specific results of patrolling during this 12-month period include:

- 207 rhino footprints identified.
- 7 instances of illegal logging encountered.
- 61 instances of encroachment encountered.
- 8 instances of fish, bird, deer and / or pig poaching encountered.
- 16 snares removed.
- 40 individuals arrested for illegal hunting, trading, fishing, logging or encroachment.

2009 RPU Results in Way Kambas NP

In the calendar year 2009, RPUs were on patrol for nearly 17 field days/person/month, and walked more than 3,200 kilometres on patrol or conducting surveys. Specific results of patrolling during this 12-month

period include:

- 90 rhino footprints identified
- 19 instances of illegal logging encountered
- 121 instances of illegal encroachment encountered
- 15 instances of illegal poaching (bird, fish, pig and / or deer) recorded
- At least 26 deer and pig traps encountered and removed
- 21 individuals arrested for illegal hunting, trading, fishing, logging or encroachment

Compared to data from 2007 and 2008, there has been a slight increase in illegal activity in Way Kambas. We believe that a poaching network previously active in Kerinci Seblat National Park on the mid-western side of Sumatra (where Sumatran rhinos were poached to extinction in the early 2000s) is now trying to gain access to Way Kambas, evidenced by an increase in non-rhino and other traps in 2008 from 2007, and an increase in rhino traps encountered thus far in 2009. These traps seem to be precisely modelled on the traps previously found in Kerinci Seblat. RPU vigilance in Way Kambas has therefore been intensified. Earlier this year, a Way Kambas RPU arrested three poachers armed with machine guns.

2009 RPU Results in Ujung Kulon NP

RPUs have improved and intensified the protection of Javan rhino in Ujung Kulon in essence by creating an Intensive Protection Zone (IPZ) in the areas occupied by rhino. Since the RPU program was established, the rhino population has been stable. However, because the park has no buffer zone, human encroachment has been increasing significantly in recent years.

We are in the process of establishing a new IPZ along the east side of the peninsula where encroachment is slowly turning park land into rice fields. In late 2008, a fourth RPU was hired to provide additional protection for rhinos that have been wandering into this area, where they face increased threats from poaching.

Additionally, IRF and its partners are in the process of establishing a new Intelligence and Law Enforcement Unit in Ujung Kulon, to investigate and arrest encroachers, and also to work closely with local communities to build closer relationships and support for rhino conservation.

The Critically Endangered Sumatran rhinos declined at

a rate of 50% in the 1980s and 1990s from deforestation and habitat fragmentation. BBS and WK in Sumatra, Indonesia, are two of the three major habitats for them, and are also two of the highest priority areas for other threatened megafauna, including the Sumatran tiger and Sumatran elephant. Approximately 50 rhino, 40-50 tigers, and about 500 elephants inhabit BBS. WK is home to 25-27 adult rhino, not including juveniles.

The Javan rhino is also Critically Endangered, with fewer than 55 animals believed to exist in two known populations. The only viable reproductive population lives in Java's Ujung Kulon National Park (UKNP) (between 38 and 50 animals). This National Park - Indonesia's first UNESCO World Heritage Site -- is the largest remaining lowland forest site in Java. In addition to holding the world's only viable population of Javan rhino, UKNP is home to a number of other endangered species, including the Javan gibbon, ebony leaf monkey, Javan leaf monkey, leopard, fishing cat, and the banteng, a species of wild cattle.

Indonesian national parks do not have resources to adequately fund proactive measures to prevent harm to its unique and at-peril biodiversity. Therefore, as human populations increase and the threats from illegal activities such as encroachment and illegal logging grow, the protection provided by the RPUs remains crucial for the survival of Indonesian megafauna and their habitat.

The goal of the program is to prevent the extinction of Sumatran and Javan rhinos and other threatened species and to protect critical habitats in Java and Sumatra, Indonesia. Proactive prevention of poaching and habitat destruction is the main objective of the RPU program.

This is an ongoing program. RPU program efforts are long-term, and with increasing human populations and decreasing resources, will likely need to be expanded. If anti-poaching and other direct protection and prevention efforts of rare and endangered species with a high economic value cannot be sustained for as long as necessary, it will only give a temporary respite and will not prevent the target species becoming extinct.

For the foreseeable future, intensive protection by RPUs will need to be continued while the threats from poaching, habitat degradation and habitat loss are resolved by means of public education, economic development and other long-term civil processes. The

IRF remains committed to continuing this program as long as needed.

The RPUs also interact intensively with local communities, including intelligence gathering. In BBS, RPUs have aided farmers living next to the Park in improving environmentally friendly crop production, which has resulted in a decrease in encroachment and an overall increase in income for the farmers.

Farmers have switched a portion of their crops to cacao, which allows harvest monthly, as opposed to coffee, which provides only an annual harvest and subsequently improves the farmers' income. Two farmers' cooperatives have been formed as well, and have created their own 'credit' system by developing an account from which farmers can borrow money (the account now holds \$2,000).

In exchange for participation in this program, farmers sign a pledge not to encroach into the Park, and also to provide information to RPUs regarding potential poaching events. In some areas, encroachment has decreased by as much as 60 percent, and - a first for Indonesia - farmers turned over 87 illegal guns to the RPUs.

With increased income, the need for incursions into the forest to hunt wildlife decreases. All of these activities are a "win-win" situation, combining to protect the Sumatran rhino and its ecosystem more effectively and efficiently and to improve people's livelihoods.

This year, at the request of the Head of the National Park, the Way Kambas RPUs participated in a large integrated effort (in partnership with national government authorities and the police) to reduce encroachment in the Park. During this reporting period, RPUs destroyed three bridges used by local villagers to encroach into the Park for illegal activities such as cutting timber, fishing, and hunting.

After conducting trainings for local communities in 2008 about the importance of not grazing their livestock in the Park, in May 2009, the RPUs (with the Park authorities) began an operation to drive domesticated buffalo out of the Park and back into local villages. Finally, RPUs have also responded to reports about elephants destroying crops, and have driven these elephant herds back into the Park to prevent incidences of human-wildlife conflict, which can easily lead to poaching.

Over the past 14 years, RPUs have essentially eliminated losses of Javan rhino to poaching. The successes of these units have kept Javan rhinos from extinction and remain critical for their continued survival. The overriding problem now is that although the Javan rhino population in Ujung Kulon has stabilized, this species has only one viable population in one location. Thus there is still significant risk of extinction from a single natural disaster or introduced disease. Ujung Kulon and surrounding areas were decimated by the eruption of Krakatau in 1883. Anak Krakatau (“son of Krakatau”) is still active, and the risk of another eruption, and the possibility of a resulting tsunami, still exists. There have also been a handful of rhino deaths as a result of diseases introduced by domestic livestock living in villages near the park.



Rhino Protection Unit. Photo: <http://aazkbfr.org/images/indonesia/>

In early 2009, IRF’s Dr. Susie Ellis, Dr. Bibhab Talukdar, and Kerry Crosbie (Asian Rhino Project), and others visited Ujung Kulon and then convened with about 40 members of the IUCN/SSC Asian Rhino Specialist Group to identify priority actions for both Javan and Sumatran rhinos in Indonesia. The group agreed that a major priority was to establish a second viable

population of Javan rhino in Indonesia as an ‘insurance’ population, to prevent the extinction of this critically endangered species.

This program will be implemented by IRF, YABI, WWF, the Government of Indonesia, and other partners.

With funding from IRF, WWF and ARP, IRF hired Dr. Andy Gillison, a world-renowned rapid habitat assessment expert to co-lead the survey with Widodo Ramono from YABI.

Article: Maggie Moore

Rhino Protection Unit Funding

Special Thanks Peter Hall, Auckland Zoo & Hunter Hall Investment Management Limited

Peter Hall

ARP Patron Peter Hall pledged \$180,000AUD to our partners the International Rhino Foundation for rhino projects in Indonesia. This generous donation has come through and will be used primarily to support Sumatra RPUs but also:

- Rhino Conservation Medicine Program
- Sumatran Rhino Sanctuary
- Program development/communications
- Administration/programs.

Auckland Zoo

Auckland Zoo’s Conservation Fund (AZCF) have committed to the fight to save both the Javan and Sumatran rhino from extinction. Continued support from Auckland Zoo has seen a further \$20,000NZD donated to the ARP bringing total donations to the ARP to over \$40,000 which will also be used to fund the RPU program in Indonesia.



Peter Hall on right.

Hunter Hall

Hunter Hall has kindly donated another \$9103.00 to the Asian Rhino Project from their Charitable Trust. The



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