SUMATRAN RHINO CAPTURE & TRANSLOCATION GUIDELINES

Protocols for Sumatran rhino field capture, translocation or relocation

Overview of Capture Process

The capture process for an "at risk" Sumatran rhinoceros found wandering within an Indonesian village or otherwise outside a protected area should be approached with the following guidelines in mind. Once the appropriate National Park, RPU and SRS staff have been contacted the following stepwise approach to capture and translocation is suggested.

Step 1 SECURE AREA

The first priority in the event of a wild rhino found outside a protected area would be to secure the area from villagers to prevent the animal being shot or otherwise killed before capture or relocation of the rhino is possible.

Step 2 MAKE A PLAN FOR RHINO DISPOSITION

If possible, a small core-group of decision makers should be formed (ie. head of National Parks, RPU and SRS) to make immediate decisions about rhino disposition. If the rhino is apparently unharmed and close to a protected area (<10 km) then it would be desirable to attempt to push the rhino back into the forest. If the animal is injured or otherwise in need of medical attention or is far (>10 km) from the forest a decision should be made to capture the animal.

Step 3 MAKE A PLAN FOR RHINO CAPTURE

Considering the high risks associated with capture by the "chase to exhaustion" method (ie. rhino is captured following extensive chasing and stress without the use of routine capture methods such as veterinary drugs), this approach should be considered only as a last resort. The following suggested capture methods are listed in order of preference:

- ***METHOD ONE:*** *Field Capture Using a Dart Gun and Anesthetic Drugs*

If a trained capture team is available (ie. within 3 hours travel time) then it may be wise to have the RPU rangers carefully monitor and secure the rhino from a distance without pushing the animal to run as they await the capture team. The capture team MUST include one qualified veterinarian skilled in the use and handling of narcotic agents due to both human and animal safety risks. See the next page for suggested capture drug protocols.

- ***METHOD TWO:*** *Field Capture Using a Temporary Boma +/- Sedation*

If a trained capture team is not available, then it may be possible to follow the animal closely (without excessive chasing) until it is located in an area where it is resting and approachable (ie. laying in water or other suitable location). Large sheets of shade cloth or tarp could be used to create a temporary boma surrounding the rhino which would facilitate sedation and crating.

- ***METHOD THREE:*** *Chase Rhino Until Exhaustion Followed by Crating*

This approach should be avoided if at all possible because of the high risks of inducing capture myopathy and death in the animal.

FIELD DARTING PROTOCOLS

Darting protocols for snare-removal or rescue of compromised Sumatran rhino

The recommended protocol for field anesthesia is the butorphanol/azaperone combination due to its inherent safety for both rhino and people unless trained staff is present for use of more potent opioids such as Etorphine (skip to PROTOCOL 2 if trained staff are available). Protocol 1 may require confinement within a temporary boma or some additional restraint via a body or head rope to facilitate crating.

PROTOCOL 1

Sedation for snare removal or capture of compromised Sumatran rhinoceros

Drug	Dose	Total mg dose for ~ 600 kg	Dart volume
Butorphanol	140 ug/kg IM	80 mg IM	8.0 ml
Azaperone	140 ug/kg IM	80 mg IM	2.0 ml
Antagonism of butorphanol (after crating or at unloading):			
Naltrexone	*5 x butorphanol mg dose*		*450 mg IM*

Dart volume:
If butorphanol concentration = 10 mg/ml then 80 mg is 8.0 ml
If azaperone concentration = 40 mg/ml then 80 mg is 2.0 ml
This would make a total dart volume of 10.0 ml
This drug volume could be placed into a 10 ml Daninject dart. The above dose is greater than that generally needed to sedate captive rhinos due to the increased stress and excitement of darting wild rhinoceros which can lead to overriding of drug effects. The above protocol should work well as a starting point for field rangers as part of a "field emergency kit" in case timely interventions are needed as part of a conservation patrol (i.e. snare removal, etc.).

PROTOCOL 2

Anesthesia for field capture of free-ranging Sumatran rhinoceros

Drug	Dose	Total mg dose for ~ 600 kg	Dart volume
Etorphine (M99)	5 ug/kg IM	3 mg IM	0.3 ml (using 10 mg/ml M99)
Azaperone	140 ug/kg IM	80 mg IM	2.0 ml (using 40 mg/ml Azap.)
Hyaluronidase (optional)		5000 IU	Reconstitute with above
Antagonism of etorphine (after crating):			
Naltrexone	*50 x etorphine mg dose*		*100 - 150 mg IM*

NOTE: Since these drugs are dangerous to both the human handlers and the subject animal, an experienced wildlife veterinary capture team should only use this drug protocol. However, these drugs provide the most consistent, reversible and rapid recumbency possible in order to expedite field capture of African and Asian rhinoceros species. A rapid recumbency will be critical for safe capture of a species such as the Sumatran rhino that may escape into the wet rainforest environment and risk drowning or suffer from capture myopathy.

REPORT ON THE RESCUE AND EVACUATION OF A FEMALE SUMATRAN RHINO THAT STRAYED OUT OF WAY KAMBAS NATIONAL PARK, SUMATRA, INDONESIA

On 20 September 2005 a rescue and evacuation operation of a young female Sumatran Rhino was carried out by the staff of the NP, with assistance of teams from SRS, RPU, WCS-IP and PKHS (Sumatran Tiger Program).

The Rescue and Translocation Operation was successful and the rhino, named 'Ratu' is now in the Sumatran Rhino Sanctuary (SRS) in Way Kambas NP, to supplement the captive breeding program for this very rare and highly endangered species. The rhino will need some more time to recover from the stress and exhaustion of her wanderings and subsequent translocation, but a full recovery is expected.

The name 'Ratu' was taken from the name of the village 'Labuhan Ratu' from where she was taken to the SRS. 'Labuhan' means 'city', 'ratu' means 'queen'.

A detailed report of the events and the actions taken, prepared by staff of the SRS, is presented.

Nico van Strien, Chair of the GMPB Technical Committee,

Marcellus Adi, SRS Site Manager,

Muhammad Agil, SRS Veterinary Consultant.