

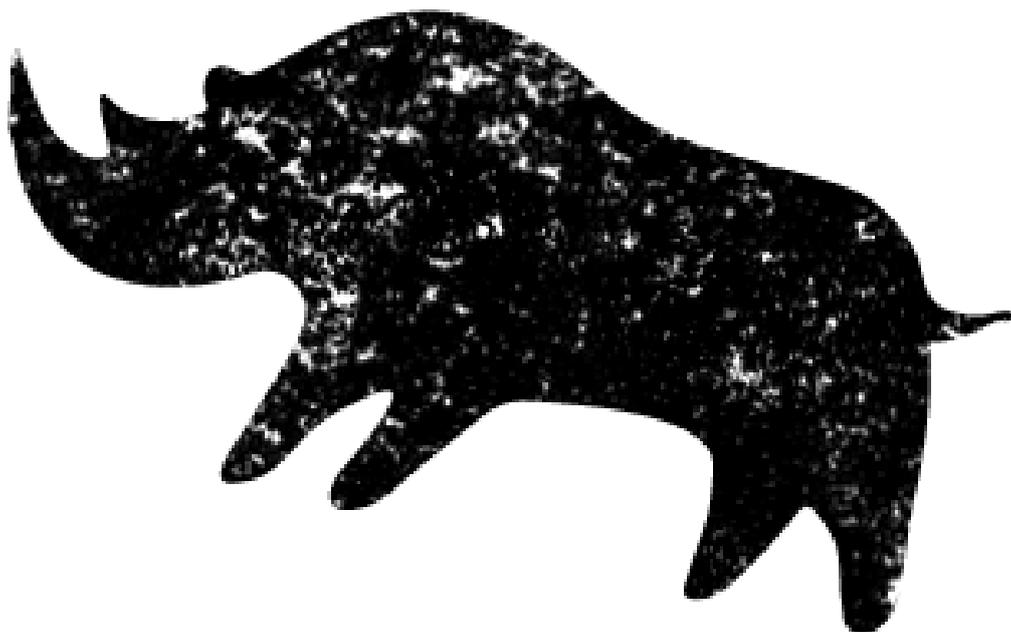


## **Final report to the Kolmarden Foundation**

***Matobo National Park: Annual darting and immobilization of black and white rhino for routine dehorning and ear-notching to aid monitoring and protection strategies.***

***Period 1 -10 September 2016***

**Dambari Wildlife Trust  
Grant of US\$10,000**



## **PROJECT STATUS**

### **EXECUTIVE SUMMARY**

The black and white rhino populations in the Matobo National Park are important nationally. It is the last Zimbabwean National Park to still contain viable populations of both species, and it contributes 5.2% to the national rhino population (2.6% of the black rhino and 8.7% of the white rhino population). The rhino are also an important incentive for both local and international tourists to visit the National Park, income from which provides employment within the local tourism sector and surrounding communities.

The project set out to process 30 individuals dehorning up to 22 adult black and white rhino in Matobo National Park and to ear-notch 8 young rhino prior to their attaining 2 years in age and separating from their mothers. By dehorning the rhino in smaller populations the incentive to poaching is much reduced and community awareness and co-operation assists in strengthening Park security. Over nine operational days, the project exceeded its targets whilst remaining within budget: 36 animals were immobilized and dehorned, eight of which were unmarked juveniles that were also ear-notched and had subcutaneous transponders fitted. All but one white rhino (a calf too young to immobilize) and all but six black rhinos (two calves born during the year and too young to immobilize, a female with a very young calf, and three bulls) were processed during the operations.

### **LONGITUDE AND LATITUDE COORDINATES OF THE MAIN LOCATION OF PROJECT WORK**

**Project location (region or protected area / country):** Matobo National Park, Matabeleland South, Zimbabwe

**Project coordinates (latitude / longitude):** Loc Stat: 20°33'00"S 28°30'29"E (-20.5500°, 28.5080°)

The Matobo National Park is 452 km<sup>2</sup> in extent and situated in the Matobo Hills Cultural World Heritage site, a unique area of 3000 km<sup>2</sup> in south western Zimbabwe.

### **DESCRIPTION OF ACTIVITIES UNDERTAKEN TO ACHIEVE EACH OBJECTIVE IN THE PROJECT PROPOSAL**

The original project goal was: **To increase the number of dehorned and identifiable black and white rhino held in the Matobo National Park to minimize available horn material and to aid population monitoring and protection strategies.**

The original project objectives were to:

1. Safely and effectively immobilize black and white rhino in Matobo National Park to apply individual identity marks (ear-notches) and dehorn eight juveniles; and dehorn up to 22 individuals that had substantial horn regrowth since the last operation.
2. Enable regular monitoring of individual rhino and ongoing collection, storage and analysis of relevant data for population protection and management purposes.

To achieve these, the following activities took place :

*Activity 1.1:* The proposed work was submitted for consideration at the National Rhino Management meeting in March 2016. The project was supported and approved by Zimbabwe Parks and Wildlife Management Authority (ZPWMA) who provided the necessary permits and letter of support for funding applications. Thereafter logistical arrangements were put in place to ensure that the work would be done professionally, efficiently and safely. This included

arranging accommodation, consumables, communications and positioning personnel and specialist equipment for the operations period.

Activity 1.2: The operations team was formed, by hiring the following personnel to undertake the work: (i) a highly experienced wildlife veterinarian and technical assistant were engaged to carry out the immobilizations, dehorning and ear notching; (ii) A fixed wing aircraft (Supercub) and helicopter (Robinson 44) were booked along with pilots who had worked in the Matobo on previous operations and who are familiar with the local conditions.

The airfield was prepared by ZPWMA in conjunction with Dambari and inspected and approved by the Civil Aviation Authority prior to use.

Activity 1.3: Thirty-six immobilizations were carried out on 8 black and 28 white rhino. All 36 animals were dehorned, and eight “clean” individuals had ear-notches and subcutaneous microchips applied for identification purposes. All horn material was collected by ZPWMA staff, weighed and logged and sent to ZPWMA head office for accessioning into the national stockpile.

Activity 1.4: The Veterinarian collected blood and tissue samples and the ground support team monitored the rhino’s physiological status (temperature, oxygen saturation, respiration, etc) whilst immobilized. Horn and body measurements were also taken for comparison against previous years’ records.

Activity 2.1: Ongoing technical and logistical support to Matobo National Park, before, during and after the operations period, has been provided. This includes managing a camera trap monitoring system (fieldwork and maintenance of a database) that assists with verifying individuals’ presence and determining individual movement patterns. In addition, assistance with data management and technical training have been provided. Together, this ensures that the rhino population is properly monitored and record keeping is accurate.

| Activities timetable   | Month  |        |        |        |        |        |        |        |        |        |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|  | Mar-16 | Apr-16 | May-16 | Jun-16 | Jul-16 | Aug-16 | Sep-16 | Oct-16 | Nov-16 | Dec-16 |
|  | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9      | 10     |
| <b>Objective 1: • To facilitate and execute management operations for both black and white rhinoceroses in Matobo National Park to maximize the number of identifiable rhino available for monitoring and dehorn those with horn re growth</b> |        |        |        |        |        |        |        |        |        |        |
| Confirm participation of funding organizations   |        | √      |        |        |        |        |        |        |        |        |
| Confirm operations dates with stakeholders   |        | √      |        |        |        |        |        |        |        |        |
| Communicate logistics progress to participants and stakeholders  | √      | √      | √      | √      | √      | √      | √      | √      | √      |        |
| Hire aircraft and pilots   |        | √      |        |        |        |        |        |        |        |        |
| Purchase aircraft and vehicle fuel   |        | √      |        |        |        |        |        |        |        |        |
| Book veterinarians   |        | √      |        |        |        |        |        |        |        |        |
| Book operations team accommodation and organize meals  |        | √      |        |        |        |        |        |        |        |        |
| Execute rhino management operation   |        |        |        |        |        |        | √      |        |        |        |
| Complete payments to all contractors and suppliers   |        |        |        |        |        |        | √      | √      |        |        |
| Report to stakeholders and donors  |        |        |        |        |        |        | √      | √      | √      | √      |
| <b>Objective 2: • To enable regular monitoring of individual rhino and ongoing collection, storage and analysis of relevant data for population protection and management purposes</b>   |        |        |        |        |        |        |        |        |        |        |
| Maintain rhino monitoring in Matobo National Park before, during and after field operations via camera trapping and database support   | √      | √      | √      | √      | √      | √      | √      | √      | √      | √      |

## PROBLEMS ENCOUNTERED

The objectives for this project were met and in fact the number of immobilizations exceeded those projected, however some variations to the original programme and budget occurred.

- Kolmarden Foundation could only provide \$10,000 and not \$13,100 as was requested in the grant application. However, the deficit was covered by Save Foundation
- The date of the operation was changed from August to September, as highlighted in the timetable above, to ensure the necessary equipment, personnel and accommodation were available for a continuous period of 10 days.
- One major problem occurred on the first morning of the operation when the fixed wing aircraft developed engine problems after the third rhino had been processed. The pilot communicated to the helicopter that there was a problem and the helicopter pilot monitored the situation ready to respond if the fixed wing had to make a forced landing. Fortunately the fixed wing pilot managed to land safely on the airfield, but after carrying out some diagnostic tests the aircraft was deemed thereafter to be no longer fit to fly. The absence of a fixed wing as “top cover” for the operation would seriously affect the safety and efficiency of the operation, however after phone calls to a commercial operator in Harare a substitute aircraft was hired the same day and it was positioned at the airfield by middle of the following morning. Work continued during the afternoon of the first day using the helicopter, when a further two white rhino were immobilized. At short notice, SAVE Foundation generously agreed to cover the additional costs of hiring the substitute aircraft. The faulty aircraft was removed by the aircraft engineers and rhino work continued without further incident.

**PROGRESS TOWARDS GOALS AND OBJECTIVES**

| <b>Objective</b>  | <b>Original status</b>  | <b>Desired conservation outcome after 12 months</b>   | <b>Actual outcome after 12 months</b>  |
|---|---|---|--|
| 1a: To maximize the number of identifiable rhinos in Matobo National Park | <ul style="list-style-type: none"> <li>• 7 of 29 white rhinos not yet notched; 2 of 10 black rhinos not yet notched</li> <li>• In 2015, 48% of white rhino photographed clearly were “Clean”; 16% of black rhino photographed clearly were “Clean”</li> </ul> | <ul style="list-style-type: none"> <li>• 29 white rhinos and 10 black rhinos notched</li> <li>• All individuals seen are clearly identifiable by ear-notches</li> </ul> | <ul style="list-style-type: none"> <li>• 28 of 29 white rhinos now identifiable. The “clean” animal was born during the project period and was too young to be processed. (NB One animal from the original proposal died in April 2016).</li> <li>• 1 previously “Clean” black rhino identifiable as an individual.</li> </ul> |
| 1b. Reduce incentives to poachers through dehorning                       | <ul style="list-style-type: none"> <li>• 29 animals would not have been dehorned within 36 months (by Sept 2016)</li> <li>• Since routine dehorning began,</li> </ul>   | <ul style="list-style-type: none"> <li>• At least 80% of the population dehorned within 36 months</li> <li>• Negligible or zero poaching incidents</li> </ul>           | <ul style="list-style-type: none"> <li>• 95% of the total population is dehorned (excluding immature animals too young to immobilize). This</li> </ul>   |

|  |   |  |   |
|--|---|--|---|
|  | poaching incidents/year have declined from 7 to 2.  |  | <p>equates to 100% white rhino and 70% of the black rhino</p> <ul style="list-style-type: none"> <li>One white rhino was poached in 2016, prior to the operations period.</li> </ul>  |
| 2. Enable regular monitoring of rhino and maintain records | <ul style="list-style-type: none"> <li>Increase in number of records available on the database</li> </ul> | <ul style="list-style-type: none"> <li>Monthly reporting to Matobo Park management</li> <li>Annual reporting at Regional and National Rhino Management Committee meetings</li> </ul> | <ul style="list-style-type: none"> <li>Ongoing monitoring and data management records available, starting from June 2011.</li> <li>Monthly reporting to PWMA senior staff has facilitated review of population numbers and security and patrol strategies.</li> </ul> |

#### **ASSESSMENT OF THE PROJECT'S IMPACT**

| <b>Anticipated outputs / products for full 12 month</b>  | <b>Actual outputs / products after 12 months</b>  |
|--|---|
| 29 rhino designated for processing in 2016, included 22 white (15 adults and 7 juveniles) and 7 black rhino (6 adults and 1 sub adult) | 36 rhino were processed comprising 28 white rhino (21 adults and 7 juveniles) and 8 black rhino (7 adults and 1 juvenile)                 |
| 80% of the Matobo Park rhino individually identifiable   | Excluding young calves (<1 year) still dependent on their mothers, 97.4% of the Matobo population is currently individually identifiable. |
| 29 animals dehorned  | 36 animals were dehorned.   |

#### **CONSERVATION IMPACT**

The project has further enhanced the number of identifiable rhino of both species which will increase accuracy of sightings of individuals and which will expand the knowledge on their home ranges, known associations, habitat use, breeding activity and recruitment rates. Regular sightings of known animals builds confidence in the management and protection strategies carried out by Parks staff and where necessary facilitates adaptive management and triggers rapid responses to search for missing animals.

Thirty six rhino had horn material removed greatly reducing the incentive to poachers. Parks staff were exposed to close contact with the immobilised rhino which helps develop a greater understanding and appreciation of these rare animals and reinforces the need for ongoing protection to secure the longevity of these populations.

## **COOPERATION AND COLLABORATION AMONG LOCAL ORGANIZATIONS**

**Dambari Wildlife Trust (DWT)** is the lead organization for this project and as such arranges, liaises between and coordinates the activities of all participating stakeholders to ensure funding, logistics and project tasks are properly formulated and executed. DWT is part of the working group – comprising representatives from ZPWMA, Wildlife Veterinary Unit, NGOs, conservancies and donors – that develops the programme for annual rhino management operations. The working group prioritizes management work according to area and level of risk to the particular population.

DWT endeavours to discover from both traditional and potential donors their availability and level of financial support for the Matobo National Park for the given year. This information is used to guide: how many rhino can actually be processed as compared to those requiring processing; the number of days that the operations can be allocated; and the type of equipment and personnel needed to carry out the endeavour.

DWT organised a meeting with the Area Manager Matobo National Park and the PWMA western region manager in mid 2015 to determine the rhino management work to be done in Matobo in 2016.

**Zimbabwe Parks and Wildlife Management Authority** is responsible for the management of the IPZ and provided the rangers, ecologist and operations managers to handle the day-to-day deployment and response logistics within the IPZ during the operations period. ZPWMA provided vehicles and fuel for the deployment of patrols, two-way radios for communication, and sundry food and equipment items to ensure the patrols could be deployed for extended periods. ZPWMA also provided an experienced spotter to accompany the fixed-wing pilot to look for rhino and direct the ground crew to the immobilized rhino. DWT worked with ZPWMA on a local level to coordinate the operation as a whole, and then reported the outcome to ZWPMA at a national level. Parks also facilitated the Ministry of Defence permit to operate aircraft over state land.

**Zimbabwe Wildlife Veterinary Trust's** Veterinarian is responsible for the administration of the immobilization darts and physiological care of the immobilized rhino and carried out the ear-notch, microchip and dehorning procedures. He collected biometric data and blood and tissue samples from the rhino. Thereafter he administered the immobilization reversal drugs and monitored the rhino until it is able to perform normally again. DWT booked the veterinarian required for the operations period and ensured that all logistics needed for his work were in place.

**Nicksar Wildlife Services Zimbabwe** provided a suitable helicopter and highly experienced pilot to facilitate the delivery of the dart by the authorized veterinarian. This machine was also used to transport any additional personnel and equipment into rhino areas that have no vehicle access. DWT applied for the necessary permits for the aircraft to operate in a National Park.

**Lowveld Rhino Trust** supplied a Supercub fixed-wing aircraft and a highly experienced pilot, to provide aerial cover for the duration of the operating period. DWT has used this aircraft on a number of occasions for rhino work and it is ideal for the task. The pilot is familiar with the Matobo area, having worked with DWT on the 2010, 2011, 2013 and 2014 operations there. Unfortunately the aircraft suffered engine failure on the first operational day and had to be replaced by a Supercub from a commercial aircraft company.

**Executive Air** supplied the replacement Super Cub following the mechanical failure of the LRT aircraft. They delivered the fixed wing in time to prevent any delays to the progress of the operations.

**Civil Aviation Authority of Zimbabwe** were helpful in providing specifications for the airfield to bring it into line with national standards. The pre-use inspection was successful and the permit was issued for its use for game management operations.

**EQUIPMENT PURCHASE AND USE**

No equipment has been bought with Kolmarden funds during the reporting period.

**FINANCIAL STATUS REPORT**

Kolmarden's funds in the amount of \$10,000 were received by Dambari Wildlife Trust on 6 December 2016. \$30 bank fees had been deducted in the process of the international transfer and the remaining \$9,970 covered the cost of 11.46 helicopter hours.

**ACKNOWLEDGEMENT**

Dambari Wildlife Trust is very grateful for this third donation from Kolmarden Foundation that has contributed to the success of this project and which supports the survival and conservation of the Matopos rhino populations.

Final report for Kolmarden Grant: Matobo National Park: Annual darting and immobilization of black and white rhino for routine dehorning and ear-notching to aid monitoring and protection strategies.

| Budget Item  | Notes  | Cost Calculation                     | Total \$<br>Requested | Total \$<br>Actual | SAVE            | KFF             | DWT            | ZPWMA          | USFWS           |
|--|--|--------------------------------------|-----------------------|--------------------|-----------------|-----------------|----------------|----------------|-----------------|
| <b>Personnel</b>   |  |                                      |                       |                    |                 |                 |                |                |                 |
| Pilot hire - Helicopter  | Pilot fee  | \$200/day x 1 person x 10days        | \$2,000               | \$2,000            | \$2,000         |                 |                |                |                 |
| Pilot hire - Fixed-wing  | LRT aircraft - LRT quote                                     | \$200/day x 1 person x 10days        | \$2,000               | \$2,000            | \$2,000         |                 |                |                |                 |
| Veterinarians Senior x 1   | Standard rate Zimbabwe Veterinary Association fees           | \$400/day x 1 person x 10 days       | \$4,000               | \$4,000            |                 |                 |                |                | \$4,000         |
| Technical assistant  | Assist with aircraft, vehicles and immobilisations           | \$100/day/x 1 person x 10days        | \$1,000               | \$1,000            |                 |                 |                |                | \$1,000         |
| IPZ personnel  | IPZ rates  | \$10/day x 20 persons x 10 days      | \$2,000               | \$2,000            |                 |                 |                | \$2,000        |                 |
| <b>Subtotal personnel</b>  |  |                                      | <b>\$11,000</b>       | <b>\$11,000</b>    | <b>\$4,000</b>  | <b>\$0</b>      | <b>\$0</b>     | <b>\$2,000</b> | <b>\$5,000</b>  |
| <b>Accommodation and rations</b>                                 |  |                                      |                       |                    |                 |                 |                |                |                 |
| Technical personnel x 8  | The Farmhouse Matobo (closest accommodation to ops site)     | \$80/day x 6 persons x 10 days       | \$4,800               | \$4,690            | \$4,800         |                 |                |                |                 |
| IPZ personnel meals support                                      | Rations aircraft guard                                       | \$10/day x 1 persons x 10days        | \$100                 | \$100              | \$100           |                 |                |                |                 |
| <b>Subtotal accommodation and rations</b>                        |  |                                      | <b>\$4,900</b>        | <b>\$4,790</b>     | <b>\$4,900</b>  | <b>\$0</b>      | <b>\$0</b>     | <b>\$0</b>     | <b>\$0</b>      |
| <b>Vehicle support (ground)</b>                                  |  |                                      |                       |                    |                 |                 |                |                |                 |
| Land Rover and trailer x 1                                       | DWT  | \$25/day x 10 days                   | \$250                 | \$250              | \$250           |                 |                |                |                 |
| Land Rover mileage   | DWT  | 0.50/km x 500km                      | \$250                 | \$250              | \$250           |                 |                |                |                 |
| Veterinarians' mileage   | WVU standard rate  | \$0.50/km x 1000 kms                 | \$500                 | \$500              | \$500           |                 |                |                |                 |
| Land Rover & Pickup  | Direct fuel import from Chevron S Africa                     | 1.13/litre x 400                     | \$452                 | \$452              | \$452           |                 |                |                |                 |
| B1800 pick up truck x 1  | DWT (for pilot/airfield transfer)                            | \$0.35/km x 300km                    | \$140                 | \$140              | \$140           |                 |                |                |                 |
| <b>Subtotal vehicle support (ground)</b>                         |  |                                      | <b>\$1,592</b>        | <b>\$1,592</b>     | <b>\$1,592</b>  | <b>\$0</b>      | <b>\$0</b>     | <b>\$0</b>     | <b>\$0</b>      |
| <b>Vehicle support (air)</b>                                     |  |                                      |                       |                    |                 |                 |                |                |                 |
| Helicopter hire - wet rate                                       | Standard rate inc fuel and vat                               | \$870/hour x 30 hours                | \$26,100              | \$20,421           | \$10,421        | \$9,970         |                |                |                 |
| Fixed-wing hire - dry rate                                       | As per quote Raoul (cost recovery rate)                      | \$120/hour x 50 hours                | \$6,000               | \$11,899           | \$5,899         |                 |                |                | \$6,000         |
| Fixed wing fuel  | Direct fuel import from BP Aviation S Africa                 | \$2.05/liter x 1600 liters           | \$3,280               | \$2,640            |                 |                 |                |                | \$3,280         |
| Airport permits and landing fees                                 | Mandatory fees required by Zimbabwe Civil Aviation Authority |                                      | \$250                 | \$250              | \$250           |                 |                |                |                 |
| <b>Subtotal vehicle support (air)</b>                            |  |                                      | <b>\$35,630</b>       | <b>\$35,210</b>    | <b>\$16,570</b> | <b>\$9,970</b>  | <b>\$0</b>     | <b>\$0</b>     | <b>\$9,280</b>  |
| <b>Consumable supplies</b>                                       |  |                                      |                       |                    |                 |                 |                |                |                 |
| Immobilisations(veterinary medicines/darts)                      | As quoted by Dr Foggin                                       | \$250 per immobilisation x 24        | \$6,000               | \$9,425            |                 |                 |                |                | \$6,000         |
| No cost extension grant for future immobilisations               | USFWS  | \$250 per immobilisation x 12        | \$3,100               | \$3,000            |                 |                 |                |                | \$3,000         |
| In kind local support & equipment for preparation and operations |  |                                      | \$3,000               | \$3,000            |                 |                 | \$3,000        |                |                 |
| <b>Subtotal consumable supplies</b>                              |  |                                      | <b>\$12,100</b>       | <b>\$15,425</b>    | <b>\$0</b>      | <b>\$0</b>      | <b>\$3,000</b> | <b>\$0</b>     | <b>\$9,000</b>  |
| <b>Management</b>  |  |                                      |                       |                    |                 |                 |                |                |                 |
| DWT logistics management   | DWT rate   | \$60/day x 1 person x 18 days        | \$1,080               | \$1,080            |                 |                 |                |                | \$1,080         |
|  |  | Bank charges                         | \$60                  | \$60               | \$15            | \$30            |                |                | \$15            |
| <b>Subtotal management</b>                                       |  |                                      | <b>\$1,140</b>        | <b>\$1,140</b>     | <b>\$15</b>     | <b>\$30</b>     | <b>\$0</b>     | <b>\$0</b>     | <b>\$1,095</b>  |
| <b>Direct costs subtotal</b>                                     |  |                                      | <b>\$66,362</b>       | <b>\$69,157</b>    | <b>\$27,077</b> | <b>\$10,000</b> | <b>\$3,000</b> | <b>\$2,000</b> | <b>\$24,375</b> |
|  |  | Indirect costs (10%)                 | \$2,138               | \$2,138            |                 |                 |                |                | \$2,438         |
|  |  | <b>Project Total/Total requested</b> | <b>\$68,500</b>       |                    | <b>\$23,607</b> | <b>\$13,265</b> | <b>\$3,000</b> | <b>\$2,000</b> | <b>\$26,613</b> |

| Image Name  | Caption   | Credit                 |
|---|---|------------------------|
|    |   |                        |
| Horn off cut labelled and measured.   | Horn off cut measured and shavings collected.   | Dambari Wildlife Trust |
|   |   |                        |
| Immobilized rhino supported   | All immobilized rhino receive Oxygen supplementation and saturation levels are closely monitored to ensure optimum recovery time. | Dambari Wildlife Trust |
|  |   |                        |
| Treating ear notch wounds   | Surgical wounds are treated against haemorrhage and infection.  | Dambari Wildlife Trust |
| Image Name  | Caption   | Credit                 |

|   |   |                               |
|---|---|-------------------------------|
|    |   |                               |
| <p>Helicopter and vehicle</p>   | <p>Ground and Air support in difficult terrain.</p> | <p>Dambari Wildlife Trust</p> |
|   |   |                               |
| <p>Reversal drug injected</p>   | <p>Leaving the scene before the rhino wakes up.</p> | <p>Dambari Wildlife Trust</p> |
|  |   |                               |
| <p>Team Work</p>  | <p>Team Work</p>                                    | <p>Dambari Wildlife Trust</p> |