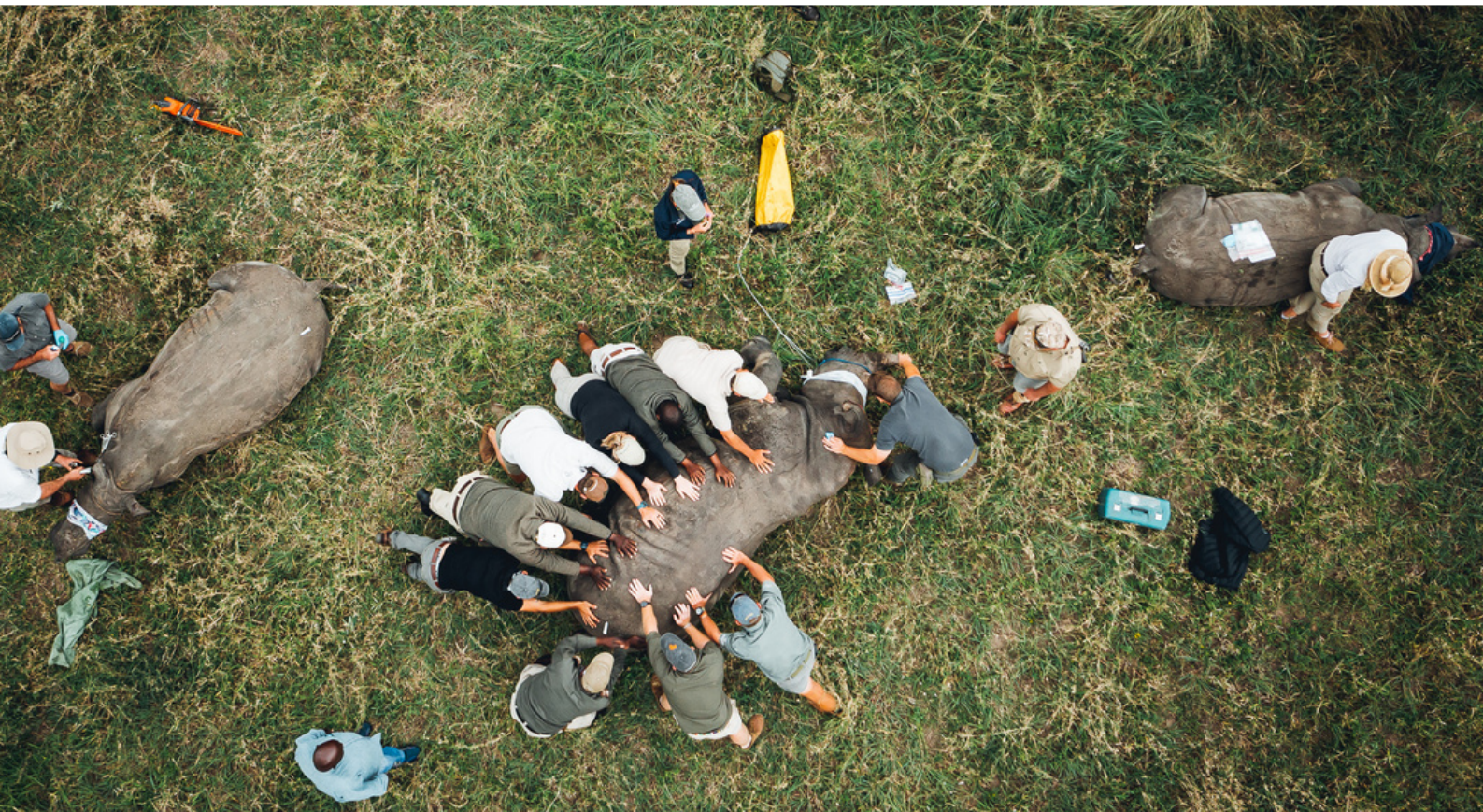
Rhino De-Horning Operation:

Sabie Game Reserve - Mala Mala - May 2022

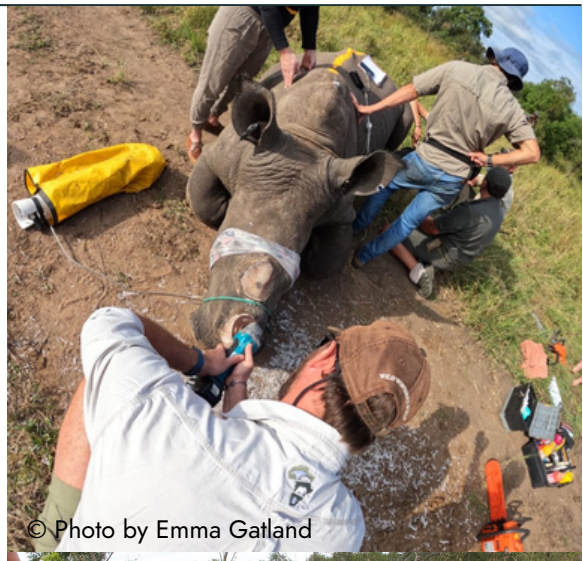
OPERATION REPORT

Date of issue: June 2022



OVERVIEW

Dates	May 2022
Area of Operation	Sabi Sand, Mala Mala and Sabie Private Game Reserves
Operation	Rhino De-horning
Target Species	White Rhino
No. of Animals	199 individuals
Amount contributed	ZAR 355,568.50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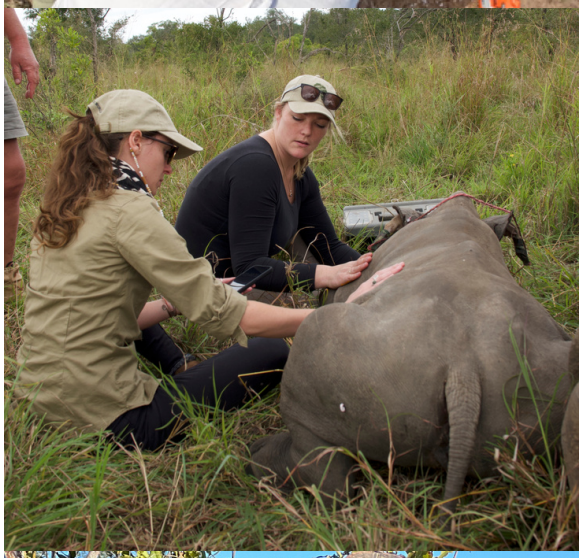
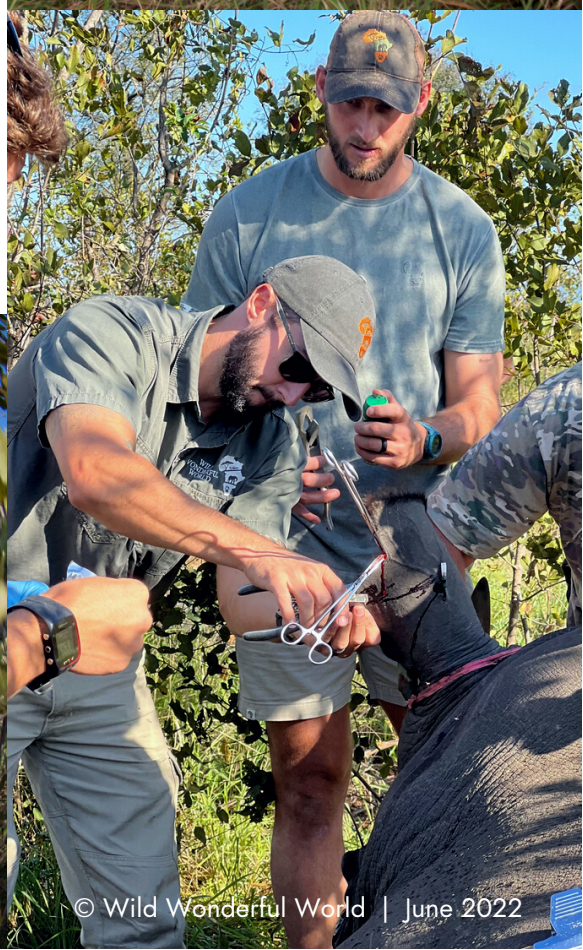


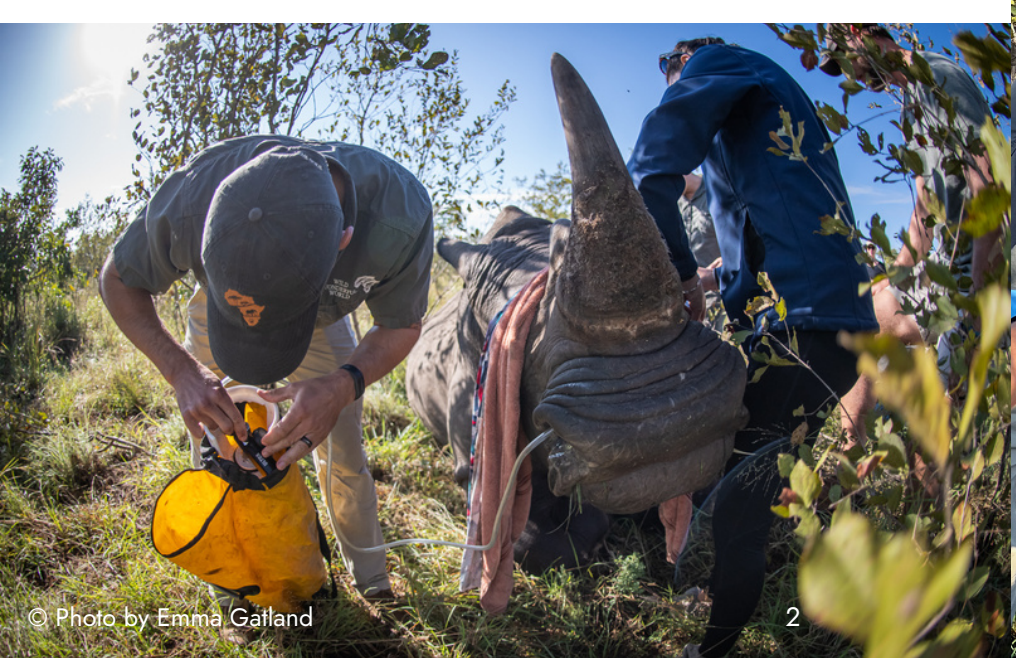


INTRODUCTION

In 2021, private game reserves located on the periphery of the Kruger National Park experienced a spike in rhino poaching incidents. The rate of loss was, for the first time, higher than the ecological growth rate of the species, resulting in a decline in the total rhino population of the area.

This threshold was a pre-planned marker for a change in policy for the Sabi Sands reserves; actioning the next level of protection by de-horning the known rhino population.

Wild Wonderful World worked with the Sabi Sand Wildtuin, Mala Mala and Sabie Private Game Reserves to assist in covering the costs of this operation in a bid to save the rhino population of this much loved wilderness area. This report serves as a public statement document detailing the involvement of Wild Wonderful World NPC in the operation.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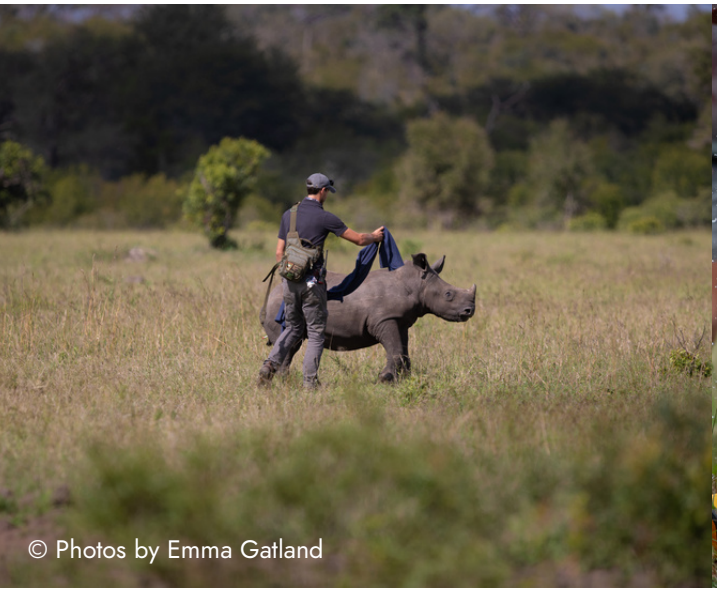
OPERATIONAL BUDGET

The entire de-horning operation took place within the Sabi Sand Protected Area (an open reserve system comprising the Sabi Sand Wildtuin, MalaMala Game Reserve and Sabie Game Reserve (henceforth "SGR")) over a period of 3 - 4 weeks during May 2022. The operation started on Mala Mala Game Reserve (first week of May 2022) and then moved onto the southern and northern sections of Sabi Sands Wildtuin before moving across to SGR. Wild Wonderful World funded the de-horning of 43 rhino on Mala Mala and 14 on SGR (cost breakdown below*). Two calves were immobilised but not dehorned. In the week after the SGR de-horning, the operation continued on the remaining sections of the Sabi Sand Wildtuin.

Resource	No. Units Funded	Price per Unit (ZAR)	Total (ZAR)	Notes
Fixed Wing Aircraft (Savanna)	8.3	1610 / hour	13,363	SGR only
Helicopter & Fuel (R44)	11.4	8000 / hour	91,344.50	12 min per animal
Veterinary Costs	59	4250 / rhino	250,861	Incl drugs & vet time
Total	59	6026 / rhino	355,568.50	

*Costs shown are Wild Wonderful World NPC contributions for Mala Mala and Sabie Game Reserves

The relatively low number of individuals de-horned within the SGR is explained by the reserve being located on the unfenced periphery of the other two reserves. During the operation on SGR - which took place on 16-17 May - the fixed wing counted approximately 35 rhino total, a large percentage of which were already de-horned on the other properties during the previous weeks. This is common in operations like these as rhino do not adhere to man-made reserve boundaries and move freely across the landscape, constantly adjusting the densities on each reserve. The operation on SGR was also to date, the most effective operation with the helicopter and fixed wing time per rhino, at the absolute lowest the veterinary team have seen since they started with de-horning operations in 2019. This was both thanks to a very efficient team and the ability to process multiple rhino at the same time (as many as five at a time).



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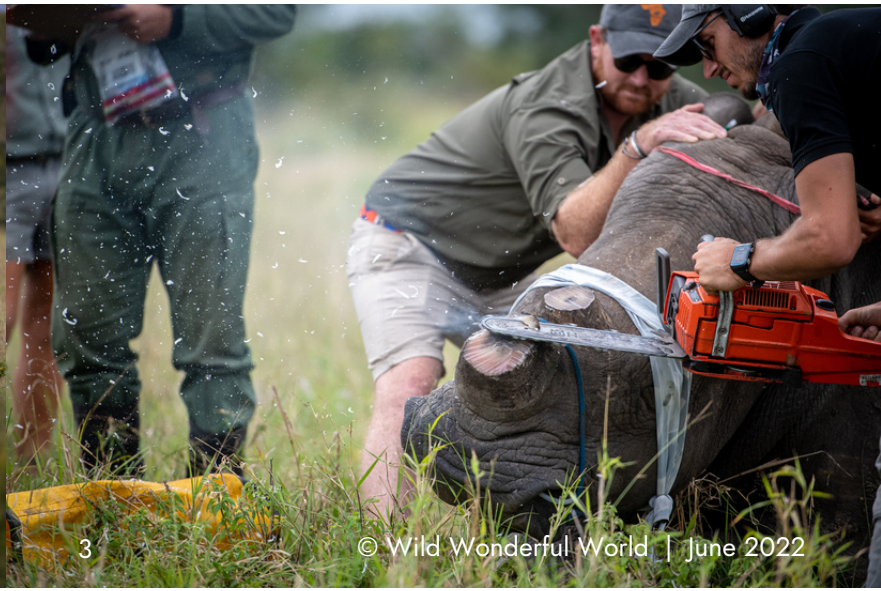
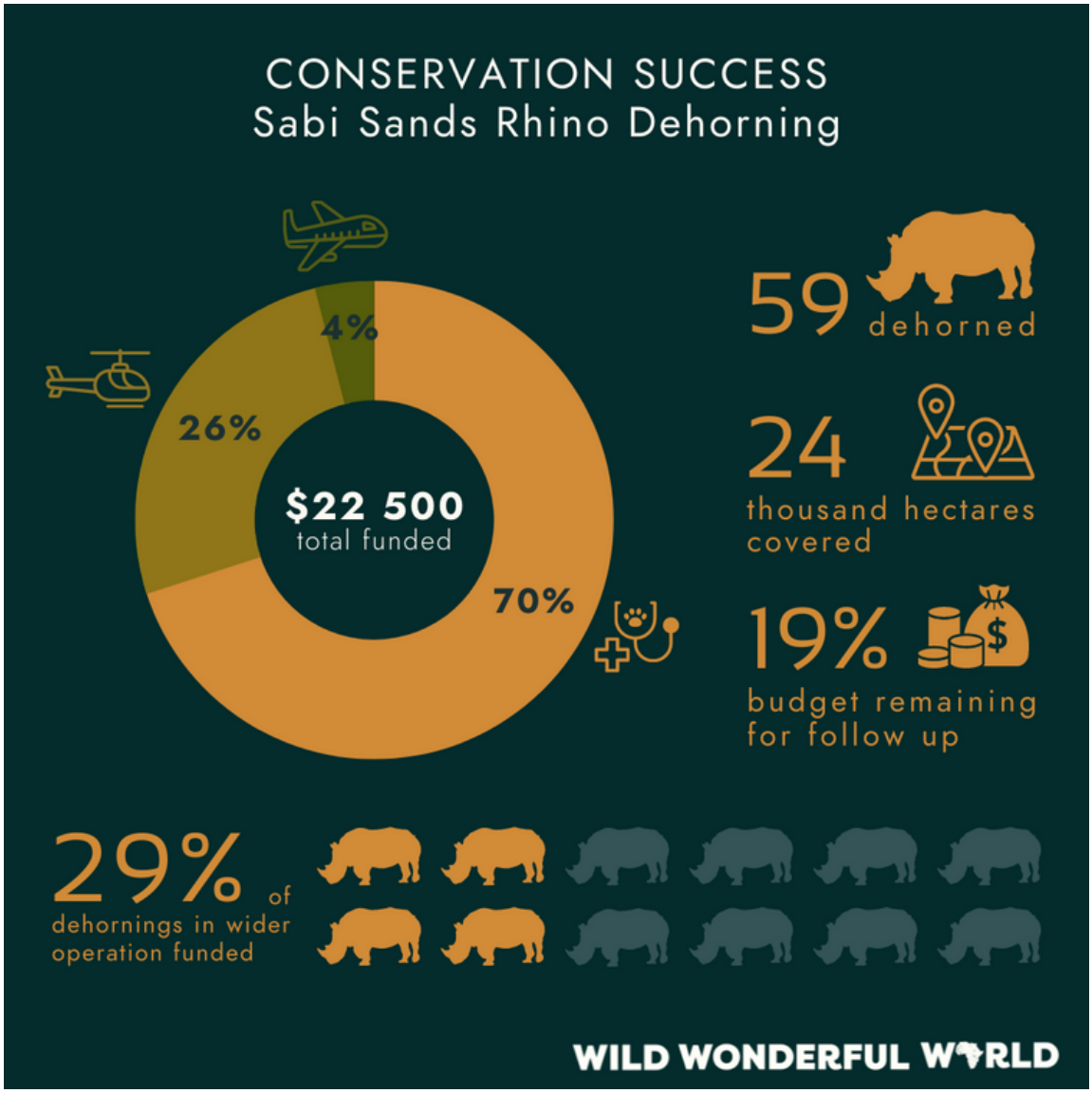


OPERATION REPORT

A SHORT OVERVIEW OF AN INDIVIDUAL DE-HORNING

- The fixed wing locates individuals, helicopter with a vet on board moves in for darting
- Once darted, ground team moves in as per instructions received from helicopter as to the location and terrain of where the animal was darted
- From darting, we are looking at 20-40 minutes per animal until wake up
  - Dart in – 5 mins
  - Procedure and processing – 15-25 minutes
  - Reversal and recovery – 2 minutes
- Actual procedure entails horn trimming by veterinarian, not tissue-level invasive
- Processing also involves: visual examination and potential pre-existing wound assessment, sexing and ageing, dart site treatment, oxygen, booster injections, microchips, DNA sampling, ear notching, trimming of horn, marking of removed material, record keeping

THE OPERATION IN NUMBERS

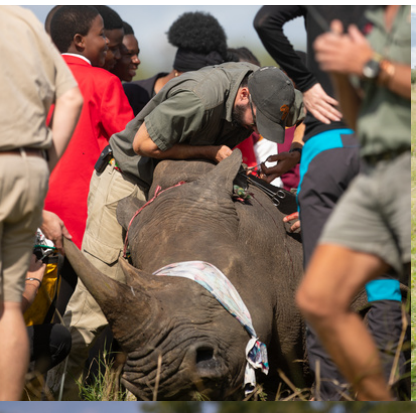


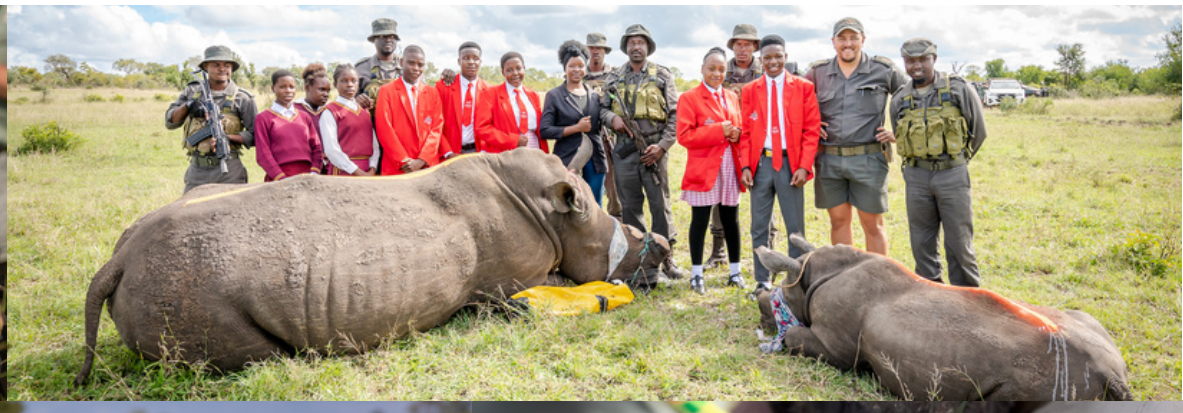
*Figures shown are related to Wild Wonderful World NPC funding for Mala Mala and Sabie Game Reserves

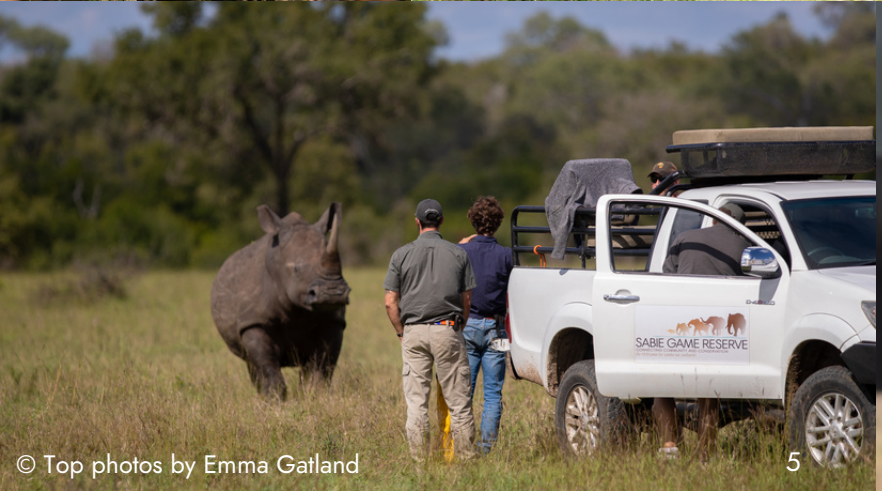
SABIE GAME RESERVE DE-HORNING REPORT

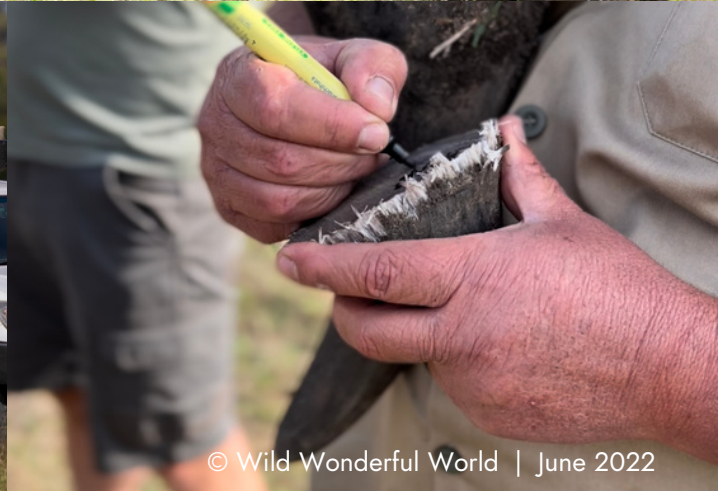
The Wild Wonderful World team physically assisted with the ground operation on SGR, assisting the veterinary team with the processing and de-horning procedure. We can therefore personally attest to the professional and conscientious work ethic throughout the operation, from veterinarians to vet assistants, game reserve management, staff and anti-poaching units. The morning starts with a debrief from the veterinary team as well as the anti-poaching unit to ensure everyone is aware of the safety procedures and security measures. From then on, it is a waiting game on the ground while the fixed wing gets airborne and scouts the area for rhino with horns. As soon as an animal is spotted, the ground team gets on the vehicles and starts moving towards the area while the helicopter moves in for the darting. When the dart has been successfully placed, the ground team will move into the area.

As soon as the ground team gets to the sedated animal, all measures are put into place to ensure the wellbeing of the animal. The animal's eyes are covered with a blindfold and earplugs are put in to ensure minimal exposure to movement and sounds. The veterinary team ensures that the animal is in the correct position lying down upright so as to minimise pressure on internal organs and limbs. Oxygen tubes are inserted through the nasal canal and eyedrops administered to prevent drying out. If a cow and calf by accident get separated in the darting process, the calf will be brought back to its mom and if necessary, will also receive a light sedation. Older calfs will be darted together with the mother and also de-horned if deemed necessary. If multiple animals within the same crash are darted together, the team will split up so that all animals can be de-horned and woken up at the same time, and no animal remains sedated for an unnecessarily long period of time.









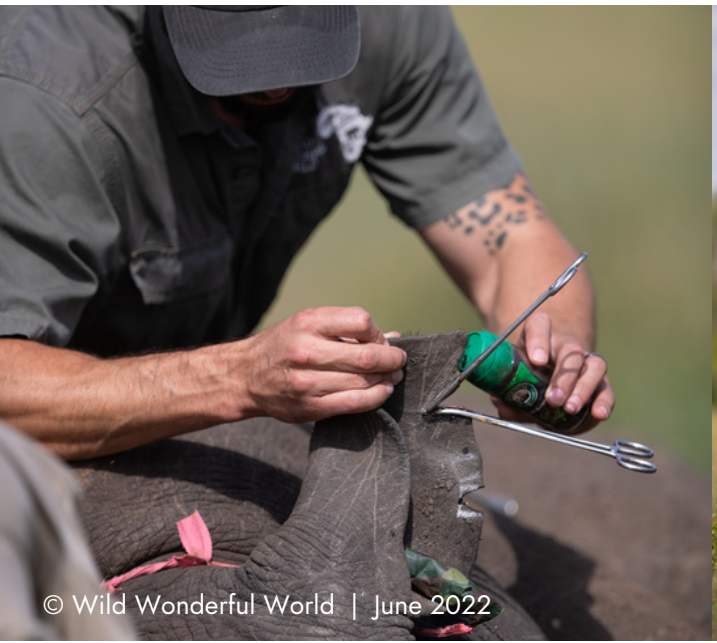
After visual examination and potential (pre-existing) wound assessment, sexing, ageing and dart site treatment; the DNA sampling starts, including inserting a unique subcutaneous microchip and the animals ears are notched. Ear notching helps to keep a record and follow up monitoring of individuals as they are spotted in future sightings. The removed skin as well as hair samples is kept as tissue sample. If the veterinary team is conducting specific research studies, other samples and parameters might be taken and monitored depending on the research study in question.

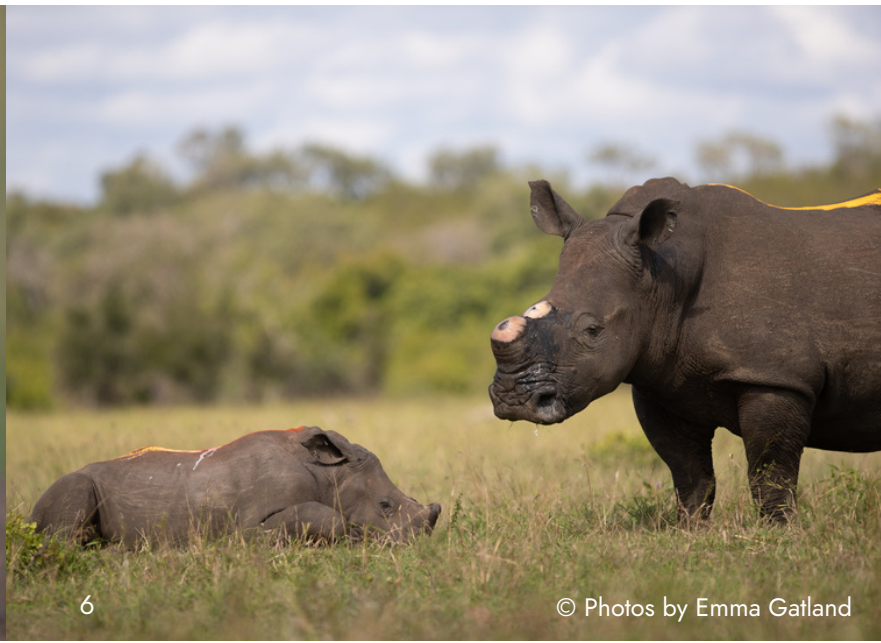
Photos and horn measurements (length and girth) are taken of the animals horn prior to de-horning. The base of the horn is marked with chalk to ensure that no live tissue is touched while trimming the horn. The horn is safely removed by qualified vets with a chainsaw along the marked line, and remaining sharp edges trimmed with a grinding disk. The remaining horn tissue is treated with hoof oil to prevent drying out and nourish the exposed tissue. DNA samples are sent to the Veterinary Genetics Laboratory RhoDis, linking each horn to the individual animal. Prior to administering the sedative reversal, de-horned animals are marked with paint on the back to make it easier for the fixed wing to identify de-horned individuals.

The horns are secured and marked (numbered) in field by Fidelity, working together with the Sabi Sands Security Officer, immediately after removal. The horn number(s), DNA sample data and microchip data are processed together by MTPA and Fidelity. Horns are temporarily stored at an undisclosed location on site. Movement of product to an off-site storage facility is usually done by air on a classified time and date. Yearly storage fee is based on weight and the horn remains the property of the game reserve indefinitely.

THE FOLLOW UP

- The initial operation covered about 90% of the know rhino population
- No black rhino were dehorned. Of the known black rhino population, the majority was not located largely due to the lack of leaf drop due to late rains and the open access to the KNP. A cow was spotted but she had a small calf with her so the decision was made not to dart the animal
- SSW will schedule 2-3 smaller follow up operations on select areas/individuals
- Rhino horn grows at 1kg/year which suggests blanket follow up operation at 18 months
- Once de-horning ceases animals regrow horns to normal size within 5-7 years





CONCLUSION

The Wild Wonderful World NPC is proud to have been a part of this historical operation (the first-of-its-kind in the Sabi Sands Private Game Reserve), contributing the funding for almost half of the total de-hornings during this operation. Although we all hoped we would have never had to revert to such extreme measures as to quite literally "take the price of their heads", it is war in rhino conservation and extreme circumstances ask for extreme responses.

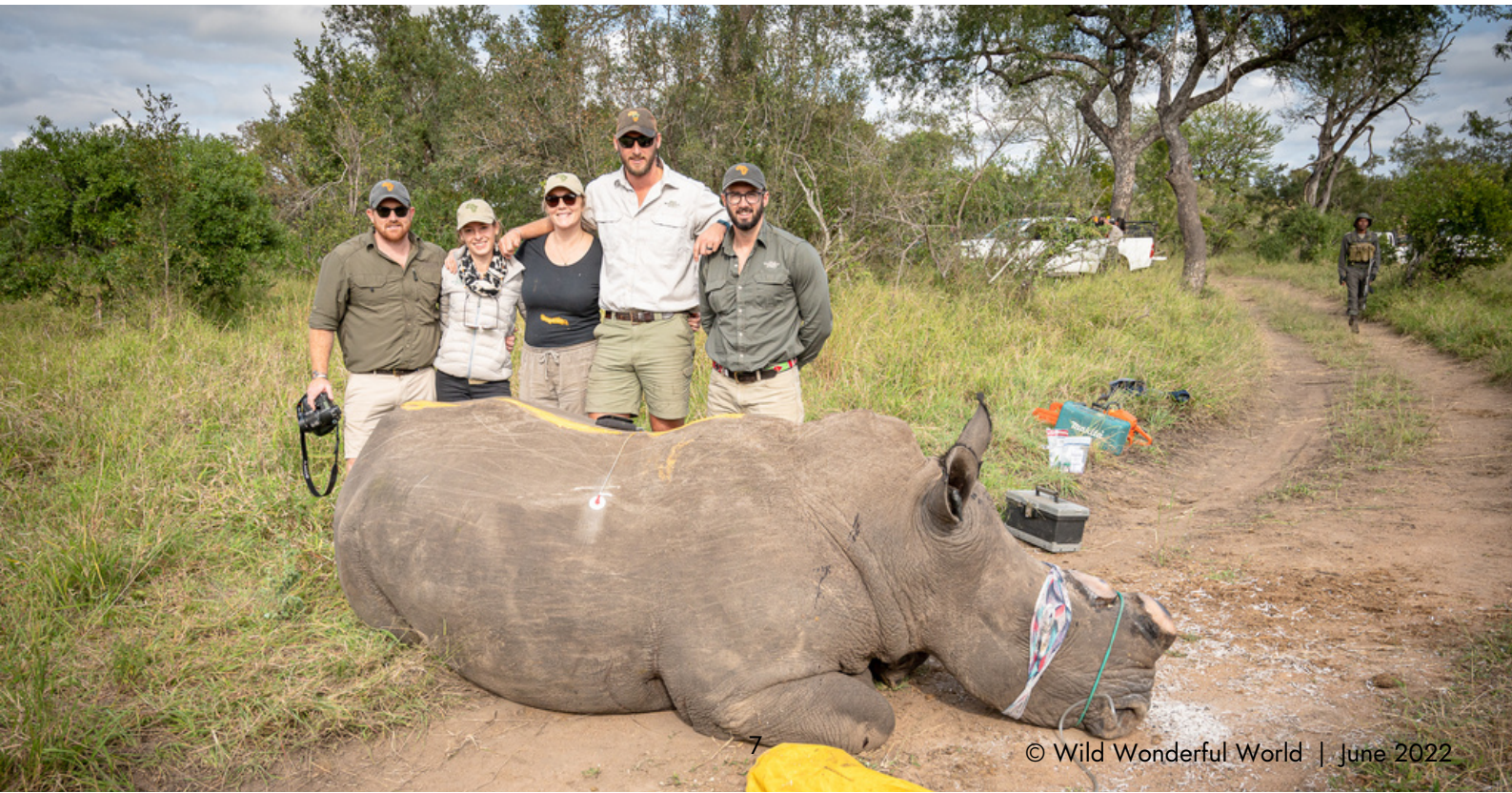
Being an area of high-profile luxury private safari & tourism, the fact that these reserves have implemented this pivotal change in their rhino management, marks a hugely important milestone in rhino conservation. The Sabi Sands has now joined neighbouring reserves in the APNR (the association of privately owned nature reserves bordering on the Kruger National Park) and significantly expanded the de-horned zone comprised of Kruger National Park, Balule, Klaserie, Manyeleti and Thornybush reserves.

From prior experience, this initiative - together with other measures including raising awareness and education of the communities surrounding the reserve and continued anti-poaching operations - will deter future poaching incidents and reduce pressure on the rhino population to allow the natural birth rate to once again trump losses. It is based on these known outcomes, that Wild Wonderful World remains committed to its credo of celebrating stories of success in conservation and supported the de-horning operation on the collective Sabi Sands Private Game Reserves.

HOW CAN YOU HELP

DONATE through our website or bank wire:

Acc. Name: Wild Wonderful World Conservation NPC
Acc. No. 62924522198 (Cheque Account - ZAR)
Branch Code: 250655 (Johannesburg, South Africa)
SWIFT/ BIC: FIRNZAJJ (XXX)
Bank Name: First National Bank (a Division of FirstRand Bank Ltd)
Bank Address: 4 Merchant Place, Corner Fredman Drive and Rivonia Road, Johannesburg, 2196, SA



BACKGROUND

RECENT RHINO POACHING & POPULATION STATISTICS

- 247 rhino were reported poached in Kruger National Park (KNP) in 2020/21.
- During the first two weeks of December 2021, 24 rhino were poached across South African reserves, amounting to nearly two rhino per day: six in KwaZulu/Natal, four in Western Cape, seven in Mpumalanga and seven in the KNP.
- Only nine alleged poachers have been arrested during the same time span (1).
- Even though SANParks KNP 2021 annual report boasts that rhino poaching incidents have declined for the fifth consecutive year, the decline in the KNP Black and White Rhino (south-western black and southern white) populations has not been halted as current poaching rates are not offset by birthrates, resulting in a net loss of rhinos.
- The relentless rhino poaching onslaught for the past 10 years has caused the rhino population in the KNP to decline from about 10 000 animals in 2008 to about 2 800 animals currently, its lowest level since 2010.
- Surveys during 2020 estimated 202 (margin of error 15%) black rhinos and 2 607 (error 5%) white rhinos living in KNP (2).
- Prolonged drought effects of preceding years, additional calves lost when cows are poached and low birth rates in the past year resulted in births being lower than the combined natural and poaching deaths. At this rate, the world's greatest rhino population could go locally extinct in as few as three years.
- Since banning the trade in rhino horn under CITES since 1977, at least three rhino subspecies (western black Diceros bicornis longipes, northern white Ceratotherium simum cottoni, and Vietnamese R. sondaicus annamiticus) have already gone extinct in the wild (3).
- The bulk of the rhino currently occur in the southern KNP - where the Sabi Sands Reserves are located - and it is this last core population that is now facing severe pressure (4).

WHY WE DE-HORN: IN A NUTSHELL

- A critical threshold is reached: when poaching figures match or overtake natural birth rates
- It is a mitigation strategy
- It's only successful with continued anti-poaching unit effort
- Most reserves have now de-horned their rhino populations - EKZN, KNP (over 1000 rhino dehorned to date), APNR, Phinda-Thanda-Manyoni complex - populations that still carry horns are now key targets
- It's been proven that de-horned populations experience significantly less poaching
- The negative effects of poaching are long lasting - orphans, media, staff fatigue and stress
- Rhino orphans cost around R160 000 to rehabilitate (3-4 years) - de-horning costs generally vary between R16 000 – R30 000 per animal for a similar period (2 de-horning waves)

RHINO DE-HORNING: EFFECTIVENESS

According to SANParks, to halt the declining rhino population trend, the poaching figures will have to be brought down to about 150 or less per year. Certain sections in the core rhino area experienced a drastic upsurge in rhino poaching from December 2020 to February 2021. Part of the response involved management de-horning about 130 rhino (mostly cows) during March 2021 and poaching declined significantly in these areas. The activity that goes with a dehorning exercise also serves to disrupt poaching activities in an area (13).

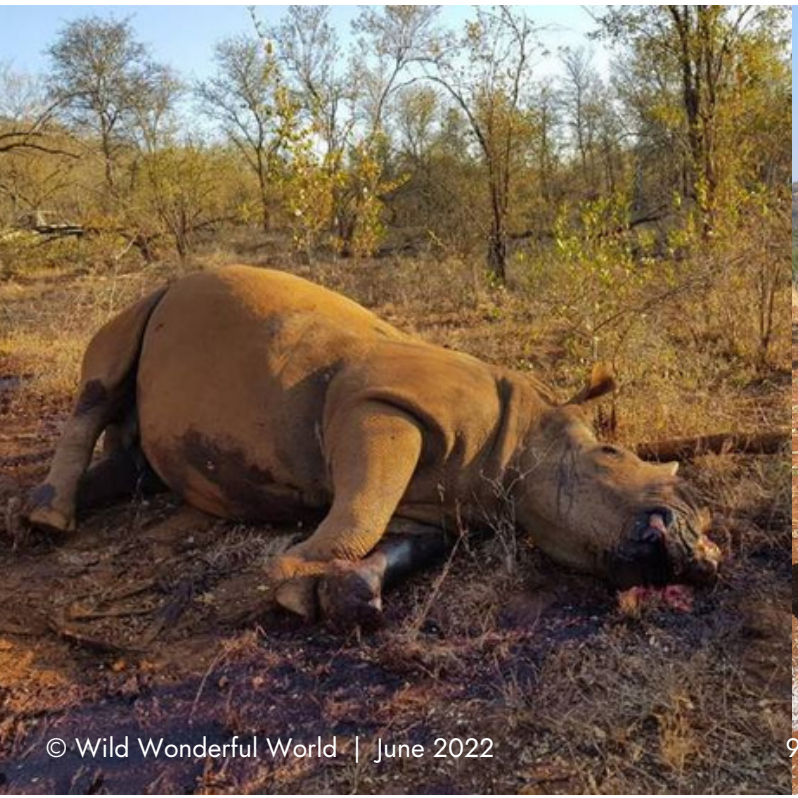
In Kwa-Zulu Natal over the period 2010-15, 25% of the total number of rhino's poached was on privately owned land, after de-horning this number dropped to 5%. In 2021, that number is still at 4-5% (14).

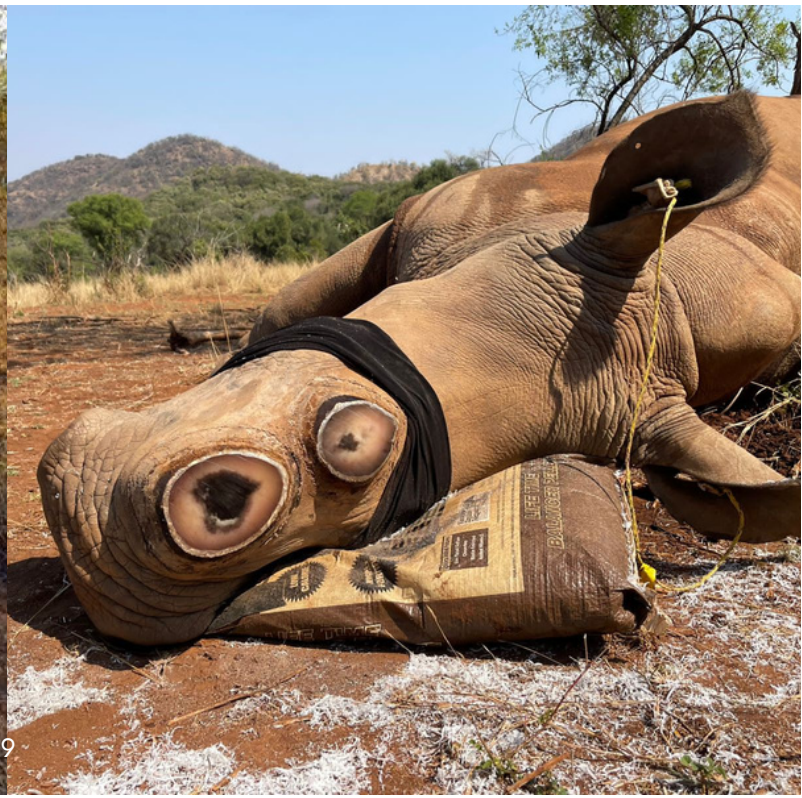
A study done in Zimbabwe in the 1990's found that a de-horned individual had a 29% higher chance of survival than a non-dehorned rhino.

Empirically, many private landowners indicate that after de-horning their rhino populations, they have received intelligence from the informant network that the poachers will focus their attention elsewhere. There have also been many studies in various locations that show there is little ill effect of rhinos being de-horned, in terms of potential veterinary, behavioural or ecological problems (15). De-horning is, however, a costly exercise with costs of between R8 000 and R15 000 per animal.

WHICH SIDE WOULD YOU RATHER WANT TO SEE?

As horrific as it is, this is the choice we are forced to make now.





THE SABI SANDS WILDTUIN & ITS INHERENT RELATIONSHIP WITH THE WIDER KNP

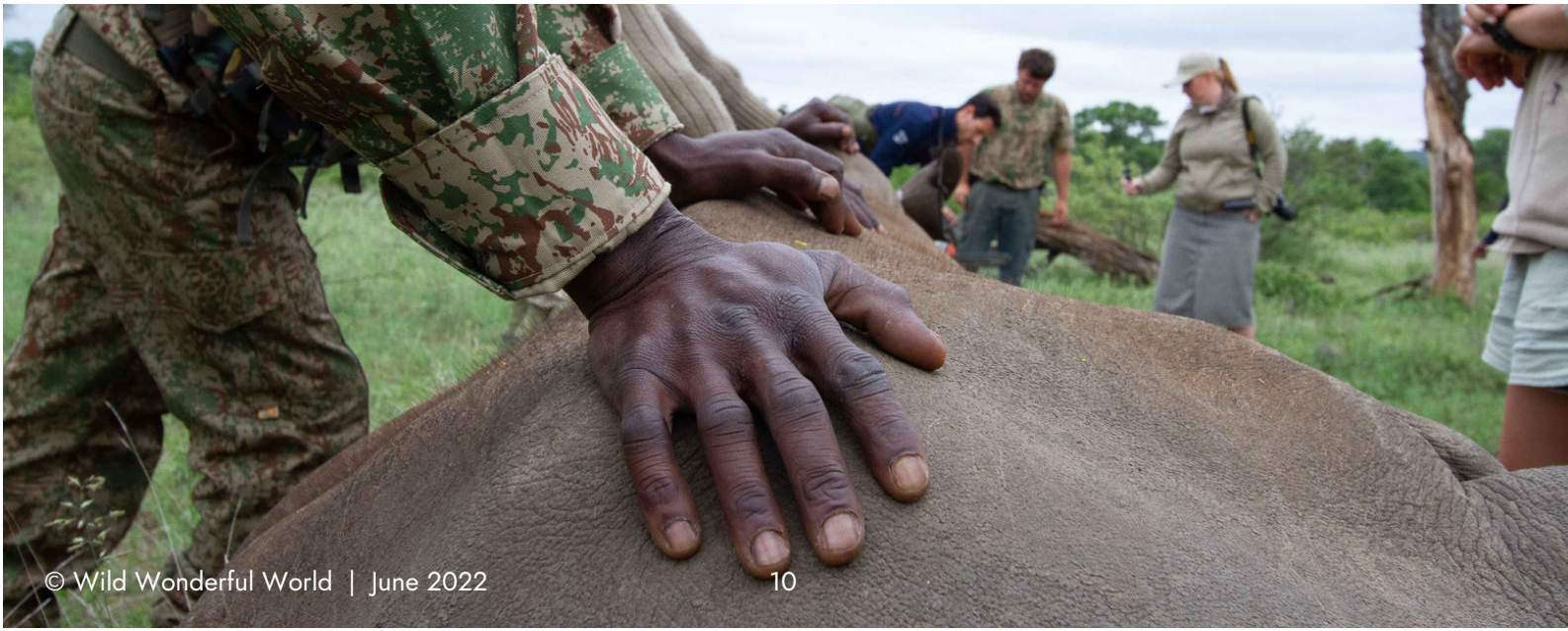
The Sabi Sands Private Game Reserves border the KNP on the south-western side, without any physical fence lines separating the reserves, which means animals can move freely between the KNP and the different privately owned reserves. Its central location also means that the reserves are an important corridor between the bulk of the KNP and its most southern part, where its last core rhino population is facing the bulk of the threat poaching today.

The decision to dehorn the entire Sabi Sands rhino population was largely due to:

- A 420% increase in rhino poaching in the greater Sabi Sand protected area from 2020 to 2021, and the rate of losses due to poaching overtaking the natural birth rate.
- The reserves having not dehorned their rhino populations whilst most other rhino populations in the APNR and the KNP have been and continue to be dehorned.
- The reserves' proximity to the rhino poaching syndicate epicenter, Mkhuhlu/Hazyview.
- High levels of internal involvement by staff working in the Protected Areas.
- High levels of involvement from terminated ex-field rangers from across the Protected Area (this is currently being addressed via GKEPF)
- Information leaking about the reserves planning to dehorn their rhino populations - which significantly increased urgency.

With the KNP's revenue suffering immensely due to global and national travel restrictions, as well as the SA government being unable to assist SANParks with additional grant funding due to pressures on the fiscus, the next few years will be even harder on the KNP's anti-poaching operations. For 2021/22, SANParks is already registering a deficit of more than R280-million.

The effect of the pandemic on tourism, it says, has been devastating on the operating environment for SANParks and Kruger, and the park's management are caught in a cycle of crisis management to "keep the lights on".



At worst, some are throwing in the towel, ducking compliance, avoiding making decisions or making private plans. Delays and cumbersome processes, says the report, have seriously impacted the park's ability to operate. There are no management plans to deal with existing infrastructure and facilities. This is compounded by a number of camp maintenance teams that do not have the correct balance of skills, as well as a lack of building materials and supplies because of supply-chain failures. At root, there are inadequate financial resources to effect change and to secure buy in and support from staff and stakeholders (18).

With lack of funding and support for anti poaching efforts in KNP, the Sabi Sand Wildtuin will become a greater and greater "safe haven" for wildlife. Upmarket safari tourism in private reserves contributes substantially to anti-poaching operations.

GOVERNMENT POLICY, KNP CORRUPTION AND LOCAL CULTURE

Government policy since 2017 has been focused on "breaking the illicit value chain of wildlife trafficking", essentially meaning "to direct law enforcement structures in South Africa and empower them with the necessary means to reduce and prevent the increasing scourge of wildlife trafficking, in the country itself and abroad"(5).

However, five years since the drafting of this SA policy, allegations of the KNP's corruption and rangers' involvement with poaching syndicates remain rife. Between 2009 and 2021, 42 SANParks staff members were dismissed in response to alleged involvement in rhino poaching (6).

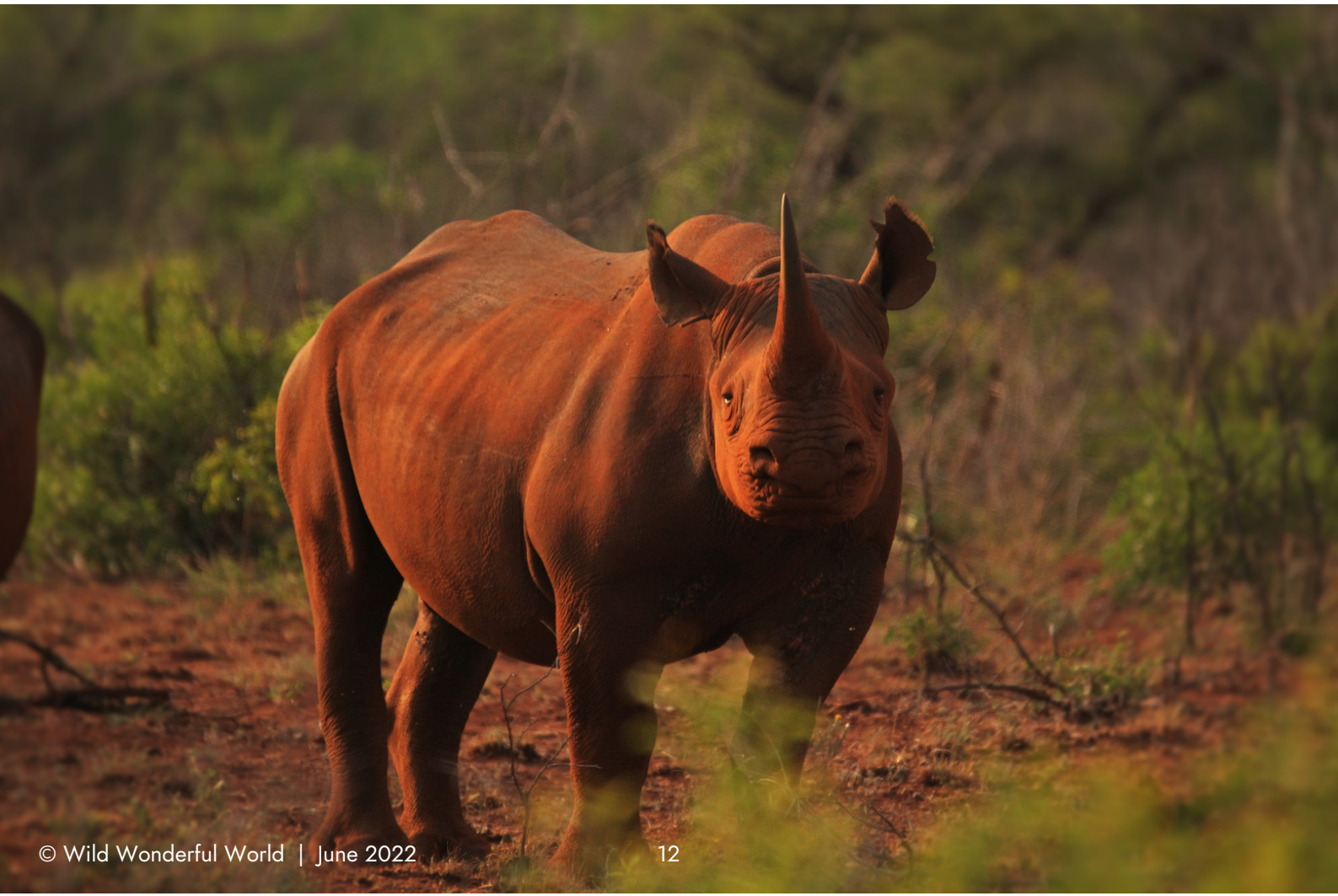
Those involved in the illegal rhino horn trade are often seen as the heroes because they're the ones bringing money into the local communities surround the game reserves. When the KNP was established in 1926, the locals living on the land were forcibly removed. That cultivated a sense of resentment, as well as a divide between impoverished communities on one side of the fence and the highly resourced conservation efforts and tourism investments on the other. Most people living near the park have never seen a rhino or visited the Kruger National Park. They see little benefit from live rhinos — tourism dollars rarely trickle into their communities — and are more likely to be familiar with the quick payoff from a dead one(7). This pervasive issue is a pivotal one, especially keeping in consideration the importance that high-end lodges place on community empowerment (8).

The general consensus is that the reduction in poaching incidents is as much a result of the 2020 & 2021 lockdowns - with human movement & international trade severely restricted (9) - and the fact that there are simply fewer rhinos to find (10), as it is due to success of anti-poaching operations (11), including technological advances (12).

With government policy mainly focusing on reactive measures of policing and prosecuting poachers, corruption amongst the KNP ranger corps still deeply engrained due to longstanding local and cultural factors, and KNP financial reserves dwindling due to decreased revenue, as well as empirically proven effectiveness of de-horning procedures (both within and outside the APRN) and the pivotal role of the Sabi Sands Game Reserves for population movements throughout the KNP, we support the extension of the de-horning operations in this part of the KNP.

The scale of the operation also meant costs were brought down significantly as it reduces transaction costs associated with the alternative fragmented approach (i.e. flying helicopter out to the reserve, transportation costs & time of the veterinary & tracking teams, etc.). The operation on SGR alone was the most efficient in terms of cost per rhino since the veterinary team started the dehorning operations in 2019.

Because of high-end tourism continuing to drive a solid anti-poaching response in the wider Sabi Sands area, as well as the proven efficiency of de-horning in strategic regions, together with the large scale of the de-horning operations, the effectiveness of the operation is highly likely to be successful in deterring poachers from moving into the area. The operational interventions that prove most successful are integrity testing, detection, force multiplying technology deployments, K9 capabilities, drone surveillance/top cover and rapid response.



Publicising the operation after completion will also go a long way towards discouraging poachers to move into the area (19). The SGR invited the local Izinduna (chiefs) from the Justicia and Huntington communities to take part in the dehorning operation on the SGR. Their inclusion increases the chances of spreading the word and buy-in from the surrounding communities. In addition, the top learners from the Hundzukani Primary and Kurula High Schools in Huntington were also part of the dehorning operation on SGR. The Wildscapes veterinary team took the waiting time between darting as an opportunity to inform and educate the students, which will go a long way in disseminating the information and hopefully inform the younger generations of the importance of protecting, rather than poaching the rhino population.

De-horning is a mitigation strategy, as well as a dissuading one, with promising prospects to significantly reduce poaching within the Greater Kruger Area. A waiting game, to preserve the remaining rhino population and allow them to tilt the balance in their favour once again so that one day we might see wild rhino roaming freely on their homelands.

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