Module # 1 – Component # 5

African Rhinoceros Species

There are two species of Rhinoceros in Southern Africa, the White Rhino and the Black Rhino. Both species will be discussed here.

Classification

Rhino are classified in the following manner:

<table>
<thead>
<tr>
<th></th>
<th>White Rhino</th>
<th>Black Rhino</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kingdom</td>
<td>Animalia</td>
<td>Animalia</td>
</tr>
<tr>
<td>Phylum</td>
<td>Chordata</td>
<td>Chordata</td>
</tr>
<tr>
<td>Class</td>
<td>Mammalia</td>
<td>Mammalia</td>
</tr>
<tr>
<td>Order</td>
<td>Perissodactyla</td>
<td>Perissodactyla</td>
</tr>
<tr>
<td>Family</td>
<td>Rhinocerotidae</td>
<td>Rhinocerotidae</td>
</tr>
<tr>
<td>Genus</td>
<td>Ceratotherium</td>
<td>Diceros</td>
</tr>
<tr>
<td>Species</td>
<td>simum</td>
<td>bicornis</td>
</tr>
</tbody>
</table>

Common names:

<table>
<thead>
<tr>
<th></th>
<th>White rhino</th>
<th>Black rhino</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>White rhino</td>
<td>Black rhino</td>
</tr>
<tr>
<td>German</td>
<td>Breitmaul-nashorn</td>
<td>Spitzmaul-nashorn</td>
</tr>
<tr>
<td>French</td>
<td>Rhinoceros blanc</td>
<td>Rhinoceros Noir</td>
</tr>
<tr>
<td>Afrikaans</td>
<td>Wit Renoster</td>
<td>Swart Renoster</td>
</tr>
<tr>
<td>Zulu</td>
<td>Nkombe</td>
<td>Ubejane</td>
</tr>
<tr>
<td>Swahili</td>
<td>Kifaru</td>
<td>Kifaru</td>
</tr>
</tbody>
</table>
Myth & Legend

The following legend explains a most distinctive behaviourism that separates the two species.

In the times when animals could still talk, two rhinoceroses with their calves trailing behind them went for a walk to find food. Times were bleak and there was not much food around, and they would have to search far outside of their home to find any. The two mothers, Angazi and Telete, represented different tribes. Soon after leaving their secure borders, they unfortunately chanced upon the great male lion Zwetebgwe. The rhino mothers quickly tried to protect their calves, but since the calves were behind them, they did not see that the lion had cut them off from their mothers. Zwetebgwe turned to the mothers and said

"I too have not eaten for many days and will now eat one of these fat calves, but which one will it be?".

Both mothers pleaded with Zwetebgwe not to do so. After listening to them the lion responded.

"I cannot decide which one to eat, you will have to decide for me."

The mothers said that they could not possible choose between themselves and did not know what to do. The lion smiled cunningly and replied

"I will ask each of you one riddle. The one who can answer me will have gained my respect and I will not eat your calf."

Both reluctantly agreed and the contest began. Of Telete he asked "What is red in front and black behind?"

Telete quickly thought and responded
"It is a fire on the plains, the red fire in front, and black ash behind."
"Well done" replied Zwetebgwe, and to Angazi he asked
"What is a soft stick in a grove of trees?"

Angazi thought and thought, but no answer came to her, and eventually she admitted defeat. The answer she was looking for was a snake.
"You have lost my respect"; uttered the lion. "From now on you and all your tribe must be especially mindful of your calves, for I and my tribe will consider them fair game."

With that he grabbed the young calf of Angazi and left. To this day whenever you see either the daughters of Angazi or Telete you will see that Angazis are always behind their calves, and are extra mindful of them. However, Telete lets her calves trail her, as she has always done, safe in the knowledge that she has won the respect of the great lion (zwetebgwe).
## Vital Statistics

<table>
<thead>
<tr>
<th></th>
<th>White Rhino</th>
<th>Black Rhino</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shoulder Height</strong></td>
<td>1.70m (5.6ft)</td>
<td>1.60m (5.3ft)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>2150kg (4730lbs.)</td>
<td>1000Kg (2200lbs.)</td>
</tr>
<tr>
<td><strong>Gestation period</strong></td>
<td>16 months</td>
<td>15 months</td>
</tr>
<tr>
<td><strong>Food preference</strong></td>
<td>Grazer</td>
<td>Browser</td>
</tr>
<tr>
<td><strong>Maximum speed</strong></td>
<td>45kph (28mph)</td>
<td>45kph (28 mph)</td>
</tr>
<tr>
<td><strong>Longevity</strong></td>
<td>45 years</td>
<td>40 years</td>
</tr>
<tr>
<td><strong>Record Auction price</strong></td>
<td>R 1,400,000.00</td>
<td>R 602,500.00</td>
</tr>
<tr>
<td><strong>Record Horn Length:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front horn</td>
<td>158cm (63in)</td>
<td>135cm (54in)</td>
</tr>
<tr>
<td>Rear horn</td>
<td>56cm (23in)</td>
<td>46cm (18in)</td>
</tr>
</tbody>
</table>

*ABBY TUCHMANN*
White Rhinoceros - *Ceratotherium simum* (Burchell 1817)

**Introduction**

The White Rhino differs from the Black in several physical ways. The White has a square mouth, as opposed to the black’s hooked lipped mouth. In fact, White is a derivation of the Dutch word "wijd" meaning wide, referring to its mouth. Although they are the same colour, the black Rhinoceros is far smaller. One further indication of which species you may encounter is that the White has a pronounced hump. Other than this they differ significantly in behaviourisms that will be explained in due course.

(Picture source: www.thomsonsafaris.com)
Diet and Feeding

The White Rhino is the largest of the **pure grazers**. Its wide square mouth enables it to graze very efficiently on **short green grass**. The grass is cropped by the action of its sensitive lips, and not cut with its teeth.

Up to **30 species of grass** constitute the White Rhino’s diet.

This contrasts with the black rhino, who is a **browser**. White rhino often **drink twice daily**, usually from dusk onwards, and are quite dependent on water availability.
Social Structure

Adult males are solitary animals, and maintain and defend defined territories. All the available range is divided up, and held by two thirds of the mature bulls. The other third of the male population live as satellites on the territories. The owner of the territory may become conditioned to their presence, if they are appropriately submissive in his presence. The bulls generally hold their territory for around three years before being usurped. Adult bulls pronounce their territory by frequently urine spraying, as well as maintaining a midden. These middens are places chosen by the bulls as their own personal "out houses", and they return to use them frequently.

Identifying the species by examining its midden is easy to do. Simply look at the composition of the dung. Since white rhino are purely grazers their dung is quite fine and only contains grass. Black rhino dung, on the other hand is quite coarse and consists of twigs, sticks, pieces of bark, thorns and even the remains of leaves.

The adult females by contrast live within in overlapping home ranges within these territories. They are rarely solitary, associating in pairs or with their most recent offspring. A juvenile is rejected at two to three years, when its mother calves again. It then attaches itself to a conspecific of the same age and sex. Adult males only associate with the females to check if they are in oestrus. If they are, the male will remain with her for a while.
Reproduction

When a bull finds a female approaching oestrus, a protracted courtship of up to several days ensues. He maintains a set distance from the female (which she determines) of 5 - 30 m [20 – 100 ft], while making sure she stays on his territory and is not bothered by other adult males. During this time, he even puts up with any of her young that may still be around. He continually approaches her as she nears full interest and is perpetually rebuffed. Finally, after 15 - 20 hours of repeated approaches she stands with her tail curled for a mating of at least half an hour. He may then stay with her for two to five days.

The pregnant female secludes herself in dense bush for several weeks before calving. After a 16-month gestation one calf is born. As told in the preceding legend, White Rhino calves lead their mothers, but immediately respond to any change in direction by the mother. They begin grazing at two months and are weaned in a year.
**Black Rhinoceros – Diceros bicornis (Burchell 1817)**

**Diet and Feeding**

In direct contrast to the white species, black rhino are exclusively browsers. In certain areas, black rhino have been recorded eating up to **75 different woody** species. Using their prehensile upper lip the animal **selectively bites off** its preferred shoots, consuming the twigs, thorns, sticks as well as the leaves. They are classed as **selective feeders** as they will actively avoid dry or dead material. They will also occasionally knock down small trees to reach the newer succulent growth. They have been recorded eating small quantities of grass, but only during the wet season.

Black rhino also seem to have definite preferences, particularly for **Spirostachys africana** – The Tamboti tree.
Social Structure

Just like adult white rhino males, black rhino are solitary animals. They don’t defend specific territories, but do tend to remain within defined home ranges, which may overlap with the home ranges of other rhinos. When adult males meet, they tend to be aggressive to one another, but prefer to avoid contact. Serious confrontation occurs when two males fight over a female in oestrus.

The concept of middens was dealt with earlier, but black rhino exhibit a behaviourism not seen among white rhino. This is the action of deliberately scraping the dung after it has been deposited.
Reproduction

A female reaches sexual maturity at 6 ½ years old. When she attracts males as she comes into oestrus, they perform a task common to many of the ungulates – the Flehmen. In this ritual, the female urinates a little on the ground. The male then smells and tastes this and can determine whether the female is ready to mate. This ritual varies in its forms from species to species but always has the same goal.

Reasonably detailed data exists concerning the actual copulation. In one specific study rhino couples were observed:

- Copulating between 2 and 7 times
- For between 12 and 43 minutes
- And ejaculating between 2 and nine times

Average sexual behaviour is likely to be an average of the above data.

After a gestation of 15 months a single calf weighing ± 40 Kg [88 lbs.] is born. It can walk three hours later and is weaned at approximately a year old. At two to four years of age the calf is rejected to fend for itself. However, from birth to rejection mothers are fiercely protective of their offspring and one observation saw a mother attack and kill a lion.
Aggression

One very significant difference between the two species needs must be mentioned. Black rhino are many times more aggressive than white rhino. They will charge with little or no provocation and really live up to their reputation and classification as dangerous game.

White rhino on the other hand, tend to be quite docile under most circumstances and should not be aggressive unless given a reason to be so. Therefore, it is of critical importance to be able to identify which rhino species you have come across whenever they are encountered in the field. Mothers with calves of either species are only to be observed at a safe distance.
Current Status

Red List Category & Criteria: Critically Endangered

The reason for this, most will know, is because of their horns. The horn in fact is not a true horn as in the antelope, but rather a mass of densely compressed hair, growing out of the rhino's skin, and is not attached to the skull. Contrary to popular western belief, the horn is not valued in the east for its supposed aphrodisiac properties, but rather for its medicinal properties. And even here it is not used to treat bizarre or life threatening disease, but is just one ingredient in remedies for illnesses ranging from the common cold to a headache.

The horn does not contain any pharmacological properties. The horn is also valued in the Middle East by some cultures as ornamental dagger handles.
Conservation Success

Conservation of Rhinoceroses of both local species has been phenomenal in South Africa. With the increase of European settlement into Southern Africa in the 17th Century, all game species, but particularly the rhino, were severely affected by hunting. By the end of the 19th Century only 50 – 100 white rhino remained alive, and these were confined to the KwaZulu / Natal region. Because of this the Umfolozi – Hluhluwe Game Reserve was proclaimed in 1897. The black rhino did no better and only 100 individuals were left by the early 1930’s with both species being completely extinct in all of their former habitats except for KwaZulu / Natal.

Due to enormous and dedicated efforts, these species were literally pulled back from the brink of total extinction. To date nearly thousands of white rhino and 2,000 black rhino have been bred and translocated back into areas where they once existed.

In September 2004, both South Africa and Namibia had been granted permission by CITIES (The Convention on International Trade in Endangered Species) to allow them to hunt a limited number of black rhino annually. Namibia wanted to hunt 5 out of the 1,134 resident animals, while South Africa wanted to hunt 10 of their 1,200. The proposal was granted for each country to harvest 5 animals each per year. Only male rhinos that were no longer able to reproduce could be hunted.

In 2014 the retail price of a whole rhino horn was commonly pegged at around $60,000 per kilogram, thus the huge incentive for rhino poaching.
Rhino Poaching

Rhino have always been a prime target for hunters and poachers for thousands of years. It was only through a combination of luck and determination of behalf of a handful of dedicated individuals that the various species of rhino were saved from the very brink of extinction in the 20th Century.

Rhino horn has been in demand for more than 2,000 years by various people, including Africans, Europeans, Arabs, Chinese, and Indians. Although all rhino species face the threat of extinction in the wild, many people still covet their horns as status symbols, powerful medicines, and aphrodisiacs.

Only a few African tribes use rhino horns; they have mostly helped export them to other countries. In Kenya, one tribe shaped the horn into a club, while another used the horn as a mallet to flatten animal skins. The Zulus of South Africa still use the horn for many purposes. A man may carry a piece of rhino horn in his pocket as a good luck charm. A sip of water boiled with rhino horn may help cure coughs, chest pains, and snakebites.

Hindus, Muslims, Buddhists, and Christians once used rhino horn cups for detecting poisons. They believed that a poisonous liquid poured into the cup would either bubble up or be rendered harmless by the special properties of the horn. Some scientists think that the cups may have succeeded occasionally in detecting strong alkaloid poisons, which would have reacted on contact with the keratin in the rhino horn.

Europe's affair with rhino horns began in the 19th century, when the tops of riding crops, walking sticks, and door handles were made from the exotic material. The rhino horn demand in Europe peaked in the 1920s, when hand grips for rifles and pistols and interior panels of limousines were made. The desire for rhino horn products declined during the Depression, and never recovered its former fever pitch.

In Yemen, a country on the south-western tip of the Arabian Peninsula, rich nobles have coveted rhino horn hilts for ceremonial daggers, known as jambias, for centuries. Today, rhino horn daggers still convey the high status of the owner. As the wealth of most Yemenis increased in the 1960s and 70s, so did the demand for rhino horn. Yemen imported three tons of rhino horns per year in the early 1970s, which translated to about 1,000 dead rhinos a year. A ban on rhino horn imports in 1982 only resulted in high-priced bribes to get the horns through customs.

In 1986, an economic slump and international pressure contributed to the fall of rhino horn imports in Yemen to only 1,100 pounds of horn for that year. At the beginning of 1987, Yemeni ministers took steps to strengthen their rhino horn import ban by punishing those who sold horns and encouraging the use of water buffalo horn for hilts. Today, only about 330 pounds of rhino horn per year make it across the Yemeni border.
The flow of rhino horn products in China has not slowed yet, however. The Chinese have used rhino horns traditionally for ornamental, magical, and medicinal purposes. As far back as 600 A.D., Chinese aristocrats would present a carved rhino horn cup to the emperor each year on his birthday. These cups can be seen today in museums around the world. The Chinese also made rhino horn buttons, belt buckles, hair pins, combs, paperweights, and talismans.

Rhino horn has historically been used for medical purposes in China as well as for detecting poison. The 16th-century pharmacist Li Shih Chen stated that the main ailments treatable with rhino horn included snakebites, hallucinations, typhoid, headaches, carbuncles, boils, fever, vomiting, food poisoning, and "devil possession." Li Shih Chen's 50-volume pharmacology work contains the classic text on preparation and use of the rhino horn, and many pharmacists still use his text when they prescribe it today. Although rhino horn tablets are available, most people want to see the pharmacist shave the rhino horn to ensure that they are getting the real thing.

Chinese pharmacists currently prescribe rhino horn primarily to reduce fever, and three researchers at the Chinese University at Hong Kong have shown that rhino horn does lower fever in rats. The same research revealed that saiga antelope horn and water buffalo horn also reduce fever in the animals, but the scientists suggest that further studies are needed to determine the effects of the different horns on humans.

Contrary to popular belief, the Chinese do not use rhino horn as an aphrodisiac, but a few Indians do. Because of the high price of rhino horn, Indian dealers sell more abroad than they do locally, so use of the horn in India has become rare. Indian pharmacists grind the rhino horn into a powder and mix it with herbs to increase its powers. The customer takes it home and mixes the rhino powder with honey, cream, or butter and then swallows the mixture twice a day.

Conservation groups now realize that to stop poaching, they must reduce the demand for rhino horn that drives the price up to astronomical heights. If conservation efforts succeed, the rhinos may survive well into the 21st century, horns and all.
How Bad is the Problem at Present?

While several rhino were always victims of poaching each year, a massive increase in this activity began in the latter half of 2009. The reasons for the trigger in the increase are unknown, but the suspicion is that it’s related to large organised crime syndicates originating in the Far East.

**STATS FOR 2016: 950 RHINO POACHED**

![Graph showing the number of rhino deaths from 2000 to 2016](chart.png)

Source: www.stoprhinopoaching.com
POACHED RHINO 2011: 448
POACHED RHINO 2012: 668
POACHED RHINO 2013: 1004
POACHED RHINO 2014: 1215
POACHED RHINO 2015: 1175

(Source: www.stoprhinopoaching.com)
2016 Rhino numbers

**Black rhino in South Africa** - between 1822 and 2014 animals
**White rhino in South Africa** - between 17,396 and 19,369 animals

The following figures have been extracted from the IUCN African Rhino Specialist Group statement issued 09 March 2016.

**Poaching:**
Since 2008, 5,940 rhinos have been killed in Africa.

Population estimates:
19,682 to 21,077 White rhino in Africa
5,042 to 5,455 Black rhino in Africa

South Africa conserves 79% of Africa’s rhino and has suffered the bulk of the poaching (85%) since 2008.
The Many Faces of Rhino Poaching

For their incredible size, rhino have very poor eyesight. Relying mainly on their well-developed senses of smell and hearing to warn them of approaching danger, a rhino stands virtually no chance against experienced poachers who can stalk to within meters before opening fire.

Poachers are indiscriminate when it comes to taking horns, as has been proven by the number of pregnant cows or cows with calves that have been killed. Calves are either killed as well; the small sliver of horn hacked from their faces, or left to fate alongside their dead mothers. The loss of breeding cows and calves is one that no rhino species can afford.

SUBSISTANCE POACHING

This is where poachers, almost always on foot, armed with rifles and usually from poor communities enter known rhino reserves or game farms to shoot rhino. Shots include random fire to the head and chest area, and anchoring shots in the knee or foot region are often fired to slow the animal down / keep it from being able to run away. Random fire is indiscriminate and animals with gunshot wounds are often encountered and in need of treatment, or additional rhino mortalities are discovered a few days later, horns intact. These poachers take high risk for comparatively little reward (considering the end price) and will usually pass the horns to a pick up after the job is done. Horns are usually removed very roughly with an axe or panga. In some areas rhino have also been killed in steel cable snares.
STRUCTURED POACHING

EX-MILLITARY EXPERIENCED CRIMINALS

The same as for subsistence poaching, except that here the poachers form a more organised group, have acquired intel on the farms they intend to hit and appear to have military training. It has been noted that armed robbers are now also becoming involved in rhino poaching.

SKILLED HUNTERS

There have been incidents where rhino have fallen from a single shot – or well-placed kill shots – indicating that the poacher is a highly skilled or professional hunter. These poachers operate in a more structured manner, have logistical support in the form of a vehicle and horns are sometimes removed with surgical precision.
PROFESSIONAL POACHING

CHOPPER POACHING

The kingpins behind these syndicates have masterminded a platform that will take wildlife poaching to new levels across the whole of Africa, posing a virtually unpolicable risk to mainly rhino and elephant populations in wildlife areas across the continent.

The use of a helicopter (and possibly fixed wing aircraft,) a dart gun and knock-down/immobilizing drugs has transformed the traditional method of “poaching on foot” to that of a high-tech aerial attack that is only noticed once the perpetrators have left the scene or are long gone without a trace. In some instances, an aircraft has been used to guide the poachers in to where the animals are, while keeping an eye out for signs of having been detected.

The most disturbing factor is that the methods being used by the syndicates mirror those used by wildlife capture operators for routine rhino management. The fact that a helicopter pilot – and there are a few implicated – could aid and abet such an appalling practice is beyond comprehension to pilots across the country. Further to this, the fact that highly scheduled veterinary drugs are used advocates the involvement of a vet(s) or black market drugs.

A helicopter allows for easy access and a quick getaway and latest reports have indicated that the registration numbers on the tail and/or belly of the aircraft are being covered up or falsified.

Where animals are immobilized they are either successfully darted or overdosed, depending on the syndicate. Overdosed animals are darted with a lethal cocktail which may kill quickly, but carcass evidence shows great stress before death. In incidents where animals are darted but not overdosed, the survival of the rhino depends entirely on the “compassion” of the thief. In some cases horns have been removed above the rootline, as would be done during a routine de-horning where the animal suffers no wounds and is successfully woken up again. Although still inexcusable, the rhino mercifully survives with its life.

In a few darting cases where the horns were brutally removed, drug dosages had been too low/inaccurate to kill, resulting in the rhino waking up. So far, these animals have died or had to be put down due to the extent of their wounds. Contrary to reports, chopper poaching has not been responsible for anywhere near as many rhino deaths as the other types of poaching encountered, although aircraft are used by poachers to recce farms and scout for animals.
DARTING FROM THE GROUND

A highly-organised form of poaching involving professional people. Their involvement is considered low risk on the ground as they will have scouted the entire area beforehand and know exactly how many rhino are on a farm. Although highly organised, this type of poaching is not often encountered. There does however seem to be a turning trend in poachers being supplied a dart gun to conduct their poaching activities.

OTHER MEANS OF OBTAINING RHINO HORN

THEFT OF STOCKPILES

Armed robbers have on numerous occasions successfully made off with stockpiled horns. This security threat needs to be carefully mitigated by game farmers legally de-horning their animals.

ILLEGAL DEHORNING

This is where a rhino is immobilized and the horns are removed, but WITHOUT a permit. LEGAL dehorning has been recognised by some reserves and farmers as a potential deterrent to poachers. Once immobilized by a wildlife vet, the horns are removed humanely above the rootline, which enables the horn to grow back naturally at a rate of approximately 1kg per year. This procedure and its requirements are regulated by the Biodiversity Act and a permit must be obtained to conduct the procedure. Unfortunately, the system has been abused by a few bad elements within the wildlife industry, with rhino being dehorned illegally for the purpose of selling horn into the illegal market. It is ILLEGAL to trade in rhino horn in South Africa as well as internationally.

ILLEGAL HUNTING

Trophy hunting of rhino is legal in South Africa on the condition that a permit for the hunt has been issued the Department of Environmental Affairs. Single horns may not be exported, but a hunting trophy may. Only one rhino per hunter is allowed per year. Illegal hunting is when rhino are hunted without a permit.
Solutions to Stop Poaching

A wide variety of solutions have been proposed and many implemented

Hearts & Minds

This proposes an education initiative aimed at the end-user of the rhino horn. Effectively the message is that such activity should cease immediately as the horn has no medicinal value, but vast conservation and tourism value, so leave them alone.

This is not going to make any impact whatsoever. It presupposes that a few words and grisly imagery will overturn millennia of cultural belief and custom. It also attempts to force a Western mindset on an unwilling recipient, seldom a successful endeavour. Lastly, it’s a money issue, a massive money issue with Millions of Dollars at stake.

Technology

The technology approaching involves either

- Micro-chipping horns so if recovered, their origin is known. This doesn’t stop poaching but does greatly assist in criminal prosecution
- DNA sampling, same effect as the micro-chips
- RF tags, this involves the implantation of Radio Frequency tags, with an aim to being able to track a poached horn.

All three methods are very expensive and none stop the actual death of the animal.

Poisoning

This involves infusion the horn with either a poison of other chemical to make the horn valueless as a medicinal as ingesting it will cause the user to become ill. Lethal poisons are not used as this could lead to the death of the end user and thus culpable homicide charges for the person who infusd the horn.

Again, this won’t stop the initial poaching, but could certainly prove to be an excellent deterrent if enough people.

Reporting

A network has been established where there’s an Anti-poaching HOTLINE. If a suspicious helicopter is seen or actual poachers are encountered then call: 0800 205 005 – toll free and a repaid response team is activated
**Rapid response**

This includes both specialist units from the SA Police Services in addition to private security firms who have the personal, equipment and expertise to deal with poachers.

The main challenge here is distance; South Africa has reserves with rhino in every province.

**Guarding & Patrolling**

This entails putting game guards into reserves to follow rhino herds or even individuals. They are armed principally with Mobile phones to report poaching activity.

This is only feasible for a small amount of rhino, with over 20,000 individual rhinos, this would require at least 5,000 guards. There is also the added danger of the guards encountering heavily armed and ruthless poachers.

**Selling rhino horn**

Controversially this proposal aims to feed the need for rhino horn while bringing about the cessation of rhino poaching.

The trade in rhino horn has been banned for many years and subsequently the legal stockpiles of horn both from SanParks and private rhino owners is vast, tonnes, literally thousands of kilograms. The current black-market price is in the region of $20,000 / Kg. The first part of the proposal is to hold regular (once every two years) SanParks sanctioned auctions at fire-sale prices, $10,000 / Kg - $5,000 / Kg.

The thinking being that from the perspective of the buyer, what represents the better deal? An illegal, highly dangerous and complex operation of rhino poaching or a legal auction at half price. Effectively this aims to put the poachers out of business.
The main and obvious concerns are:

What happens when the stockpiles run out?
This increases the demand (leading to increased poaching)

A) What many people don’t appreciate is that rhino horn is a renewable commodity. Horn harvested, not culled or poached grows back at a rate of ±1 – 2 Kg every two years. Private rhino owners regularly engage in horn cropping or harvesting. This is done to ensure that their rhinos are not poached. The cropping is done under veterinary supervision and uses a chainsaw. The horn is so valuable that the horn chips and dust created by the chain-sawing is collected together with the horn.

This proposal does not advocate that all rhino horns be cropped from all populations, not at all. No one wants to see cropped rhinos wandering around the KNP and elsewhere. The horn cropping will be the domain of the private rhino owner’s association, who are begging for the opportunity. This makes the proposal sustainable and very lucrative for the participants. 30 years of cropping may yield as much as 30 Kg of horn @ $10,000/Kg = over two million Rand in revenue / rhino. Of the ± 28,000 white rhino in Africa, 20,000 are in South Africa and over half are in private hands.

B) As the above explains, the demand no matter how large is easily met in a sustainable manner.

(The following information was published by The Endangered Wildlife Trust)

The EWT, in recognising a dire need to urgently address the rapidly escalating problem of rhino poaching in South Africa, has developed a project to strengthen the security of rhino in South Africa.

The Rhino Security Project will address rhino security concerns on privately owned game farms as well as in formally protected areas; improve communication between rhino owners and the relevant government officials; support improved investigations into rhino poaching incidences; work with relevant bodies to identify causes and drivers of the trade in rhino horn; and enhance current knowledge on the demographics of rhinos in situ in collaboration with other existing initiatives.

Pursuant to the launch of the EWT’s Rhino Security Project and in response to the recent spate of rhino poaching in South Africa, many individuals have suggested that a simple solution to this complex problem is to dehorn all rhinos.

The following question and answers aims to give you some facts about rhino dehorning as a conservation tool.
**Q What is the composition of rhino horn?**
The conventional belief is that rhino horn is simply a clump of compressed or modified hair. Researchers at the University of Ohio in the USA have used computerized tomography, better known as a CT scan, to show that horns are comprised of calcium, melanin and keratin, and are actually similar in structure to horse hooves, turtle beaks, and cockatoo bills.

**Q What is rhino horn used for in the eastern market place?**
Rhino horn has several uses including:

- an alleged remedy against fever, gout, rheumatism, and many other non-life threatening ailments,
- an alleged cure against aggressive cancer,
- ornamental use,
- an aphrodisiac (this is denied by the Chinese themselves), and
- Yambiya handles in Yemen.

**Q Does rhino horn actually have any medicinal value?**
In China, rhino horn has been used for Traditional Chinese Medicine (TCM) since 2000 BC and therefore belief in its medicinal properties is firmly entrenched. Modern science has been unable to prove definitively that rhino horn has real medicinal properties. Furthermore, claims that rhino horn has any medicinal value must be weighed up against the use of other more effective, sustainable and ethical products.

**Q Can rhino horn be legally sold on the international market?**
The international trade in rhino horn was banned in 1976 by signatories to the Convention on the International Trade in Endangered Species (CITES). In 1993 the Chinese government also banned the use of rhino horn, or any other parts from endangered species, in Traditional Chinese Medicine.

**Q Can rhino horn be sold in South Africa?**
On 13th February 2009, the Minister of Environmental Affairs and Tourism, published a national moratorium on the trade of individual rhinoceros horns and any derivatives or products of the horns within South Africa, in terms of Section 57(2) of the National Environmental Management: Biodiversity Act, 10 of 2004 (NEMBA). However, rhino horn may be traded as part of a trophy obtained during a legal trophy hunt.

**Q What are the legal implications of dehorning rhino?**
In terms of the Threatened or Protected Species Regulations of 2007 (TOPS) drafted in terms of NEMBA no person may, without being in possession of a valid permit: hunt, capture, kill, convey, import, export, keep live rhino in captivity, or possess a rhino horn.
Q Is dehorning an effective counter-poaching measure?
Poachers are prepared to remove any vestige of horns, including the small growth nubs on rhino calves, and therefore dehorning is unlikely to be an adequate deterrent. Dehorning will only reduce the temptation to potential poachers if the re-growth is cut regularly to ensure that the horn mass remains very low. Zimbabwe reported that their dehorning effort was successful, but only if used in conjunction with traditional counter- and anti-poaching measures such as regular patrols and population monitoring. The principle should always be to “maximise risk for the poacher and minimise his reward”.

Q What are the arguments IN FAVOUR of a legal, regulated trade in rhino horn?
It has been argued that flooding the market with horns harvested from dehorned rhinos would reduce incentives for poachers. Several arguments have been put forward supporting the legal trade in rhino horn:

- Rhino horn can be obtained without killing the animal and it therefore represents a renewable resource.
- Lifting the ban on trade in rhino horn would allow range states to manage their rhino populations and generate funds that could be ploughed back into conservation, surveillance and anti-poaching activities. Considerable quantities of confiscated horn are now building up in warehouses, and these could be used to generate conservation funds (but see below).
- A reduction in the global price of rhino horn would reduce the incentive for poachers.
- Selling rhino horn legally would produce a much greater return per unit area than current activities in many conservation areas.

Q What are the arguments AGAINST a legal, regulated trade in rhino horn?
Legalising the trade in rhino horn is a highly controversial and risky approach and some strong arguments have been made against lifting the ban:

Even under a sustainable dehorning programme there may simply not be enough rhinos to meet the demand for rhino horn. In this case poachers would continue to kill rhinos from areas not practicing “rhino farming”. The relationship between the volumes of horn traded and the demands of world markets is not well understood and there is a risk that it is not possible to influence global prices.

- CITES (the Convention on International Trade in Endangered Species) demands proof of legal acquisition of rhino horn.
- Current stockpiles include horns of unknown origin, including those seized by the government agencies during enforcement activities, which can never be sold.
Even with careful regulation, the establishment of legal trade routes could provide a front for trade from illegally-obtained sources, as it may be difficult to establish the origins of the horn.

Many governments do not have adequate resources to protect animals from illegal poaching, let alone to police a legal trade.

The process of dehorning itself is a threat to individuals as tranquilization has inherent risks.

**Q. What needs to be in place to lift the ban on trade in rhino horn?**

Ultimately, the decision to lift the ban on trade in rhino horn is not one that can be made by individual range states. Any decision to lift the ban on rhino horn trading would have to come from the influential members of CITES. A non-detriment finding would also be needed for South Africa, to demonstrate to CITES that the trade in rhino horn would not constitute a risk to our populations.

**Q. Can dehorning be achieved without injuring the rhino?**

A rhino’s horn is not fixed to the skull of the animal but is almost an extension of the skin and is similar to a person’s fingernails.

Horns should not be cut too close to the skull as this can cause injury to the animal, infection can set in and the animal can die.

Horns must be removed by skilled veterinarians.

**Q. How does dehorning effect rhino social behaviour?**

The Zimbabwean authorities embarked on a fairly extensive dehorning exercise in the past and they emphatically state that they could not detect any negative effect on the social behaviour of the dehorned rhinos. However more research is needed into this issue.

**Q. Does a rhino’s horn grow again after dehorning?**

Studies in Zimbabwe have shown that rhino horns grow at a rate of up to 12 cm each year, and that horns of females grow slightly faster than those of males. Horns can therefore grow back to their original length and shape in time, but only if the growth plate of the horn is not damaged.

**Q. What are the additional risks involved in dehorning?**

The biggest risk to the rhino is associated with the immobilisation process, which is inherently dangerous and can be fatal. The biggest risk to the rhino owner is being in possession of the very commodity that poachers are after. Keeping of horns, especially in large numbers, exposes the owner to being the victim of potential criminal activity. A number of armed robberies involving the theft of entire stockpiles have already occurred in South Africa. The targets included museums, national parks, taxidermist studios as well as private individuals.
Q What should happen with the horns after dehorning?

A valid permit is required to possess rhino horn. Horns must be measured, weighed, micro-chipped and registered by a conservation official. The onus is on the owner to keep the horn safe.

Q What are the costs involved in dehorning a rhino?

Costs associated with dehorning include veterinary expenses (time, drugs), labour and possible air support – particularly in dense habitats. Depending on the circumstances, a dehorning exercise can cost in excess of R8,000 per animal, but will be proportionally reduced if more animals are dehorned during the same operation. Currently these costs are not recoverable as the horns, once removed, may not be legally sold.

Q Can a rhino owner make use of “green hunting” to recover the costs of dehorning?

Green hunting is a practice where a third party pays for the opportunity to dart (immobilise) a rhino and to have pictures taken with the animal. The drugs used for immobilisation may by law only be prescribed to a qualified veterinarian registered with the South African Veterinary Council. The South African Veterinary Council has declared green hunting an unethical procedure, which means that veterinarians may no longer take part in or facilitate green hunts. The Department of Environmental Affairs and Tourism will no longer issue permits for green hunts and any person who takes part in such activity will be committing an offense.

Veterinarians who are involved will be summoned before the South African Veterinary Council and may lose their licence.

Q Will a dehorned rhino still appeal to eco-tourists?

It has been proposed that tourists would not be happy to see horn-less rhinos, however there have been no studies to date that have investigated the effect of dehorning on tourist preferences. If the reasons for dehorning are properly communicated it is possible that concerns about dehorned rhinos could be overcome.

Q What effect will dehorning have on the trophy hunting of rhino?

Trophy hunters are usually after the most prestigious trophy – the biggest or longest horn. Wide-spread and large-scale dehorning might therefore have negative impacts on the hunting industry which has been one of the incentives for the private sector to become involved in rhino conservation.