

# Hornless rhinos: dreams and realities



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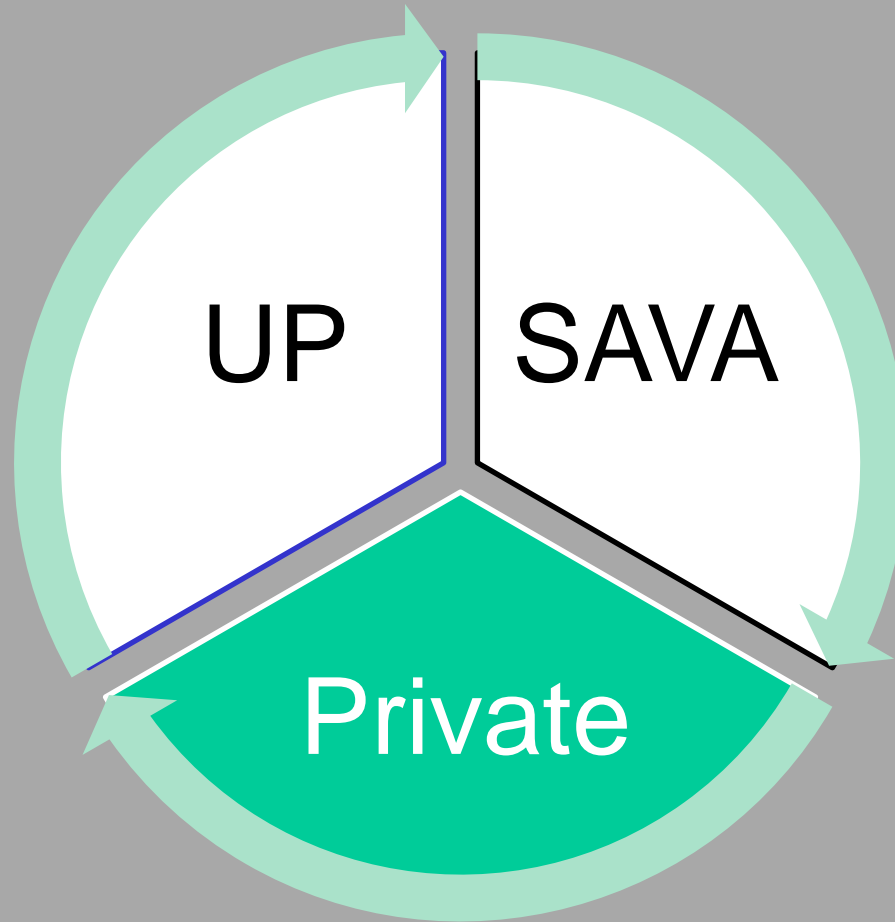


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Denkeers • Leading Minds • Dikgopolo tsa Dintshi



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**THE SURVIVORS**  
CREATING HOPE FROM HURT

# Who is Saving the Survivors?





# Aims of the **STS** Rhino Support Unit

Support and assist local veterinarians

Gain knowledge by treatment and research

Knowledge to be transferred to all veterinarians

***“... poaching will only increase in the near future and methods will have to be devised to assist and support injured animals” – Dr Pete Morkel***



# Equipment sourced – STS Rhino Support Unit

Karl Storz 2,5 m endoscopy unit – R260 000-00

Elephant laparoscope unit – R352 000-00

PPS/Profmed grant – R130 000

SAVA – R50 000-00

SAVF – R50 000-00



Research -



Anatomy specimens

Hardware/Software – R200 000-00



# Equipment needed – STS Rhino Support Unit

4x4 Vehicle

4x4 Trailer

Research funds

DR system – R1 200 000-00

Ultrasound system – R650 000-00

Compressor

dnata

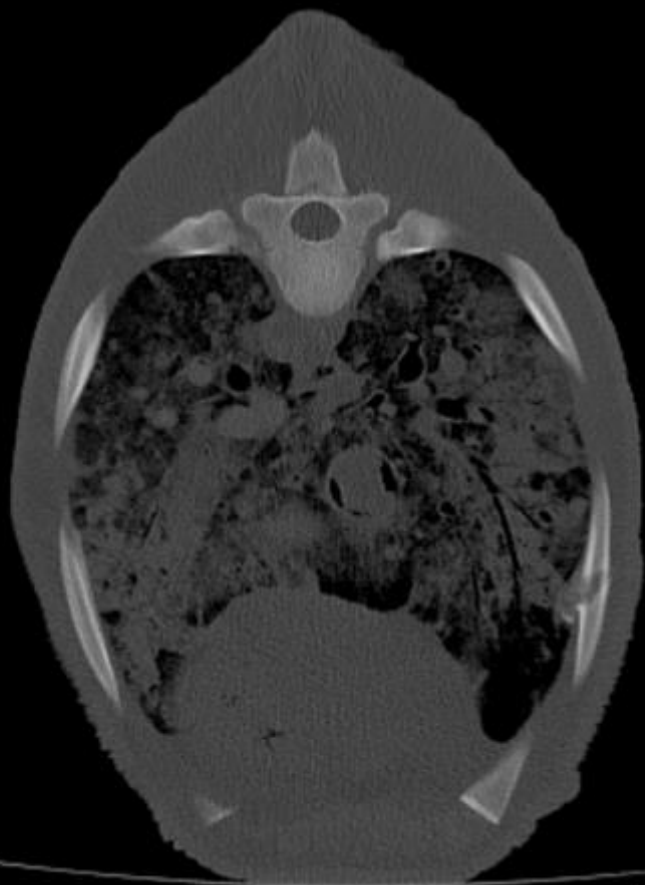






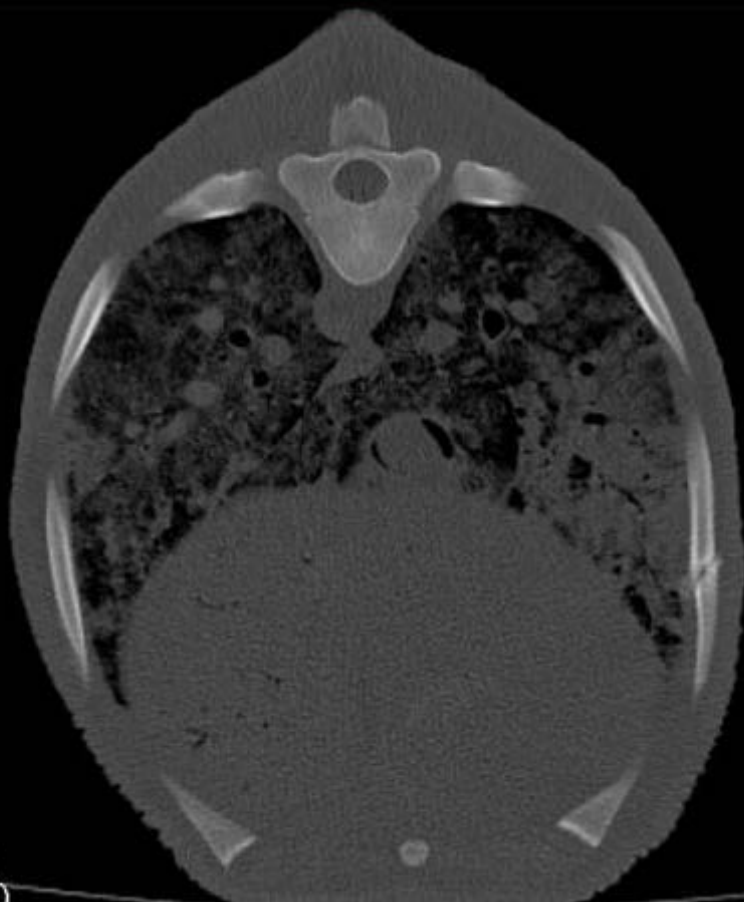
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# Day 14



Day 29



Day 33



Day 33





# Day 53



Day 53



Day 75



Day 132



Day 164



Day 225 (approx. 7,5 months)



March 2013



June 2013...





June 2013



Beginning July 2013



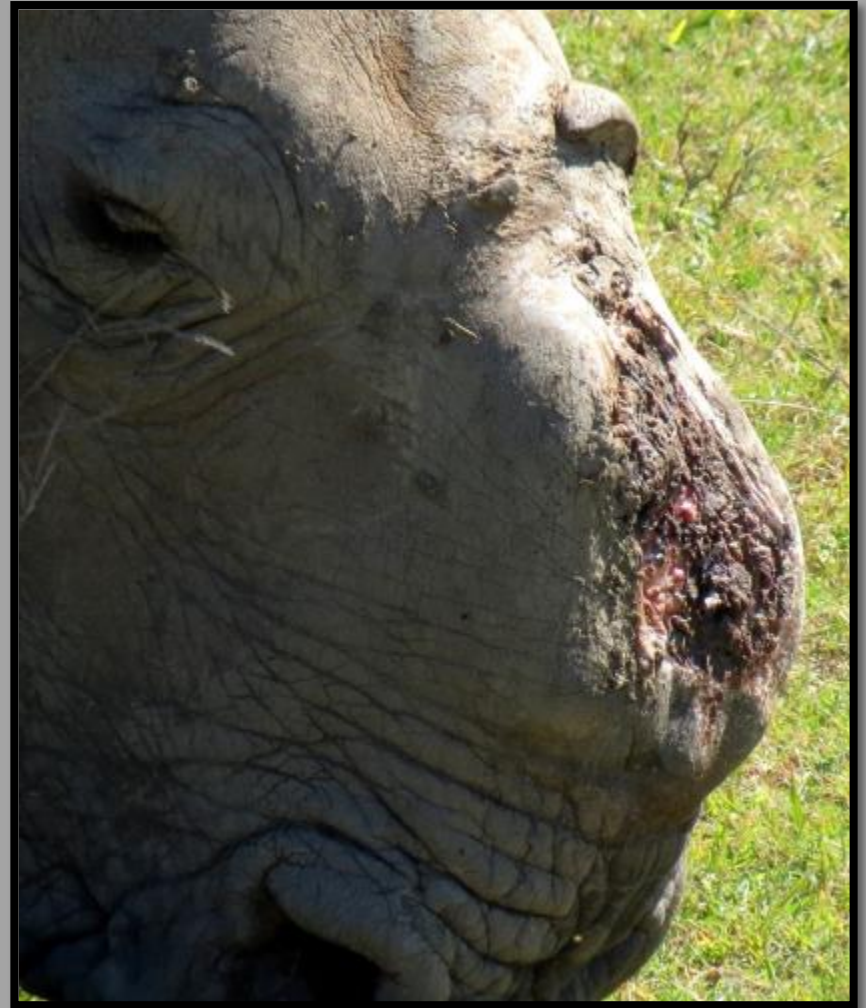
Late July 2013

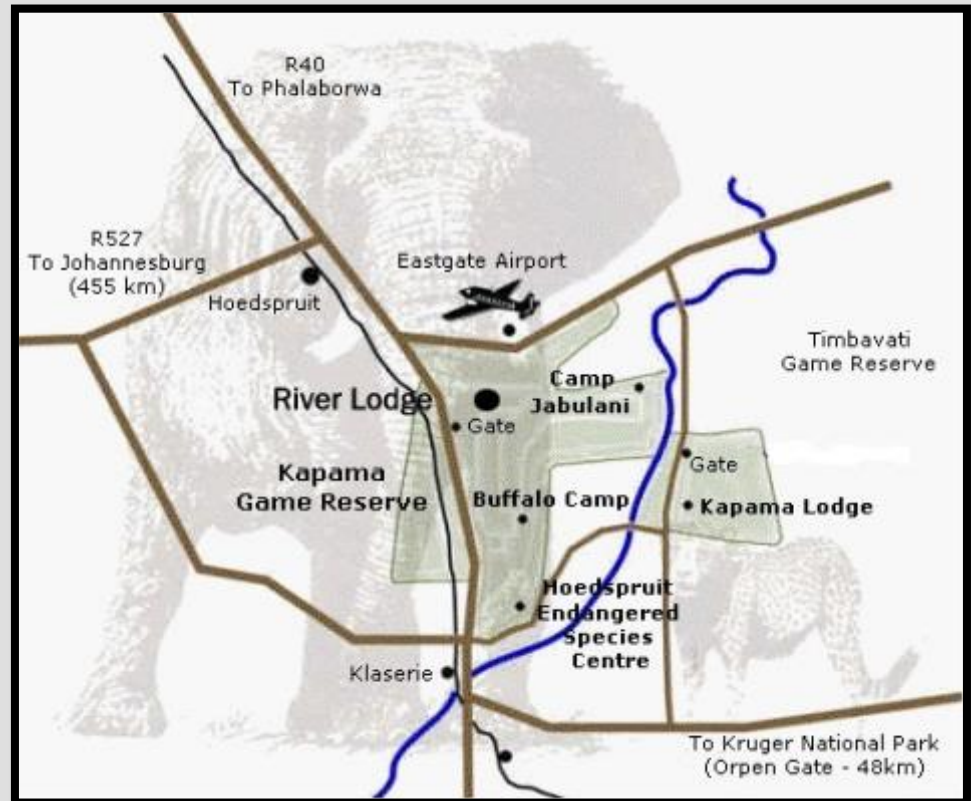


8 August 2013



September 2013 (18 months)





Day 1 – 10 September 2013



# Endoscopy of sinuses





Day 1

DD



LD



# Day 1



# Day 1





Day 20

DD



LD



Day 44

DD

LD



Day 57

DD

LD

Difference NB aro myiasis



Covering came off...



Day 57

DD





Day 70

DD

LD



Day 83

DD

LD



Day 146 (Feb 2014)

DD

LD



DD



5 months



LD



5 months



# Problems experienced

1. Semi-permanent covering of wound
2. Pulling out of screws / amount of screws
3. Rubbing of covering
4. Sensitivity of horn area



# Problems experienced

1. Semi-permanent covering of wound
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# Covering of wound





# Covering of wound – Skin flaps?



# Problems experienced

1. Semi-permanent covering of wound
2. Pulling out of screws / amount of screws
3. Rubbing of covering
4. Sensitivity of horn area



# Screw placement and size



4 mm cancellous screws



6,5 mm cancellous screws,  
with larger washers



# Problems experienced

1. Semi-permanent covering of wound
2. Pulling out of screws / amount of screws
3. Rubbing of covering
4. Sensitivity of horn area



# Rubbing of face



# Problems experienced

1. Semi-permanent covering of wound
2. Pulling out of screws / amount of screws
3. Rubbing of covering
4. Sensitivity of horn area

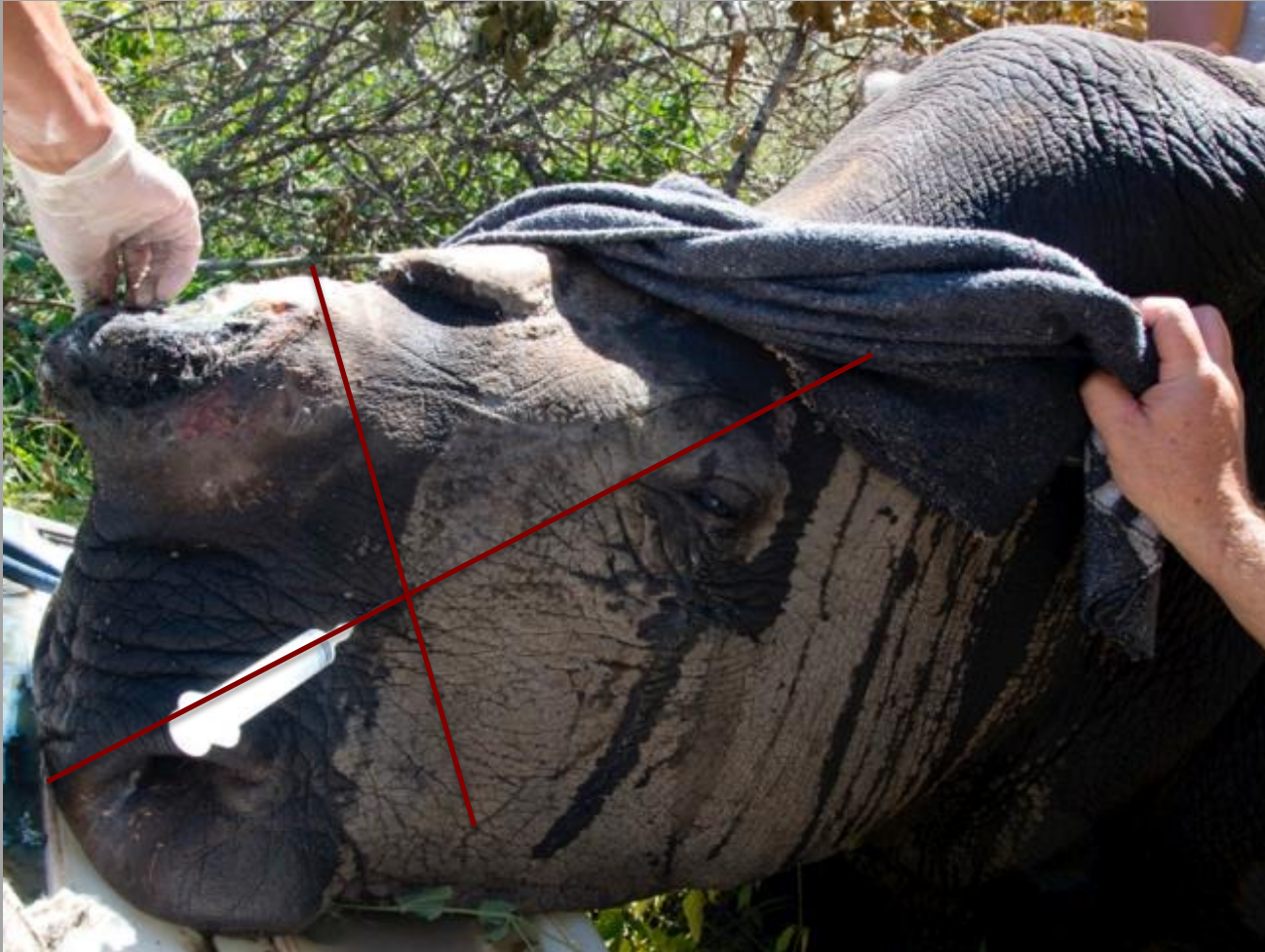


# Infraorbital nerve block – White rhino



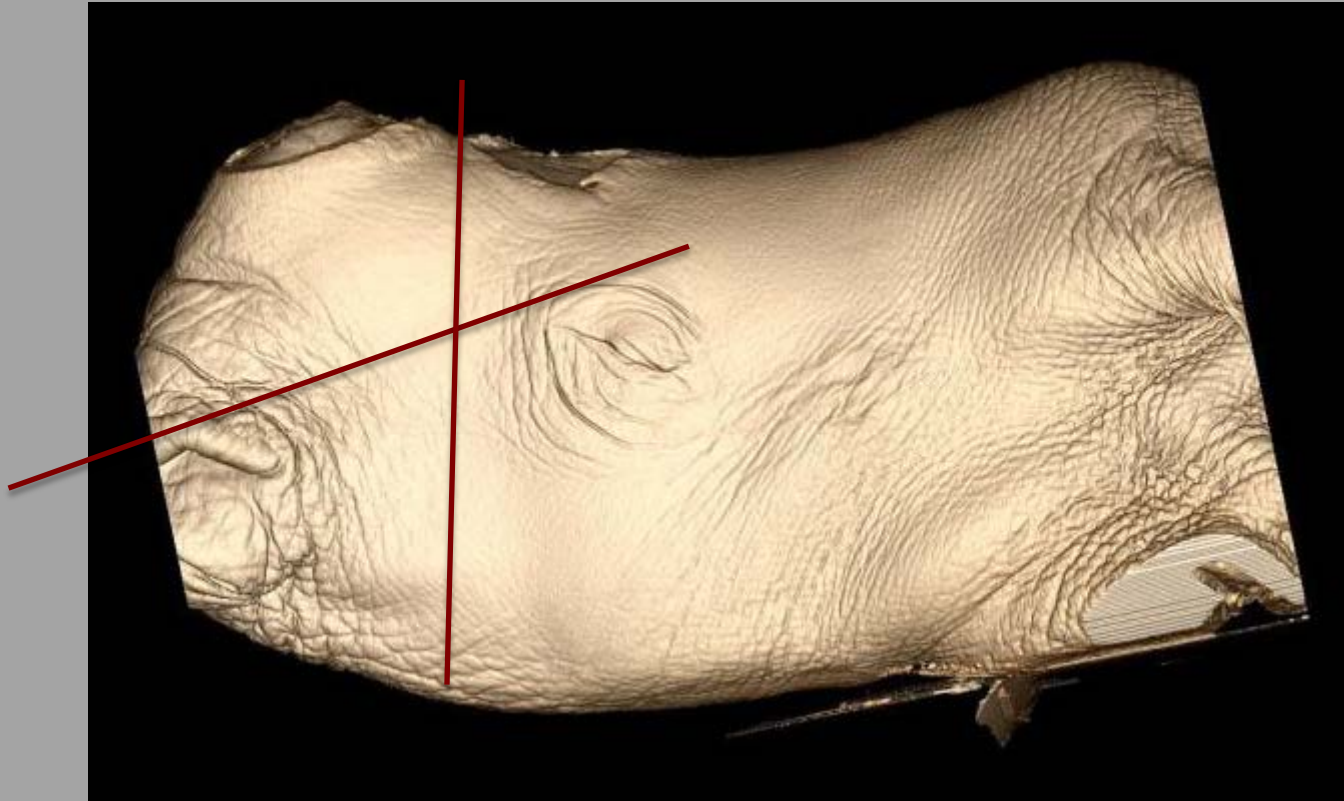
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# Infraorbital nerve block

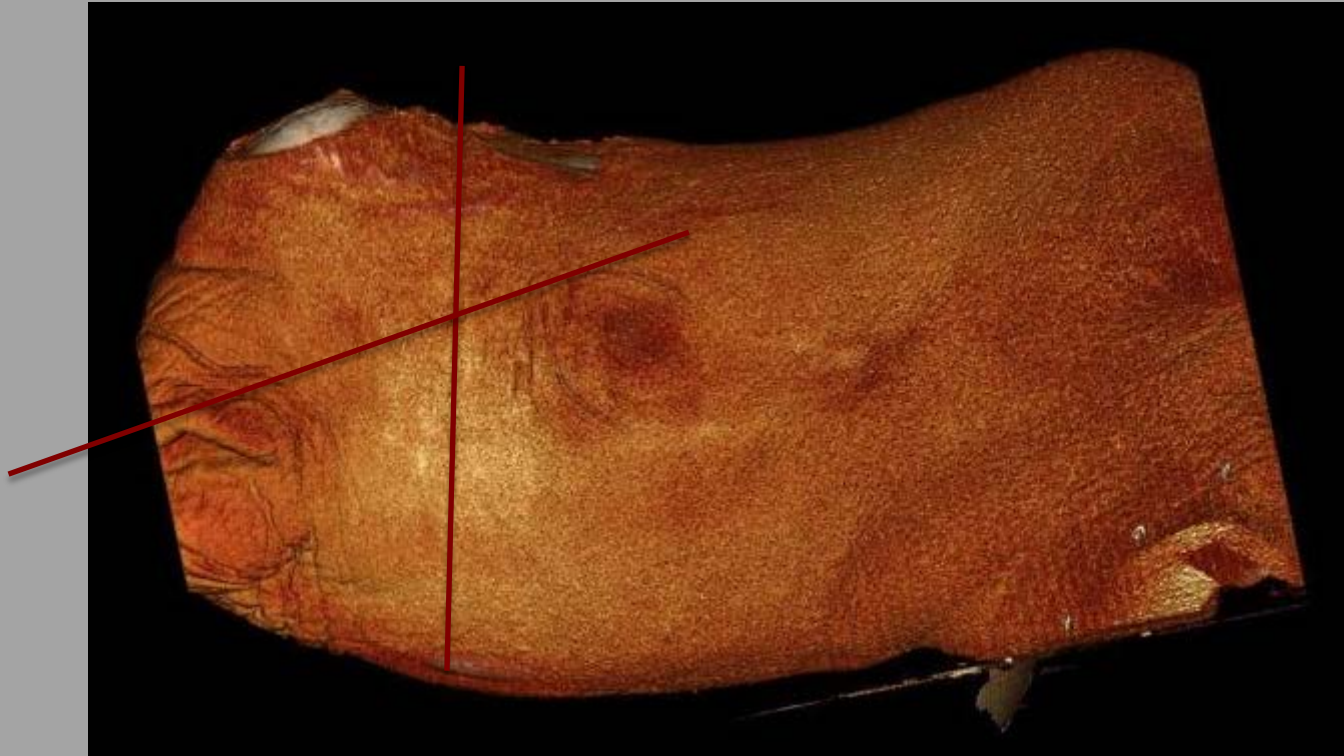




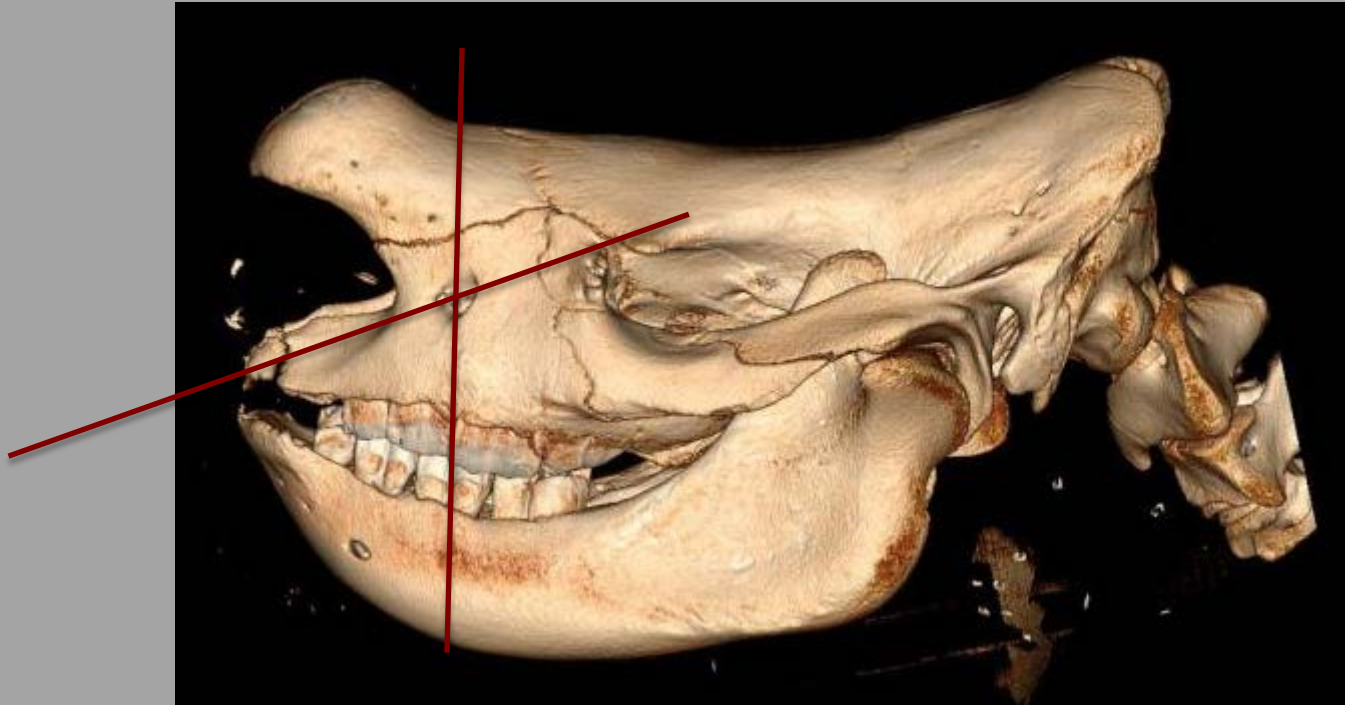
# Infraorbital nerve block



# Infraorbital nerve block



# Infraorbital nerve block



# Infraorbital nerve block



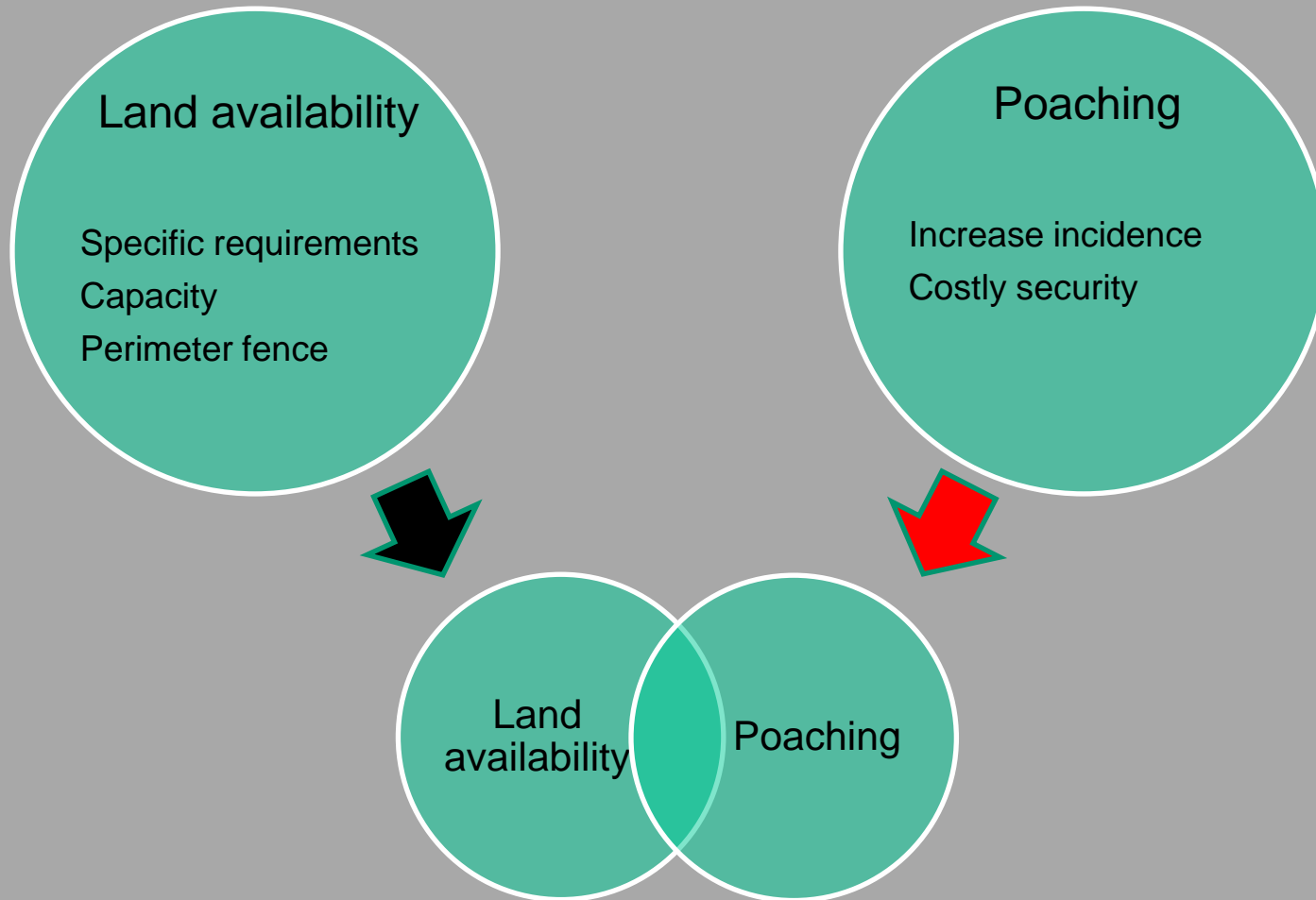
# White rhino KZN – poached, never treated...



# White rhino KZN – poached, never treated...

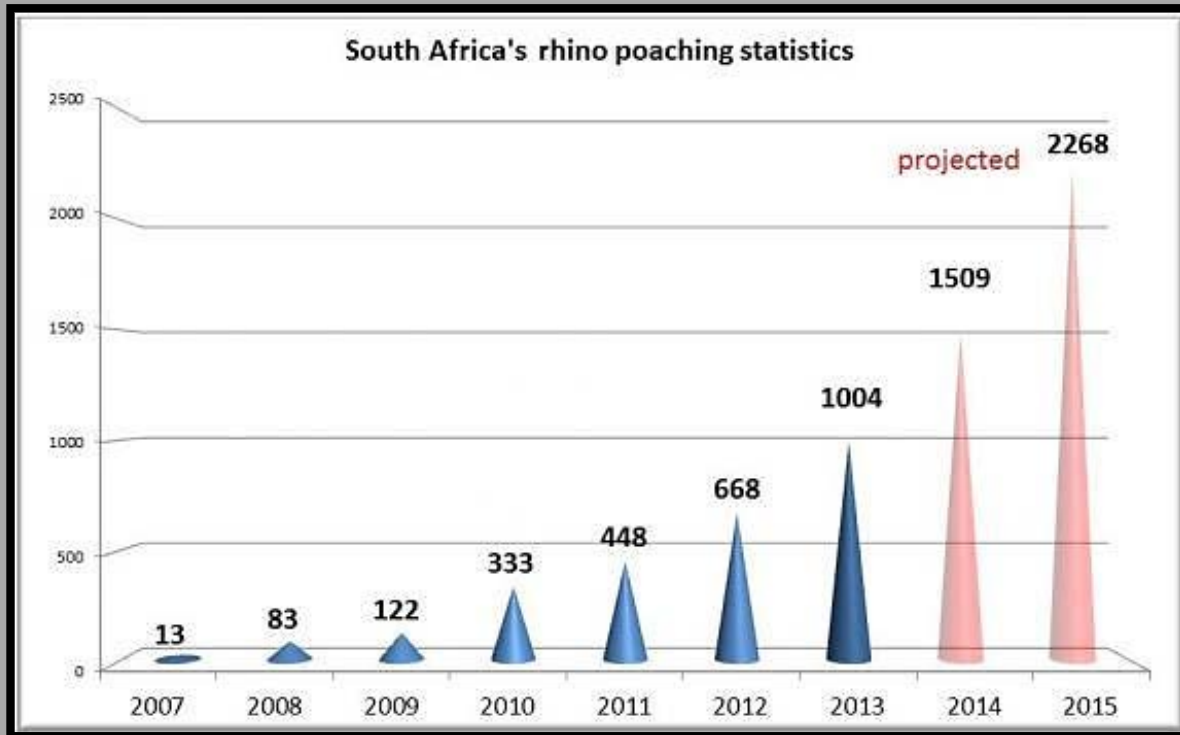


# Major problems facing rhino in South Africa



# Rhino poaching

- Increasing
- Unsustainable
- 2016 (Ferreira *et al* 2012)



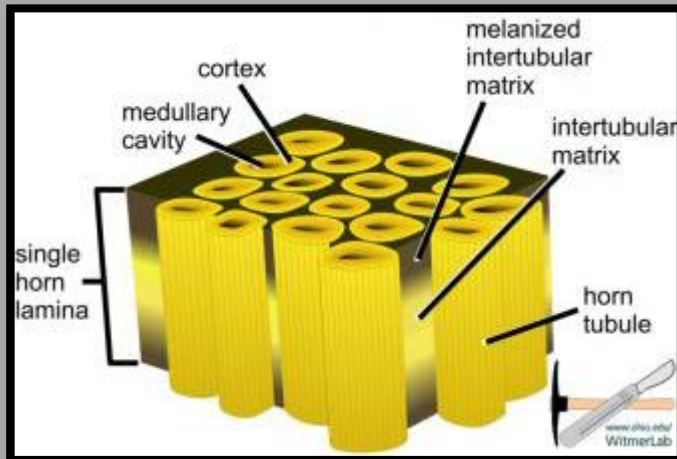
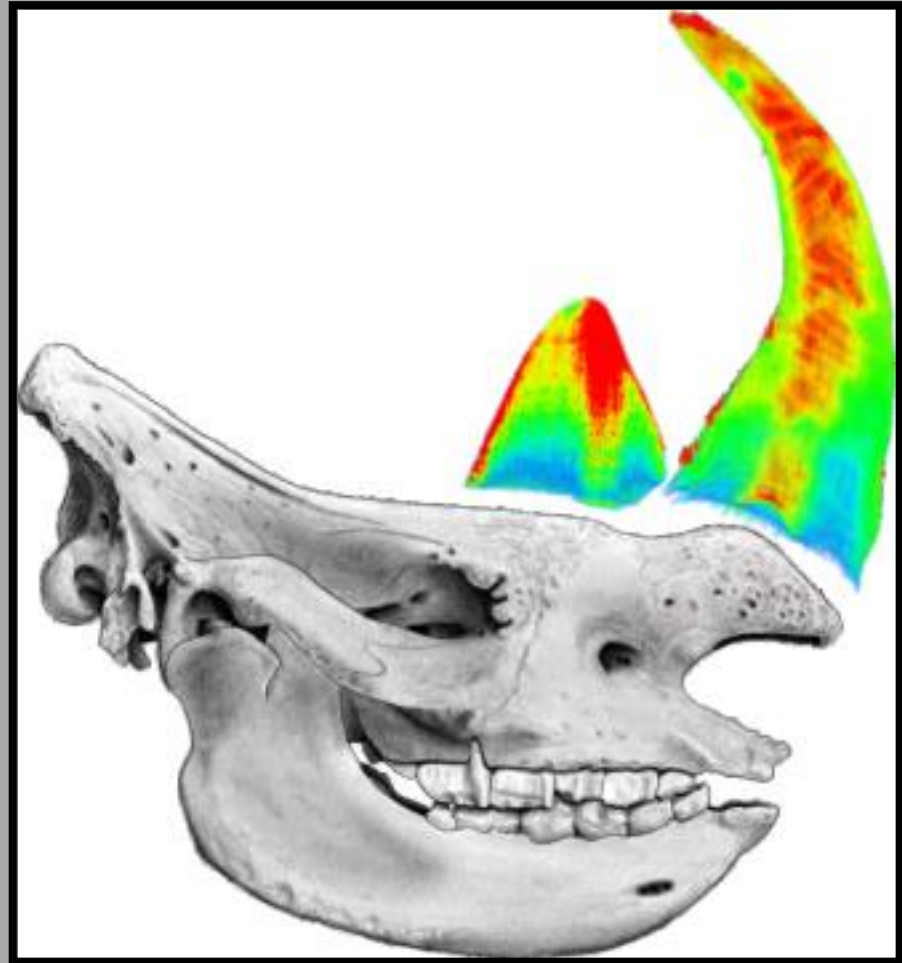


# Rhino horn

## Anatomy

- Keratin
- No bony core

## Uses



Hieronimus, Witmer, and Ridgely. 2006. *Journal of Morphology*



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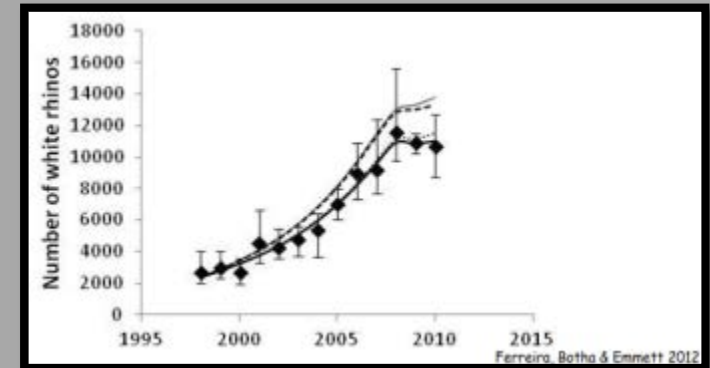
# Efforts against rhino poaching

Efforts relating to the environment

- Security measures

Efforts relating to the animal

- Translocation
  - Increase rate of reproduction
  - Find safer areas?
- Horn adulteration?
- Dehorning
  - Conventional
  - Surgical?



# Dehorning of rhino

Why do rhinos have horns?

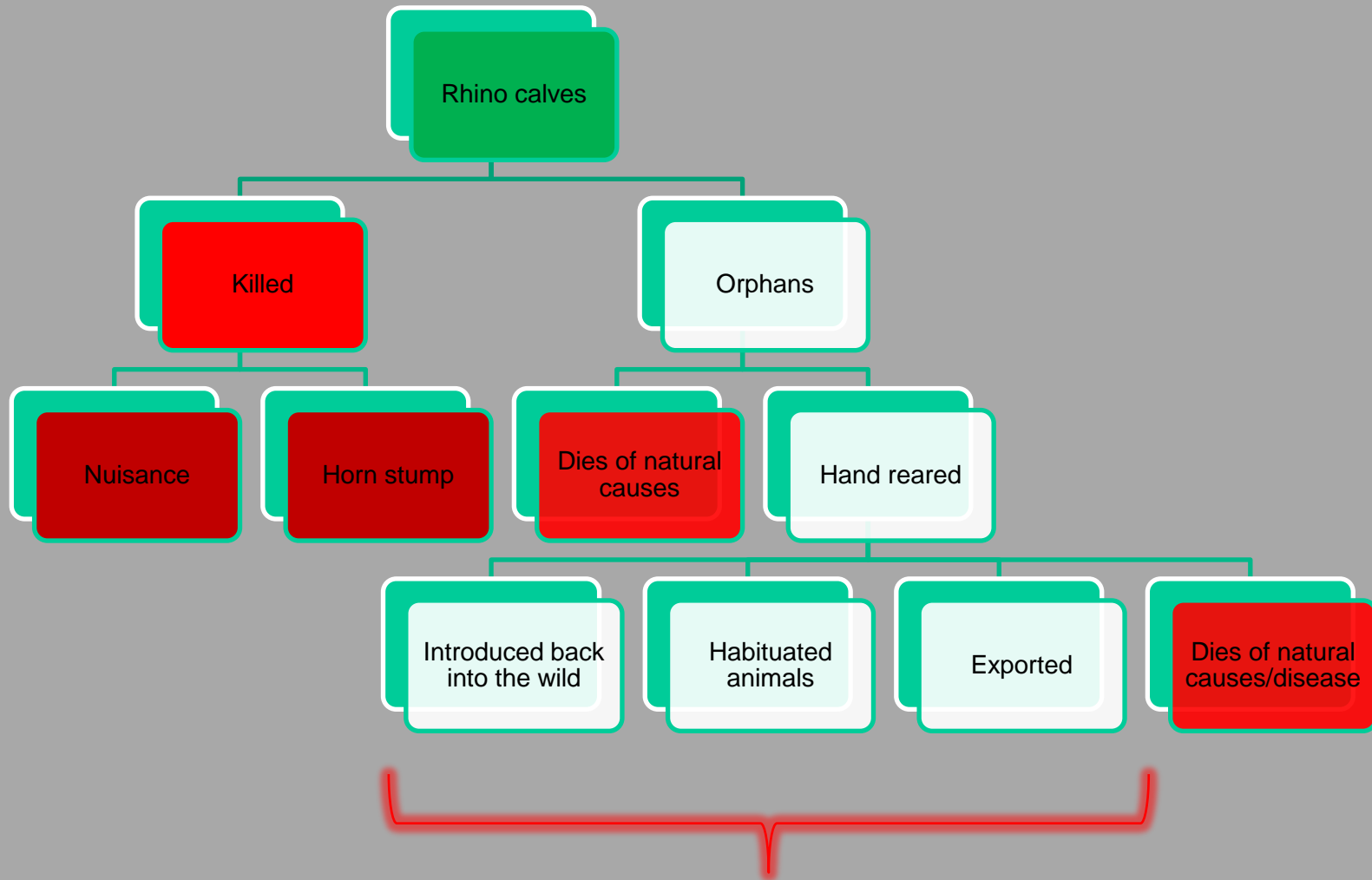
Population dynamics

Reproductive fitness

Protection - predators



# Fate of calves?



**Value in terms of conservation of the species ?**



# Can these calves NOT play a role in terms of the conservation of the species?

## Capital expenditure

- Food (15k/month)
- Veterinary care
- Facilities

## Time expenditure

- 18 months



# Permanent removal of rhino horn

Not routinely done at the moment

Consequence of poaching

Disease or trauma

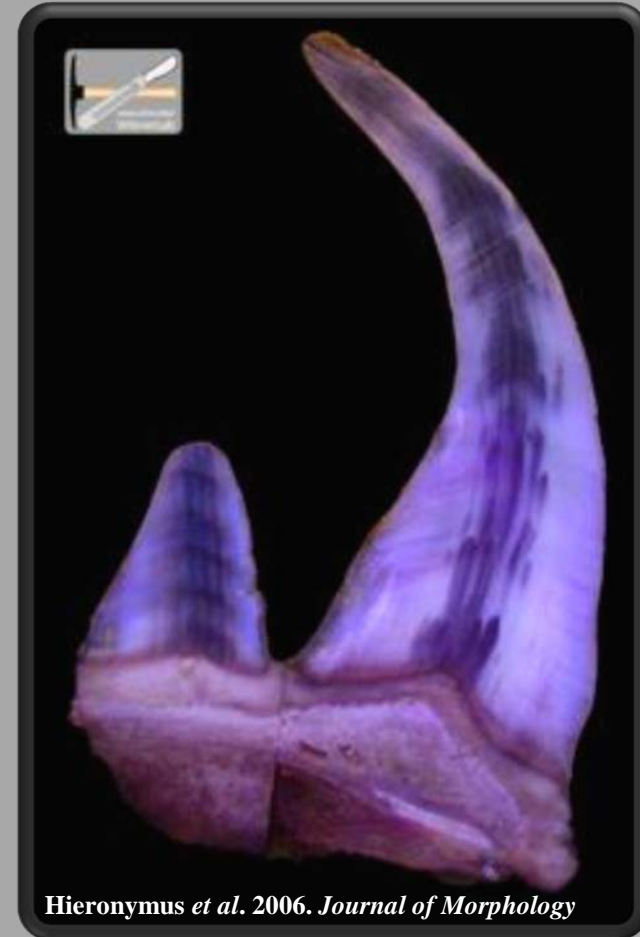
Renders the animal hornless – lifelong

Offspring horned!

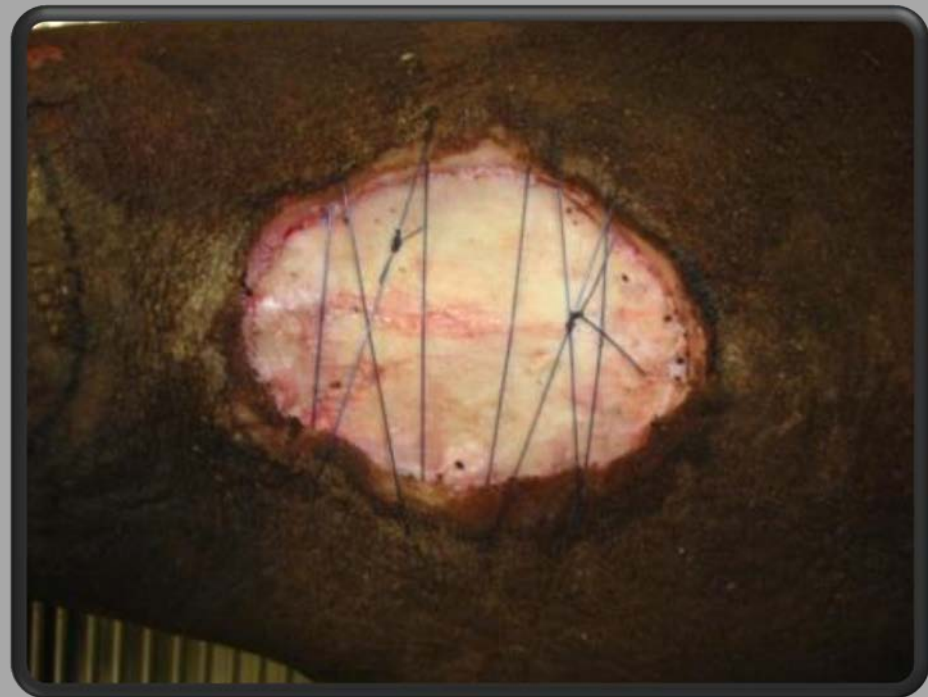


# Dehorning of orphaned rhino calves

Orphans from various geographic areas  
Removal of horn bed *in toto*  
Burning unpredictable and ethics?



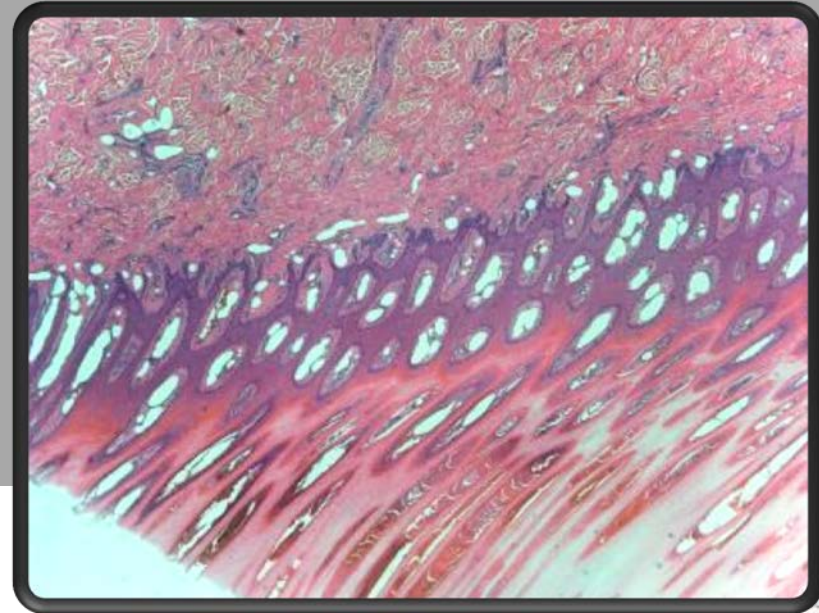
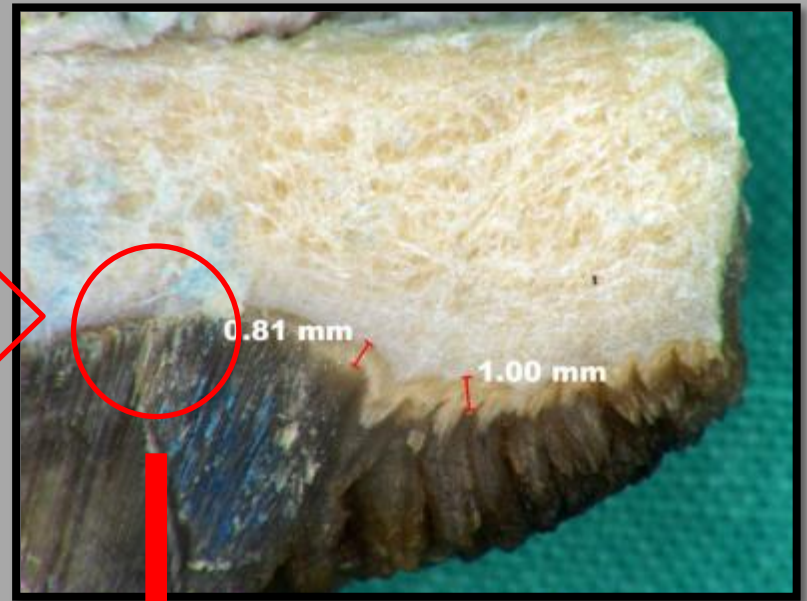
## Rostral (front) horn





# Caudal (back) horn







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# Construction of a herd/s

Dehorned orphans to go to a secure location

Responsible rehabilitation

Construction of herds

- Lesson on delinquents (males)
- Utilising poached individuals

Rehome dehorned rhinos



# Space for dehorned rhinos

Priority rhino protection zones

SANDF

Provincial parks

Game farms

*Intra specific*

*Inter specific*



# Ownership?

A national asset?

Private ownership - Trust

What will happen to offspring?



# Contribution to the conservation of the species?

Education

Range extension

Animals in a low risk group that can be used for introductions  
(Genetic banking)



[www.savingrhinos.org](http://www.savingrhinos.org)



# Steps needed

## Research NB!

- Describe histo-anatomy of horn growth
- Formalise surgical technique
- Apply for AEC approval
- Potential cases from Freestate NC
- Start with young individuals
- Pain relief?
- Antibiotics?

Herd structure

Herd integration

Behaviour

Delinquents





# a BIG thank you...

Adcock Ingram

Allistair Lamont

Brown Family and their entire network

Covidien

dnata

EWT and Walter Hirzebruch

Havas International

Health and Hygiene - Linda Muller

PPS/Profmed

Roth Medical

SANParks

SAVA

SAVF

SuperVet

TecVet – Rai Landau

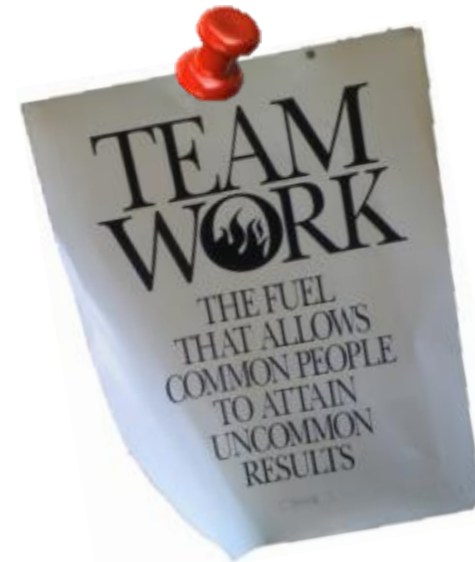
Veterinary colleagues - Will Fowlds, Peter Rogers, Jana Pretorius,

Pierre Nel,

Louis Greef, Alex Lewis

Veterinary sisters - Jana Stander and Michelle Cruywagen

UP



Our families!

