



RABIES IN
KUDUS AND
ELAND??

IMPLICATIONS TO
THE GAME
INDUSTRY IN
NAMIBIA

ulf Tubbesing

HISTORIC BACKGROUND

- Fatal Viral Disease of Mammals
 → Nervous Symptoms
- Known since Ancient Times
- Endemic in Namibia, esp. Central and North
 now even far South!
- First Proven Major Outbreak in Kudu in
 Namibia 1977 - 1985 since then Sporadic
- Different strain in Kudus?



Aetiology and Epidemiology

- Single strain affects All Mammals?
- Very labile virus - Close Contact needed
- Some Spp more important in spreading disease
- Some Spp more susceptible - Kudu and Eland
- High Risk in Sociable Species and with high Population Density (or both)



SOCIAL BEHAVIOUR OF KUDU PREDISPOSES

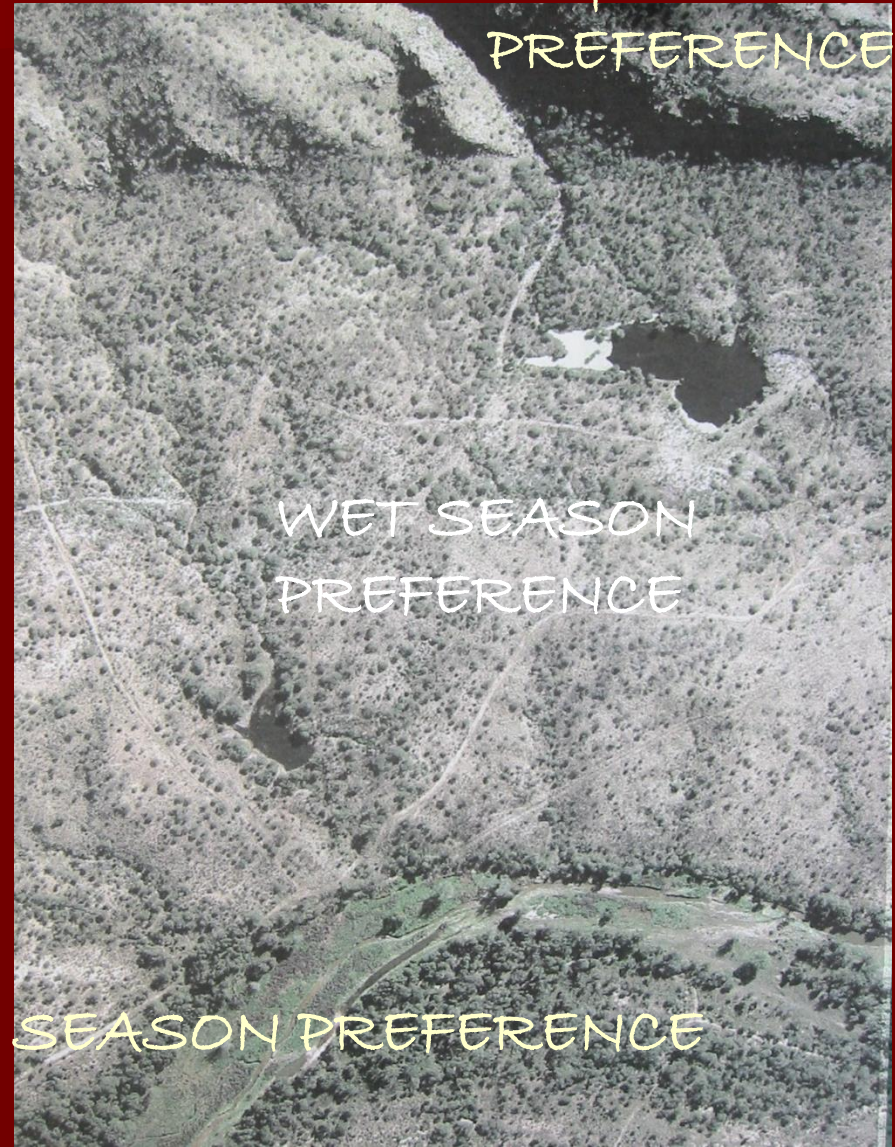
- . VERY SOCIABLE ANIMALS - GROOMING, BROWSING
 - . BREEDING IN AUTUMN - EARLY WINTER
 - . THEN SPLIT TO:
 - . BACHELOR GROUPS
 - . COW - CALF HERDS
(BULLS < 2 YEARS)
 - . BULL HOME RANGE
+/- 11 KM²
- MIGRATIONS???
- . RABIES MOSTLY
IN BULLS??



DRY - WET SEASON

PREFERENCES

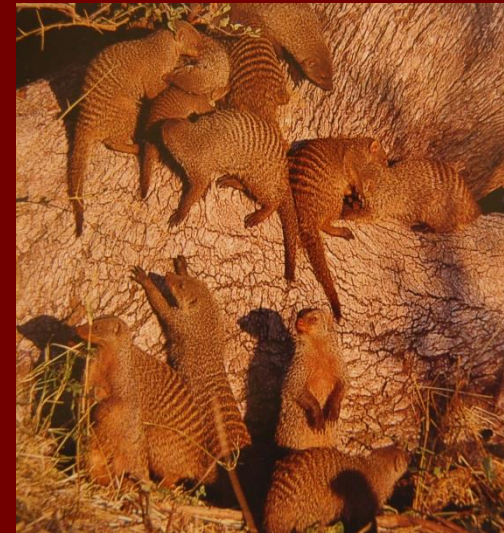
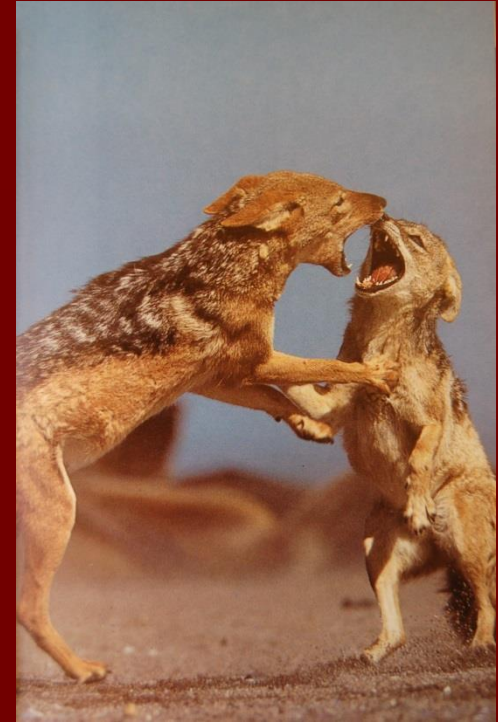
BULLS WILL LEAVE
PREFERRED HABITAT FOR
COW/ CALF HERDS



DRY SEASON PREFERENCE

TRANSMISSION

- Virus in saliva for last few d of life
- Exposure till Disease: Days - months
- Mostly Through bite (Jackal, Dog etc.)
- Kudu to Kudu?
- No Carrier state



WHY IS RABIES IN KUDU NOT ASSOCIATED WITH A HIGH INCIDENCE OF RABIES IN PREDATORS?

- Kudus don't bite Predators
- Virus dies shortly after death of host
- Predators on Farmland are solitary
- Groups of Lions, Wild Dogs, Bat Eared

Foxes etc. wiped out



HOW DO I KNOW AN ANIMAL HAS

RABIES?

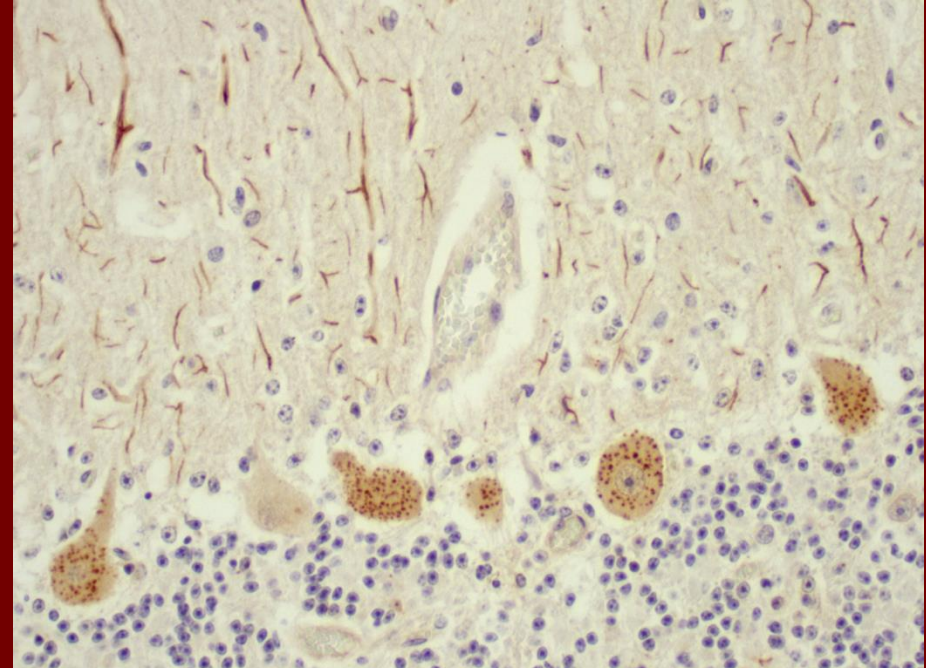
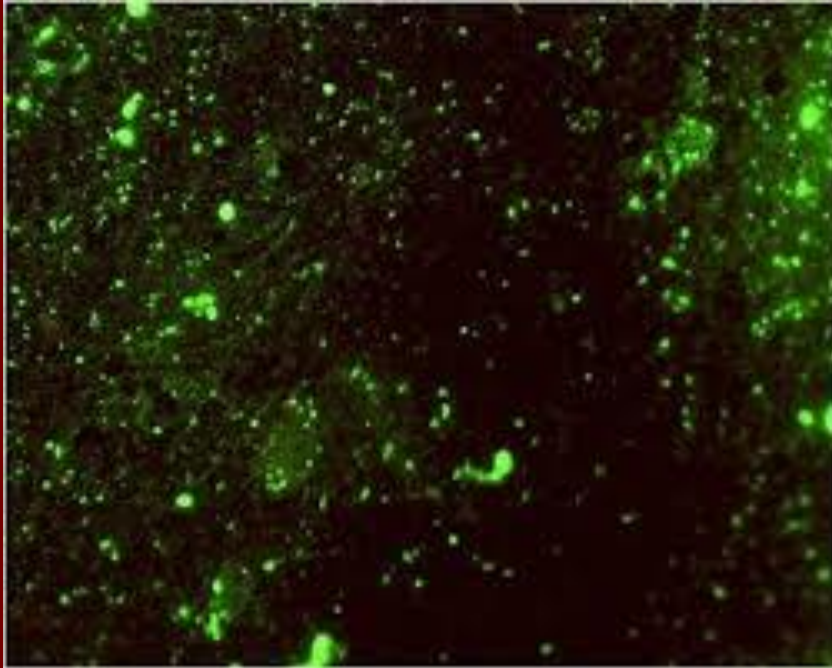
- Suggestive symptoms
- Tame \leftrightarrow Wild (vice versa)
- All cats become vicious!
- Species, season, history
- **ONLY LAB TESTS CAN CONFIRM DIAGNOSIS!!**



HOW DO I KNOW IT'S RABIES?

Could it be Mad Cows Disease?

- ONLY LAB TESTS (IFA + IHC)
- CAN CONFIRM DIAGNOSIS!!



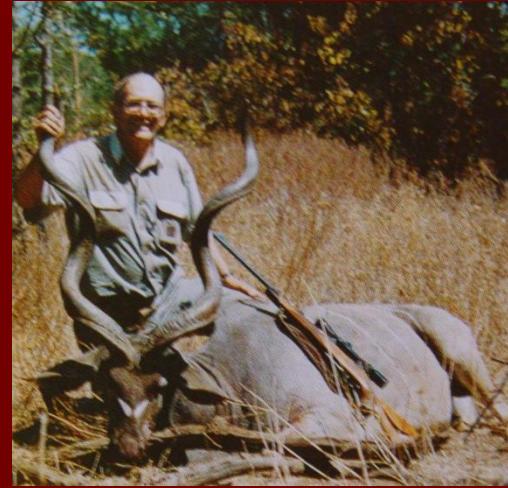
WHAT PRECAUTIONS CAN I TAKE?

- Vaccinate annually (Man and Beast)!!
- Educate Family (Cute is not always cute)
- Inform Neighbours!!
- Stay Away from Animals showing Strange Behaviour!!
- Vaccinate Game - How?
- Game Camps?



How should I Manage the Outbreak of Rabies in my Kudu/Eland Population?

- Let Nature Run its Course?
- Vaccinate?
- Culling?
- Capture and Sell??
- Is a Trophy Hunt still on?
- Can the Meat be Used?
 - Own Consumption
 - Commercial Sale
 - How to Handle carcass or meat



HOW DO I VACCINATE MY GAME?



Capture, vaccinate and release

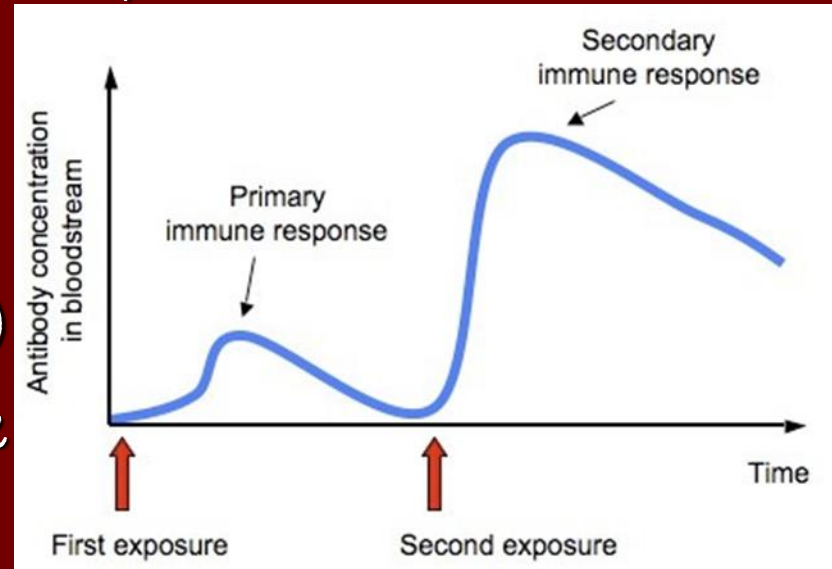
Oral vaccines – unsolved problems!

Dart vaccinate – currently the most (cost) effective method



IMPORTANT FACTS TO CONSIDER WITH VACCINATIONS

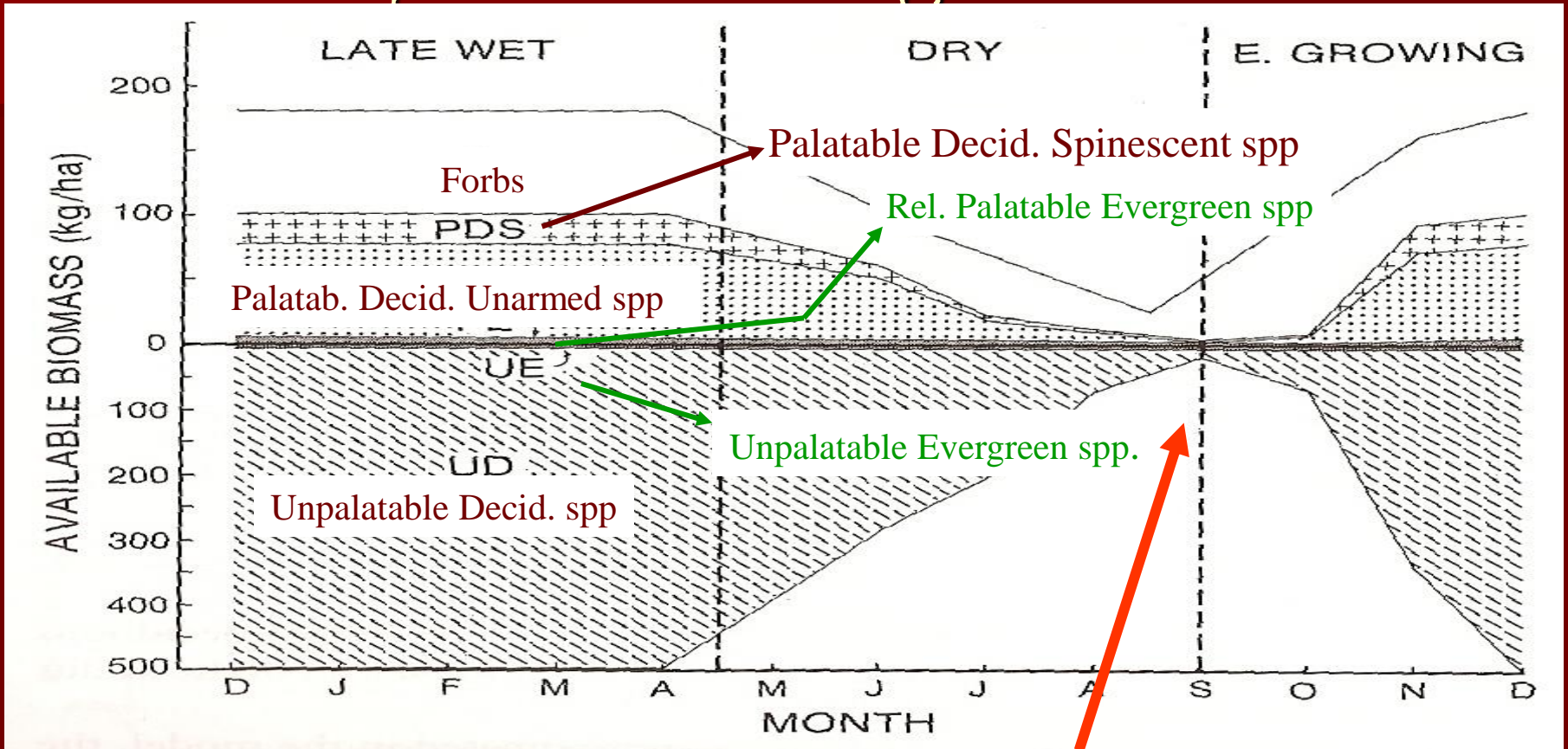
- Booster vaccinations are ideal but expensive
 - in for a penny, in for a pound
- Ideally vaccinate annually (at least every 2 years!)
- Vaccinate ALL animals (K & E)
- Vaccinate BEFORE an outbreak
- Vaccinate before leaves on trees
- The vaccine DOES NOT CURE!
- It is a dead vaccine and DOES NOT CAUSE DISEASE
- After vaccination during an outbreak there will be a lag effect before mortalities stop!



FIRST AID TIPS

- When Exposed, THOROUGHLY WASH Wounds with Soap !!!
- Where Rabies Vacc Status is unknown for the Animal AND High Index and Suspicion
– Kill and Submit Head For Testing
- If Positive, Consult Dr for Treatment
- If Lab Test not Possible – Consult Vet. / Dr. for Treatment Recommendations

Are High Mortalities in High Density Kudu Populations always due to Rabies?



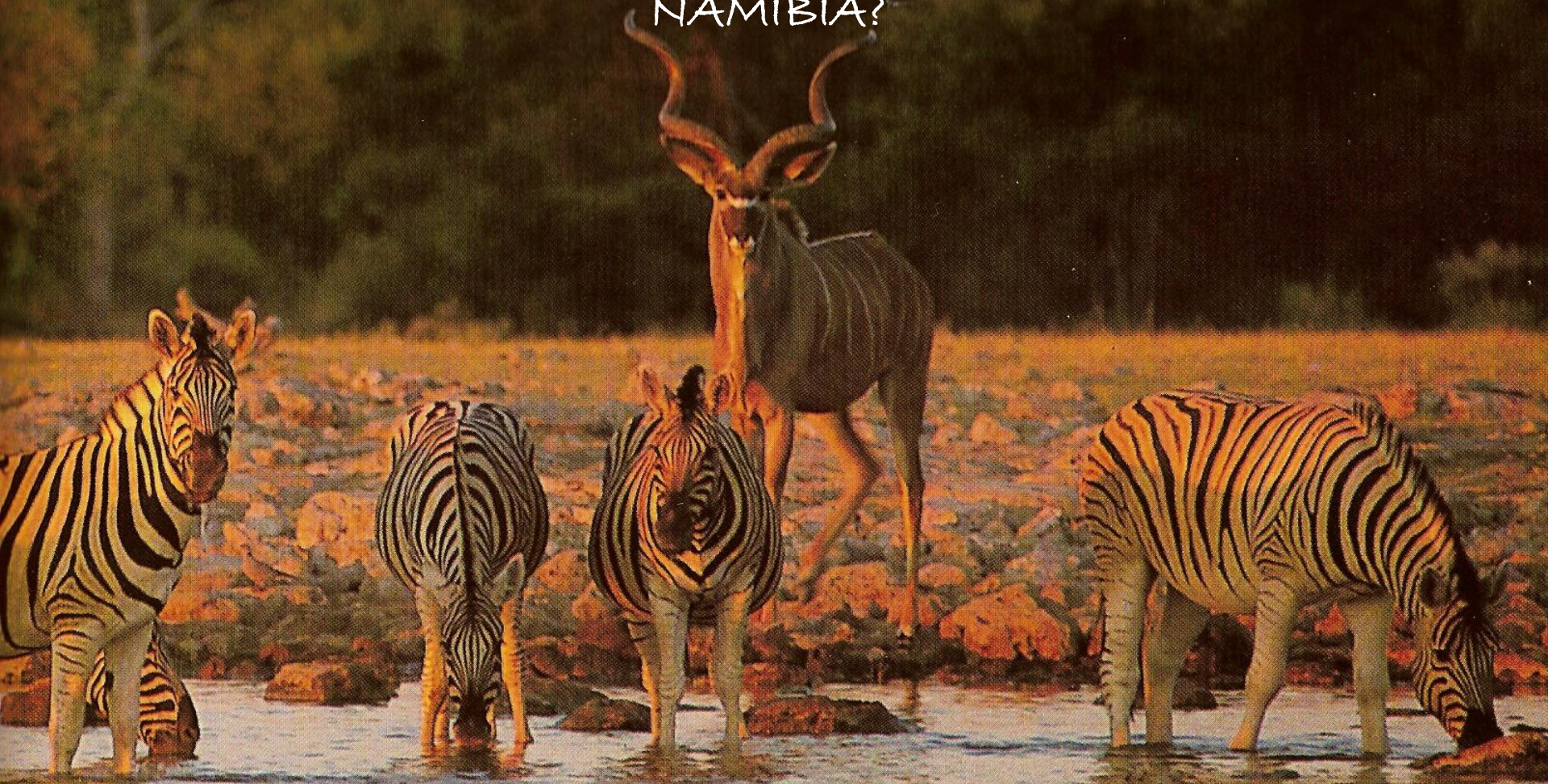
WINTER - SPRING STARVATION BOTTLENECK IN BROWSE AVAILABILITY
COINCIDES WITH PEAK RABIES INCIDENCE - CONGREGATION AT WATER !!

HIGH STOCKING DENSITY → LONGER STARVATION BOTTLE NECK
+ INCREASED RISK OF DISEASE TRANSMISSION!!!

PREDICTING KUDU MORTALITIES - MANAGEMENT PLANNING

- . HIGH KUDU POPULATION DENSITY IN THE AREA
 - PROLONGED FOOD SHORTAGE IN DRY SEASON
- . POOR PRECEDING RAINING SEASON → LATE LEAF COVER ON BUSH - THUS PROLONGED PERIOD OF FOOD SHORTAGE
- . EARLY SEVERE FROST → EARLY LEAF LOSS AND PROLONGED PERIOD OF FOOD SHORTAGE
- . SEVERE COLD STRESS →
 - . REDUCED LEAF MASS
 - . SEEKING SHELTER - EATING LESS
 - . INCR. SUSCEPTIBILITY TO DISEASE, PREDATION ETC.

WILL RABIES LEAD TO THE EXTINCTION OF KUDUS IN
NAMIBIA?



I hope this helped to answer some
questions of the Kudu riddle