



**MINISTRY OF FISHERIES AND LIVESTOCK  
CENTRAL VETERINARY RESEARCH INSTITUTE  
P.O. BOX 33980, BALMORAL  
LUSAKA  
ANTHRAX IN ZAMBIA**



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**CENTRAL VETERINARY RESEARCH INSTITUTE**

Dr Leonard Malama Sampa  
Veterinary Research Officer

# OUTLINE

- Introduction
- Distribution
- Diagnosis
- Disease Interface
- Anthrax Out breaks in Zambia
- Disease Surveillance
- Prevention and Control
- Current Aims/Objectives for the DVS/CVRI

# Introduction

- Anthrax is a zoonotic disease caused by the spore forming bacterium *Bacillus anthracis*. It is most common in wild and domestic herbivores (eg, cattle, sheep, goats, camels, antelopes) but can also be seen in people exposed to tissue from infected animals, contaminated animal products, or directly to *B anthracis* spores under certain conditions (Martin et al.,2015)



# Distribution

- The disease occurs in sporadic outbreaks that involve livestock, wildlife, and humans, but knowledge on factors that affect the geographic distribution of these outbreaks is limited, challenging public health intervention and planning.
- Anthrax has been reported from nearly every province in Zambia and is most common in the Eastern and Western Provinces of the Country. In these regions, anthrax periodically emerges as epizootics among susceptible domesticated and wild animals. These epizootics are usually associated with drought, flooding, or soil disturbance.



DEMOCRATIC  
REPUBLIC OF  
THE CONGO

TANZANIA

Nsumbu NP

Kasama

Bangweulu Wetlands

North Luangwa NP

Kasanka NP

Luambe NP

Lukusuzi NP

Chimfunshi  
Wildlife Orphanage

Kitwe

Ndola

South Luangwa NP

MALAWI

Mfuwe Int. Airport

ANGOLA

Liyuwa Plain NP

Kafue NP

Kenneth Kaunda Int. Airport

Blue Lagoon NP

Lochinvar NP

Lusaka

Lower Zambezi NP

MOZAMBIQUE

Sioma Ngwezi NP

Livingstone Airport

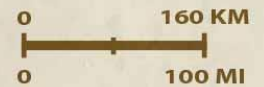
NAMIBIA

Livingstone

Mosi-oa-Tunya NP

Victoria Falls

ZIMBABWE



# Diagnosis

- Field Diagnosis based on Clinical examination and Postmortem Observations/Microscopy
- Laboratory Diagnosis and Confirmation:-Culture, Isolation and Identification (Conventional Methods), Automated Methods not utilised (Vitek II and Vitek MALDITOF).
- Molecular Methods:-PCR ( Conventional/Realtime)-(not utilised due to lack of reagents)



# Anthrax Disease Interface

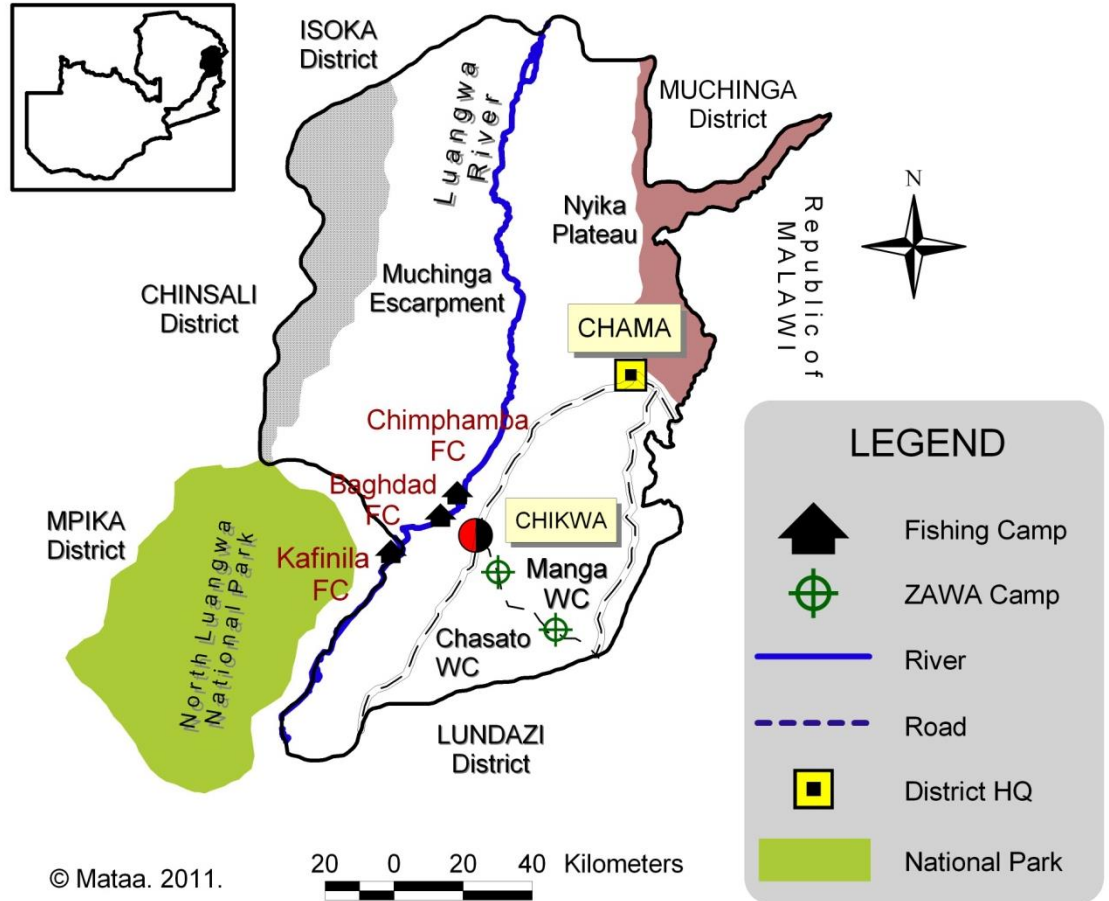
- Wildlife-Livestock interface
- Livestock-Human interface



# Anthrax Out breaks in Zambia

- There has been a number of Anthrax outbreaks over the years in different parts of Zambia especially in the Eastern and Western regions associated with Game parks.
- Focus on Chama outbreaks of 2011 and 2016
- Focus on Western province of Zambia





© Mataa. 2011.

**LEGEND**

-  Fishing Camp
-  ZAWA Camp
-  River
-  Road
-  District HQ
-  National Park

# Disease Surveillance

- Currently not well established
- Sero-surveillance around the outbreak areas-(to be introduced).

# Prevention and Control

- Vaccination
- 27000 doses Distributed (2021).
- 32000 doses distributed (Jan –June 22).
- Western province most vaccinated region.
- On the livestock Vaccination Calendar only 3 provinces are recommended for Vaccination. And only in April. (western,Eastern and Luapula Provinces)

# Current Aims/Objectives for the DVS/CVRI

- Increased Research
- Increased Diagnostics
- Introduce disease surveillance
- Establish Anthrax information Desk
- Investigate every suspected Anthrax case

# AUTOMATED SYSTEMS



# CONCLUSION

Anthrax is a Challenge and more work needs to be done to contain, control and prevent infections/outbreaks.

**THANK YOU**

“Alone you can Move Faster, Together we can move Far” - Massimo SCACCHIA