

A water buffalo with large, thick, curved horns is the central focus of the image. It has dark brown fur and is standing in a field of dry, yellowish-brown grass. The background is slightly blurred, showing more of the field and some dark structures.

Important diseases and pathogens in wild animals

Dr.K.Asokan.B.V.Sc
Forest Veterinary Officer
Sathyamangalam Tiger Reserve

A Ray of Hope for addressing our global ch

- Animals as Sentinels
- Antimicrobial Resistance
- Bio-Diversity /Conservation Medicine
- Climate Change
- Comparative Biology
- Disaster Preparedness / Relief
- Economics/Complex Systems, Civil Society
- Food / Water Safety / Security
- Human – Animal
- Non-Communicable
- Plant & Soil Health
- Vector-borne Diseases
- Climate Change
- Welfare / Well-being of animals, human
- Zoonotic Diseases

Why are we interested in diseases of wild animals?

- Diseases affecting only wildlife
- Diseases transmissible between wildlife and domestic animals
- Diseases transmissible between wildlife and humans (zoonoses)



Different types of wildlife diseases

- Wildlife can be symptomless carrier/ reservoir for diseases
- Wildlife can be involved in disease outbreaks wildlife/domestic animals
- Epizootic outbreaks of diseases in wildlife



Diseases of wildlife

Marburg

Brucellosis

MERS

Rabies

Avian influenza

Malaria

Yellow fever

Leptospirosis

EBOLA

Bluetongue

Bilharzia

Dengue

African swine fever

Salmonellosis

Nipah

Mange

Anthrax

Tularemia

Tuberculosis

CWD

SARS

Lyme



Diseases of wildlife

A photograph of a group of spotted deer (likely Axis deer) in a lush, green, grassy field. The deer are standing and looking in various directions. The background is filled with dense green foliage and trees. The text is overlaid on the lower half of the image.

A majority of all contagious disease in
humans have an animal reservoir- **zoonoses**

Diseases of wildlife

Affect wild animal populations

Threat to biological diversity

Transmission wildlife ↔ domestic animals

Directly transmitted zoonoses

Food borne zoonoses

Managing diseases in wild animals?

Why?

Surveillance

Possible?

Which diseases?

How?

Does it matter?



Why manage wildlife diseases?

- Diseases may have an impact on population size
- Diseases may impact biological diversity
- Wildlife can be a reservoir for domestic animal diseases
- To reduce risk for transmission to domestic animals
- To reduce risk for direct transmission to humans
- Food safety game meat
- To reduce density and by that mortality



Manage wildlife diseases

Which diseases?

- Rabies
- Classical Swine Fever
- Tuberculosis
- Anthrax
- Foot and Mouth Disease
- Avian Cholera
- Botulism
- Duck Plague



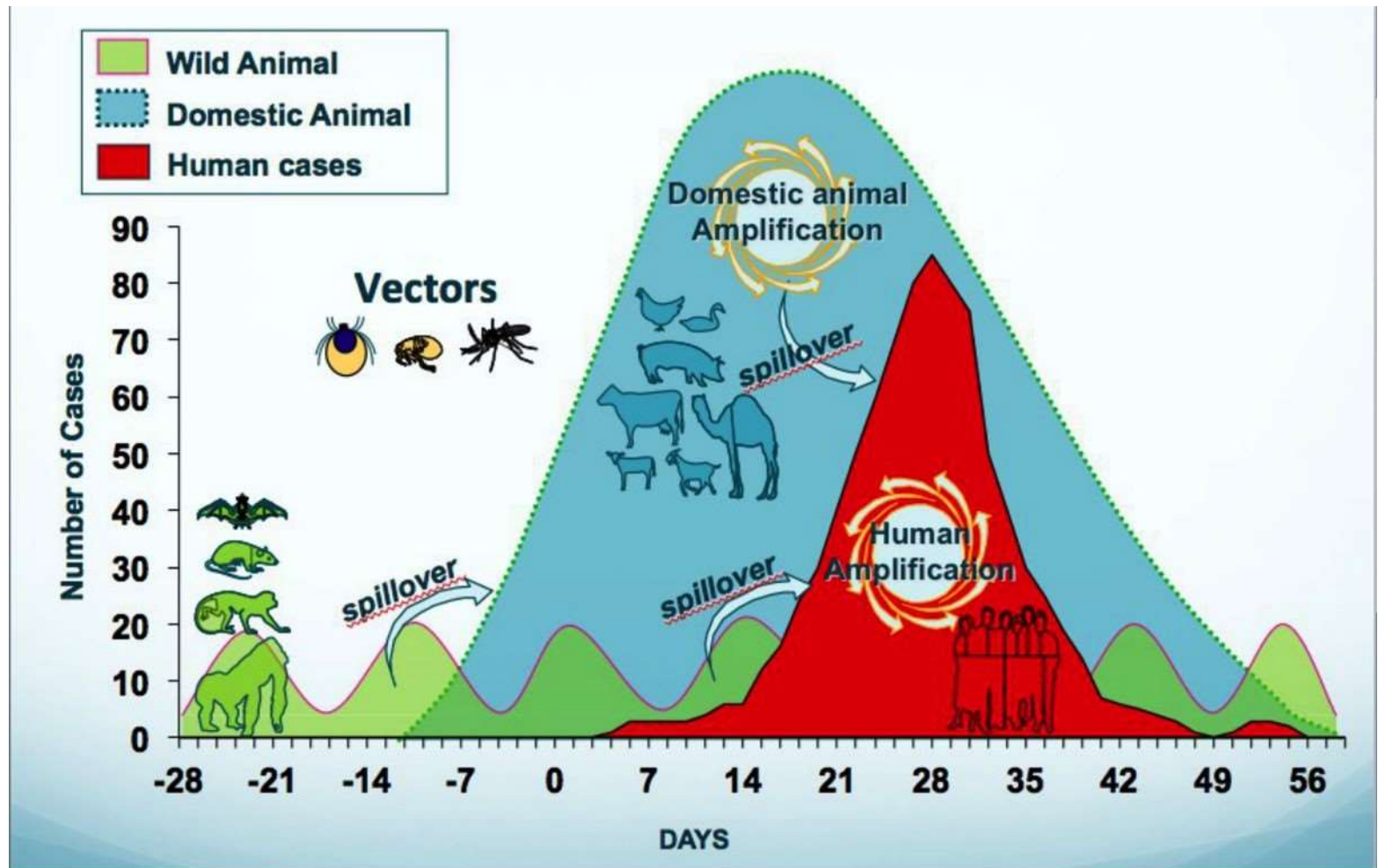
Manage wildlife diseases

How?

- Reduce animal population
- Restrict movements
- Restrict hunting
- Stop contacts domestic animals - wildlife
- Vaccination



One Health in Action



Source: Karesh et al. 2012. The Lancet & WHO

OIE list Notifiable diseases

- **93 diseases**

- Cattle
- Avian
- Sheep and goats
- Swine
- Hares/rabbits
- Horses
- Multiple species

Domestic

28 diseases
13 diseases
11 diseases
6 diseases
3 diseases
11 diseases
39 diseases

Wildlife

19 diseases
All 13
7 diseases
3 diseases
All 3
2 diseases?
27 diseases

OIE list Notifiable diseases

Wildlife list 52 diseases

Some infecting only wildlife,

Some infecting both wildlife and domestic animals

A total of 126 diseases of importance



Important Diseases of wildlife

Ungulates

Bovine tuberculosis - Worldwide

Anthrax – Africa, America, Asia

FMD – Africa, Asia

Bluetongue – Africa, Europe



Important Diseases of wildlife

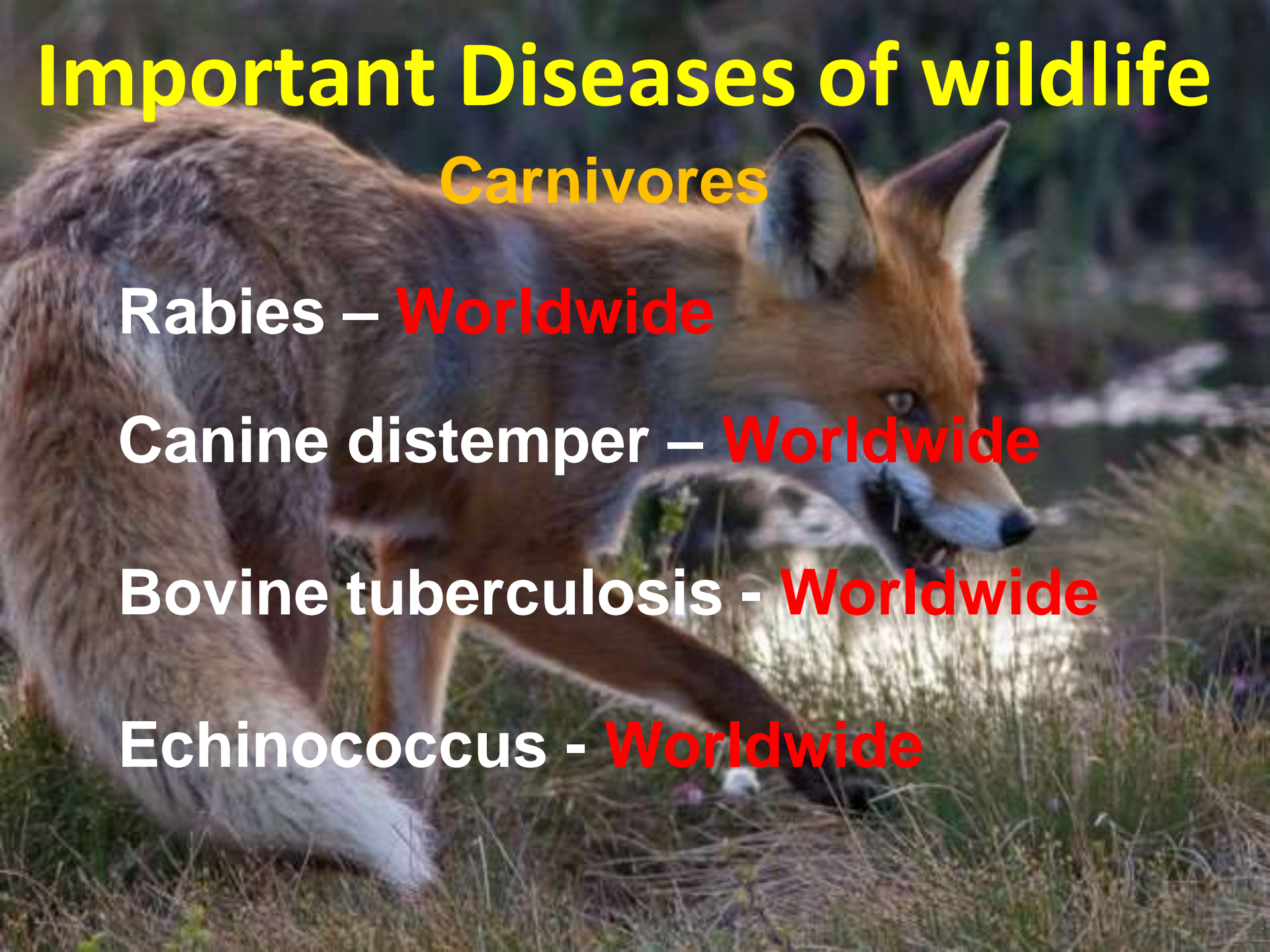
Carnivores

Rabies – **Worldwide**

Canine distemper – **Worldwide**

Bovine tuberculosis - **Worldwide**

Echinococcus - **Worldwide**



Important Diseases of wildlife

Wild boar

African Swine fever – Europe

Classical Swine Fever – Asia, Europe

Aujeszky's diseases – America, Asia

Bovine tuberculosis – Europe



Live animal markets

SARS, COVID-19
Avian Influenza



Emerging zoonotic disease

HIV
Ebola



Wildlife hunting



COVID-19
Rabies
Avian influenza

Intensive wildlife farming



Hendra
Nipah
Avian Influenza

Domestic animals

Thank you for your attention



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