

#### Commission on Environmental Law











### Pace Law School







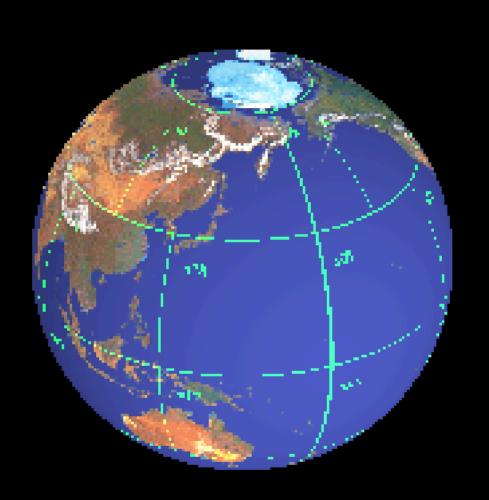








one world · one health

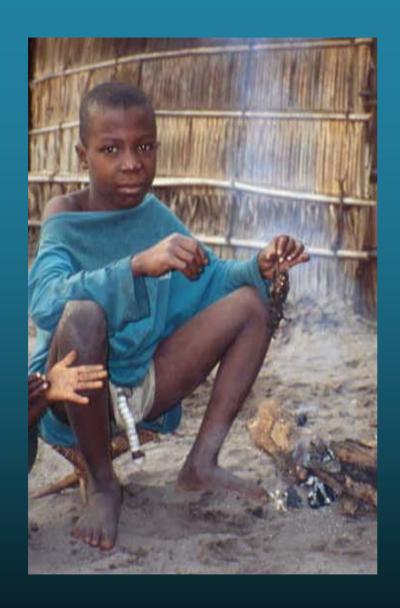


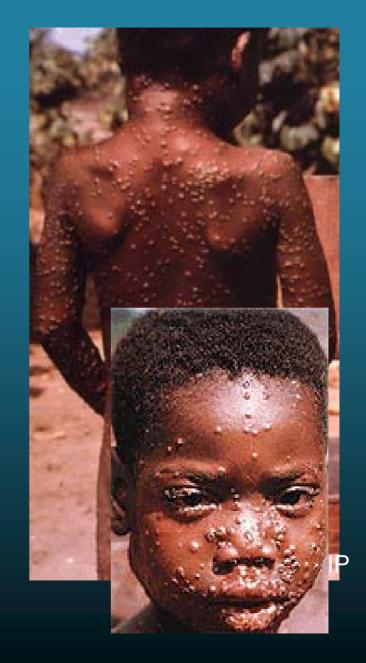










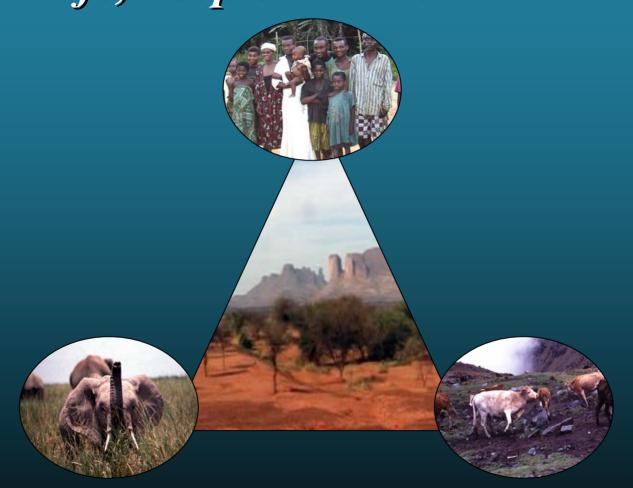




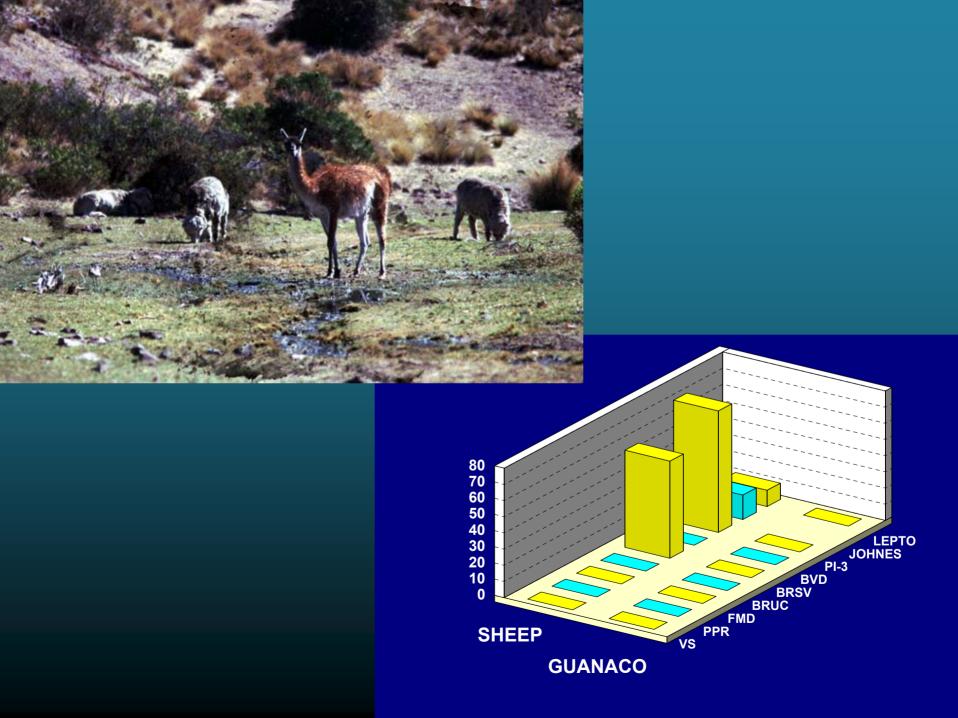
## Health Programs



# Connecting the Health of Wildlife, People and their Animals







# Humanity is currently plagued by 1709 known pathogens....

49% of those are zoonotic

Zoonoses are 3x more likely to be emerging diseases than non-zoonotic diseases

Dr. Mark Woolhouse

Infectious Disease	Affects Wildlife	Affects Domestic Animals	Affects Humans Directly	Affects Human Livelihoods Indirectly
Brucellosis	X	X	X	X
Canine Parvovirus	X	X	, , , , , , , , , , , , , , , , , , ,	
Chagas	Χ	Χ	Χ	
Distemper	Χ	Χ		
Foot and Mouth Disease	X	Χ		X
Leishmania	Χ		Χ	
Leptospirosis	Χ	Χ	Χ	
Rabies	Χ	Χ	Χ	X
Scabies	Χ	Χ	Χ	
Toxoplasmosis	Χ	Χ	Χ	

### Gorilla and Human Health



















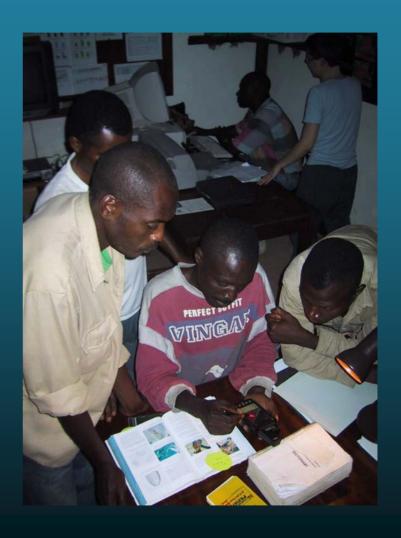
Salmonella Viral Diarrhea Polio Colds 🛑 **Animals** People Flu **Measles Tuberculosis** 





## Capacity building





# Serology - Negatives Lab test results

Polio

Measles

Ebola

**Dengue Fever** 

**Monkey Pox** 

Reovirus

**Parvovirus** 

Data suggest animals have **NOT** been exposed and have **NO** immunity

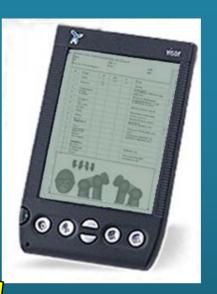




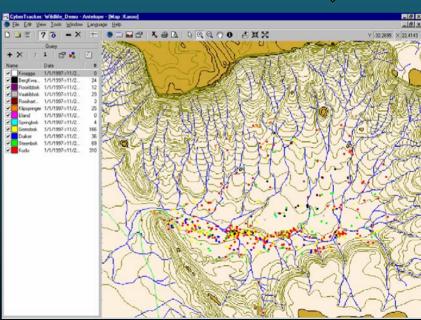




**Human health data** 



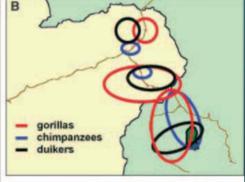




# Multiple Ebola Virus Transmission Events and Rapid Decline of Central African Wildlife SCIENCE, Jan. 16, 2004







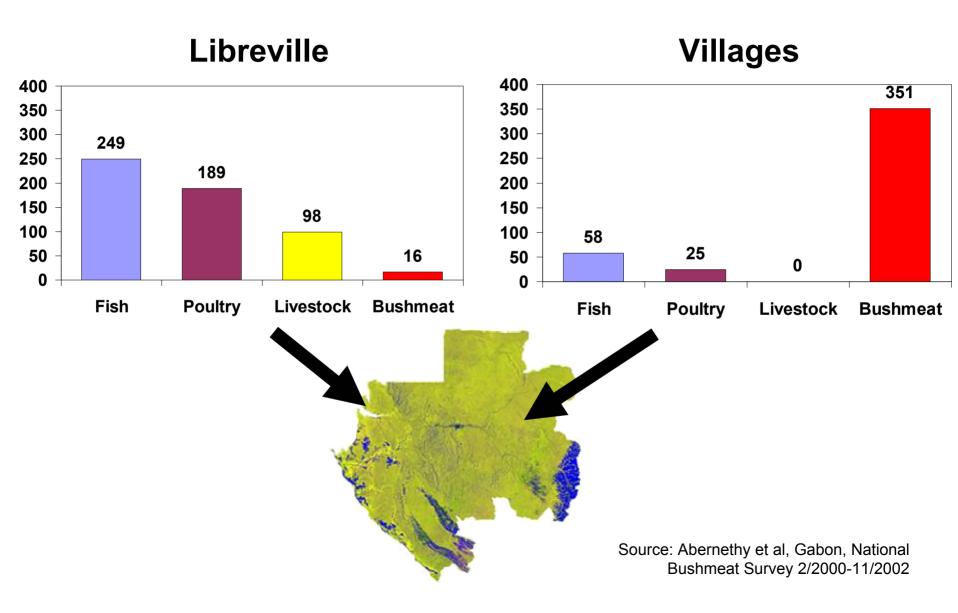
species and the presumed contact date with the hu and Mbomo outbreaks during October 2001 to N different animal sources. We found at least one and the 2002 outbreak in RC, another animal source in outbreak in RC, and at least two additional animal Yembelegoye and Mvoula villages) during the 200

# Animals Rabies People Typhoid Fever Salmonella

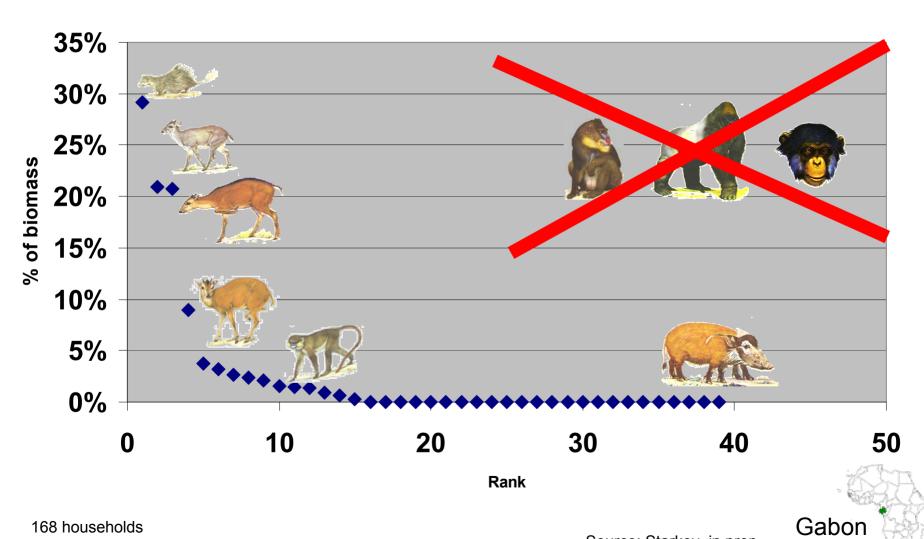




#### Who eats wildlife?



### Village level hunting



168 households 3,870 sample days

Source: Starkey, in prep

Salmonella Viral Diarrhea Polio Colds 🛑 **Animals** People Flu **Measles Tuberculosis** 

### Is SARS from outer space?

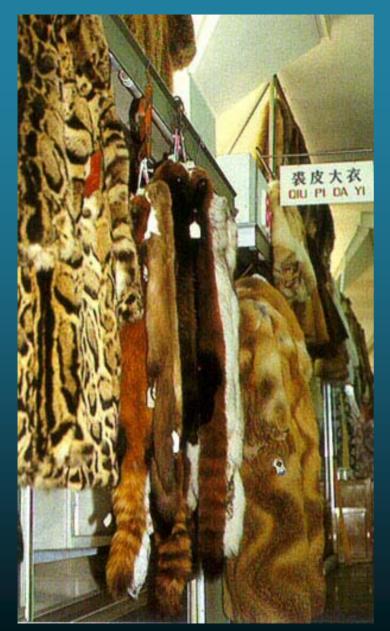
By Lauren Compton CNN
Friday, May 23, 2003



LONDON, England (CNN) -

The SARS virus might have originated in outer space, according to a scientist in Britain.

In a letter to **The Lancet** medical journal, professor Chandra Wickramasinghe of Cardiff University suggests the virus was introduced to Earth on a comet or meteorite.







### Pre-SARS outbreak

 Millions of Kg of wild animals traded annually without control

### Post-SARS outbreak 2003

- Over 9000 law enforcement cases
- 930,000 non-domestic animals confiscated
- 40,000 were "protected" species

## Avian Influenza



## Evidence points to migratory wild birds as victims not vectors



The main current threat to wild birds is not from the virus itself but persecution by poorly informed decisions and members of the public







Economic
Environmental
Social – Cultural
Security – Stability

