



ONE WORLD - ONE HEALTH: BRAZIL

HEALTHY ECOSYSTEMS, LIVESTOCK AND HUMAN LIVELIHOODS

An Innovative Public-Private Partnership

October 2-4, 2007



one world • one health



The Bay and Paul Foundations



bio-era



FIRST ANNUAL REPORT
OF THE
NEW YORK
ZOOLOGICAL SOCIETY

CHARTERED IN 1895

OBJECTS OF THE SOCIETY
A PUBLIC ZOOLOGICAL PARK
THE PRESERVATION OF OUR NATIVE ANIMALS
THE PROMOTION OF ZOOLOGY



NEW YORK
OFFICE OF THE SOCIETY, 69 WALL STREET
MARCH 15, 1897

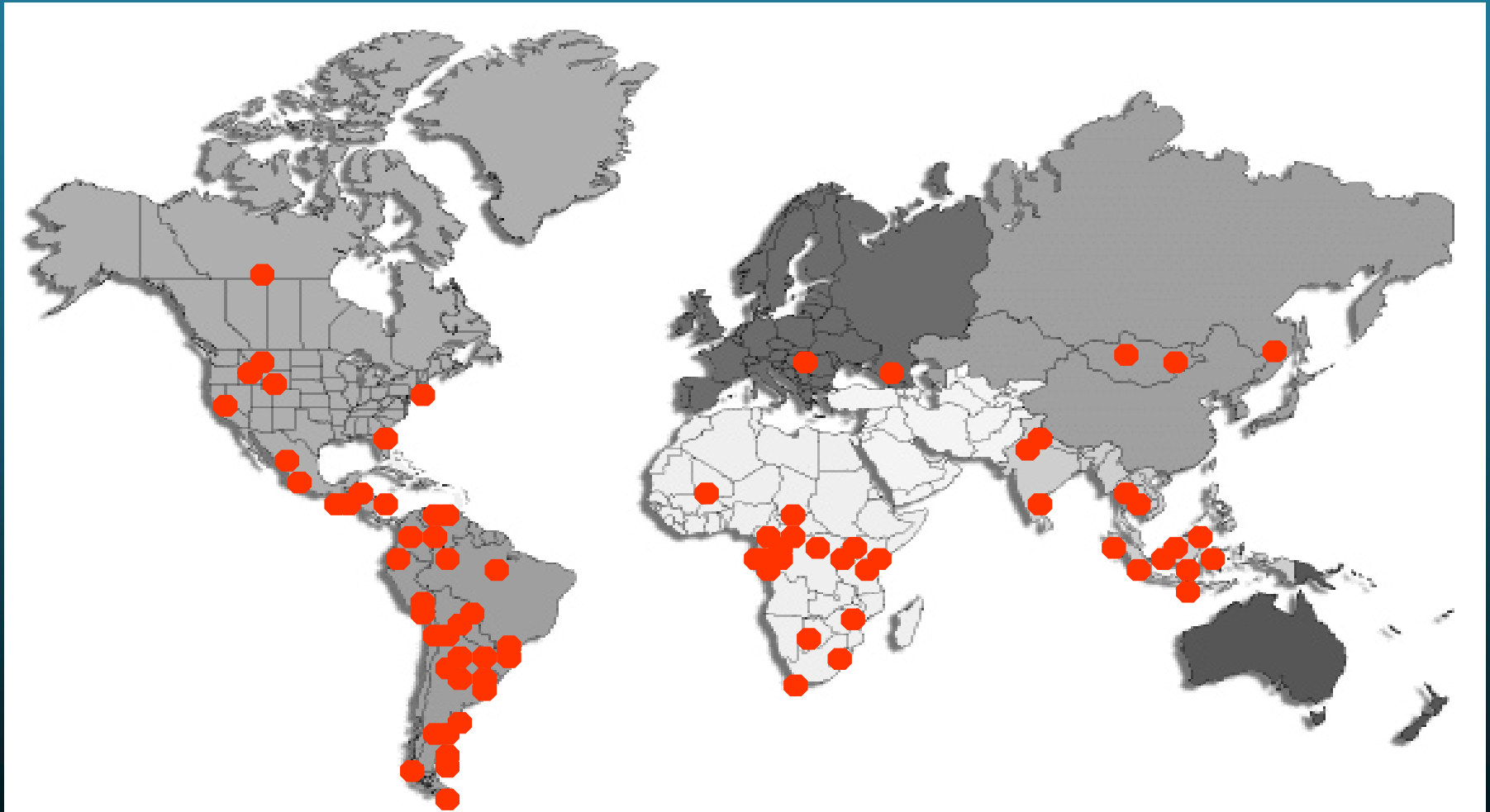
© WCS

The Wildlife Conservation Society (WCS) was founded as the New York Zoological Society with the purpose of public education, research in zoology, and the preservation of wildlife.





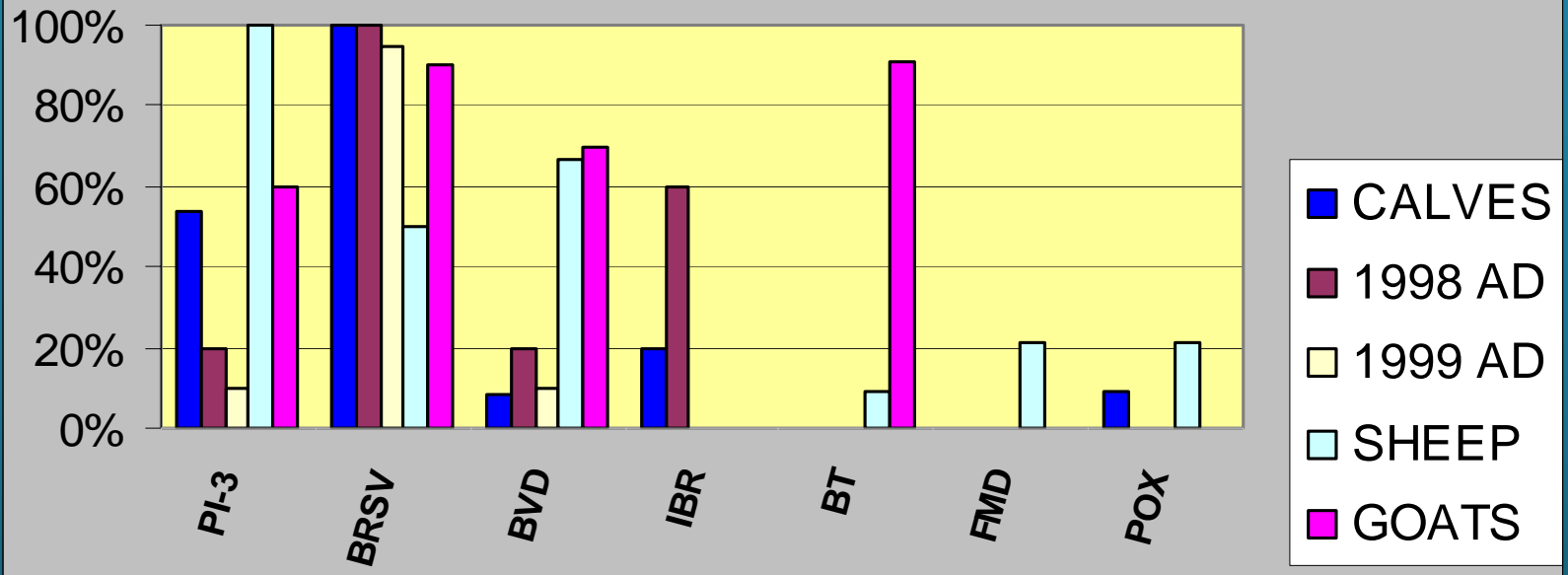
WCS Health Projects







Steve Osofsky, 2004

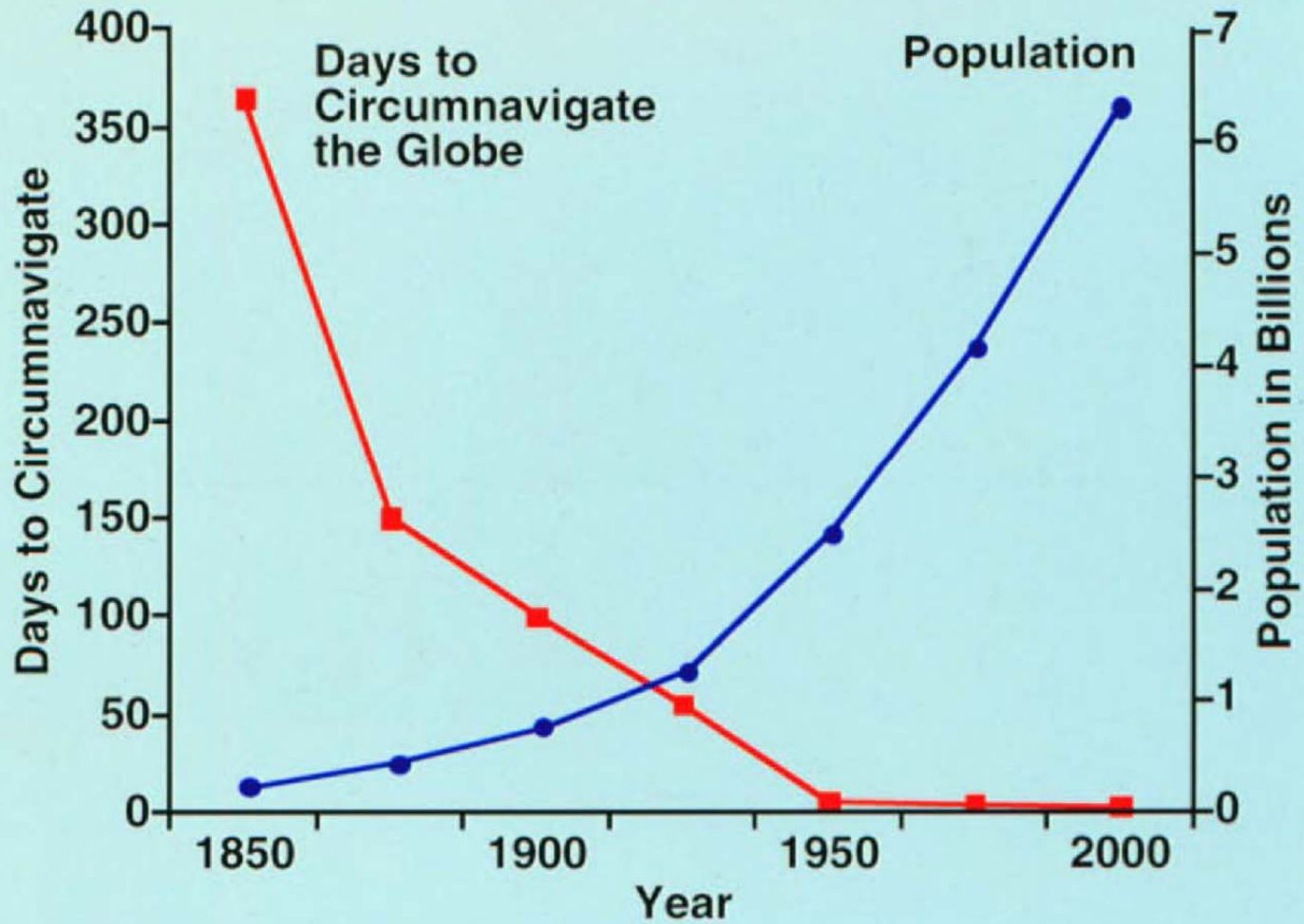


Infectious Disease	Affects Wildlife	Affects Domestic Animals	Affects Humans Directly	Affects Human Livelihoods Indirectly
Brucellosis	X	X	X	X
Canine Parvovirus	X	X		
Chagas	X	X	X	
Distemper	X	X		
Foot and Mouth Disease	X	X		X
Leishmania	X		X	
Leptospirosis	X	X	X	
Rabies	X	X	X	X
Scabies	X	X	X	
Toxoplasmosis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

***humanity is currently plagued
by 1407 known pathogens....***

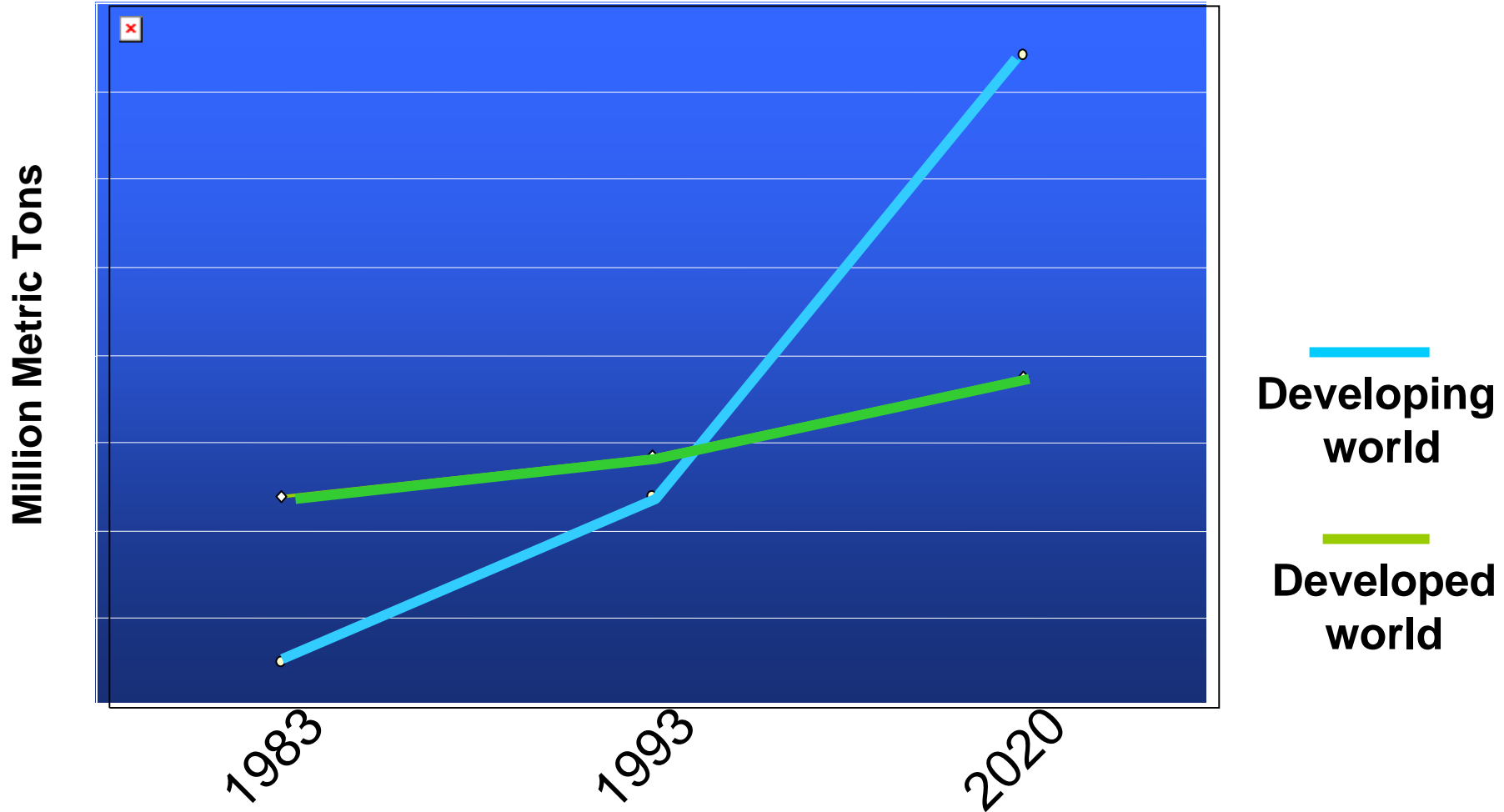
***Almost 2/3rds are shared
between people and animals***

Woolhouse & Gowtage-Sequeria



Murphy and Nathanson, Semin. Virol. 5, 87, 1994

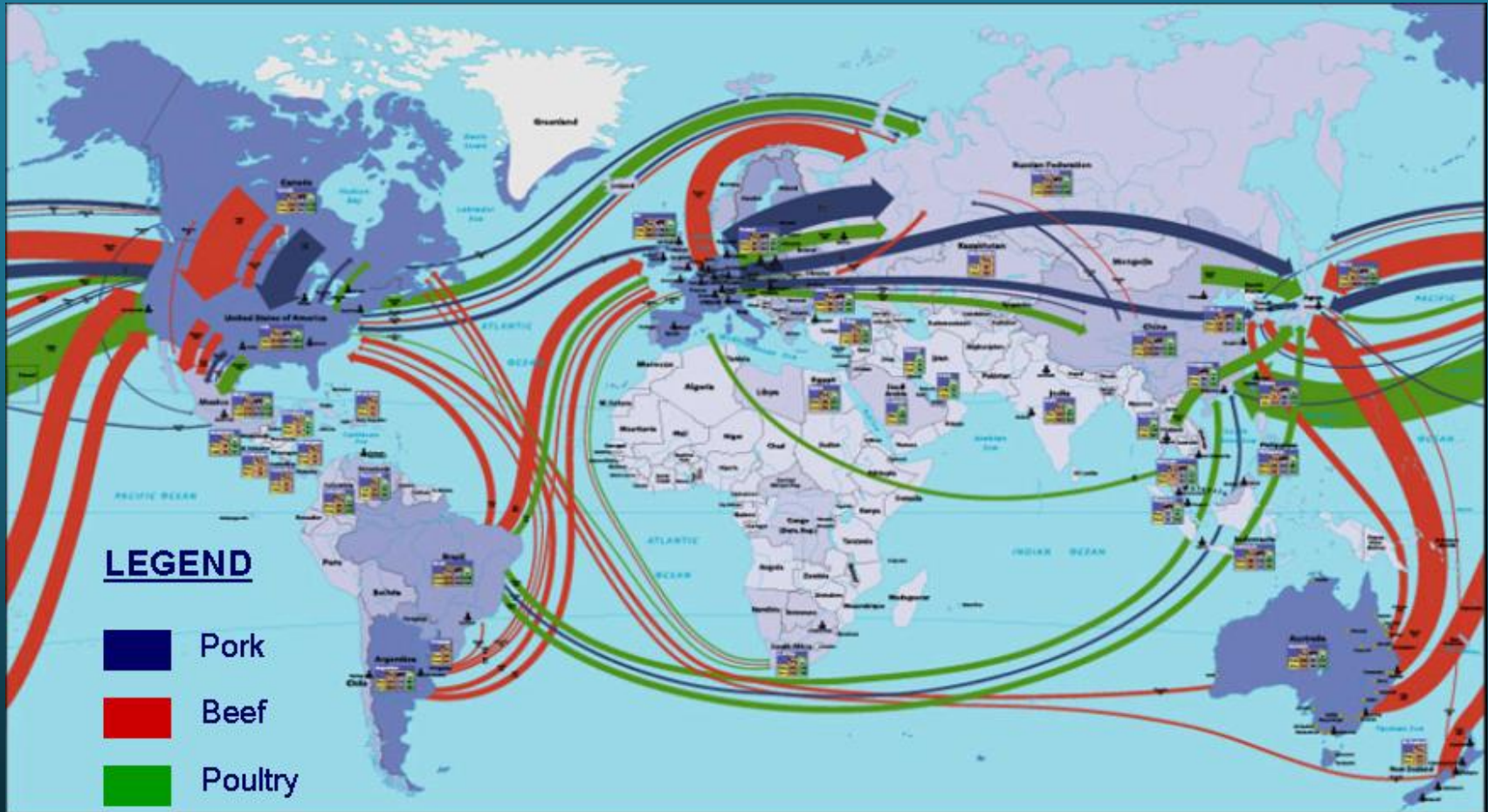
World Meat Consumption: 1983-2020



Source: IFPRI, "Livestock to 2020: The Next Food Revolution"

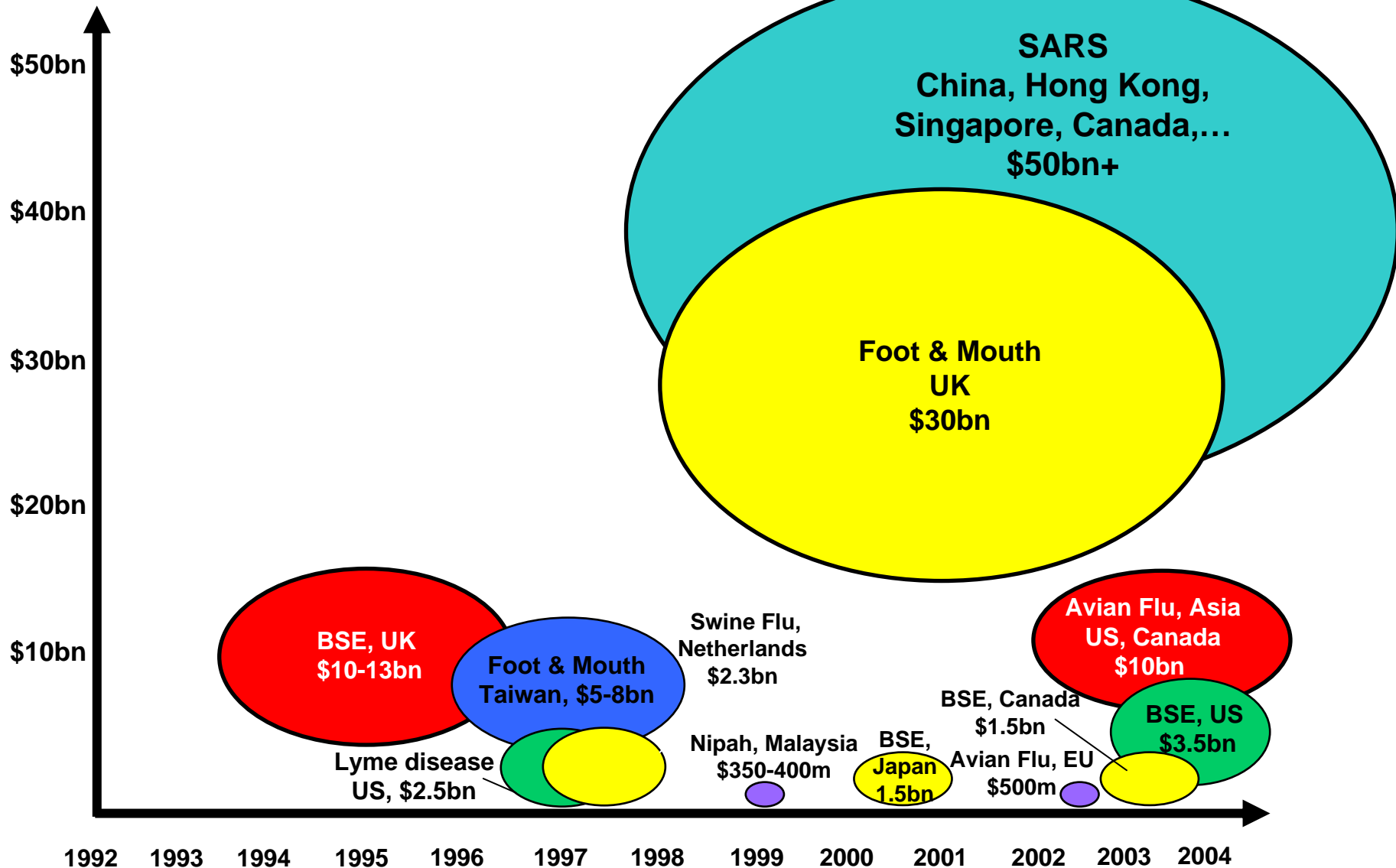
FAO Annual Data. Total meat consumption for 1983 and 1993 are three-year moving averages.
2020 projections come from IFPRI's global model, IMPACT

The Global Meat Trade is Highly Concentrated



Source: Center for Global Food Issues

Economic Impact of Selected Infectious Diseases



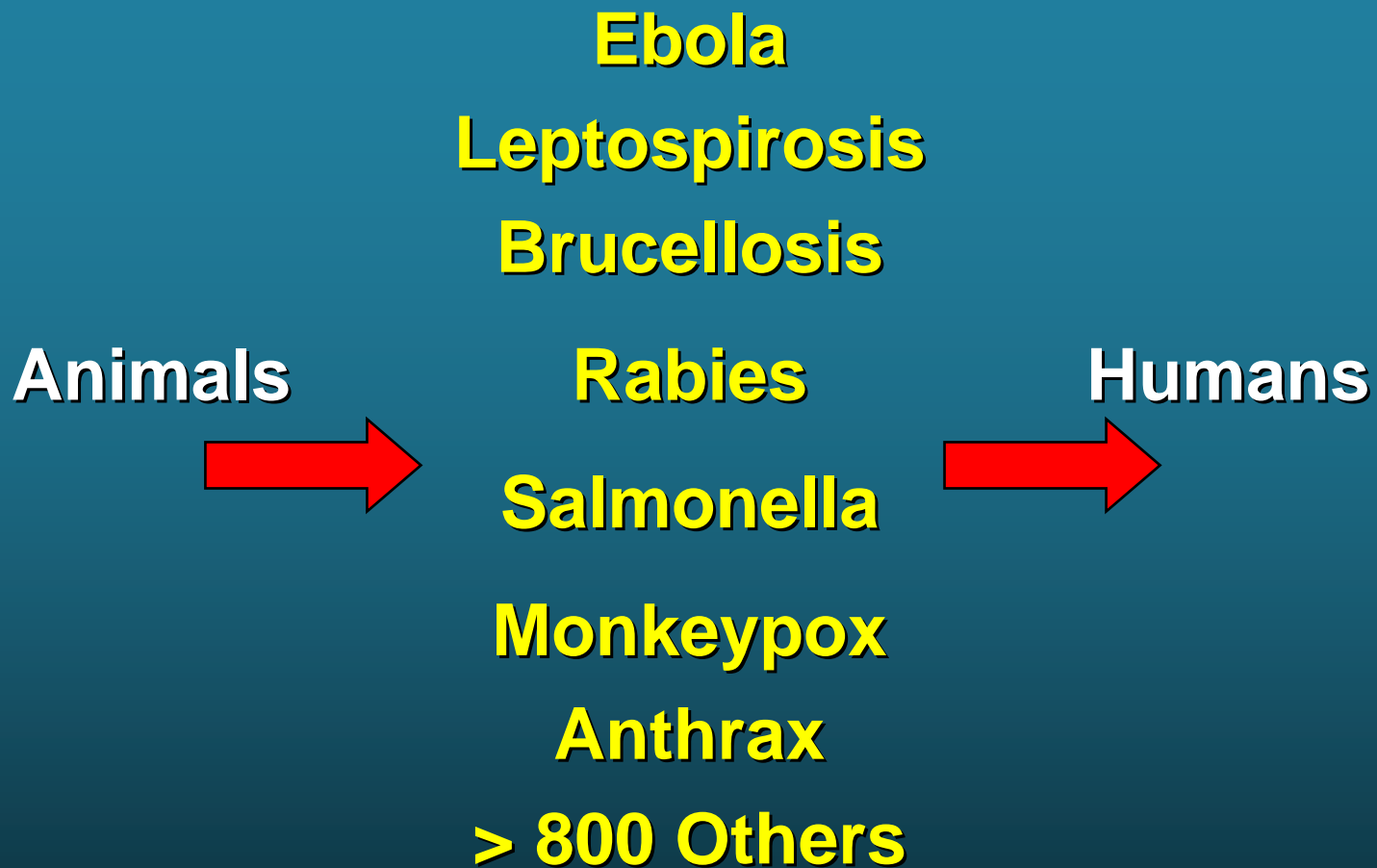
Figures are estimates and are presented as relative size. See table for more details.





1,000,000,000 Kg / Year
(Central Africa)





Salmonella

Viral Diarrhea

Polio

Humans

Colds

Apes

Flu

Measles

Tuberculosis

> 100 Others

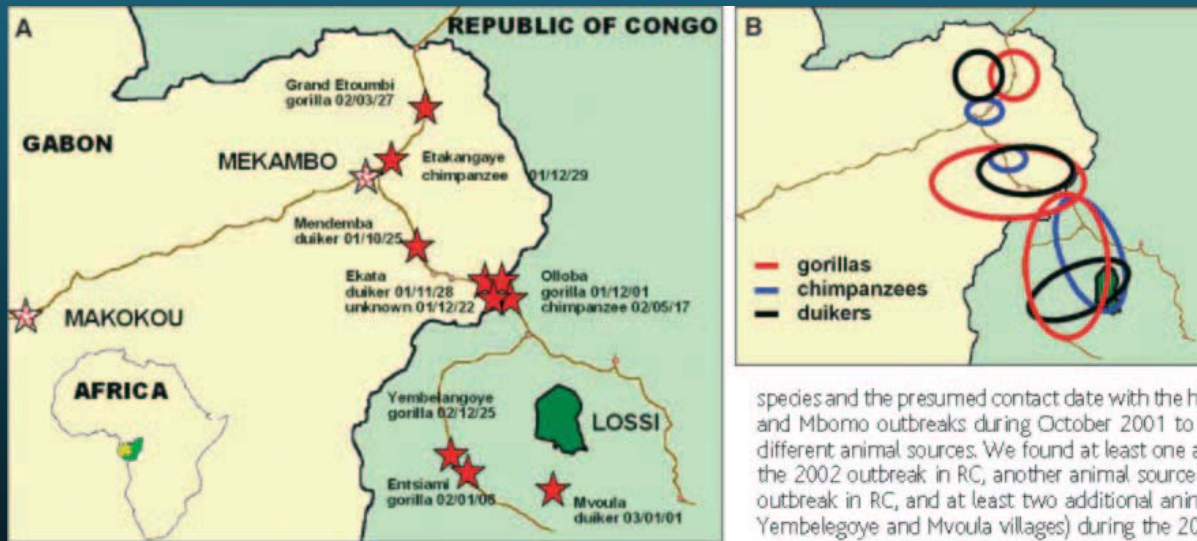


Disease outbreak Investigations & Post-mortem exams



Multiple Ebola Virus Transmission Events and Rapid Decline of Central African Wildlife

SCIENCE, Jan. 16, 2004

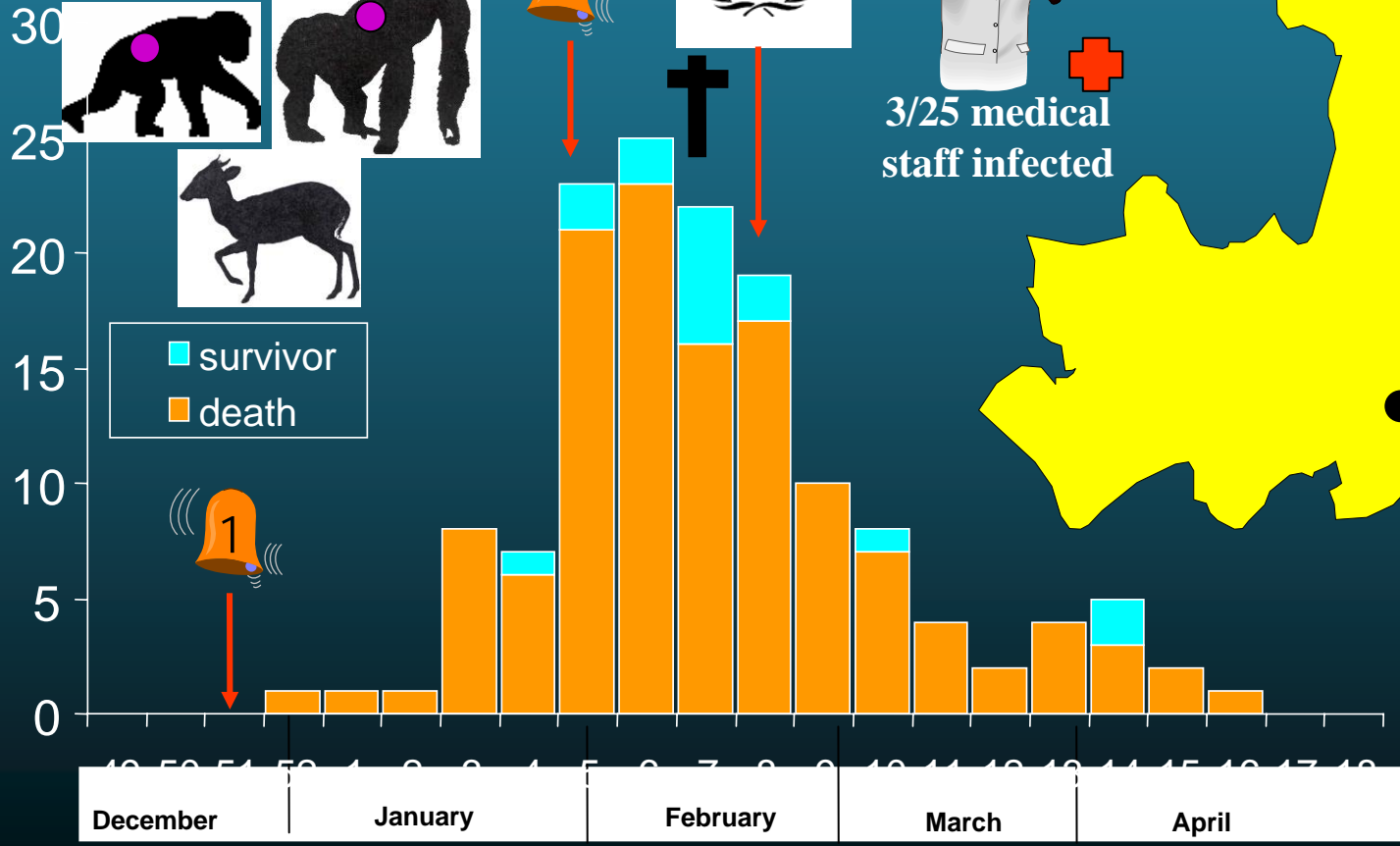
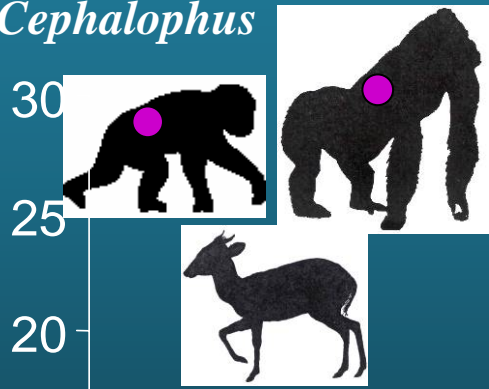




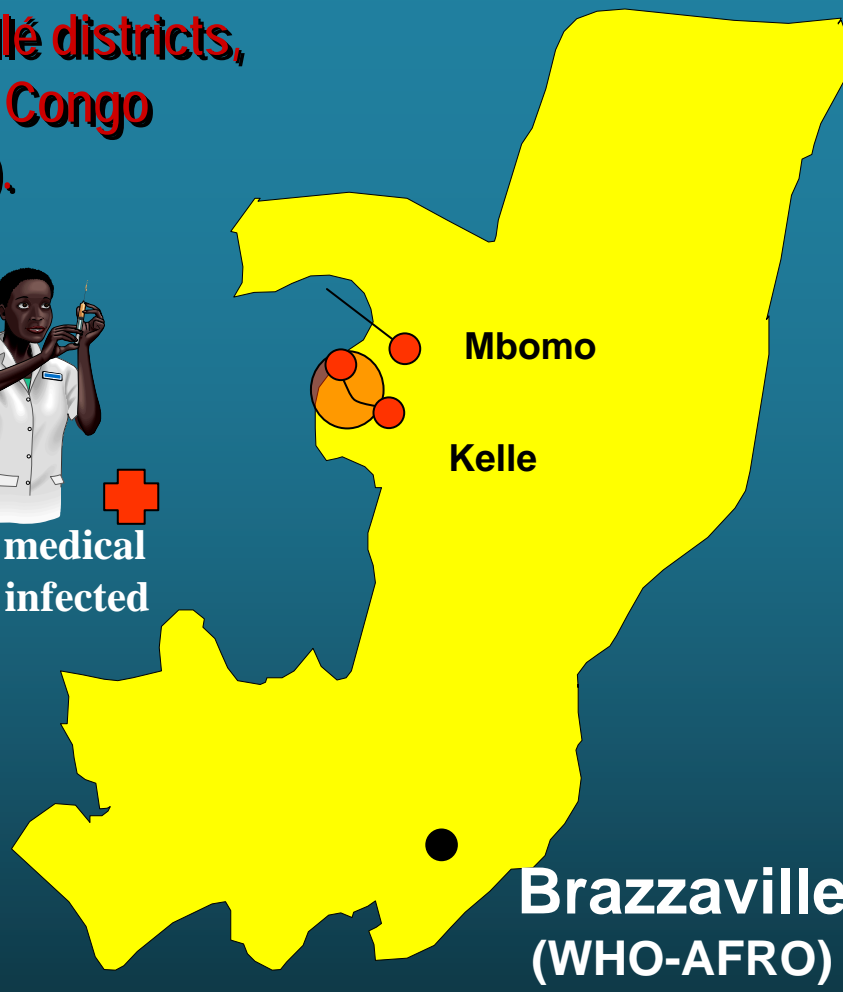


Ebola outbreak in Mbomo and Kélé districts, December 2002 to April 2003, Congo (143 cases, 128 deaths).

Gorilla gorilla
Pan troglodytes
Cephalophus



3/25 medical staff infected



Mbomo
Kelle

Brazzaville
(WHO-AFRO)



ZAMBIA



CONSERVATION FARMER WILDLIFE PRODUCER
maximizing natural resources for use

TRADING CENTRE
Future







USAID
FROM THE AMERICAN PEOPLE



Global Avian Influenza Network for Surveillance (GAINS) for Wild Birds



Percy FitzPatrick
Institute of African Ornithology
University of Cape Town

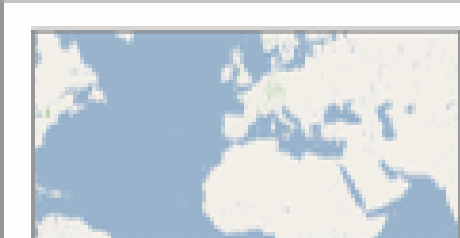
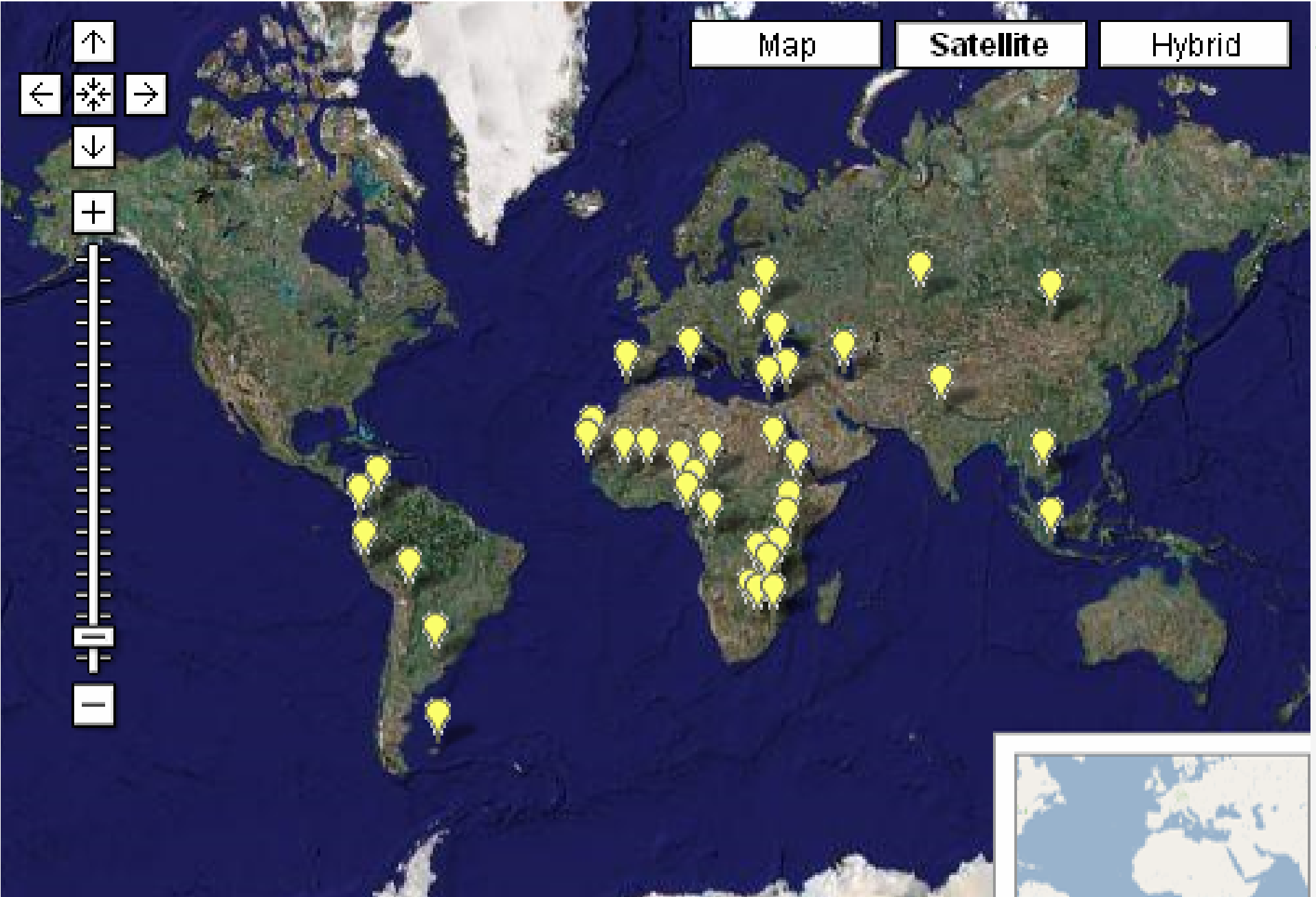


Map

Satellite

Hybrid

Navigation and zoom controls including directional arrows (up, down, left, right), a compass, a zoom in (+) and zoom out (-) button, and a vertical zoom slider.













W. B. Karesh / WCS



W.B. Karesh, 2005

Mongolia → USDA/ARS/SEPRL → CDC
→ St. Jude's WHO collab. Ctr.

Wild whooper swan isolate
selected by WHO as
Human pandemic influenza
vaccine candidate





Swan Locations

Swan s579 Purple 11/7/2006 - 11/28/2006
Swan s694 Orange 11/21/2006 - 11/28/2006

11/7/06:1

11/21/06:9

11/22/06:11

11/27/06:3

11/23/06:5

11/8/2006 -
11/29/2006

11/9/06:3

(Pusan)

Chungchongbuk-Do
Cheongju

South Korea

Chungchongnam-Do

Taejon

Daejeon

Kyongsangbuk-Do

Sapsi-do

Eochong-do

Iksan

Daegu

Taegu

Wl-do

Kyongsangnam-Do

Anma-do

Kwangju

© 2006 ZENRIN
© 2006 Europa Technologies
Image © 2006 TerraMetrics

Google

49 mi

Pointer 35°56'45.83" N 127°21'26.19" E elev 609 ft

Streaming 100%

Eye alt 165.70 mi





WILDLIFE
CONSERVATION
SOCIETY

R. A. Cook/WCS



World Parrot Trust



Global Avian Influenza Network for Surveillance

A program of the Global Animal Information Network for Surveillance

Featured Contributor




Wetlands International is the only global NGO dedicated to the conservation and wise use of wetlands.

[Read More](#)

For a full list of contributors, see our [Contributors Page](#)

About GAINS




The aim of the Wild Bird Global Avian Influenza Network for Surveillance (GAINS) program is to expand operational field capabilities, improve the understanding of viral strains and transmission of influenza viruses in wild birds, and to disseminate information to all levels of governments, international organizations, the private sector and the general public.

GAINS is a global surveillance network of wild birds for avian influenza. Our strategies are: improving the collection, coordination, and laboratory evaluation of samples from wild birds in order to identify locations of avian influenza viral strains; identifying genetic changes in virus isolates; enhancing links with wild bird distribution and migration information, and providing an early warning system for global spread of highly pathogenic avian influenza (HPAI) that threatens domestic poultry and human health as well as biodiversity (particularly avian).

[Special Report - Training Afghan Technical Experts to Monitor Wild Birds \(PDF\)](#)

Map Explorer



Use the Map Explorer to map the results of wild bird avian influenza sampling done by GAINS contributors.

[Launch the Map Explorer](#)

Where We Work



GAINS Avian Influenza News

- [Avian influenza on the prowl again \(Hindustan Times\)](#)
- [Vietnam reports new bird-flu death, fourth this year \(EARTHtimes.org\)](#)
- [Bird flu kills Vietnamese student: state media \(AFP via Yahoo! News\)](#)
- [Avian influenza may resurface in India, warns UN official \(Outlook India\)](#)
- [Avian influenza may resurface in India, warns UN official \(The Times of India\)](#)
- [Migrant birds to be monitored for flu](#)

Data Explorer



Use the Data Explorer to access the GAINS avian influenza database.

Haemagglutinin (H): All Neuraminidase (N): All Pathogenicity: All

Update Map Report



- Layers
- Refresh Map
- Sites with positive diagnosis
- Sites without positive diagnosis
- Sites with counts
- Cities
- Rivers
- Lakes
- Countries with samples
- All Countries
- latlong

Identify Results





Influenza subtype

Haemagglutinin

Update Map Report

Select the external data source:

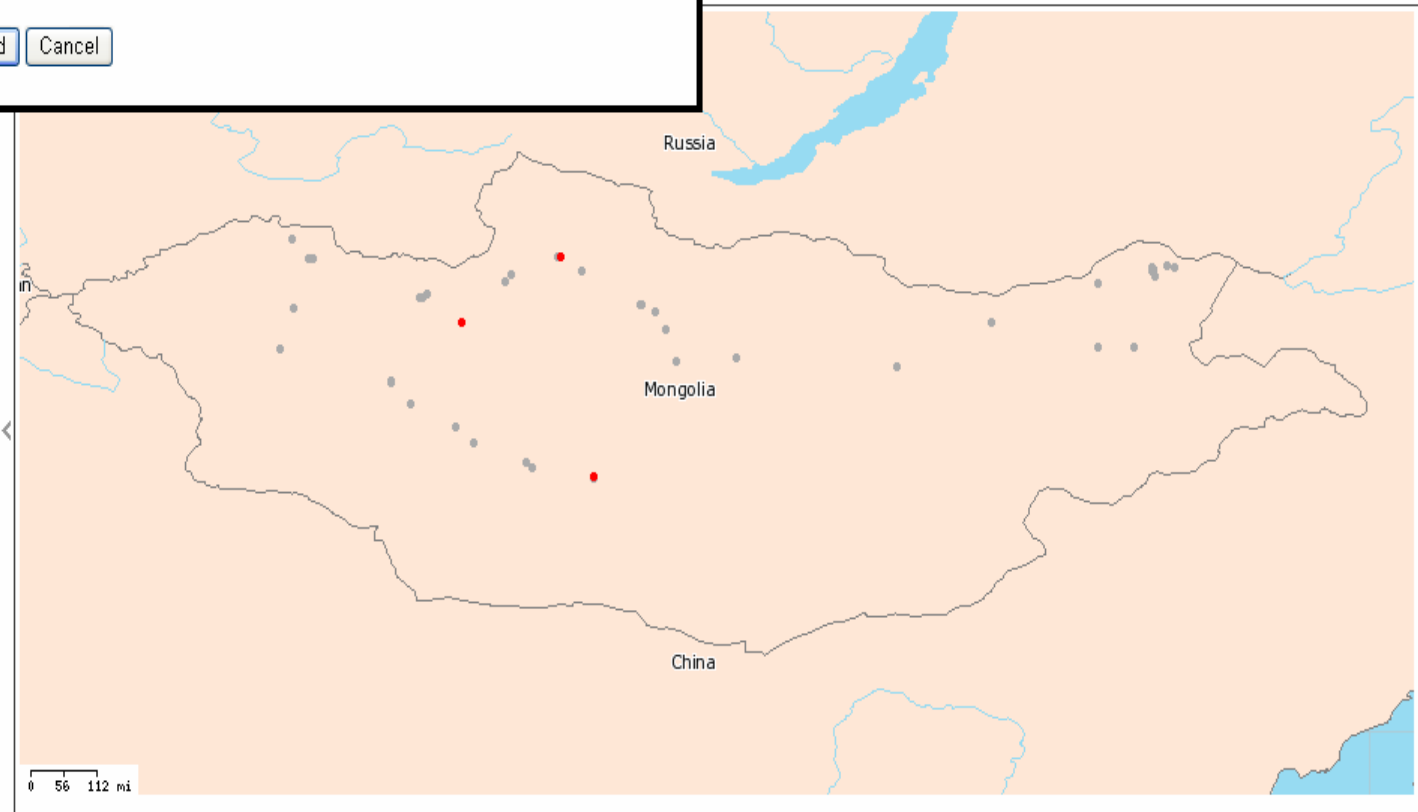
XML File: Browse...

WMS URL:

Upload Cancel

- Layers
- Refresh Map
- Sites with positive dia
 - Sites without positive dia
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 - Cities
 - Rivers
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 - Countries with samples
 - All Countries
 - latlong

Identify Results



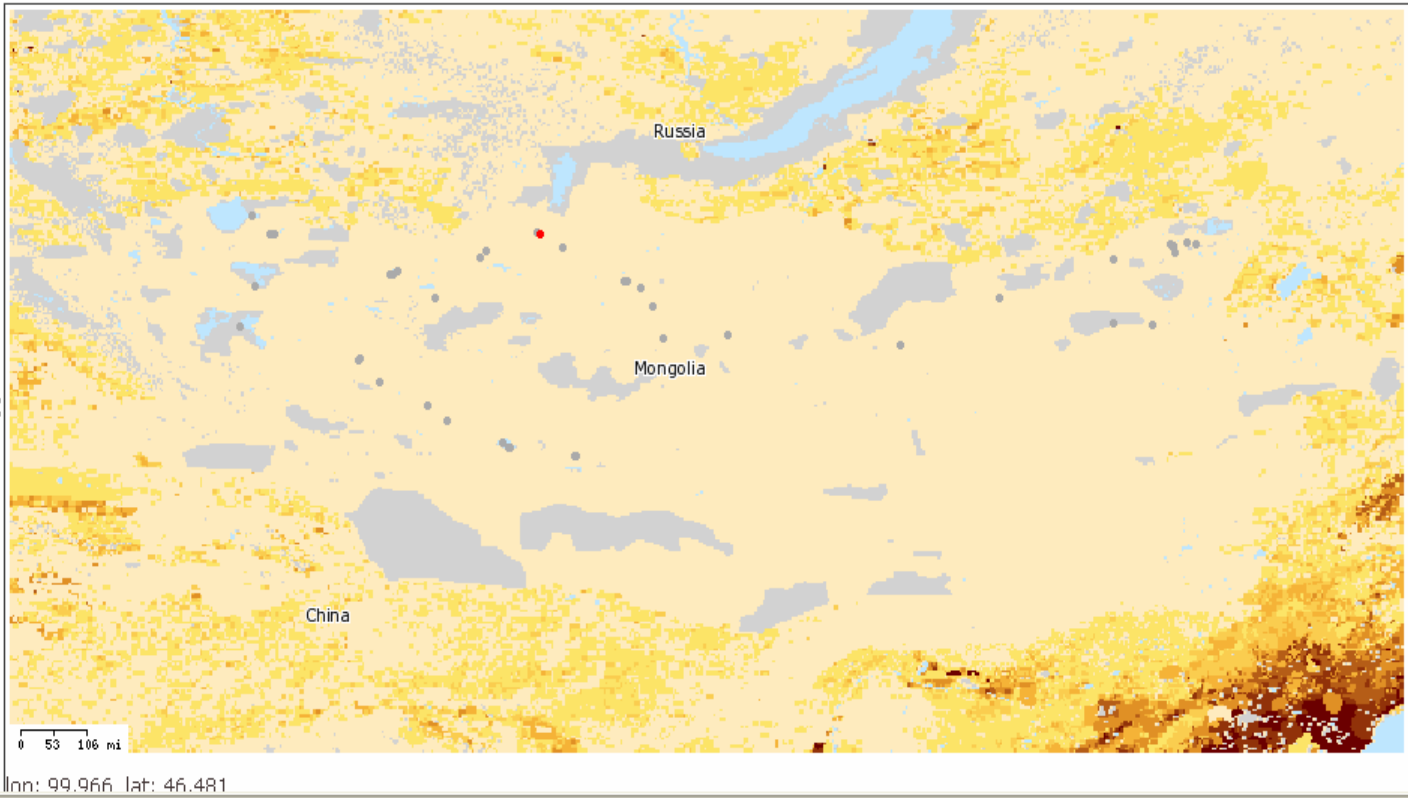
Influenza subtype
Haemagglutinin (H): 5 Neuraminidase (N): 1 Pathogenicity: High

Update Map Report



- Layers Refresh Map
- Sites with positive diagnosis
 - Sites without positive diagnosis
 - WMS FAO GeoNetwork OGC Web Map
 - ♦ Sites with counts
 - Cities
 - Rivers
 - Lakes
 - Countries with samples
 - All Countries
 - latlong

- Identify Results
- Anser indicus
 - Cygnus cygnus
 - [Show Flyway](#)
 - [Export Flyway](#)
 - Sampling Events
 - 8/9/2005
 - H12N3Low: 1
 - H5N1High: 1
 - Larus argentatus
 - Tadorna ferruginea
 - Erhel Nuur





All Countries



latlong

Identify Results



Anser indicus



Cygnus cygnus

[Show Flyway](#)

[Export Flyway](#)



Sampling Events



8/9/2005

H12N3Low: 1

H5N1High: 1



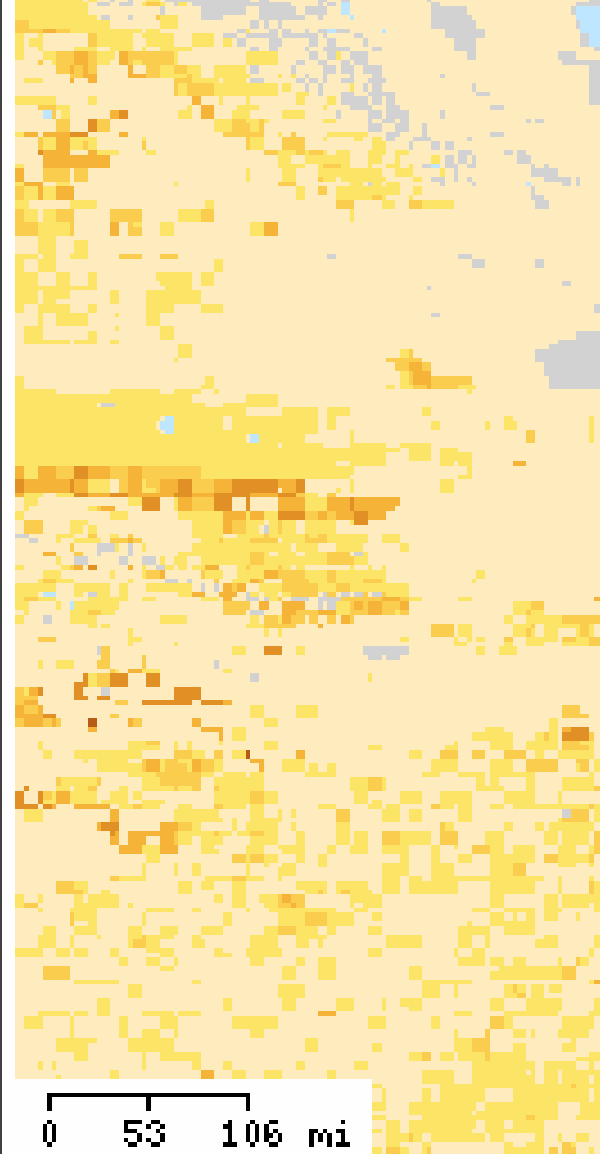
Larus argentatus



Tadorna ferruginea



Erhel Nuur



0 53 106 mi

lon: 99.966 lat: 46.4

[Frequently Asked Questions](#)

Select All Species Select All Countries

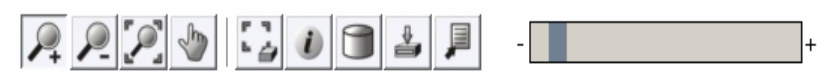
Species: Country:

Start Date:

Influenza subtype

- Calidris
- Calidris acuminata
- Calidris alba
- Calidris alpina
- Calidris alpina alpina
- Calidris alpina arctica
- Calidris alpina pacifica
- Calidris alpina schinzii
- Calidris bairdii
- Calidris canutus

Pathogenicity:



- Layers
- [Refresh Map](#)
- Sites with positive diagnosis**
 - Sites without positive diagnosis
 - WMS:FAO GeoNetwork OGC Web Map
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 - All Countries
 - latlong



Identify Results

ortunities
t GAINS
net
n Test
Explorer
Desk
Explorer

Layers

Refresh Map

- Flyways: CALCA
- Search results
- species samplings**
- sites
- cities
- rivers
- lakes
- countries
- latlong

Identify Results

SampleDate: 1/1/2001 0:0:0

Anas platyrhynchos

Show Flyway

Export Flyway

Details

WISDOM_SpeciesName: Anas platyrhynchos





One World, One Health

29 September 2004
New York Symposium
*"Building Interdisciplinary
Bridges to Health in a
'Globalized World' "*

15 November 2004
Bangkok Workshop
*"Beyond Zoonoses: The
Threat of Emerging Disease
to Human Security and
Conservation, and the Imp-
lications for Public Policy"*

15-17 November 2005
China Workshop
*"Beyond Zoonoses: The
Threat of Emerging Diseases
to Human Health, Agriculture
and Conservation: Imp-
lications for Public Policy"*

www.oneworldonehealth.org



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