



Wildlife Disease Information Node



Wildlife Disease Surveillance and Investigations

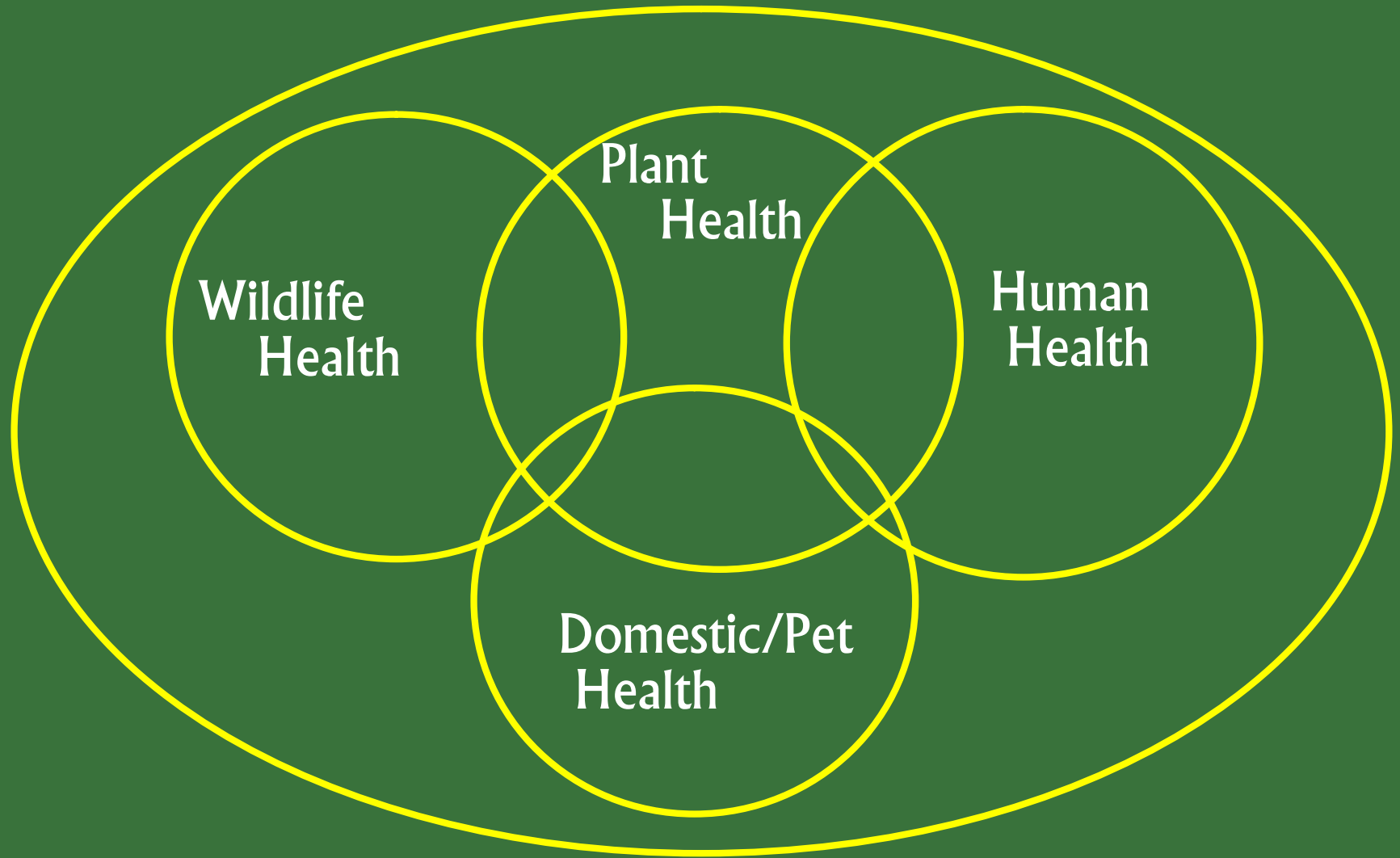
F. Joshua Dein, VMD, MS

Project Leader, NBII Wildlife Disease Information Node

Scott Wright, PhD

Chief, Disease Investigations Branch
USGS National Wildlife Health Center

Environmental Health



What Creates the Need for Disease Investigations of Wild Animals?

- The primary reasons are reflected by values which are culturally based and highly variable. **Subsistence vs recreation.**
- The level of importance and associated financial support is economically based.

Human Health > Domestic Animal Health > Wildlife Health

In the Weeds

- Carcass numbers need to be great enough to be noticed. *Scavengers*
- Area must be accessible and animals observable.
- There needs to be a local reporting system that feeds into a larger regional/national system.



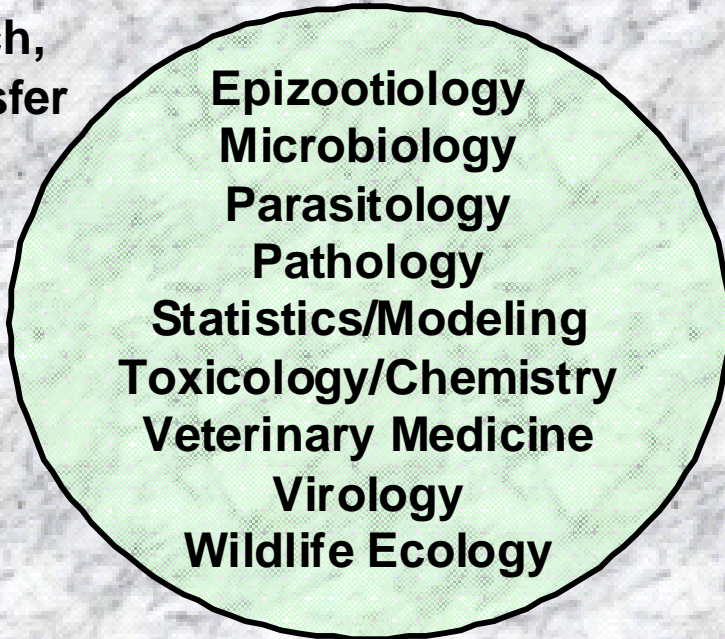
**Training, outreach,
information transfer**



Surveillance



**Field investigation
and response**



Diagnostics



**Field and lab
research**



Why are Disease Investigations of Wild Animals Important?

- Because outbreaks can dramatically affect wild populations.....
- Which can have a dramatic affect on local ecosystems.
- Outbreaks can be an indication of environmental damage/introduction of new diseases.
- Type/intensity/location of zoonotic diseases in wildlife.
- Potential bioterrorism attack/testing/practicing.

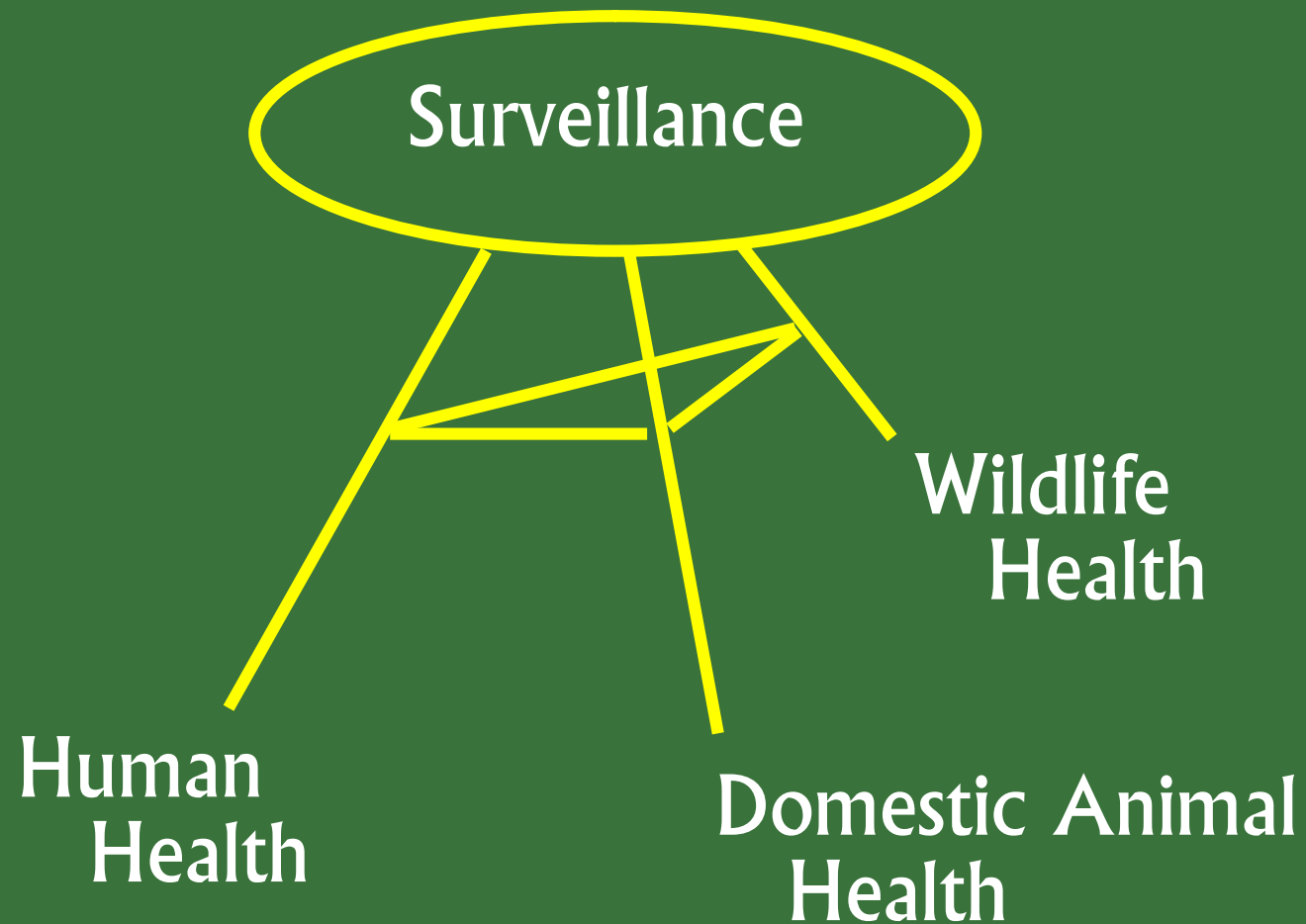
Requirements for Effective Wildlife Disease Surveillance

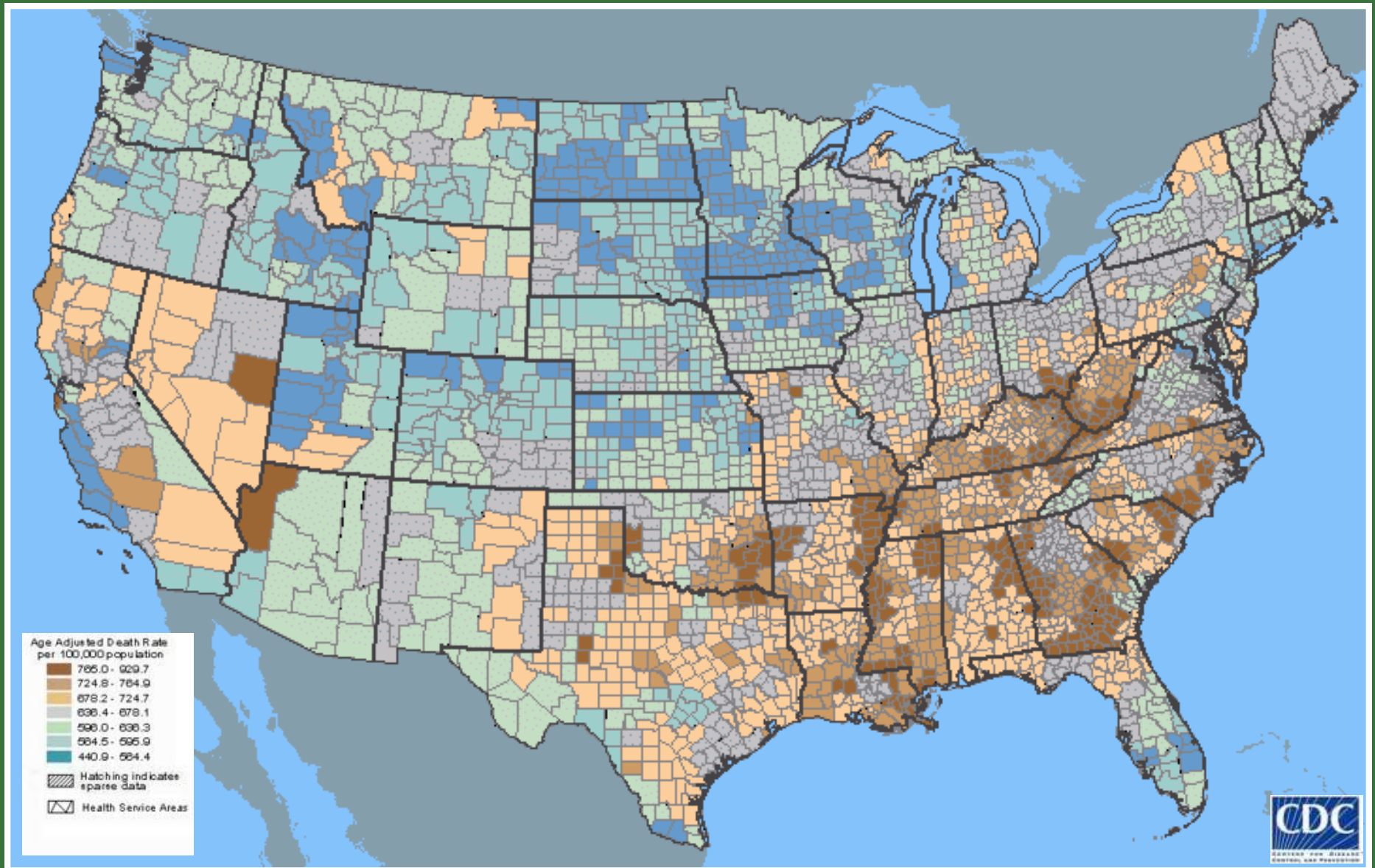
- Greater awareness and understanding
- Substantial resources to build or improve capabilities
- Clarified roles and responsibilities
- Mandate for reportable wildlife diseases
- Standardization of observations and reporting
- Global data clearing house for reporting

Where's the Data?

- There are some international programs, FAO, OIE, GAINS.....limited and voluntary reporting.
- In USA, some federal, state, university-based reporting but not coordinated on a national scale.
- Most local data is in file cabinets or desk drawers.

The Three Legged Stool

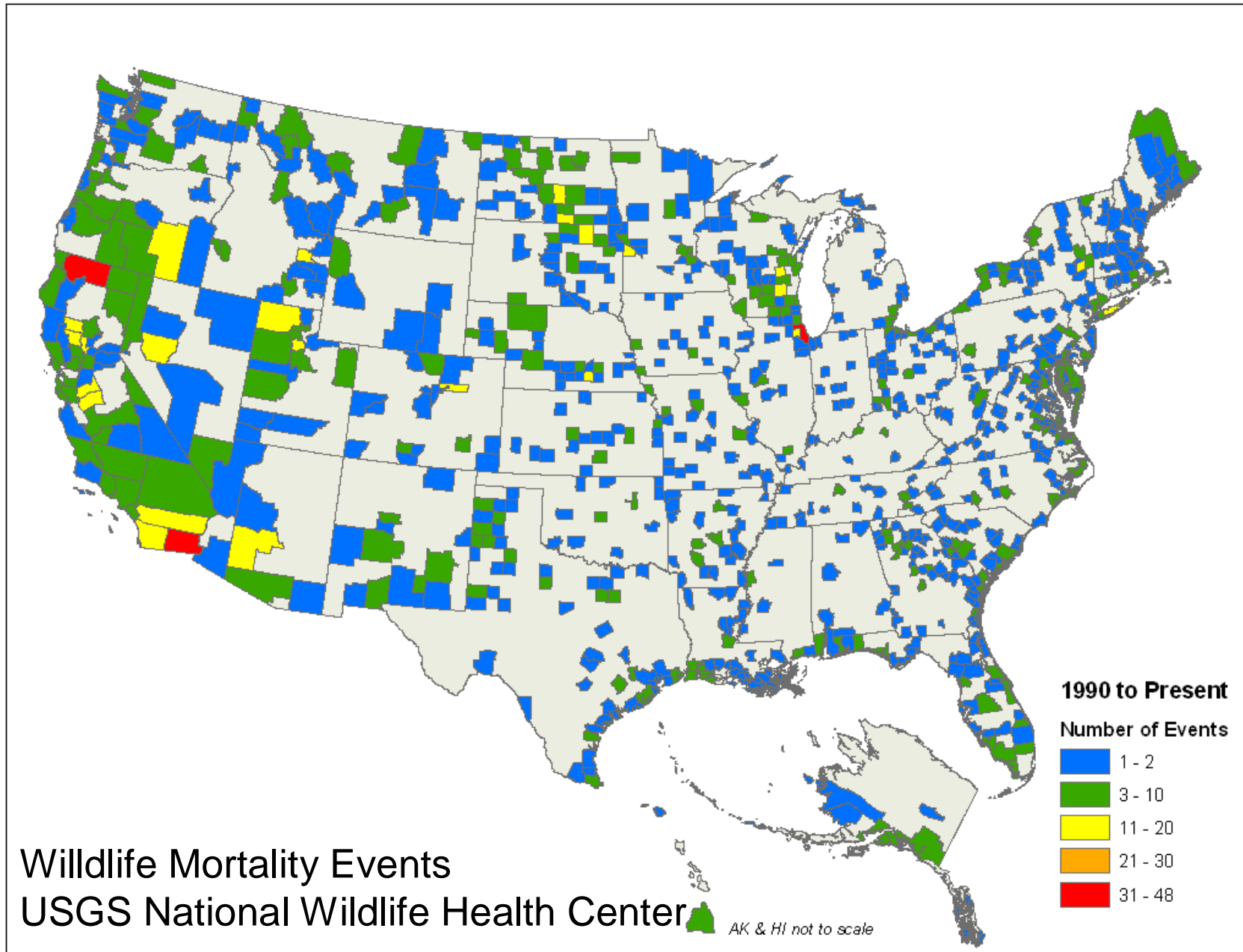




Mortality, All Causes - White Males : 1988-1992

Age Adjusted Death Rate per 100,000





Wildlife Mortality Events
USGS National Wildlife Health Center



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Linkage to human health
Study methodologies
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What are animal sentinels?
Mission

Home

Can animals - like canaries in coal mines - warn humans about chemical, infectious, and physical environmental hazards?

We select, curate, and index 1000s of scientific studies from MEDLINE, CAB Abstracts, and Agricola so you can review the evidence of animals as "early warning" sentinels of human health hazards.

Try it now! Find evidence of animal as sentinels:

...for environmental hazards:

- Dogs and Lead
- Birds and West Nile Virus

...for diseases:

- Cancer and Whales
- Reproduction and Fish

...by location:

- Anthrax and Sverdlovsk
- West Nile Virus and New York City

Or, try the advanced search page, or read more about how to search.

Project News

Thu, 26 Oct 2006

Canary talk from EcoHealth One: Can Animal Sentinels Link Ecosystem and Human Health?


Tue, 24 Oct 2006

Canary Database Reports Podcasts 1 & 2

Thu, 03 Aug 2006

New features: Full text article links

See all project news.

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Staff Publications

Mon, 20 Mar 2006

New Article: Animals as Sentinels of Bioterrorism Agents

Wed, 01 Feb 2006

New Article: Pollution and amphibian limb malformation

Wed, 01 Feb 2006

New Article: Evidence-Based Review of Animal Sentinels

Wed, 01 Feb 2006

New Article: Outfoxing a Rash

See all project staff publications.



Wildlife Event Reporting

welcome to the unified wildlife event reporting system

partners



options

[Add Event Report](#)

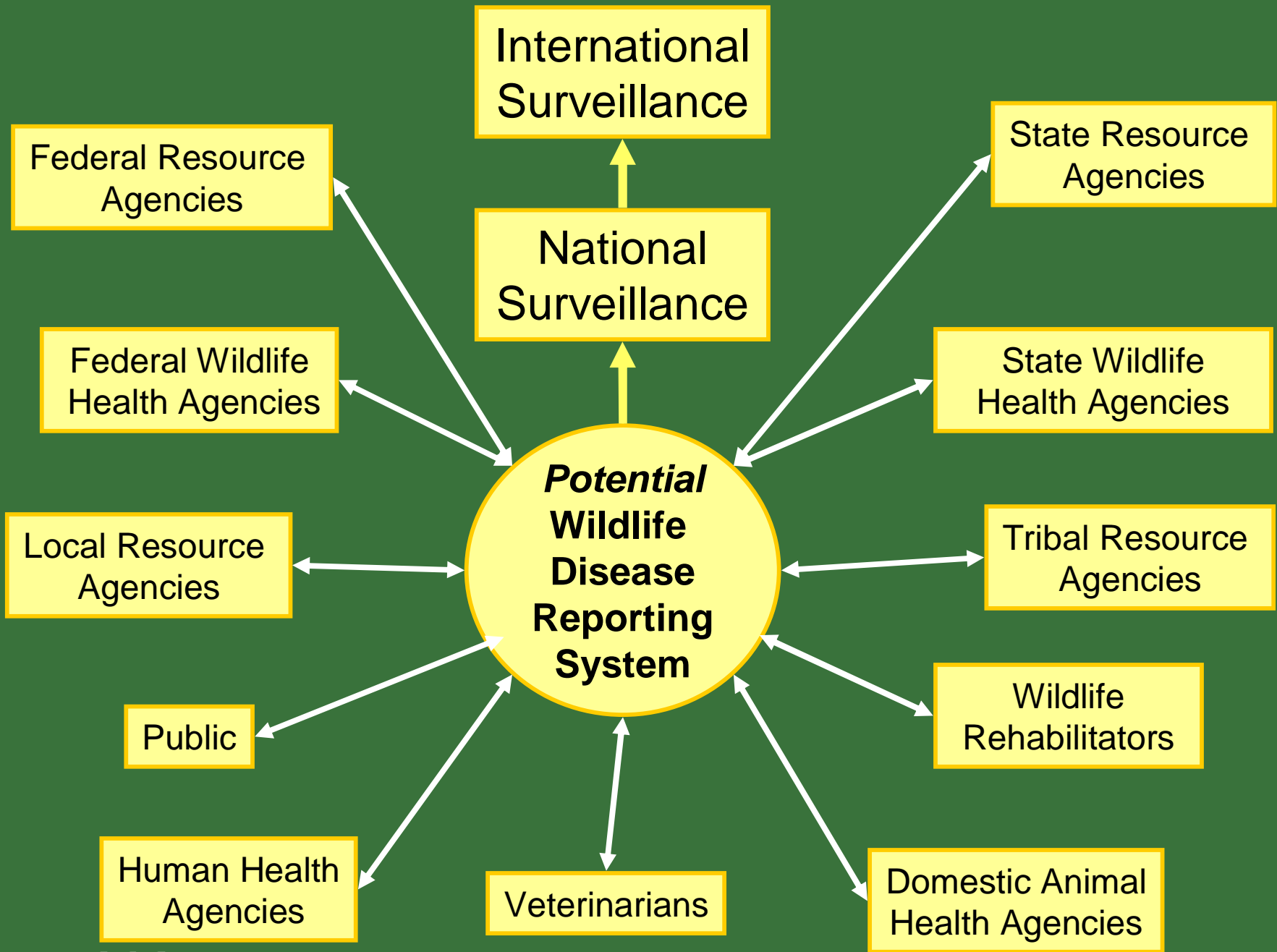
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wildlife health news

[WDIN News Digest](#)

[USGS NWHC AI News](#)



**National HPAI Early
Detection Data System**



Global Avian Influenza Network for Surveillance



***Wildlife Information System for
Disease Observation and
Monitoring***

WISDOM

**State/Federal
Programs**

**National and
International
Surveillance**

International Agencies

- OIE
 - Working Group on Wildlife Diseases
- FAO
 - Wildlife Disease Programme
 - Crisis Management Centers
- WHO
 - Alert and Response Operations



Possible HPAI Insights from Animal – Human Case Data

- Preliminary analysis shows that animal surveillance data may accurately predict human risk, but only if other variables are taken into account (that estimate human-animal contact risk) *
- We need to understand what factors determine linkage (and go beyond showing cases as only dots on a map)

National Surveillance Programs

<i>Country</i>	<i>Start</i>	<i># Records</i>
Australia	2002	~ 1000
Canada	1992	> 65,000
France	1986	545,000 (wild and domestic)
UK	1998	
USA	1975	105,000

Wildlife Disease Informatics Working Group

- Suggested at 2007
Wildlife Disease Association Meeting
- Participation from 6 countries
 - National governments, Universities, NGO's
- Projects
 - Inventory of surveillance programs
 - Selection of core shared data elements
 - Agreements on data standards

Wildlife as a Component of Global Emerging Zoonoses Surveillance

- ➔ • Recognition of relevance
- ➔ • Infrastructure enhancement
- ➔ • Understanding burden of infection
- ➔ • Communication and information exchange
- ➔ • Data standards / Data sharing

USGS National Wildlife Health Center

<http://www.nwhc.usgs.gov>

NBII Wildlife Disease Information Node

<http://wildlifedisease.nbii.gov/>

fjdein@usgs.gov

swright@usgs.gov

