

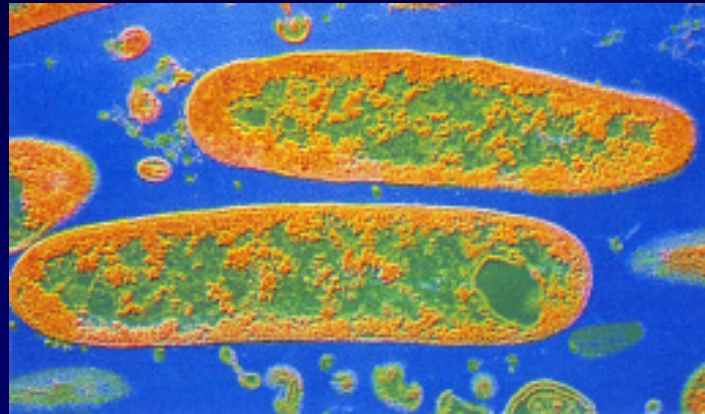
# New Mexico: State Report

State Public Health Vector Control Conference  
February, 2006

Pamela J. Reynolds  
New Mexico Department of Health  
Santa Fe, NM



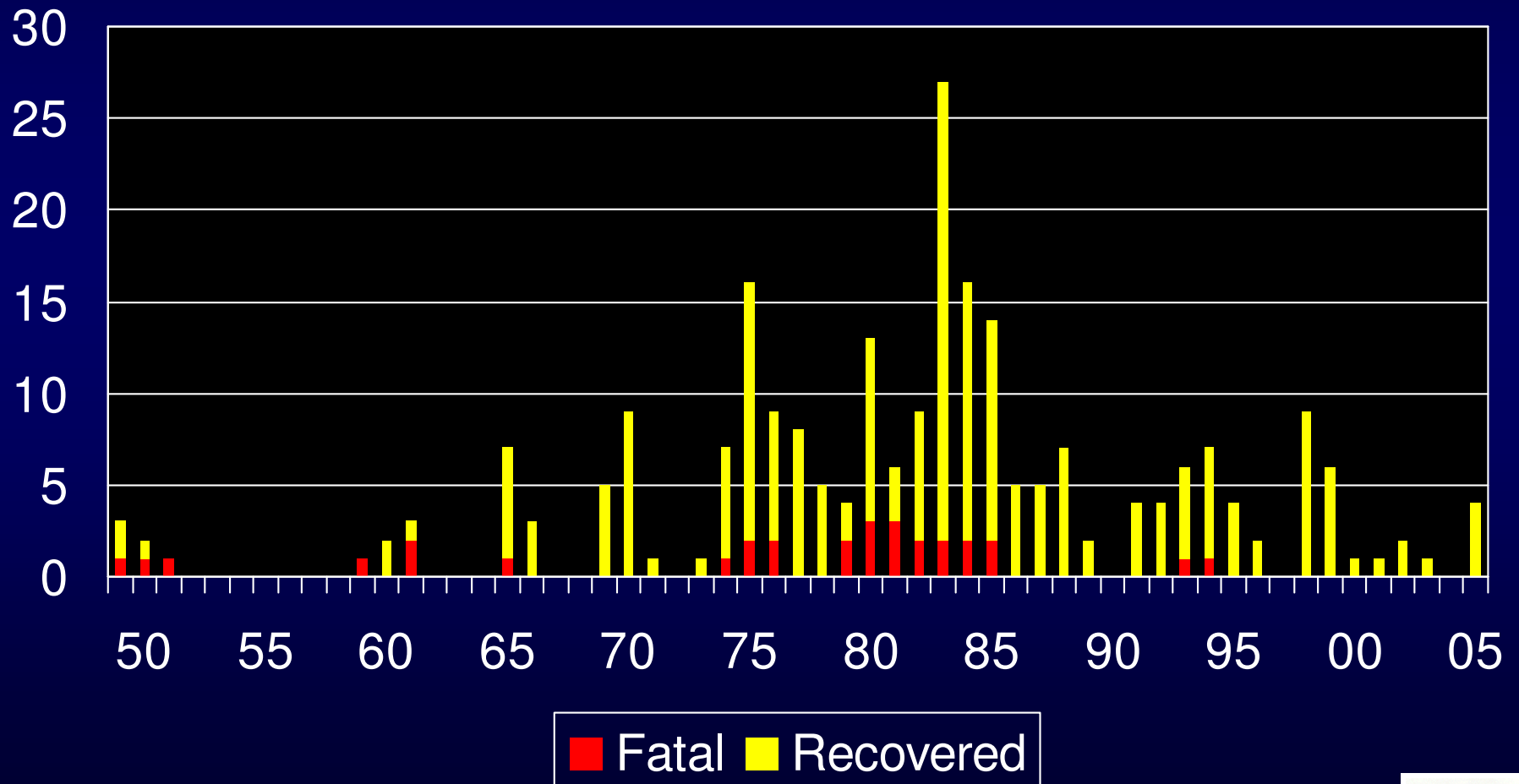
# Plague



# Human Plague by Year New Mexico, 1949-2005

Number of Cases

N = 242







Albuquerque

© 2005 TeleAtlas  
Image © 2005 DigitalGlobe  
Image © 2005 MDA EarthSat

© 2005 Google

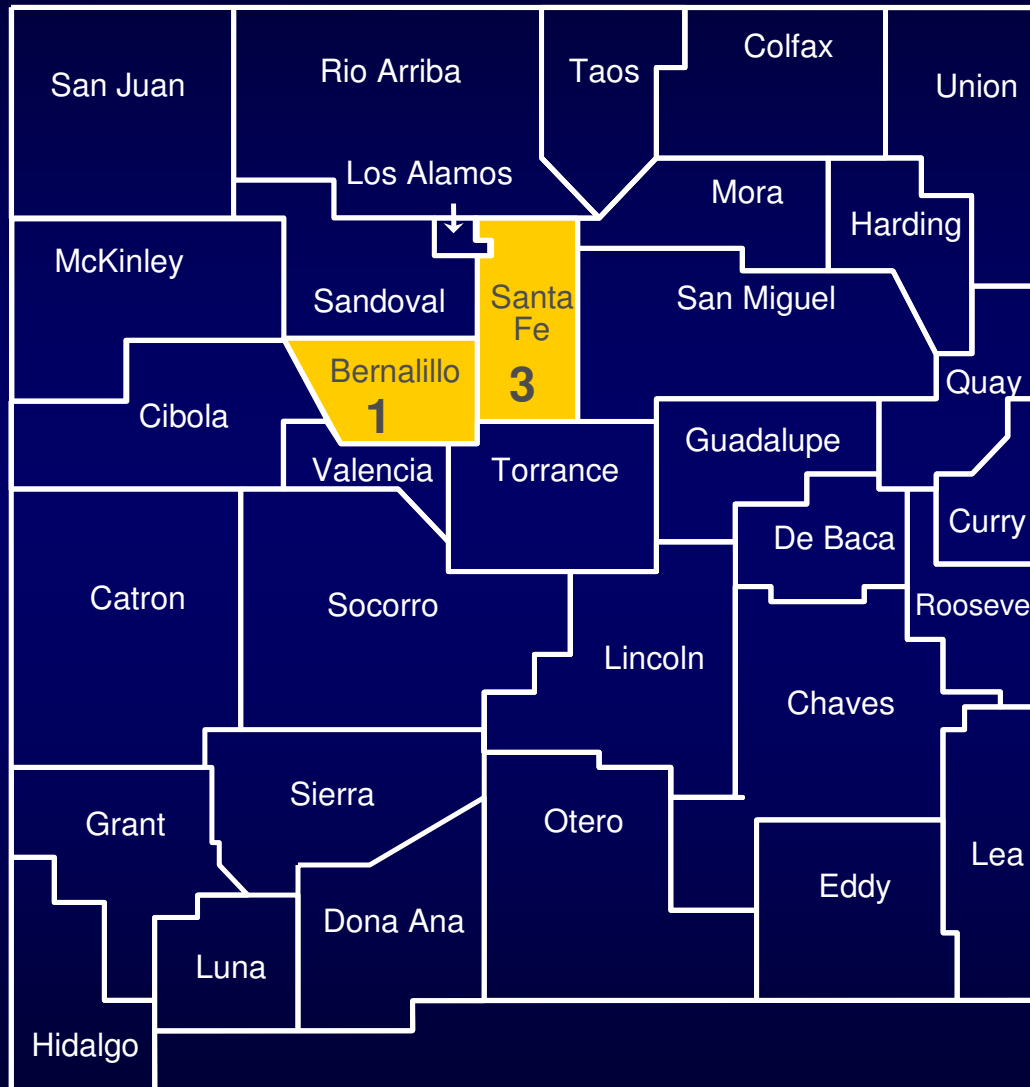
Pointer 35°18'33.07" N 106°15'03.45" W

Streaming ||||| 100%

Eye alt 75.05 mi



# Human Plague in New Mexico Cases by County, 2005



# Human Plague Cases in New Mexico 2005

Date of Onset	County	Age/Sex	Mode of Transmission	Type	Outcome	Source
7/18/05	Santa Fe	Teen/M	Flea bite	Bubonic/ Inguinal	Recovered	Rock squirrel
8/20/05	Santa Fe	Adult/M	Flea bite	Bubonic/ Axillary	Recovered	Undetermined; handled woodrat nest
9/15/05	Santa Fe	Adult/F	Flea bite	Bubonic/ Inguinal	Recovered	Prairie dog
9/22/05	Bernalillo	Adult/M	Flea bite	Bubonic/ Inguinal	Recovered	Undetermined



# Plague Case 1 Investigation, July

- Numerous rock squirrel burrows on property
- Total of 649 fleas collected from burrows, live and dead rock squirrels



# Plague Case 1 Investigation, July

- 2 dead rock squirrels, 1 dead woodrat plague-positive
- 23 of 31 flea pools positive
- Pos flea species:  
*Oropsylla montana*  
and *Hoplopsyllus anomalus*





# Plague Case 3 Investigation, Sept.

- Widespread prairie dog die-offs occurred in eastern Bernalillo and southern Santa Fe counties
- Rapidly developing area; commuting distance to Albuquerque



# Plague Case 3 Investigation, Sept.

- Patient's cat died of plague December 2004
- Plague positive fleas (*Oropsylla hirsuta*) collected in August from abandoned burrows ½ mi from patient's home



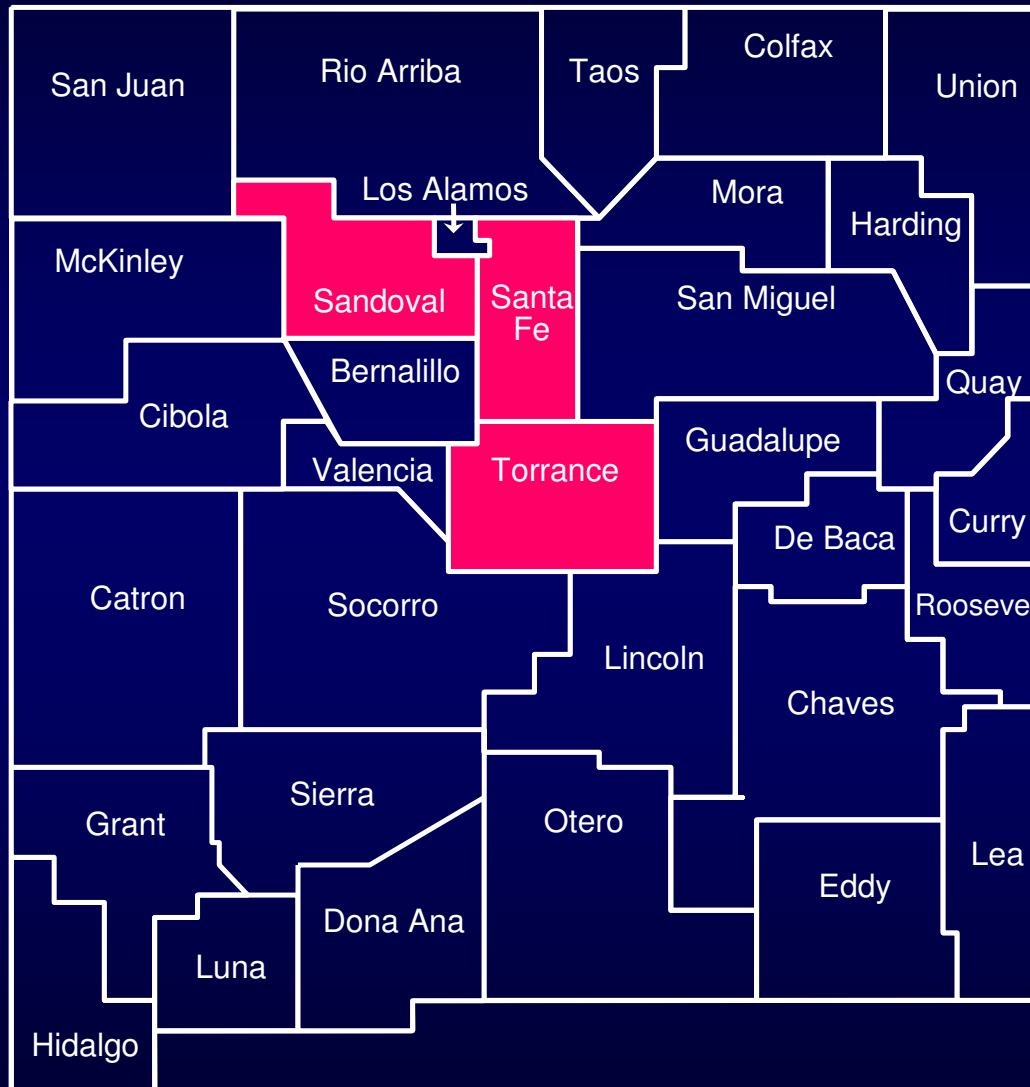


# Plague Case 3 Investigation, Sept.

- Abandoned p-dog colony next door to patient's home
- Patient walked through colony to retrieve her dog, received flea bite on ankle

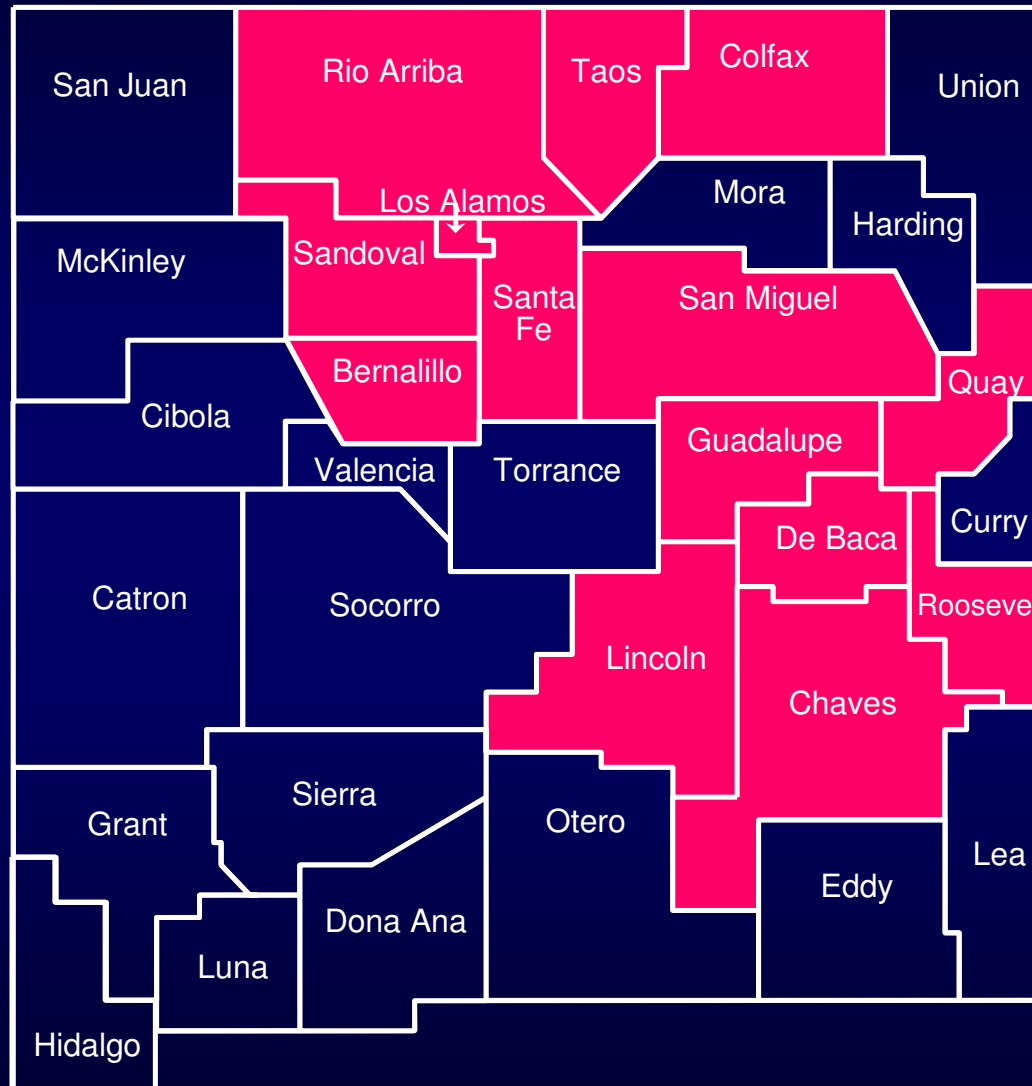


# Animal Plague in New Mexico, 2004





# Animal Plague in New Mexico, 2005



# Pet Plague Summary 2004-2005

Cats	21
Dogs	8
Hx of Hunting/Rodent Contact	18
Fleas noted by owner/vet	0

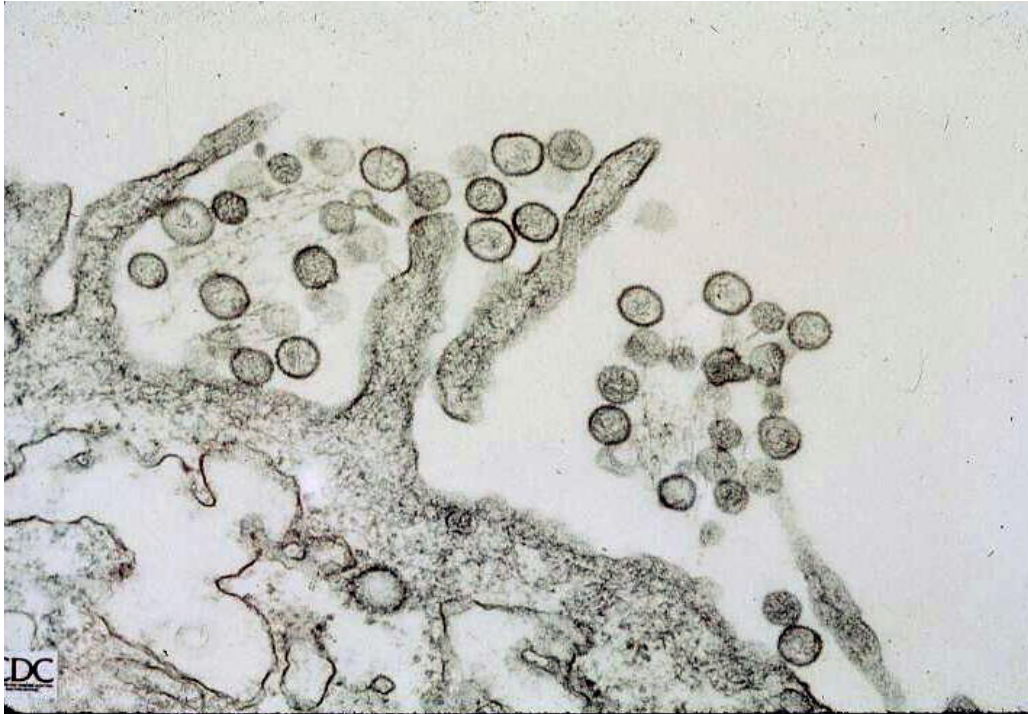
N=29 confirmed cases



# Pet Plague Summary 2004-2005

Lethargy	26
Loss of appetite	18
Fever (temp range)	23 (103.3 to 107 ° F)
Bubo (all submandibular)	18
Pneumonia	1
Recovered	21 (1 unknown)

N=29

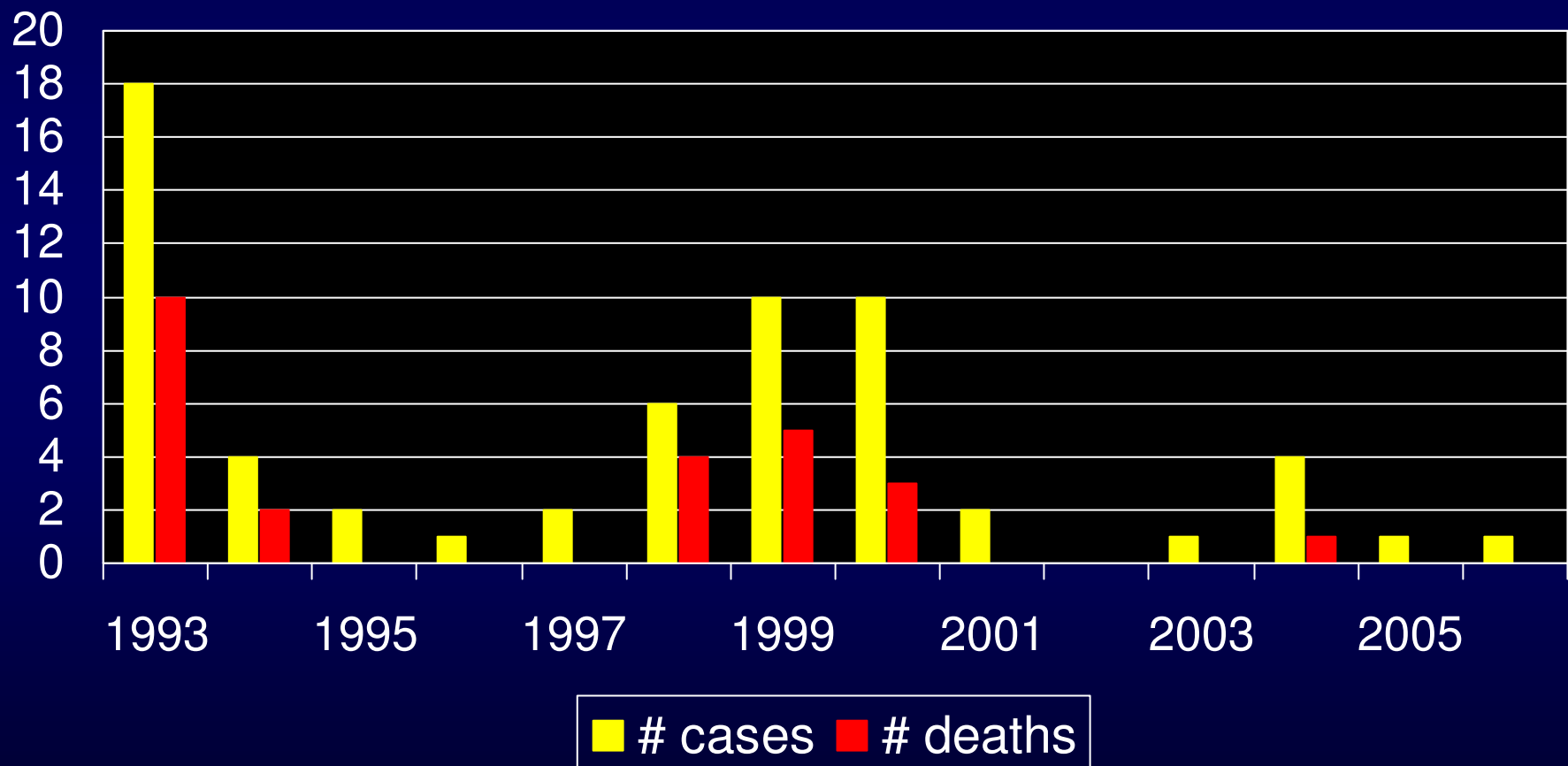


# Hantavirus Pulmonary Syndrome



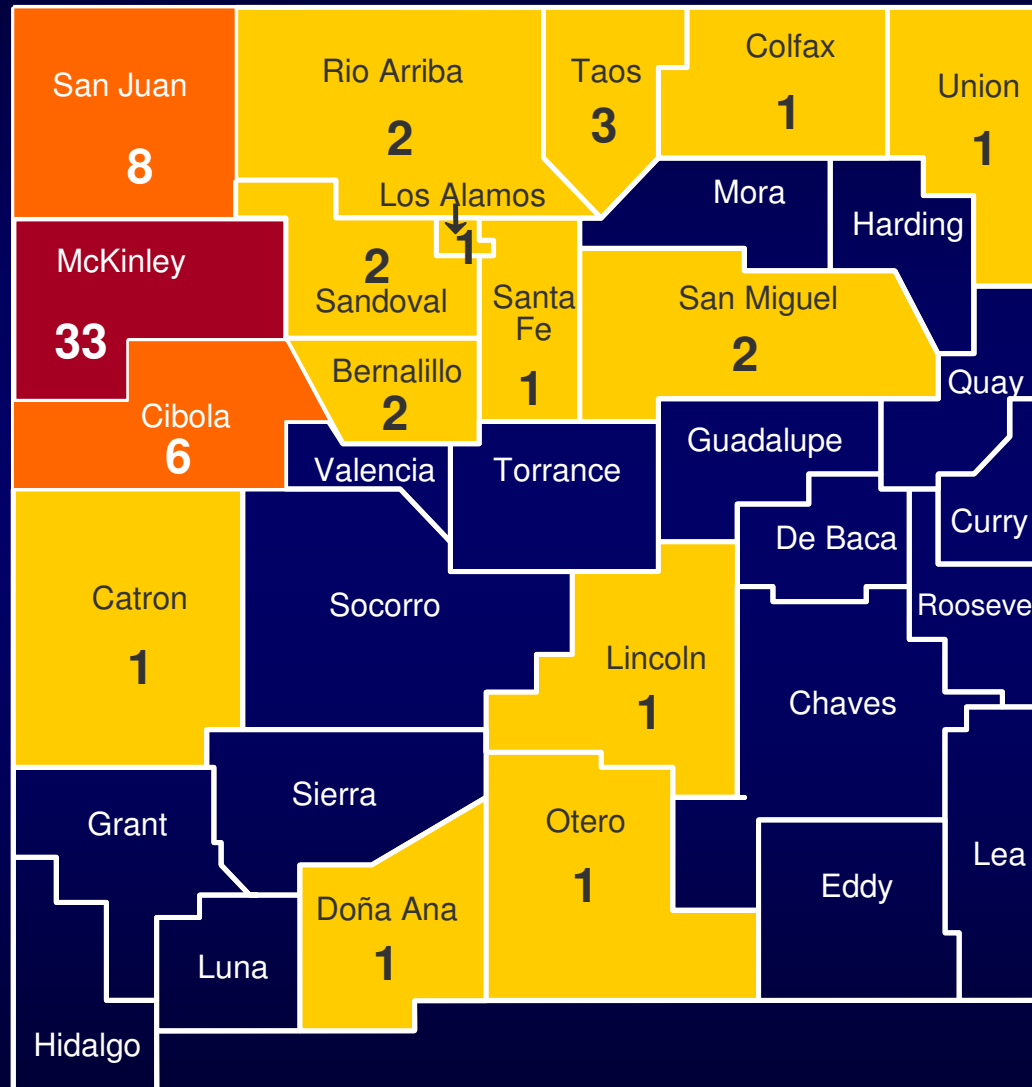


# Hantavirus Pulmonary Syndrome, New Mexico Cases by Year, 1993 - 2006

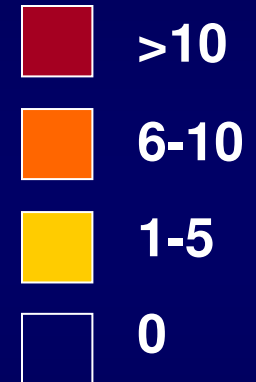


N = 62; 4 cases prior to 1993 not shown

# Hantavirus Pulmonary Syndrome, New Mexico Cases by County, 1975 - 2006



## Number of Cases



66 Total Cases



# HPS Cases, 2004 - 2006

<b>County</b>	<b>Age/Sex</b>	<b>Onset Month</b>	<b>Outcome</b>
Bernalillo	Adult/M	March 2004	Recovered
Sandoval	Adult/M	July 2004	Recovered
McKinley	Adult/F	Oct 2004	Died
Santa Fe	Adult/M	Dec 2004	Recovered
Los Alamos	Adult/M	May 2005	Recovered
McKinley	Adult/F	Feb 2006	Recovering

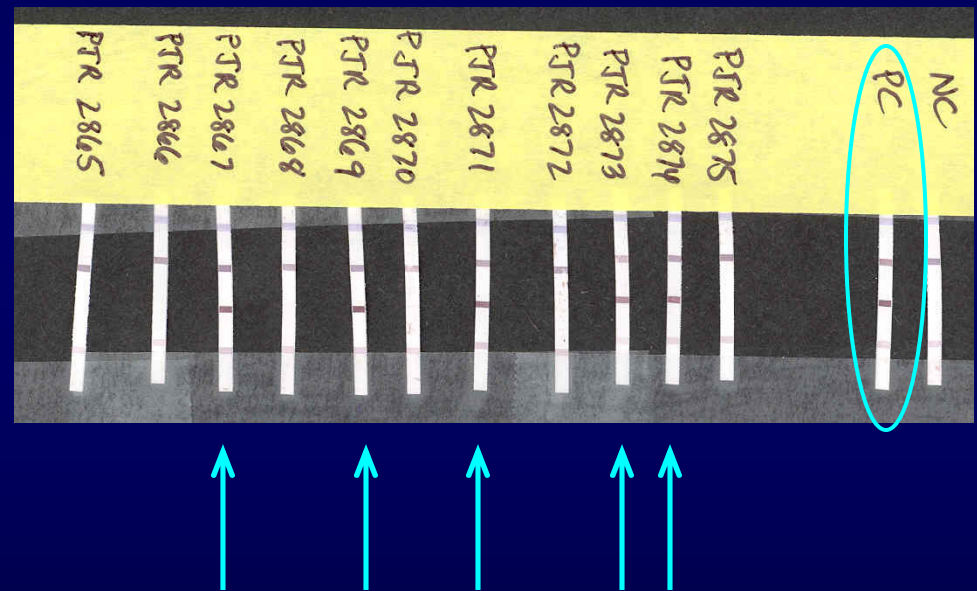
# Sandoval County Case Investigation

- Lived and worked at state park
- Rodent entry in mobile home, ranger station and maintenance garage
- Rodent droppings present in above



# Sandoval County Case Investigation

- Abundant rodent population in area
- 11 deer mice trapped (numerous chipmunks and ground squirrels released)
- 5 (45%) deer mice positive



Courtesy Dr. Brian Hjelle, UNM



# Sandoval County Case Investigation

- Risk reduction recommendations provided to state park management
  - Rodent proofing
  - Sanitation
  - Disinfection
  - Protection of employees (respirator)
  - Training employees

# Tularemia – Human Cases

- 2 human cases in 2005, 0 in 2004
  - July: Bernalillo County man
    - Oculoglandular form
    - Worked in construction and landscaping
    - Skinned pig in June
  - September: San Miguel County man
    - Glandular form
    - Source unknown; no known risk factors

# Tularemia – Serological Testing, Pets

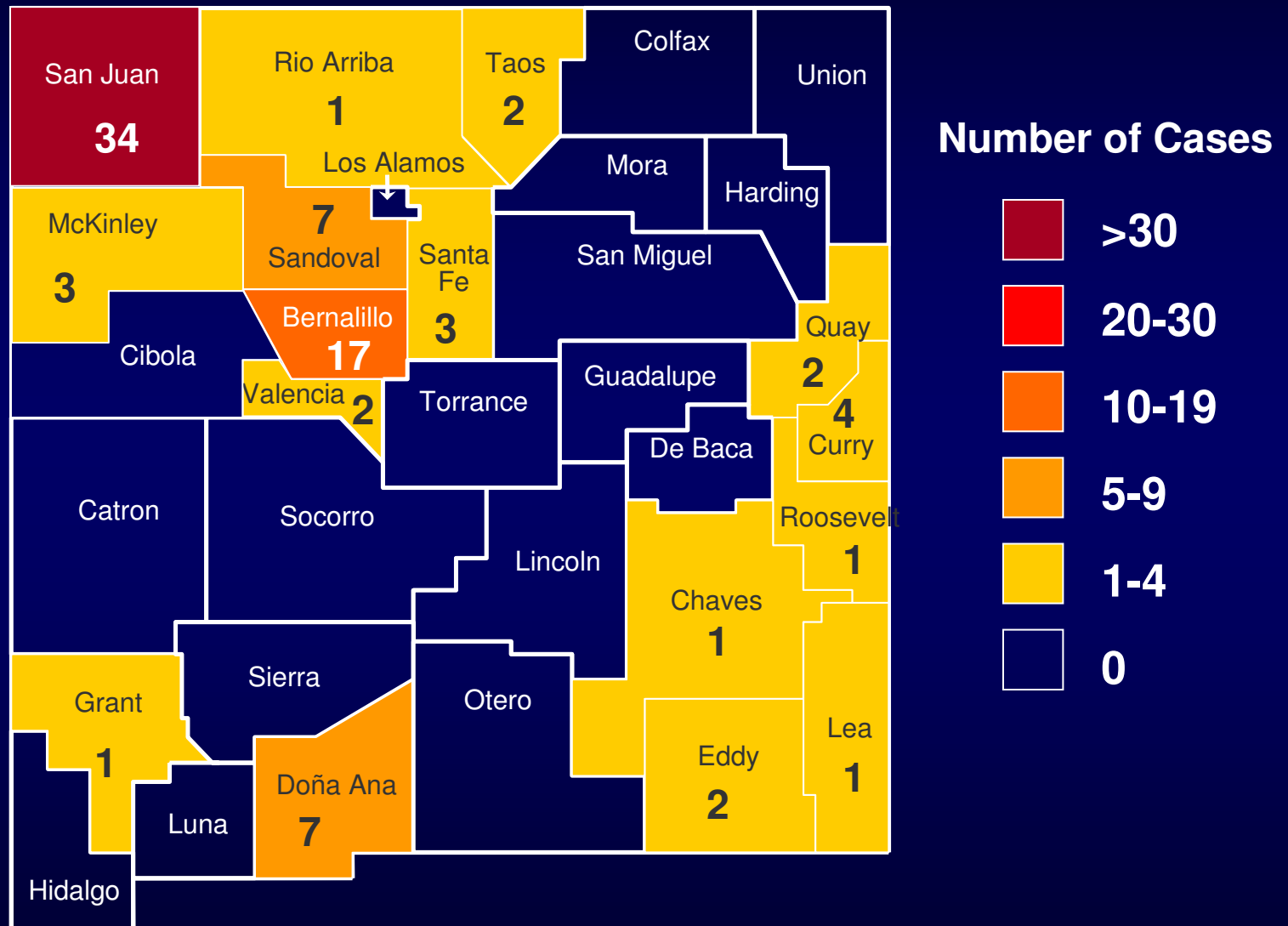
- 2004:
  - 103 symptomatic dogs and cats tested
  - 35 (24 dogs, 11 cats) presumptive or confirmed cases
  - 27 from Santa Fe County (others: Bernalillo, Los Alamos, Sandoval and Taos)

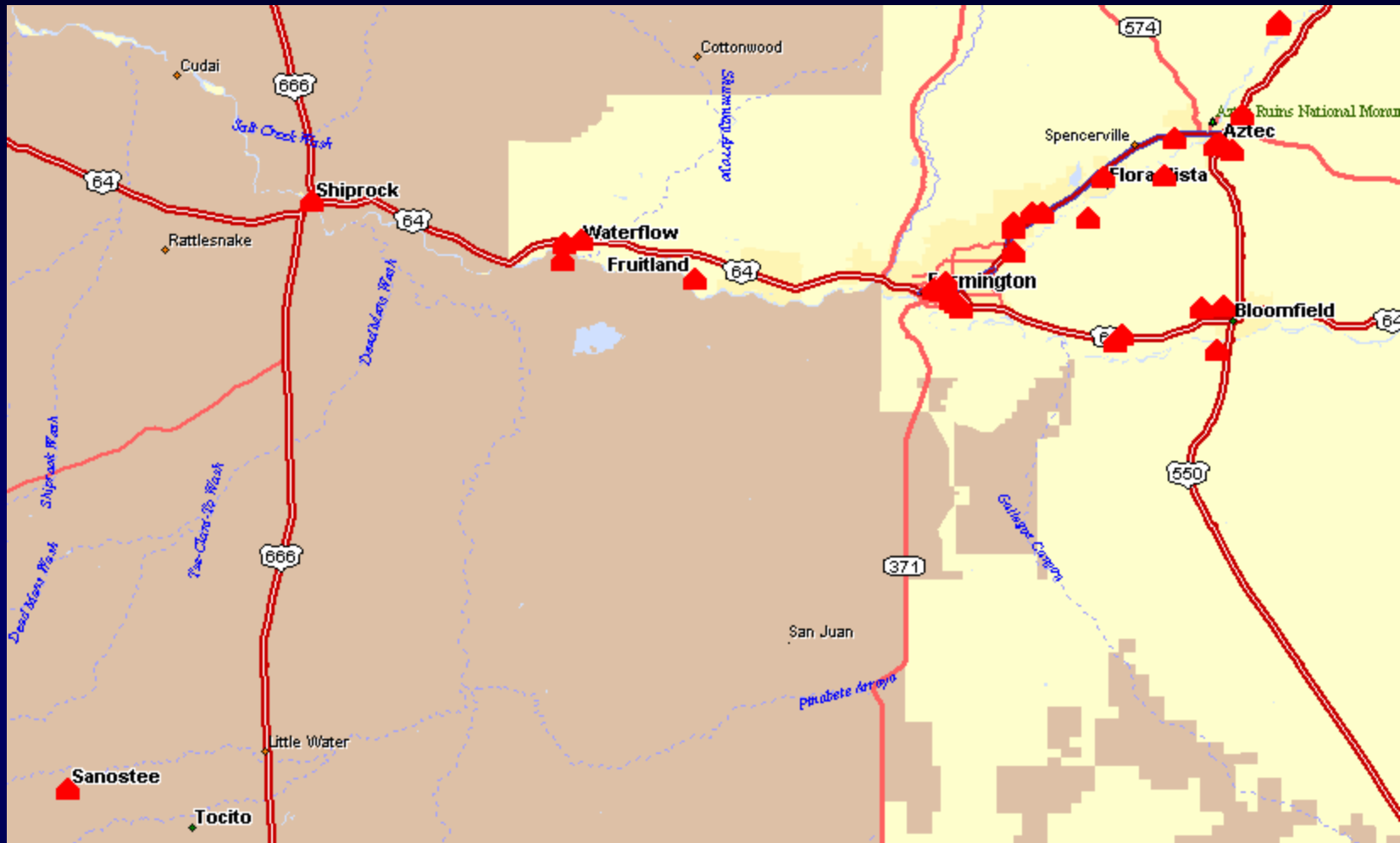


# Tularemia – Serological Testing, Pets

- 2005:
  - 322 symptomatic dogs and cats tested
  - 56 (48 dogs, 8 cats) presumptive or confirmed cases
  - 43 from Santa Fe County (others: Bernalillo, Rio Arriba, Taos and Torrance)

# Human cases West Nile Virus, 2004





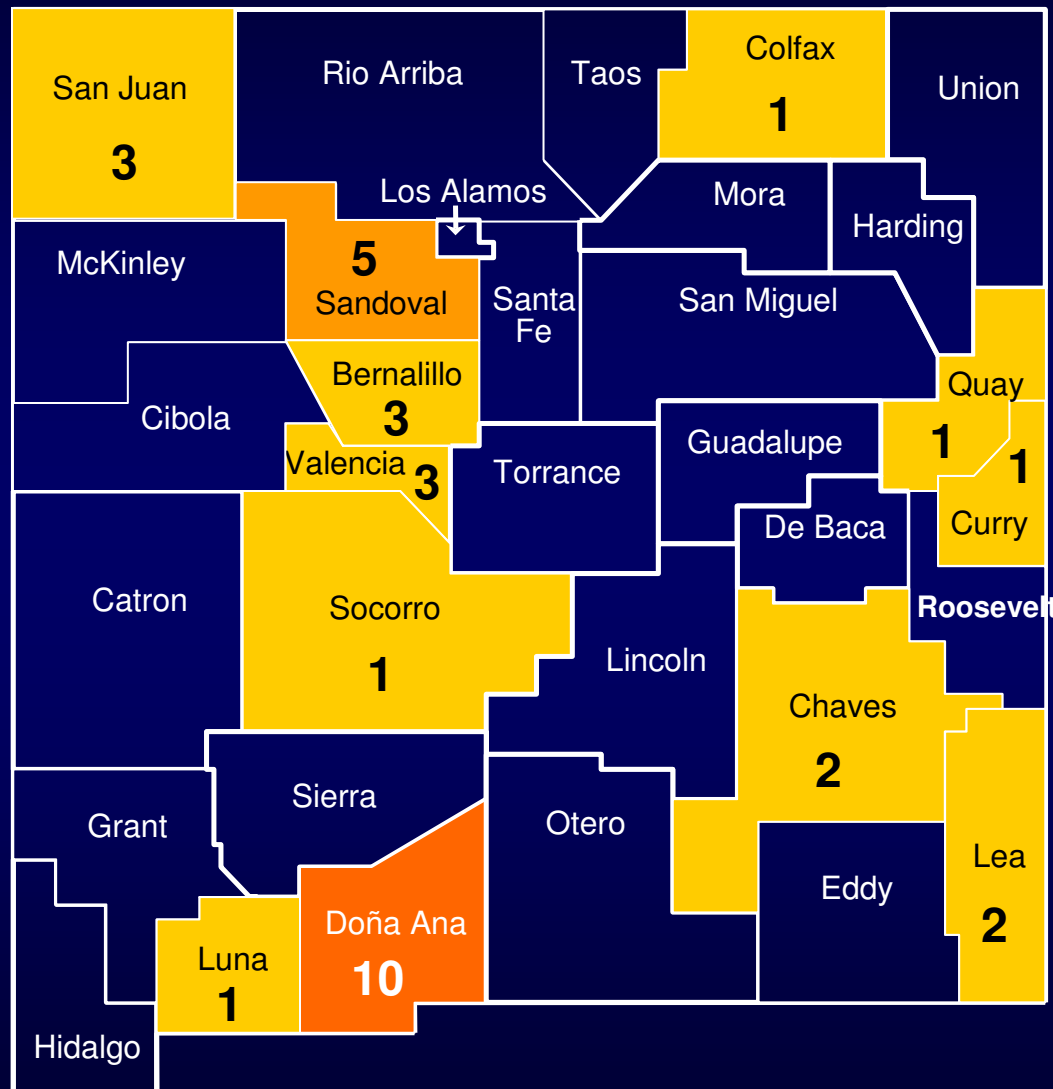
- Distribution of San Juan County cases
- Heavy concentration along San Juan, Animas rivers



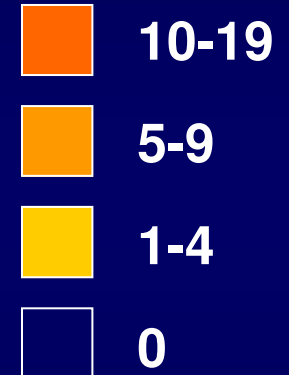
# Human Case Demographics, 2004

- 88 Total Cases
- 32 neuroinvasive cases
  - Median age 59 years (range 2-84)
- 56 West Nile fever cases
  - Median age 50 years (range 12-85)
- 4 fatal cases
  - Aged 68 – 82 years
- 8 asymptomatic viremic blood donors

# Human cases West Nile Virus, 2005



Number of Cases



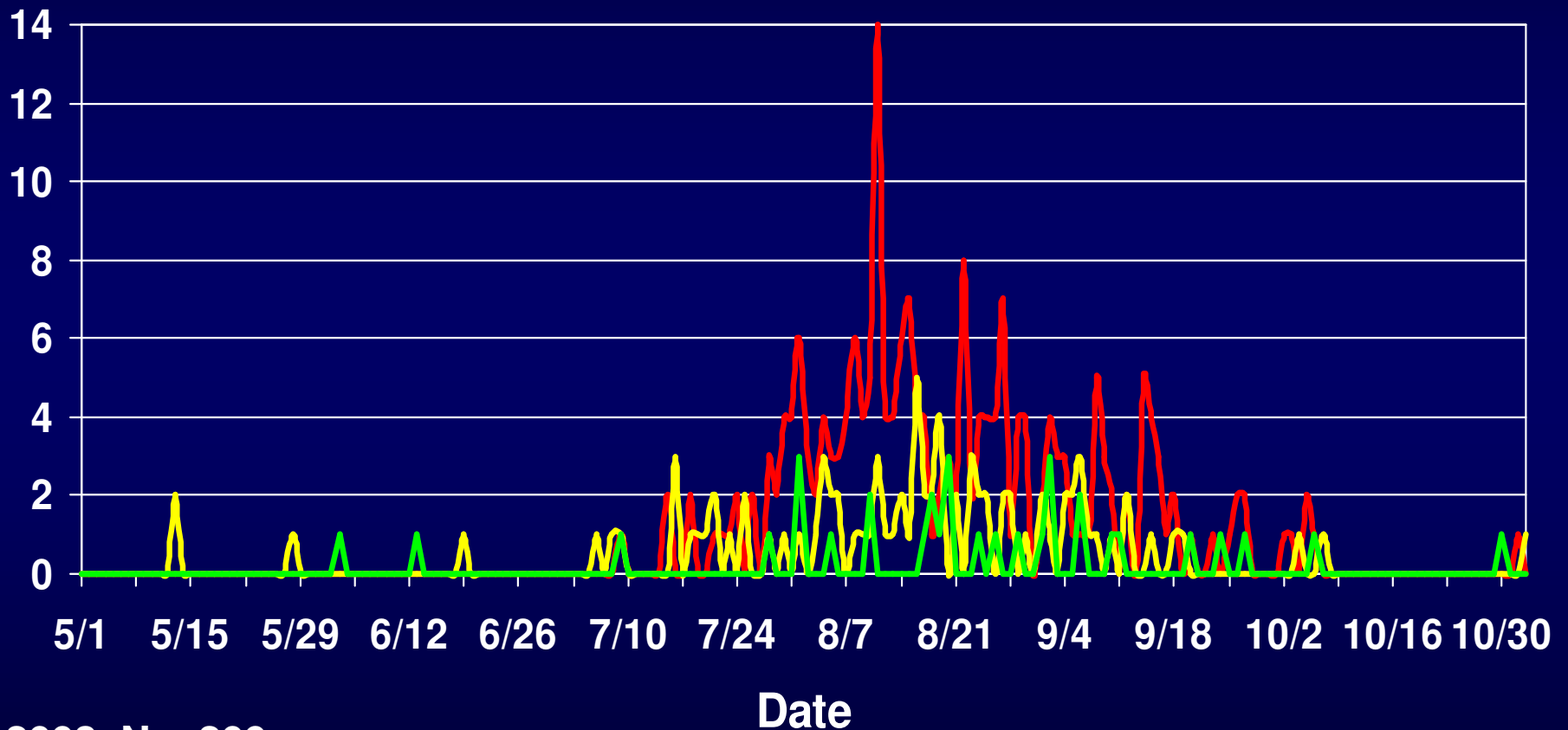
Number of cases = 33

# Human Case Demographics, 2005

- 33 Total cases
  - 13 Uncomplicated fever
    - Age range: 22-66      Median age: 56
  - 20 Neuroinvasive disease
    - Age range: 21-78      Median age: 48.5
- 21 male, 12 female
- 2 fatal cases, aged 50 and 78 years
- 5 asymptomatic viremic blood donors



# Human WNV Cases by Onset Date New Mexico, 2003 — 2005



2003, N = 209

2004, N = 88

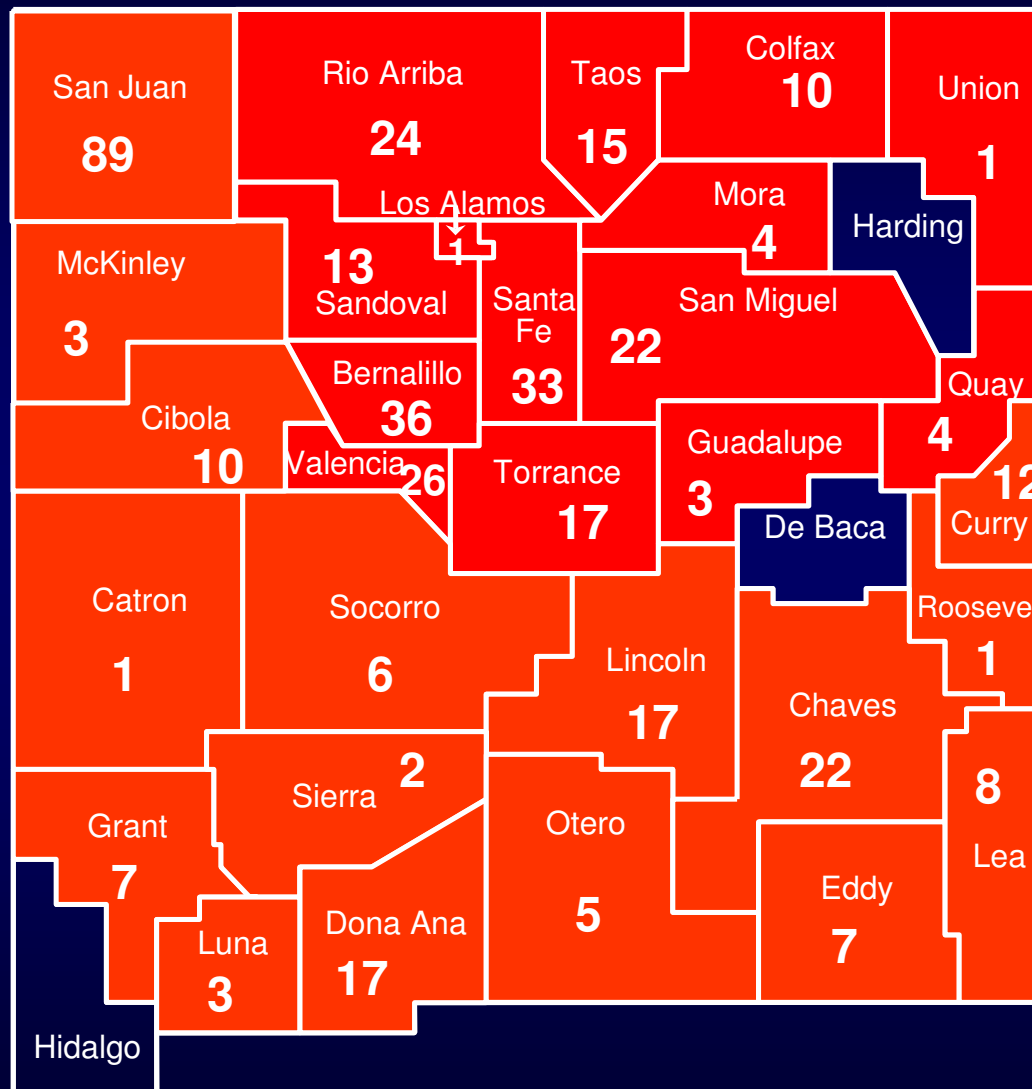
2005, N = 33


— 2003 — 2004 — 2005

# Veterinary Surveillance

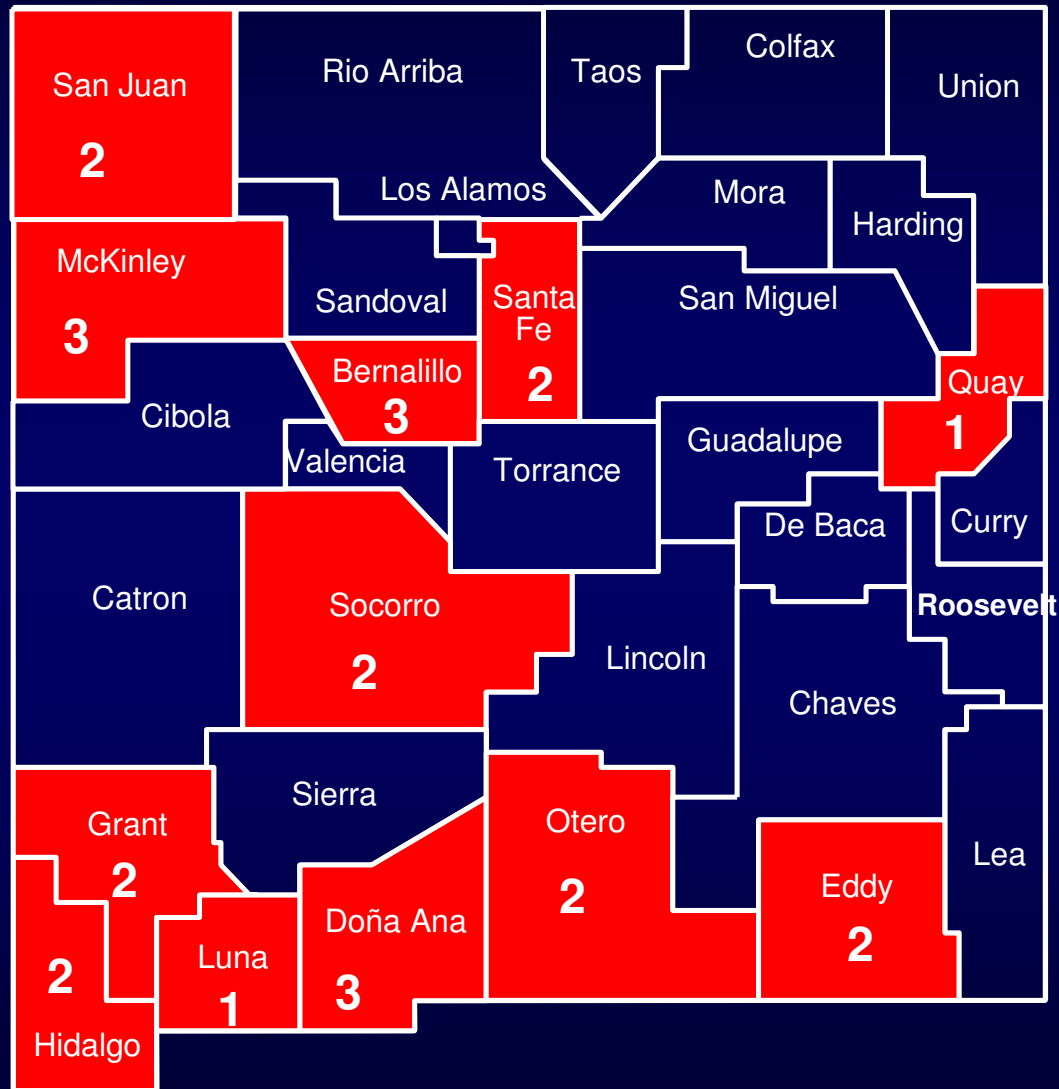



# Equine Cases, West Nile Virus, 2003



 Positive Horse  
Total = 419

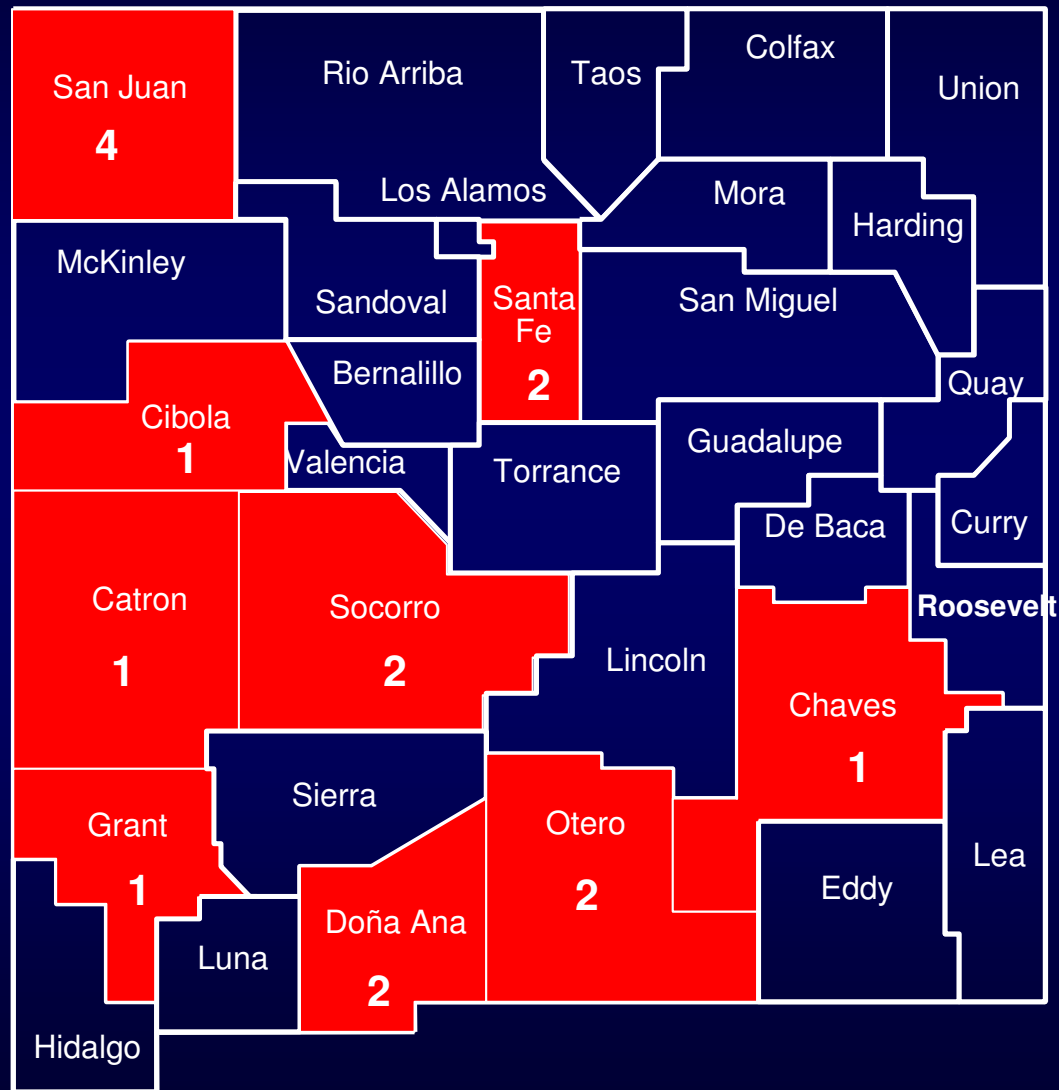
# Equine Cases, West Nile Virus, 2004




 Positive Horse  
Total = 25



# Equine Cases, West Nile Virus, 2005

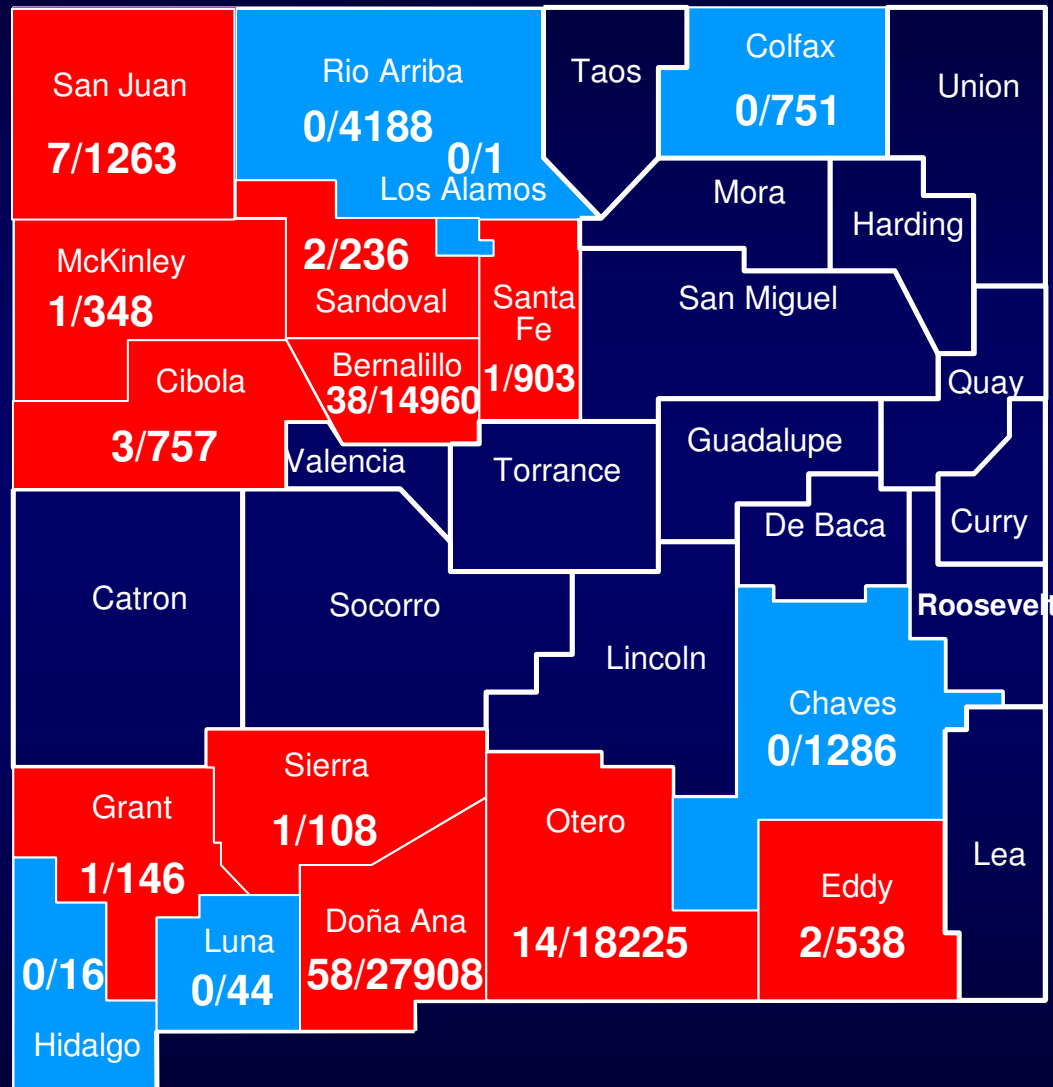


 **Positive Horse**  
**Total = 16**

# Mosquito Surveillance



# WNV Mosquito Surveillance, 2004



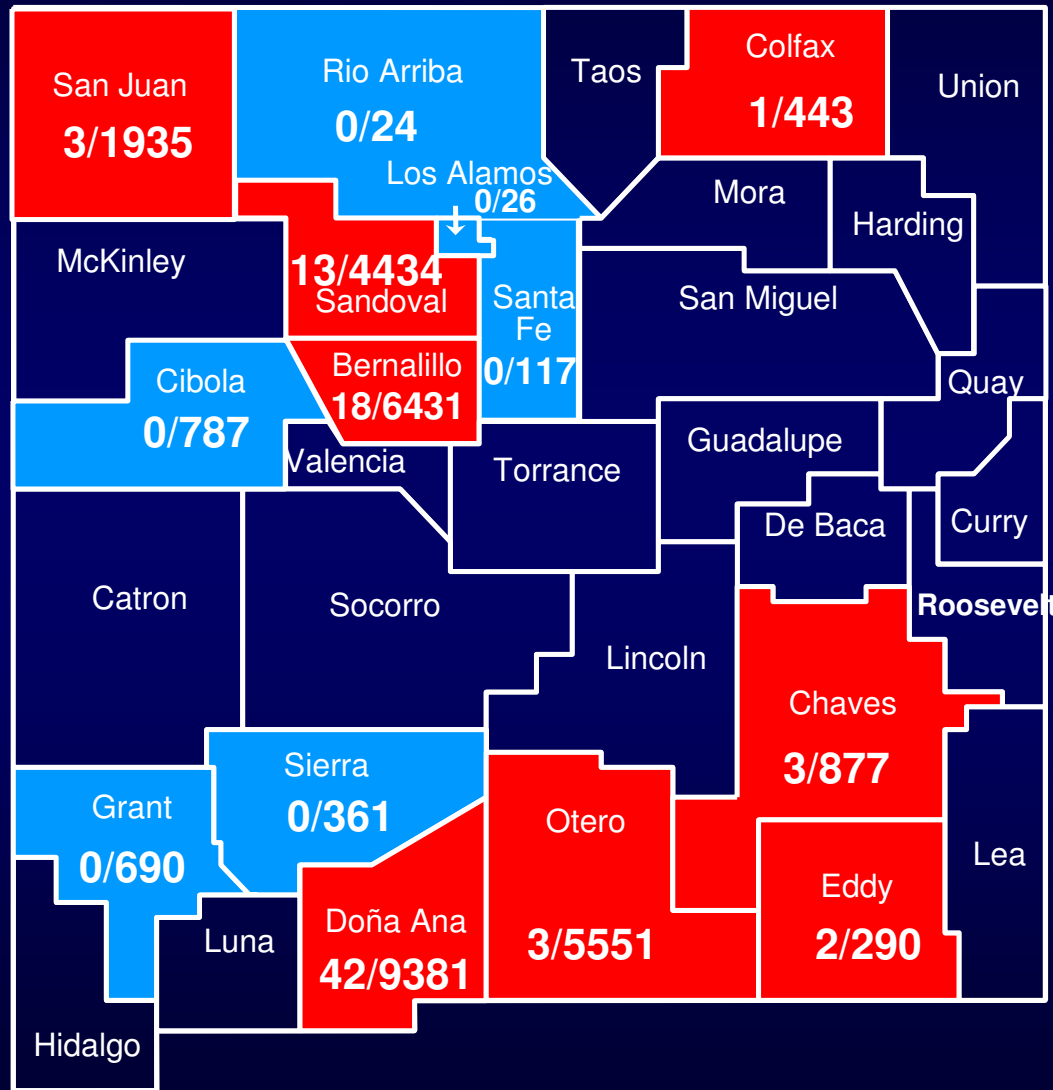
■ Mosquitoes sampled

■ Mosquitoes positive

# Positive pools/  
Total # mosquitoes tested

**128 Positive pools out of 71,678 mosquitoes tested**

# WNV Mosquito Surveillance, 2005



 Mosquitoes sampled

 Mosquitoes positive

# Positive samples / Total # mosquitoes tested

**85 positive samples out of 31,347 mosquitoes tested**



# WNV-Positive *Culex* Mosquitoes, 2004

Species	Number (% of total) tested	Number (% of total) of positive pools	Min infection rate/1000
<i>Culex tarsalis</i>	33,656 (47%)	51 (40%)	1.5
<i>Culex salinarius</i>	15,771 (22%)	26 (20%)	1.6
<i>Culex quinquefasciatus</i>	4837 (7%)	27 (21%)	5.6

These 3 *Culex* species comprised 76% of mosquitoes tested and 81% of positive pools



# WNV-Positive *Culex* Mosquitoes, 2005

Species	Number (% of total) tested	Number (% of total) of positive pools	Min infection rate/1000
<i>Culex tarsalis</i>	17,181 (55%)	48 (56%)	2.8
<i>Culex quinquefasciatus</i>	2704 (9%)	18 (21%)	6.7
<i>Culex salinarius</i>	527 (2%)	2 (2%)	3.8

These 3 *Culex* species comprised 66% of mosquitoes tested and 79% of positive pools

# WNV Human Cases and Mosquito Minimum Infection Rate by Week, New Mexico, 2005

