

# The Wait Is Over, The Ride Begins: 2004 WNV Activity in Fresno County

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Dave Farley, Fresno MVCD

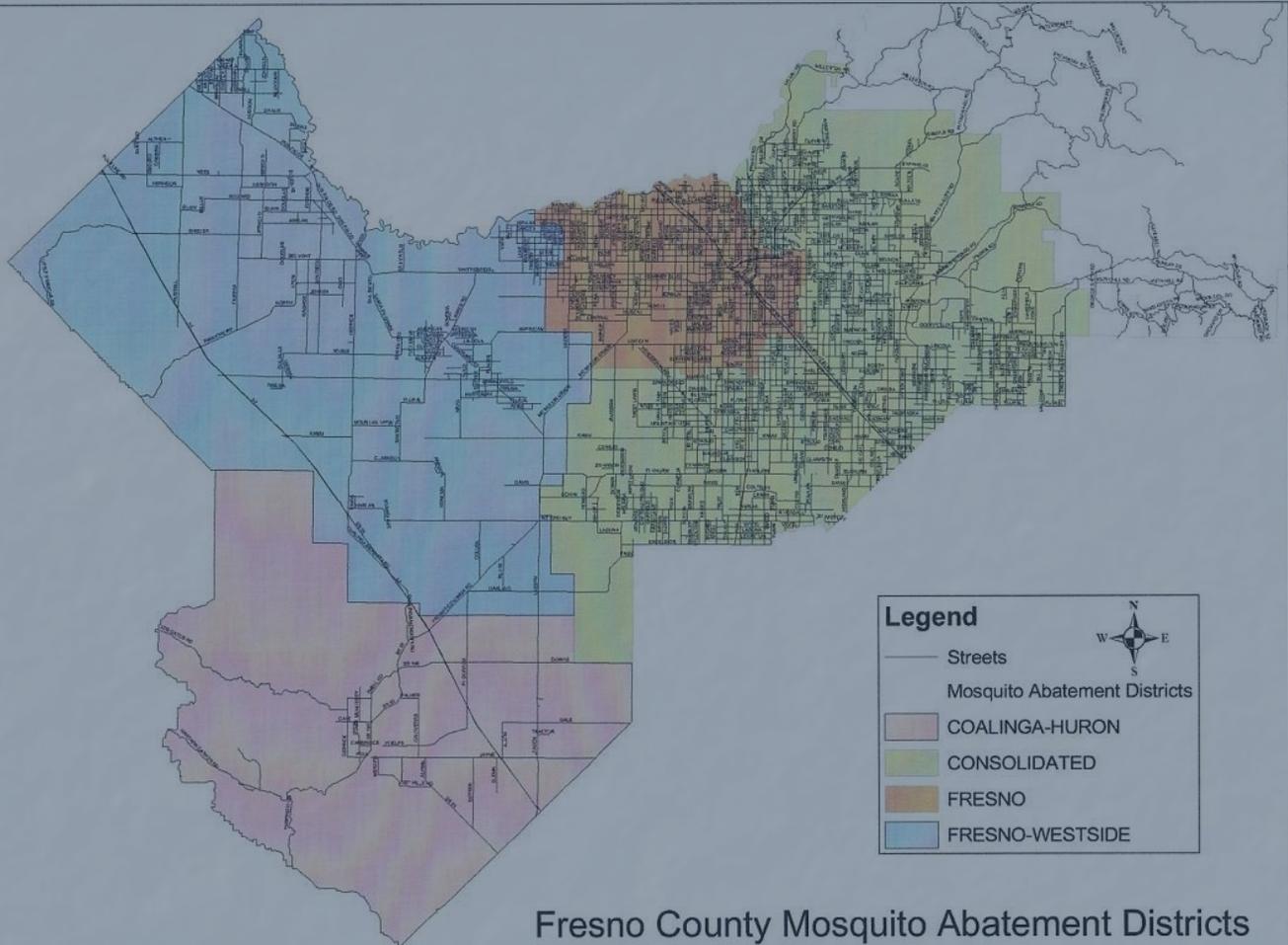
Elizabeth Cline, Fresno Westside MAD

# **West Nile Virus Preparedness**

## **Fresno County Mosquito Control Agencies**

- **Coalinga-Huron Mosquito Abatement District**
- **Consolidated Mosquito Abatement District**
- **Fresno Mosquito and Vector Control District**
- **Fresno Westside Mosquito Abatement District**

## **Fresno County Department of Community Health**

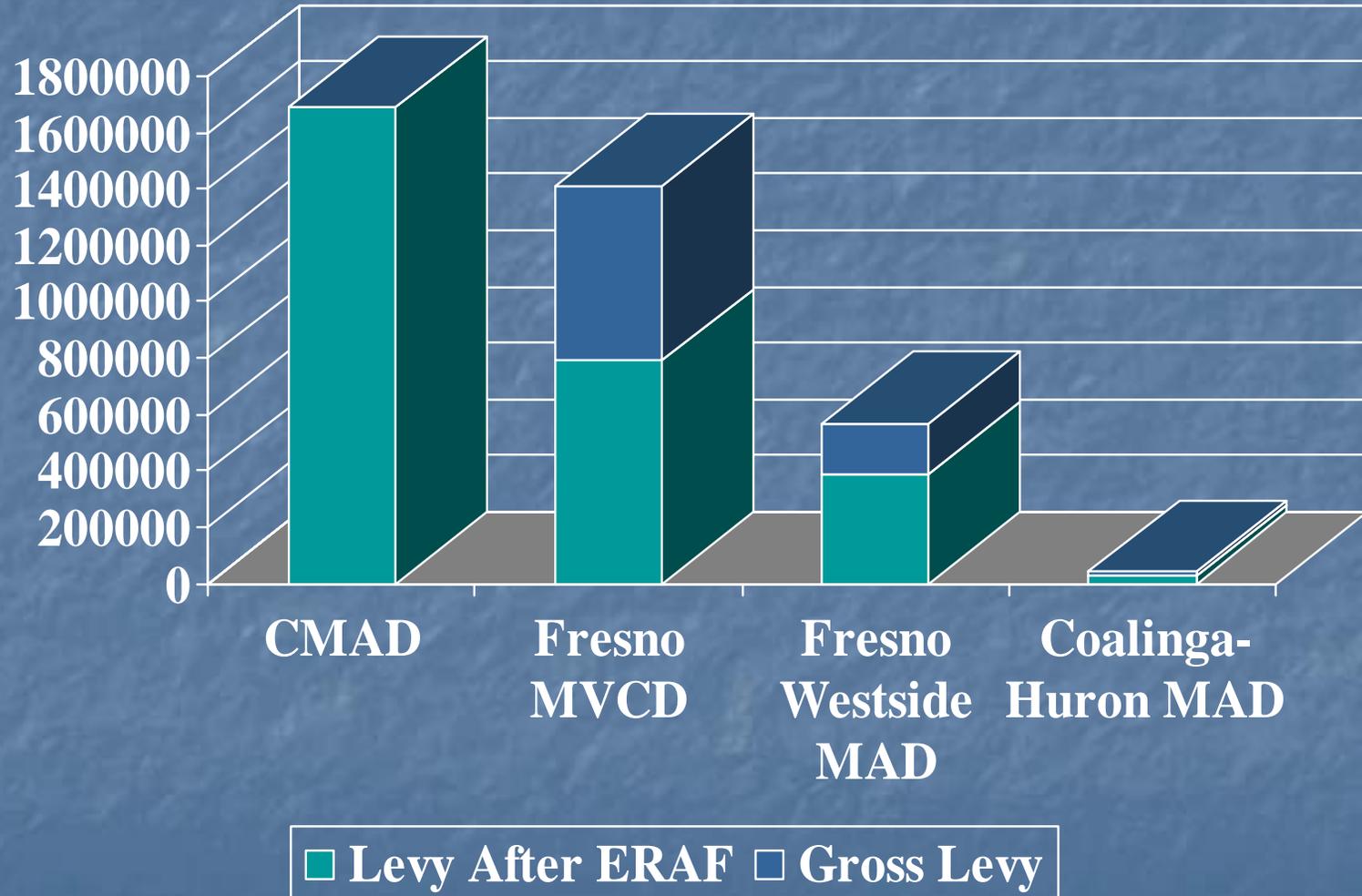


Fresno County Mosquito Abatement Districts

# Fresno County Mosquito Control 2004 Agency Statistics

	C-HMAD	CMAD	FMVCD	FWMAD
Area	930	1,058	283	1,325
Pop	24,000	400,000	400,000	32,000
Employee	1	39	17	9
Regular	1	12	10	6
Season	0	27	7	3

# ERAF Toll on Fresno County MADs



# Mosquito Control Agencies Changes in Personnel 2000-2004

	Regular	Seasonal	Total
Coalinga-Huron MAD	0	0	0
Consolidated MAD	0	+8	+8
Fresno MVCD	-2	+2	0
Fresno Westside MAD	-2	+3	+1

# Fresno County Department of Community Health

- Environmental Health
- Communicable Disease
- Local Health Officer
- Community Education and Outreach
- Emergency Services

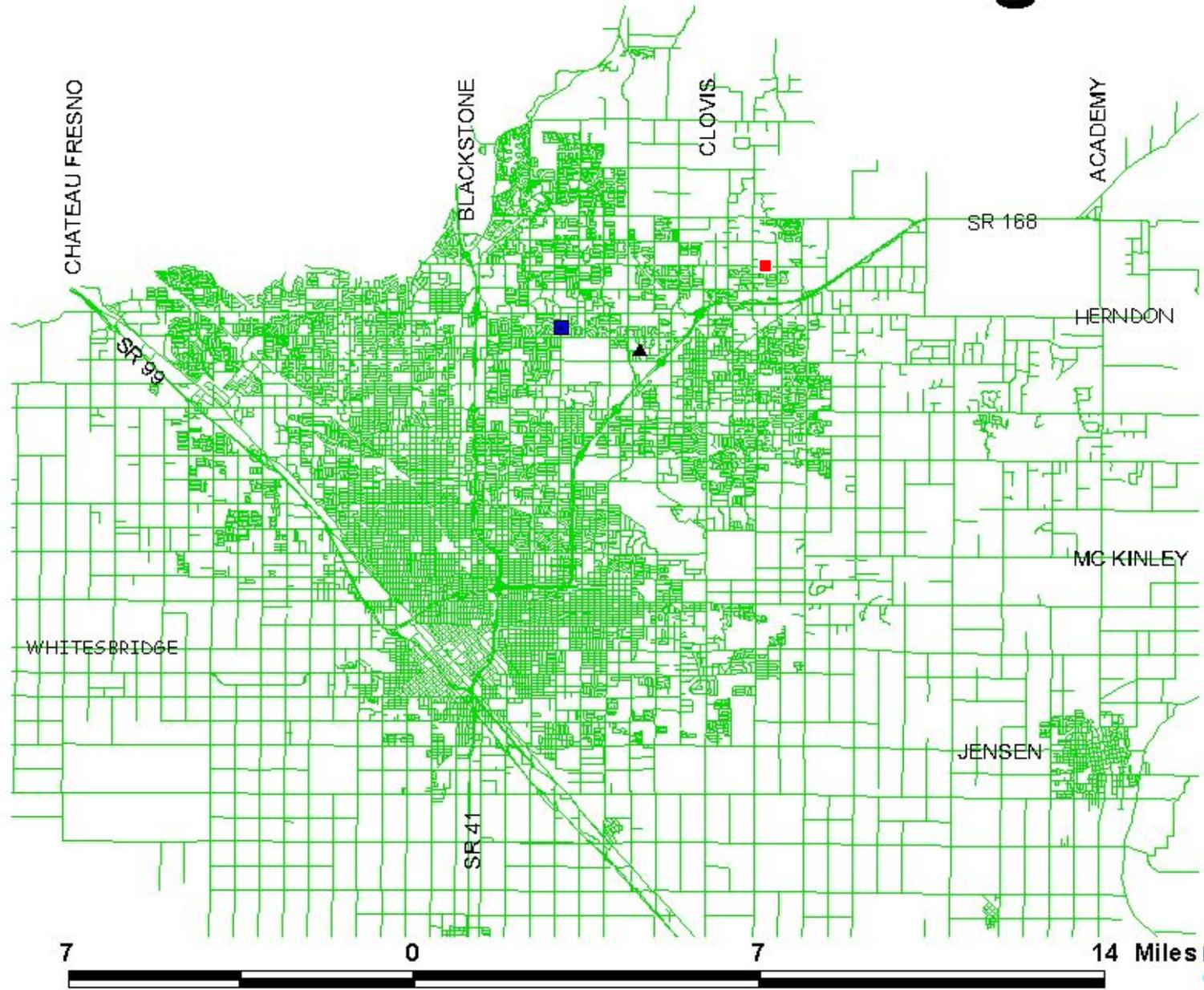
# Fresno County Department of Community Health WNV Preparedness and Responsibilities

- Areas outside of MADs
  - Human case diagnosis and reporting
    - Coordination with health care providers
  - County-wide Coordination
    - Fresno County WNV and Vector-borne Disease Task Force
  - County-wide public information and education
  - Emergency services
- 
- No mosquito control activities
  - Minimal surveillance through agreement with MAD

# **WNV Activity During 2004 Fresno County, CA**

- **15 human cases, no fatalities**
- **23 equine cases, 6 fatalities**
- **114 positive dead birds**
- **14 positive mosquito pools**
- **25 sentinel chicken sero-conversions**

# WNV in Fresno Area through Jul 15



7

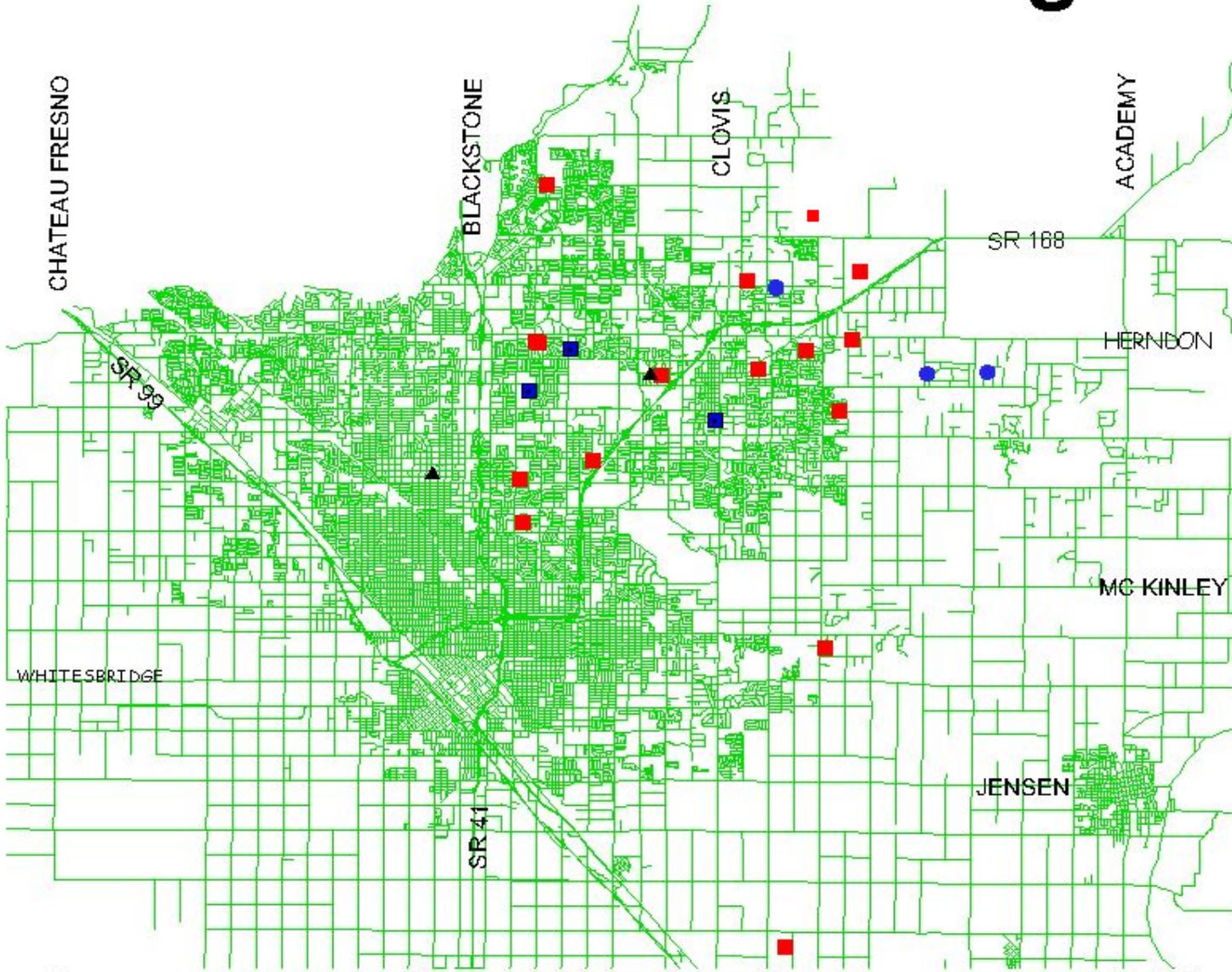
0

7

14 Miles

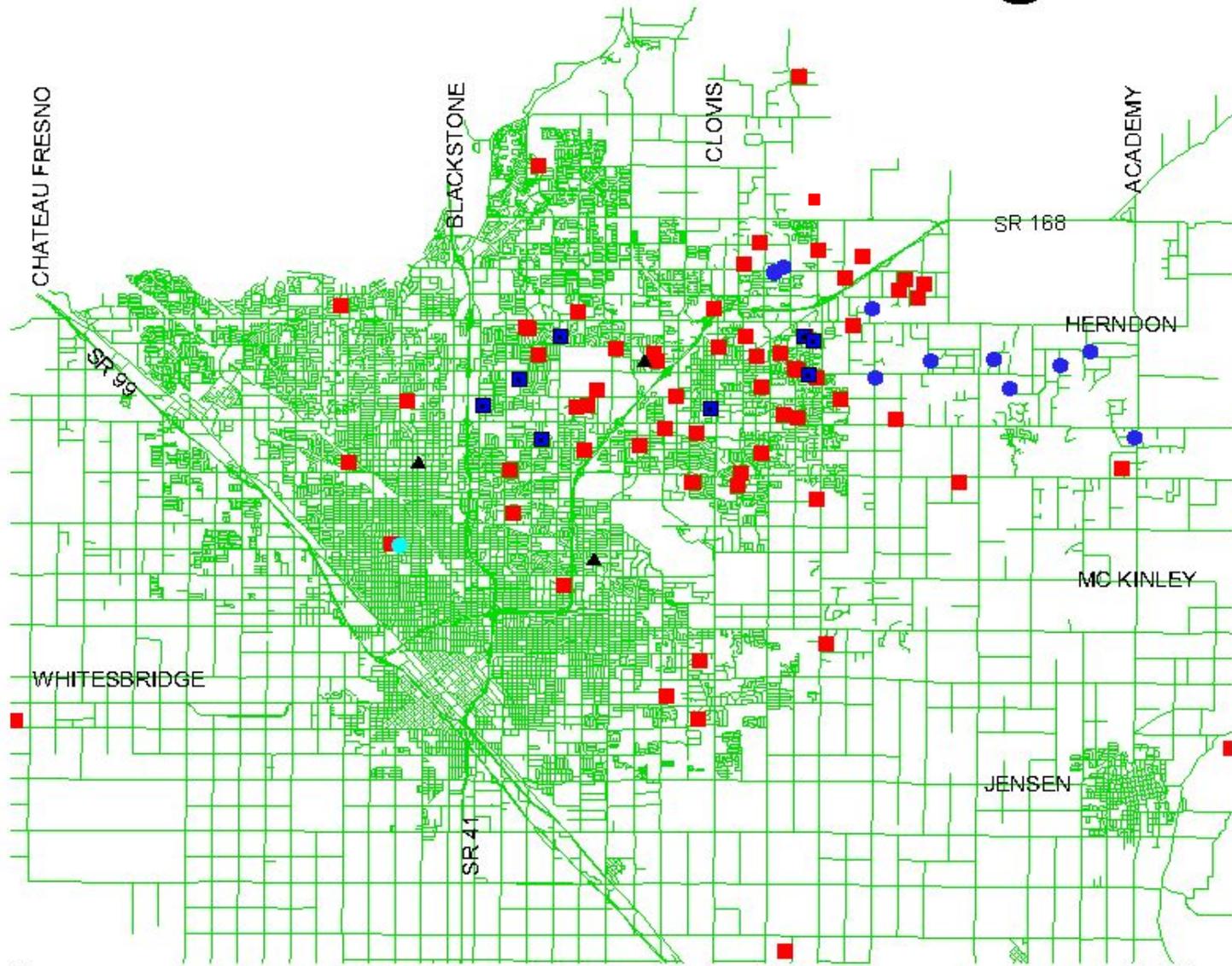
- Human.shp
- Squirrels.shp
- Mosqpools.shp
- Horses.shp
- Deadbirds.shp

# WNV in Fresno Area through Jul 31



- Human.shp
- Squirrels.shp
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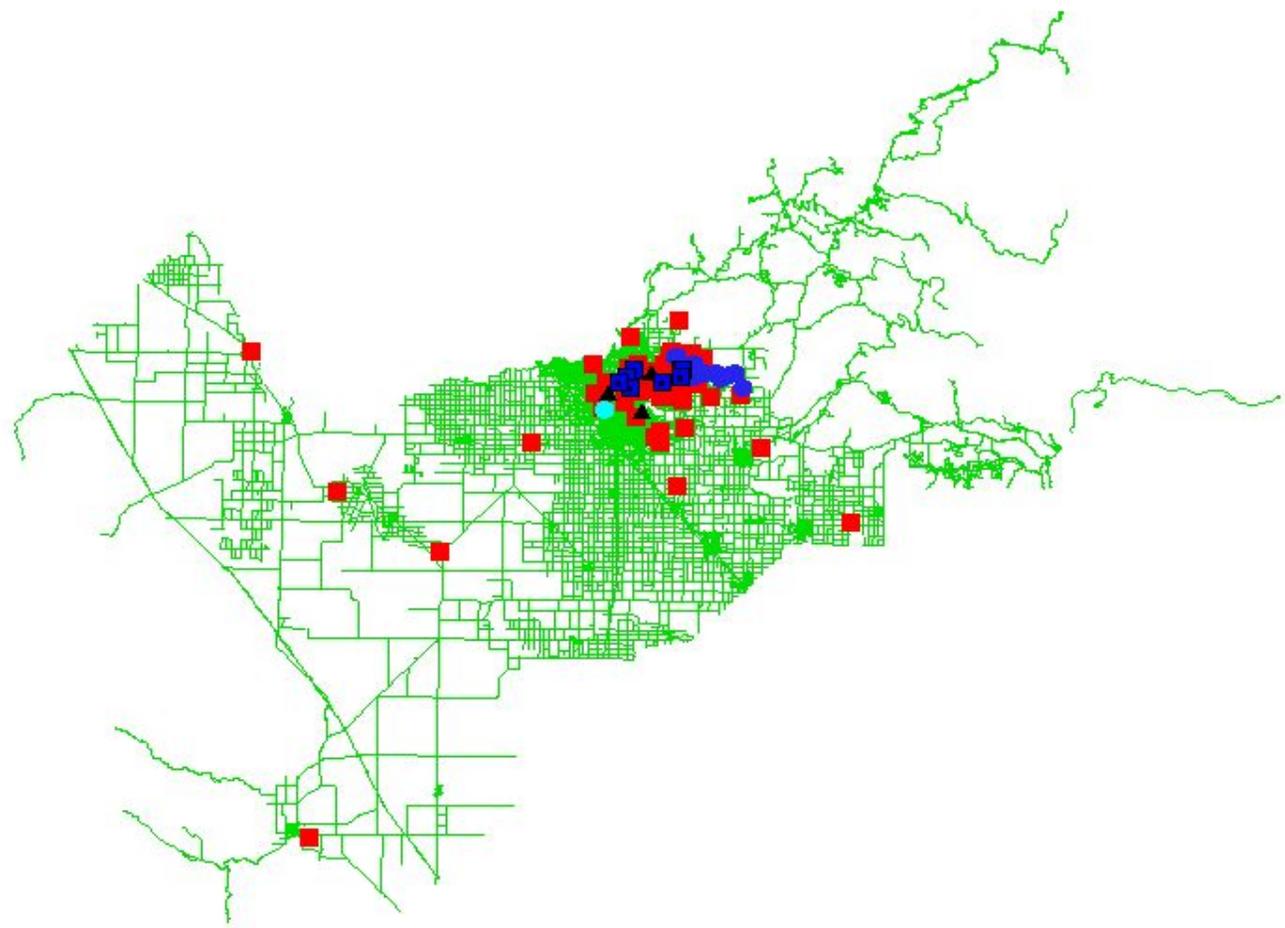
# WNV in Fresno Area through Aug 31



7 0 7 14 Miles

- Human.shp
- Squirrels.shp
- ▲ Mosqpools.shp
- Horses.shp
- Deadbirds.shp

# Fresno County WNV through Aug 31



- Human.shp
- Squirrels.shp
- ▲ Mosq pools.shp
- Horses.shp
- Deadbirds.shp

# Fresno Co. Human WNV Cases 2004

- First human case reported July 23
- Responses directed to human cases:
  - Mosquito trap placements at house and area
  - Intensified inspection for sources in area
  - Increased and more frequent larval control
  - Surveillance indicated low adult mosquito numbers
- Problems encountered
  - Onset of human case preceded positive mosquito pool
  - Information distribution slow and incomplete
  - Difficulty in access of neighborhood premises
  - Intensive media attention: problem and benefit



# Confirmed Equine WNV Case Reports

- Responses directed to reports of equine cases
  - Increased larval and adult surveillance
  - Minimal sources identified: dry conditions
  - Very few adult mosquitoes collected
  - Several owners reported seeing dead birds
- Problems encountered
  - Equine report information often untimely and incomplete
  - Cases appear to be under-reported
  - Horse owners waiting to vaccinate



# WNV Dead Bird Surveillance in Fresno County during 2004

Month	Total Birds	Positives	Percent Pos
May	5	0	0
June	4	0	0
July	21	17	81%
August	76	64	84%
September	38	27	71%
October	10	4	40%
November	9	2	22%
Total	163	114	70%



# Fresno County WNV Dead Bird Surveillance

- First pos bird report preceded by human case
- Responses directed to sites of positive birds
  - Placement of adult mosquito traps in area
  - Increased inspections of sources and larval control
- Problems encountered
  - Time delay between submission and results
  - Did not provide early warning for WNV arrival\*
  - VecTest assay was not reliable indicator for District
  - Consumer complaints about access to WNV hotline
  - Submissions by non-MAD agencies (SPCA, CAHFS)



# Culex quinquefasciatus Pools from Fresno Co. in 2004

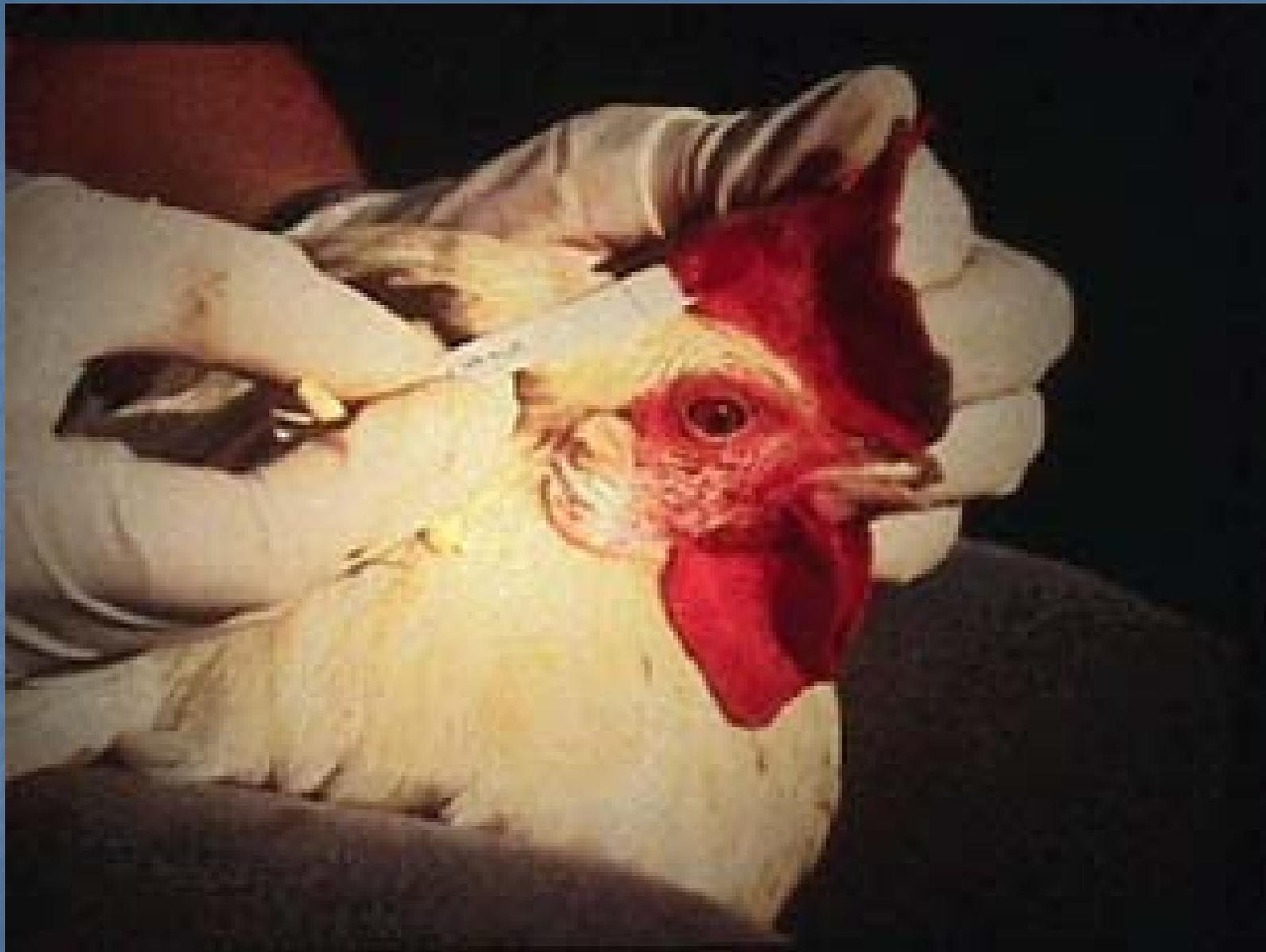
Month	Pools	# mosq	Positives	MIR
May	6	274	0	0
June	10	274	0	0
July	24	943	6	6.4
August	15	503	2	4
Sept	33	1149	5	4.4
October	9	369	1	2.7

# Culex tarsalis Pools from Fresno County in 2004

Month	Pools	# mosq	Positives	MIR
May	11	472	0	0
June	11	466	0	0
July	13	593	0	0
August	39	1778	0	0
Sept	26	1194	0	0
October	10	448	0	0

# Adult Trap Collections and Mosquito Pools

- First reported indication of WNV activity
- Responses directed by adult traps and pools
  - Effective method to locate breeding sources and direct larvicide applications
  - Used to determine and direct localized adulticide applications
  - Use of gravid traps proved highly effective for urban areas and *Cx. quinquefasciatus* sources
- Problems encountered
  - Need an oviposition attractant for *Cx. tarsalis*



# Sentinel Chicken Surveillance

- Countywide 10 flocks, CMAD 6 flocks
- 25 chickens tested positive
- Probable first positives (6 birds) August 18
  - Not confirmed until October 1
- 5 flocks had chickens that tested positive
  
- Results indefinite and not timely, did not direct further surveillance or control



# Comparison of Service Requests Consolidated MAD

Month	5 Year Ave.	2003	2004
April	99	97	174
May	95	115	109
June	97	120	123
July	96	112	330*
August	118	148	268
September	87	99	113
October	39	25	36
Year Total	684	820	1,234



# Mosquito Control Efforts by Fresno Co. MADs With Arrival of WNV in 2004

- Emphasis on breeding source identification and larvicide applications
- Increased treatment and retreatment of larval sources
- Focused adulticide applications to breeding sources and to adjacent residential areas
- Large scale urban adulticide applications not used

# Challenges to Mosquito Control Efforts

- Finding and accessing all breeding sources, especially in urban areas
- Effectiveness of urban adulticide applications: low adult populations, obstructions to drift
- Acceptance of aerial adulticide applications by residents



# Fresno Co. Public Information Efforts

- Fresno County Community Health Department
  - Purchased radio and billboard advertisements
  - Produced bilingual pamphlets: informative, simple
  - Media contacts
  - Need for additional funds for PI campaign
- Mosquito Abatement Districts
  - Media contacts
  - Presentations at schools, community events, fair
  - Distribution of literature
  - Collaborated in production of health advisory

# Heard the BUZZZZZZ?

Mosquitoes Carry West Nile Virus

## PROTECT Yourself and Your Family!



For more information please call... (559) 445-3324

Western San Joaquin System  
Department of Community Health  
www.PlanetHealth.com/sjws

## What is the West Nile Virus?

West Nile Virus is carried by mosquitoes.

**West Nile Virus can make you and your family sick.**

You or someone in your family could get West Nile Virus from a mosquito bite.

Most people who get West Nile Virus will not feel sick.

People who do get sick may feel like they have the flu. They may have some or all of these symptoms.

- \* Fever
- \* Headache
- \* Body Aches
- \* Rash
- \* Swollen Lymph Glands

The sickness can start 3-15 days after a mosquito bite and may last only a few days.

**Call your doctor if you have questions.**



## PROTECT Your Family!

### Avoid mosquito bites.



Stay inside the house in the early morning and evening when mosquitoes are out.

Wear long sleeved shirts and pants when outside the house.



Use insect repellent on exposed skin, (face, neck, arms, legs), when going outside.

*Insect repellent that contains DEET will do the best job of keeping mosquitoes away. Follow the directions carefully.*

Put screens on all windows and doors. Fix any holes in the screens. Screens will keep mosquitoes out.



## PROTECT Your Home!

Mosquitoes live and lay their eggs around standing water.

**Get rid of standing water around your home.**

Empty water every few days from:



Bird Baths



Flower Pots



Buckets



and Old Tires



Also...

Change the water in pet dishes every day.

And...

Check your yard for other places where water may be standing.



## PROTECT Your Community!

**Be on the lookout for dead birds.**

A dead or ill bird may be the first sign that West Nile Virus has come to your neighborhood.

Certain kinds of birds (crows, ravens, and jays) get very sick and can die from West Nile Virus.

Do not touch any dead or ill birds.

Call to report any dead or ill birds.



**Call the West Nile Virus Dead Bird Program**  
1-877-968-2473 (Toll-Free)

A health agent will check out your report.





# HEALTH ADVISORY



## WEST NILE VIRUS DETECTED

West Nile Virus is a disease that is transmitted by the bite of an infected mosquito. West Nile Virus can cause serious illness. The Fresno County Department of Community Health strongly recommends the following actions to protect yourself from mosquito bites:

Wear shirts with long sleeves and long pants.

Use insect repellent that contains DEET on exposed skin when outside.

Avoid places where mosquitoes are present.

To report mosquito problems, call Consolidated Mosquito Abatement District at 1-800-821-1577 or 559-896-1085.

For information and brochures on West Nile Virus, call Fresno County Department of Community Health at (559) 445-3324.



# Needs for 2005

- Better access to backyard and “hidden” sources
- More funding for PI and better ways to distribute information to public
- Effective and dependable rapid WNV assay for dead birds
- Adequate and stable funding for MADs: return or cap of past ERAF shifts
- Research on efficacy of adulticide applications in urban areas

# The End

