



Wichita Falls–Wichita County Public Health District

Response to Arbovirus Outbreaks in Wichita County 2002–2016

Susan Morris, R.S.
Environmental Health Administrator

Demographics

- ▶ **County Population 132,355**
 - **Wichita Falls 105,114**
 - Burkburnett 11,142
 - Iowa Park 6,391
 - Electra 3,100
 - **Square Miles**
 - **County 678.78**
 - **Wichita Falls 72.14**
 - **Annual Rainfall 28–29”**



Wichita County, TX



- ▶ Three important Sub-populations
 - Sheppard Air Force Base:
 - Home to the NATO Air Pilot Training with **13 NATO nation participants**,
 - 12,581 Permanent Party residents
 - **60,081 Graduates Annually (2015)**

 - Midwestern State University
 - 6,000 Students
 - 1,500 live in residence halls
 - **9.6% Nonresident Alien (this % is growing)**

 - Allred State Prison
 - 3,722 maximum capacity

Quick Look at WFWCPHD

- ▶ We are a Public Health District with an advisory Board of Health
- ▶ City of Wichita Falls Department
- ▶ Budget: \$5.6 million, \$2.2 from grants
- ▶ 78 FTE
- ▶ Service Area: local, regional



Environmental Health Division

- 5 Sanitarians in training
- 2 Public Health Inspectors
- 1 Administrator
- 1 Clerical
- 15 seasonal part time employees



Environmental Health Division

- Vector Control
- Retail Food Inspections
- Lodging Inspections
- Public Swimming Pools
- Body Art Inspections
- Grease Trap inspections
- Environmental lead assessments for children with EBL's
- Enforcing the smoking ordinances
- OSSF for Wichita County and cities as well as Lakes Arrowhead (Clay County) and Kickapoo (Archer County)
- Health and safety inspections for schools, daycares and foster homes

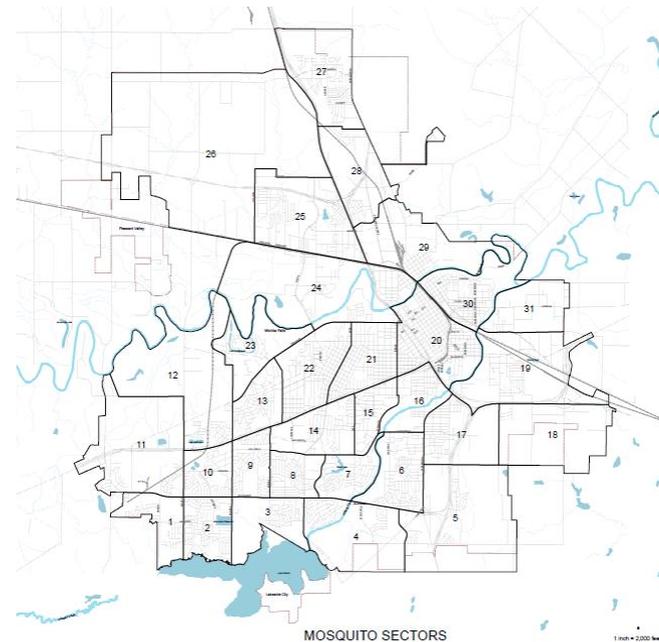
Environmental Health Division

- Annual Operating Budget of \$330,000. (County contributes \$40,000)
- \$68,000 in chemicals
- Operate 7 trucks with ULV sprayers



How does Wichita Falls Prepare for an Arbovirus Outbreak?

Integrated Pest Management
(IPM)
and
Teamwork



Public Education

Local Media, Social media, Web site, Health Fairs



FACTS ABOUT WEST NILE VIRUS

What is West Nile Virus?	West Nile Virus (WNV) is a flavivirus commonly found in Africa, West Asia and the Middle East. The virus can infect humans, birds, mosquitoes, horses and some other mammals. WNV was introduced in the United States in 1999.
What are the symptoms?	Most people who are infected with WNV will not have any type of illness or may experience mild fever, headache and body aches before fully recovering. According to the Centers for Disease Control and Prevention (CDC), persons over 50 years of age have the highest risk of severe disease. However, only about one out of 150 people infected with the West Nile Virus will develop severe illness. Most people who are infected with the virus will not have any type of illness or may experience mild fever, headache and body aches before fully recovering. Please contact your healthcare provider if you are experiencing any of the symptoms described.
How is it spread?	Certain species of birds tend to carry the virus and only certain species of mosquitoes become infected when they feed on infected birds or horses. Most commonly, the virus is transmitted to people when an infected mosquito bites a human. WNV is not spread by person-to-person contact or by caring for someone who is infected.
How is it treated?	There is no vaccine for WNV nor is there specific therapy. In severe cases, hospitalization, and good nursing care are required. At its most serious, it can cause
What should I do if I think I	If signs and symptoms of encephalitis or meningitis are present, seek medical care immediately.
Can my pets get West Nile Virus?	Other than horses, WNV in pets is rare. There is a vaccine available that provides horses and other equines some protection against WNV. Owners of these animals
What is the Health Department doing about it?	The Health District's Environmental Health Division will continue with an integrated pest management program for mosquito control. The services include: testing mosquitoes for WNV by collecting five mosquitoes throughout the county (we no longer accept birds for testing), treating standing water, eliminating breeding areas and spraying for adult mosquitoes when weather conditions are favorable.
What can I do to protect myself and my family?	The best way to avoid mosquitoes that carry West Nile Virus is to practice the Four D's: <ol style="list-style-type: none"> 1. DUSK and DAWN are the times of day you should try to stay indoors, because mosquitoes are most active. 2. DRESS in long sleeves and pants when you are outside. 3. DEET is an ingredient to look for in insect repellent. Follow label instructions, and always wear repellent when outdoors. 4. DRAIN standing water in your yard and neighborhood where mosquitoes can breed. This includes old tires, flowerpots, clogged rain gutters, etc.
Where can I get more information?	If you have specific questions about West Nile virus you can call 940-781-7897, or visit the CDC website at www.cdc.gov/ncidod/dvbb/westnile/index.htm . To request spraying for live mosquitoes in your area please call 940-781-7890.



Mosquito Madness

Published: Monday, June 22nd 2015, 9:49 pm CDT
 Updated: Monday, June 22nd 2015, 9:49 pm CDT



Mosquitoes are out in full force, which has health officials working hard to battle the growing problem.

The pests are around all year round, but they tend to attack more frequently during the daylight savings time period. They also attack more when it is hot and muggy, making now the perfect time for them to breed and bite.

"For the past few year's we've had a drought, so we really haven't had a large number of mosquitoes to deal with," Susan Morris, Environmental Health Administrator at the Wichita Falls Wichita County Public Health District said.

However, with the record rainfall in May and the recent rain in June, the drought is over, making the population of mosquitoes grow.

"Right after the flood, we used a years worth of larvae side in two weeks," she said, "The population was coming by to get some so they could treat their yards and we used a lot of chemicals."

Morris said they had left over chemicals from last year, so that helped out. However, more chemicals will have to be used as the year goes on.

The big concern is disease spreading, such as the West Nile.

"We have 40 different species of mosquitoes in Wichita County," Morris said.

West Nile has been in the area before and Morris suspects it will be back, but so far there have been no reports of diseases. Still, officials continue monitoring the situation, so if something does come up, they will be ahead of the game.





Source reduction through collaboration



Larvacide, 75% of human resources are used to monitor and treat standing water.



Monitor and report, traps are set in key locations in the city, positive results are reported at once.



Passive surveillance, (customer calls) are verified and treated if needed.
Spray for adults as last resort.

Mosquitoes: Average Year

- ▶ 1,300 Calls for service answered
- ▶ 3,000 Sites investigated
- ▶ 1,500 Sites treated for larvae/pupae
- ▶ 100–200 Mosquito collections sent to lab in Austin
- ▶ 30,000–50,000 Miles will be driven w/ 7 trucks and 1 ATV w/ ULV sprayers

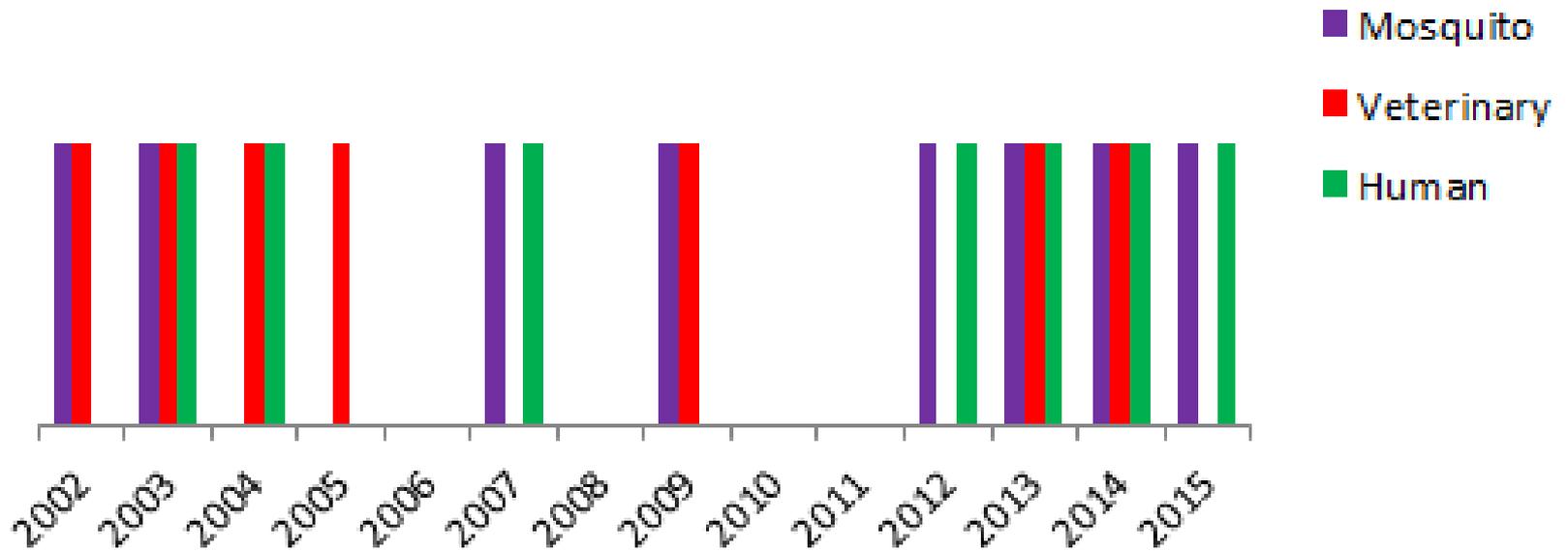
Mosquitoes: Flooding Event

- ▶ From May 20–June 1, 2015
 - 1647 people picked up 2772 baggies of Aquabac
 - 356 telephone calls were received
 - Employees distributed 1,720 pounds of Aquabac
 - Employees worked 388 hours
 - 50 gallons of adulticide was sprayed (Kontrol 30–30 at 2 oz/minute)

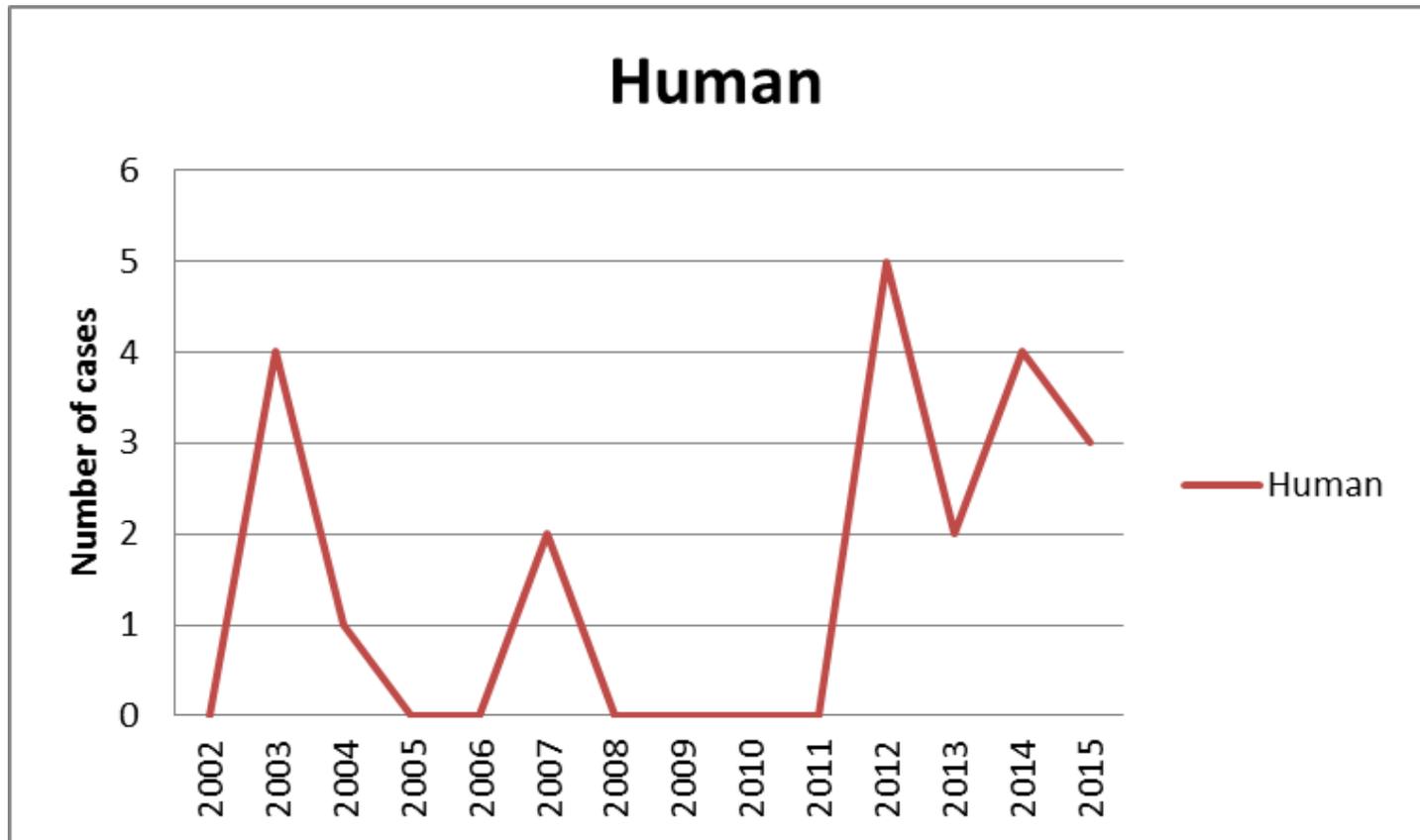


WNV History in Wichita County

Positive Results
2002-2015



WNV Over the years in Wichita County 21 Human Cases



Know your Enemy!

- ▶ Over 40 species of mosquitoes in Wichita County
- ▶ Which species of mosquitos will be active in a drought situation? Flood situation?
- ▶ Which species are active early summer? Late summer?
- ▶ What are the habits of this species?
- ▶ Are they vectors or nuisance mosquitoes?
- ▶ If they are vectors–what do they vector?
- ▶ How do we treat for these mosquitoes?

When an Arbovirus Occurs

The “Epi-Team” meets and goes into action:

Lead Members include:

Director and Assistant Director of Health
Epidemiologist

Director of Nurses

Health District PIO

Public Health Preparedness Specialist

Environmental Health Administrator

We enact our epi-response plan.

Includes public information and warning



New Ballgame, Same Rules!

- ▶ Know Your Enemy!

This year we are dealing with drought mentality in a wet season! We still have rain barrels in every yard.

We have *Aedes aegypti* and *Aedes albopictus* locally. So the vectors of Dengue, yellow fever, Chikungunya, and Zika virus are alive and buzzing in Wichita Falls.

We always need to be aware of West Nile virus and the Culex quinquefasciatus.



New Education

Remember the
“Four D’s”
to defend yourself against
Mosquito Viruses

			
DAYTIME/DUSK-DAWN Be aware of mosquitoes and protect yourself at all times.	DRESS Light colored, long sleeves and long pants should be worn.	DRAIN All standing water should be drained if possible.	DEET: All Day/Everyday Diethyltoluamide is an ingredient to look for in your insect repellent.



<http://www.wichitafallstx.gov/index.aspx?NID=375>



New Challenges

- ▶ Work closely with MSU and SAFB and their foreign populations and overseas travel.
- ▶ Work with neighborhood groups to clean areas that may be potential breeding grounds.

Thank You

Questions?

