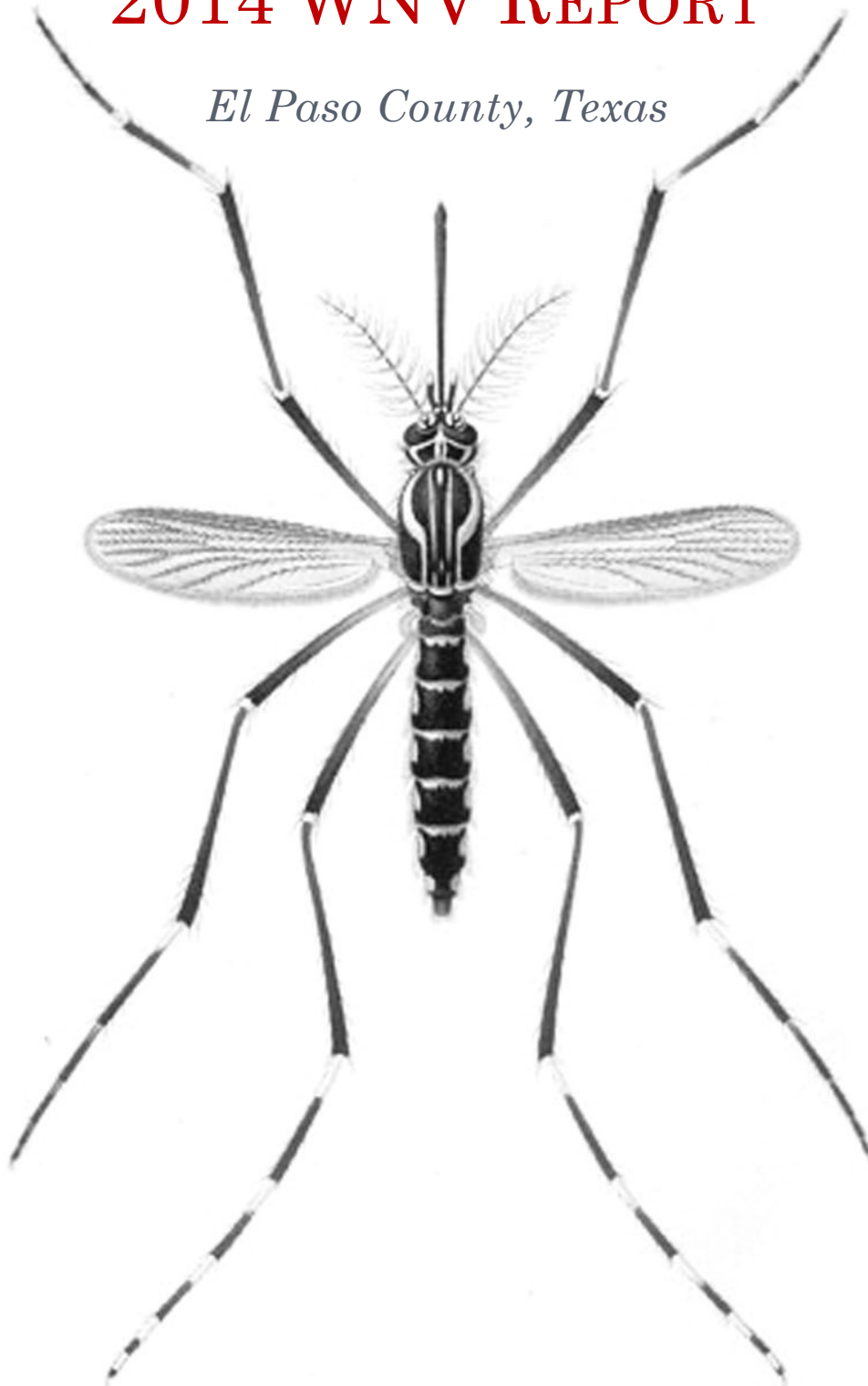


2014 WNV REPORT

El Paso County, Texas



City of El Paso Department of Public Health

8/10/2015

CREDITS

This 2014 WNV Report includes data available through the end of December 2014. This report is produced by the El Paso Department of Public Health – Epidemiology Program. We greatly appreciate the contributions made by health care providers, hospitals, and laboratories in reporting WNV cases. The timely reporting of WNV allows us to investigate cases so we can rapidly institute control measures to prevent and reduce the impact of the disease within our community. Their cooperation also permits the collection of data included in this report which is used for further prevention and planning efforts.

2014 WNV Report Editor:

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REPORTING REQUIREMENTS

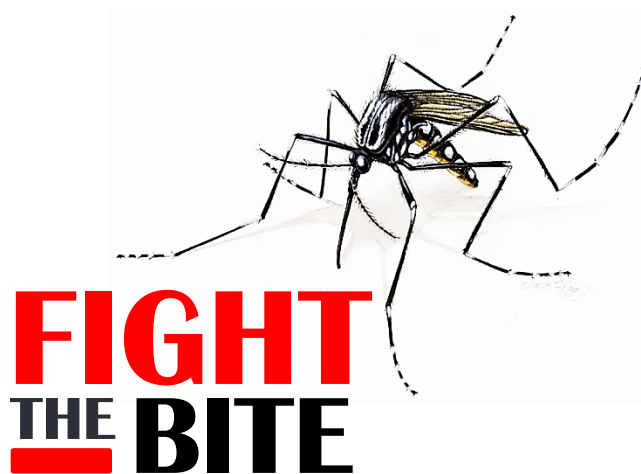
The City of El Paso Department of Public Health, under the legal authority of Chapter 97, Title 25, Texas Administrative Code, has designated certain diseases and conditions as notifiable. A list of these notifiable conditions can be found in our website <http://home.elpasotexas.gov/health/epidemiology.php>. A WNV case is to be reported within 72 hours of diagnosis to the health department.

Reporting

El Paso health care providers, clinics, hospitals, laboratories, schools, and day care centers are required to report all WNV cases to the health department. WNV cases can be reported by:

- Calling the Epidemiology Program at (915) 212-6520, or
- Faxing the laboratory report to the Epidemiology Program at (915) 212-0170 (secure fax), or
- Using our 24/7 Confidential Web-based Reporting System via <https://elpaso.phims.org/cmcr/login.aspx>

If you have any questions or concerns about reporting please contact the Epidemiology Program at (915) 212-6520.



Reduce Your Exposure to Mosquito Bites

TABLE OF CONTENTS

Executive Summary	1
WNV Transmission Cycle	3
WNV 5 Year Historical Trend in El Paso County, Texas, and U.S.	4
WNV Disease Cases Reported in El Paso County, Texas, and U.S., 2010 - 2014	5
El Paso County Trends	5
WNV Case Fatality Rates in El Paso County, 2010 -2014.....	5
WNV Cases by Month of Report in El Paso County, 2013 – 2014.....	6
WNV Activity in El Paso County, 2010 – 2014.....	7
WNV Case Profiles in El Paso County, 2014.....	8
Mosquito Species in El Paso County, 2014.....	9
Prevent West Nile Virus	10
Fight the Bite with The Four D’s.....	10
Choosing a Repellant.....	10
Eliminate Common Mosquito Breeding Sources	11

Executive Summary

West Nile Virus (WNV) is a mosquito-borne zoonotic arbovirus that first appeared in the United States in Queens, New York in 1999 and spread quickly across the nation in a span of 5 years. WNV is now a native pathogen in the United States.

This zoonotic pathogen is maintained in nature in an enzootic cycle involving transmission between viremic birds and ornithophilic (bird-biting) mosquitoes. Occasionally an infected mosquito will bite mammals, including humans where it can cause possible illness. Mammals are 'dead end' hosts who do not develop high levels of virus in their bloodstream and cannot pass the virus on to other mammals or mosquitoes, thereby ending the transmission cycle.

The primary route of human infection with WNV is through the bite of a mosquito; however, additional routes of transmission have been documented. A very small proportion of human infections have occurred through organ transplant, blood transfusions, breastfeeding and during pregnancy from mother to baby.

The incubation period for WNV disease is typically 2 – 6 days but can range from 2 – 14 days. The majority of the people (70 – 80%) infected with WNV are asymptomatic.

About 20% of people who become infected will develop an acute, systemic febrile illness referred to as West Nile Fever. Clinical signs include fever, headache, weakness, myalgia, or arthralgia and occasionally gastrointestinal symptoms and a maculopapular rash.

Less than 1 percent of people infected will develop Neuroinvasive West Nile Disease, which can manifest as meningitis, encephalitis, or acute flaccid paralysis.

- West Nile Meningitis is clinically indistinguishable from viral meningitis and usually presents with fever, headache, and nuchal rigidity. Changes in consciousness are not usually seen and are mild when present.
- West Nile Encephalitis is a more severe clinical syndrome which usually manifests with fever and behavioral or personality changes such as confusion or disorientation that may evolve into stupor and even coma. Focal neurologic deficits, including limb paralysis and cranial nerve palsies, may be observed. Tremors and movement disorders have also been noted.
- West Nile Poliomyelitis is a flaccid paralysis syndrome associated with WNV infection, is less common than meningitis or encephalitis. This syndrome is generally characterized by the acute onset of asymmetric limb weakness or paralysis with or without brainstem involvement and respiratory failure. This paralysis can occur in the absence of fever or apparent WNV prodrome.

Most people with West Nile fever or West Nile meningitis recover completely; however, it may take weeks or months for fatigue, malaise and weakness to disappear. People who recover from WNV encephalitis or poliomyelitis often have residual neurologic deficits. Some of the neurological effects may be permanent.

People over the age 50 or those with medical conditions, such as cancer, diabetes, hypertension, and kidney disease are also at greater risk for serious illness. The mortality rate among people with neuroinvasive West Nile disease ranges from 8% to 16%.

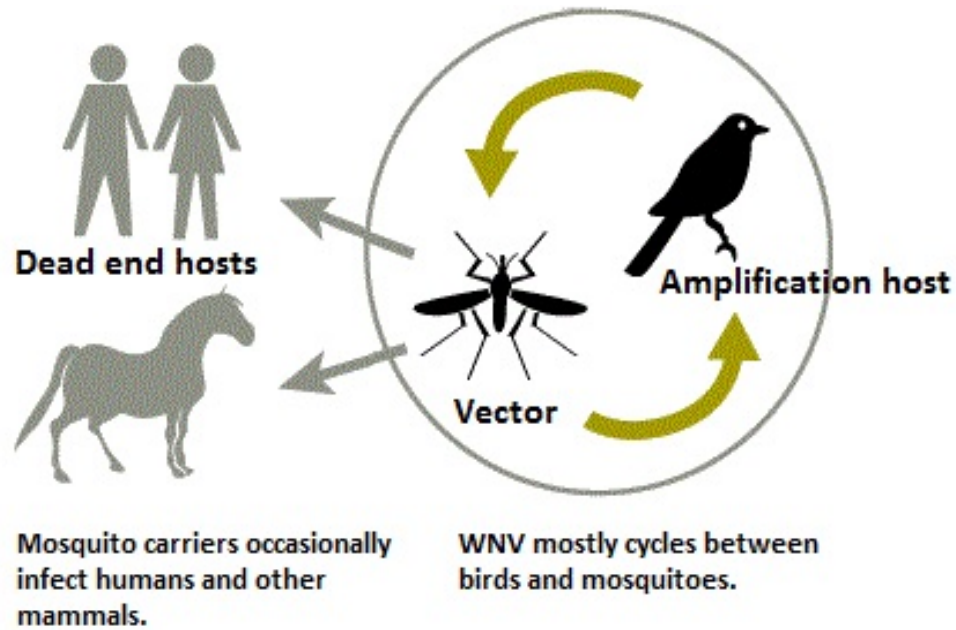
There is no specific treatment for WNV disease other than supportive therapy for severe cases. There is also no vaccine to prevent the virus in humans. The most effective method to avoid WNV disease is to prevent mosquito bites. Prevention depends on community-level mosquito control and personal and household protection measures. Personal protective measures include use of mosquito repellents, wearing long-sleeved shirts and long pants, and limiting outdoor exposure from dusk to dawn. Household protection measures include using air conditioning, installing window and door screens, and reducing peridomestic mosquito breeding sites. Both personal and household protective measures are key to decreasing the risk for WNV exposure.

Since its introduction to North America in 1999, WNV has resulted in considerable acute morbidity and mortality and will remain a formidable clinical and public health problem for years to come.



★ COVER UP • REPEL • ELIMINATE ★

WNV TRANSMISSION CYCLE



West Nile Virus primarily cycles between mosquitoes and birds. Occasionally an infected mosquito will bite mammals, including humans. Mammals are 'dead end' hosts who do not develop high levels of virus in their bloodstream and cannot pass the virus on to other mammals or mosquitoes, thereby ending the transmission cycle.

2014 WNV REPORT

EL PASO COUNTY, TEXAS

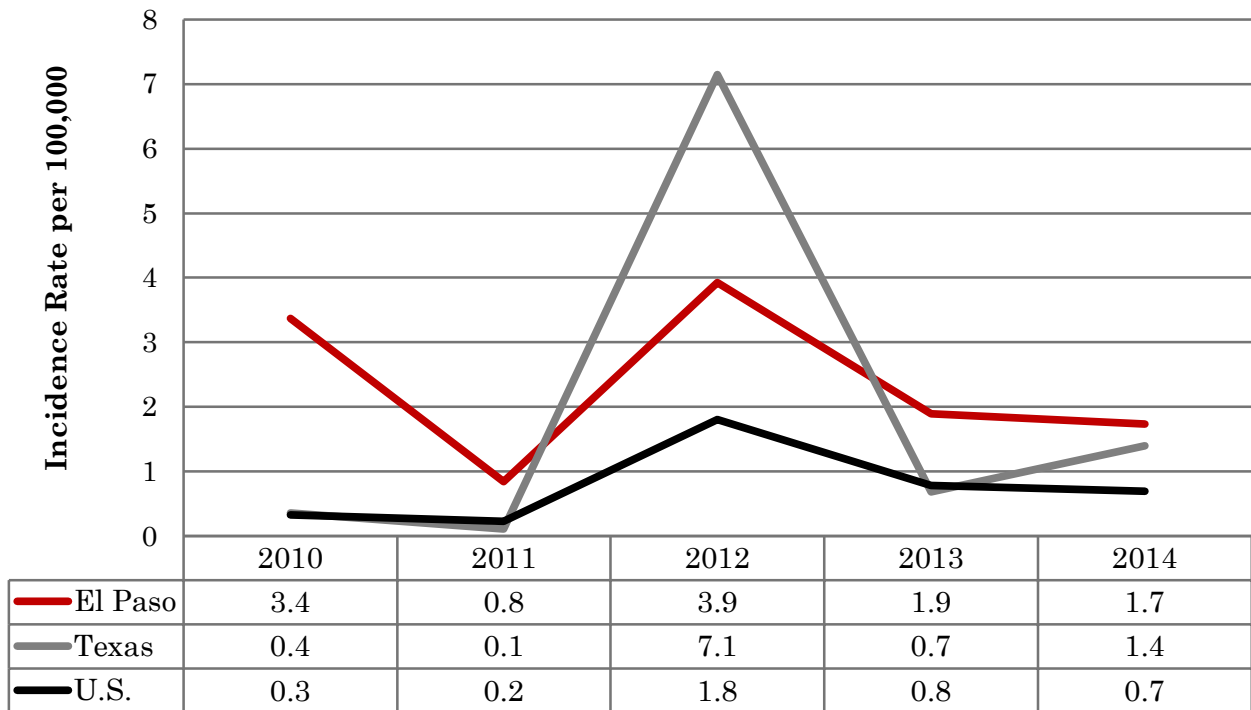
Reported Cases: 2013 and 2014

Weeks 1-52, 2013: 16

Weeks 1-52, 2014: 15

WNV 5 Year Historical Trend in El Paso County, Texas, and U.S.

WNV Human Disease



Texas Population Projections for 2013-2014 and Estimated for 2010-2012

(www.dshs.state.tx.us/chs/popdat/downloads.shtm)

U.S. Population Estimated for 2010-2014 (U.S. Census Bureau, American Community Survey)

WNV Disease Cases Reported in El Paso County, Texas, and U.S., 2010 - 2014

Year	El Paso				Texas				U.S.			
	<i>NI</i>	<i>F</i>	<i>D</i>	<i>Total</i>	<i>NI</i>	<i>F</i>	<i>D</i>	<i>Total</i>	<i>NI</i>	<i>F</i>	<i>D</i>	<i>Total</i>
2014	8	7	0	15	253	126	6	379	1,347	858	97	2,205
2013	15	1	2	16	113	70	14	183	1,267	1,202	119	2,469
2012	22	10	6	32	844	1,024	89	1,868	2,873	2,801	286	5,674
2011	5	2	2	7	20	7	2	27	486	226	43	712
2010	19	8	2	27	77	12	6	89	629	392	57	1,021

NI = Neuro-invasive West Nile Disease Cases (includes cases reported as meningitis, encephalitis, or acute flaccid paralysis)

F = West Nile Fever Cases

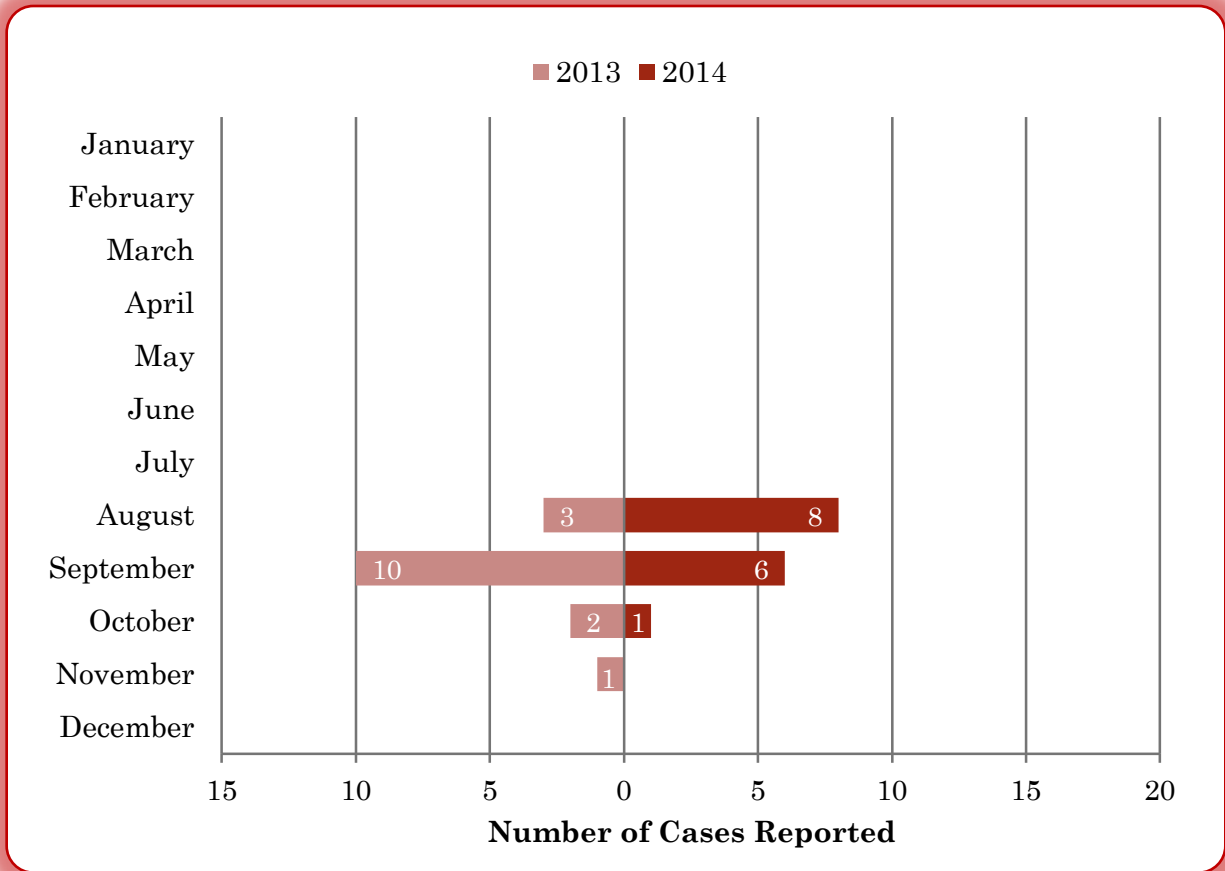
D = Deaths

Total = Total number of cases

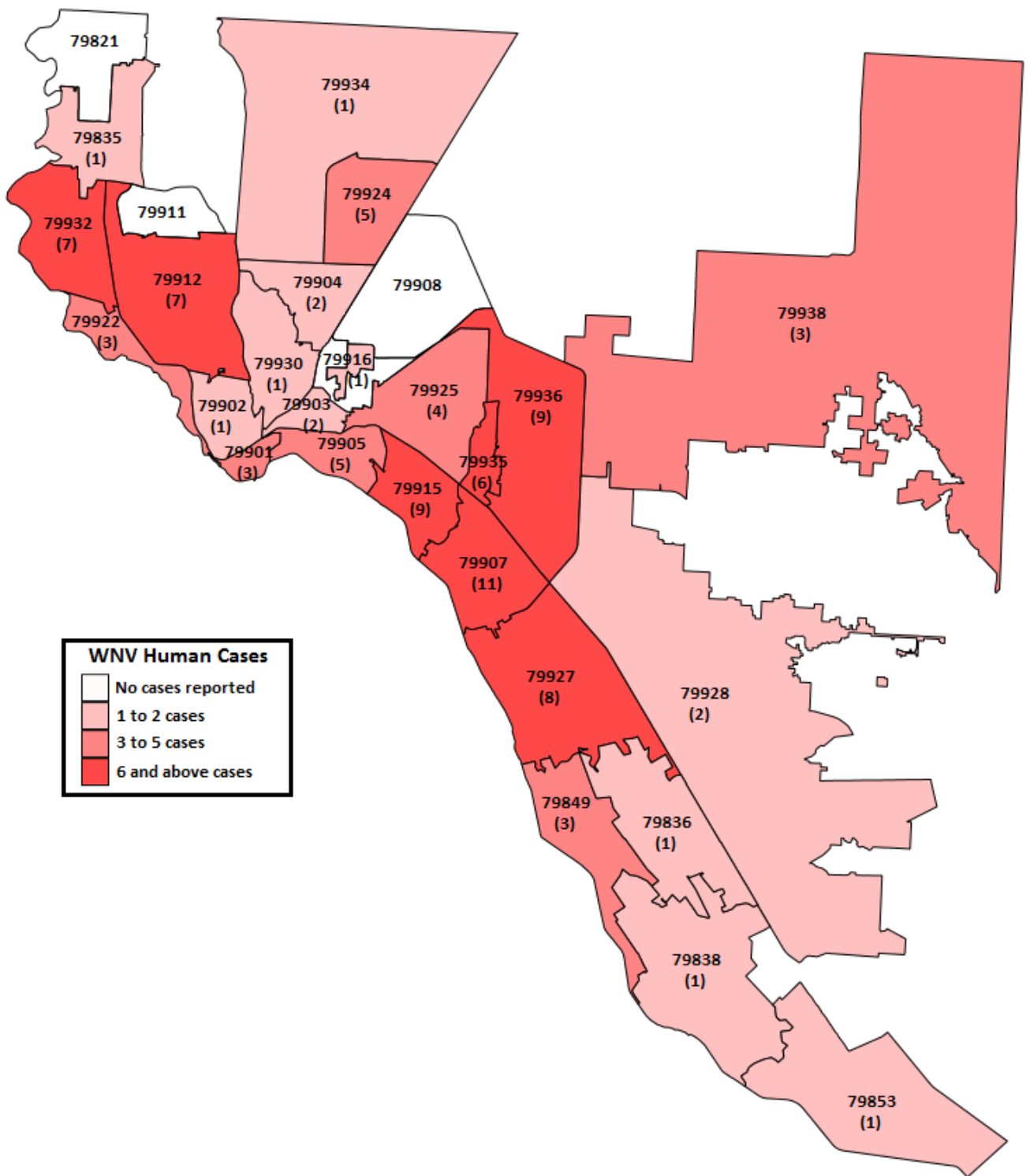
WNV Case Fatality Rates in El Paso County, 2010 -2014

Year	Case Fatality Rate
2014	0%
2013	12.5%
2012	18.8%
2011	28.6%
2010	7.4%

WNV Cases by Month of Report in El Paso County, 2013 – 2014



WNV Activity in El Paso County, 2010 - 2014



WNV Case Profiles in El Paso County, 2014

Characteristic	WNV (N=15)	
	No.	%
Age group (years)		
<18	1	7
18-59	5	33
≥60	9	60
Sex		
Male	9	60
Female	6	40
Period of illness onset		
January – March	0	0
April – September	14	93
October – December	1	7
Clinical syndrome		
Neuroinvasive West Nile Disease	8	53
West Nile Fever	7	47
Outcome		
Hospitalization	9	60
Death	0	0
Co-morbidity		
No underlying conditions	5	33
1 underlying condition	7	47
2 underlying conditions	1	7
≥3 underlying conditions	2	13

Mosquito Species in El Paso County, 2014

Species	Known WNV Vector
<i>Aedes aegypti</i>	✓
<i>Aedes albopictus</i>	✓
<i>Aedes dorsalis</i>	✓
<i>Aedes nigromaculis</i>	✓
<i>Aedes sollicitans</i>	✓
<i>Aedes theicter</i>	✓
<i>Aedes trivittatus</i>	✓
<i>Aedes vexans</i>	✓
<i>Anopheles franciscanus</i>	✓
<i>Anopheles pseudopunctipennis</i>	
<i>Culex quinquefasciatus</i>	✓
<i>Culex salinarius</i>	✓
<i>Culex tarslais</i>	✓
<i>Culex territans</i>	✓
<i>Culiseta inornata</i>	✓
<i>Psorophora columbiae</i>	✓
<i>Psorophora signipennis</i>	

Data source: El Paso Vector Control

**15 out of 17 mosquito species
in El Paso are vectors for
West Nile Virus**

Prevent West Nile Virus

Fight the Bite with The Four D's!

- **DRAIN** standing water around your home, yard, and neighborhood to put an end to mosquito breeding sites.
- **DUSK & DAWN** are the times of day you should try to stay indoors; this is when mosquitoes are most active. Plan ahead to protect yourself and your family.
- **DRESS** in long sleeves and pants when you're outside, and spray thin clothing with repellent.
- **DEFEND** yourself by using an insect repellent that contains DEET, Picaridin, or Oil of Lemon Eucalyptus. For help picking effective repellents, check out the section below for more information.

Choosing a Repellent

Products containing the following active ingredients typically provide reasonably long-lasting protection:

- **DEET** (chemical name: *N,N*-diethyl-*m*-toluamide or *N,N*-diethyl-3-methylbenzamide). Products containing DEET include, but are not limited to, Off!, Cutter, Sawyer, and Ultrathon.
- **Picaridin** (KBR 3023 [Bayrepel] and icaridin outside the United States; chemical name: 2-(2-hydroxyethyl)-1-piperidinecarboxylic acid 1-methylpropyl ester). Products containing picaridin include, but are not limited to, Cutter Advanced, Skin So Soft Bug Guard Plus, and Autan (outside the United States).
- **Oil of lemon eucalyptus (OLE)** or **PMD** (chemical name: para-menthane-3,8-diol), the synthesized version of OLE. Products containing OLE and PMD include, but are not limited to, Repel and Off! Botanicals. This recommendation refers to EPA-registered repellent products containing the active ingredient OLE (or PMD). "Pure" oil of lemon eucalyptus (essential oil not formulated as a repellent) is not recommended; it has not undergone

similar, validated testing for safety and efficacy, is not registered with EPA as an insect repellent, and is not covered by this recommendation.

- **IR3535** (chemical name: 3-[*N*-butyl-*N*-acetyl]-aminopropionic acid, ethyl ester). Products containing IR3535 include, but are not limited to, Skin So Soft Bug Guard Plus Expedition and SkinSmart.

Source: <http://wwwnc.cdc.gov/travel/yellowbook/2014/chapter-2-the-pre-travel-consultation/protection-against-mosquitoes-ticks-and-other-insects-and-arthropods>

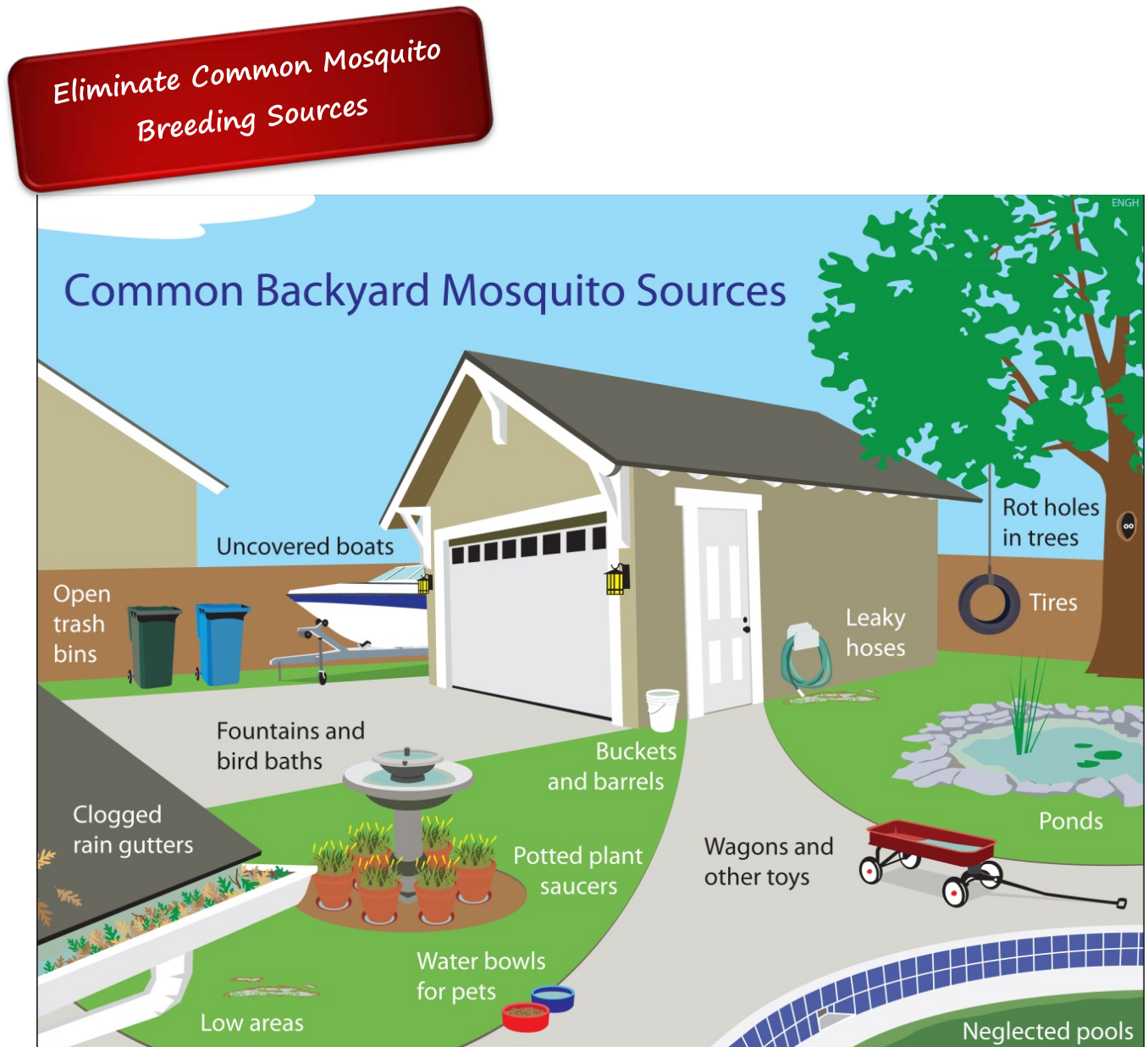


Photo source: <http://www.msosquito.com/vectors-diseases/local/west-nile-virus-wnv>