



The Year of the Tick

What Happened in Missouri in 2007?

Presented by
Karen F. Yates
Vector-Borne Disease Program Coordinator
Missouri Department of Health and Senior Services

Missouri 2007: Two Ehrlichiosis Pediatric Fatalities

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Resources

Published June 07, 2007 12:28 am - ST. LOUIS — Health officials warned Missourians to guard against tick bites on Wednesday, after the death of a child bitten by one of the insects in a northeastern part of the state.

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Missouri: Northeast Missouri child dies after tick bite

The Associated Press

ST. LOUIS — Health officials warned Missourians to guard

MISSOURIAN Missourian

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Number of tick-borne diseases doubles across Missouri

The possible explanations for the increase in diseases spread by ticks vary by scientist.

BY CAITLIN GARING
November 16, 2007 | 2:00 p.m. CST

COLUMBIA — The weather has cooled, and the arrival of fall means an end to a tick season that saw the number of tick-borne illnesses double statewide from the previous year.

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Update advises of tick-spread illness in state

Threat of bites a medical conference topic.

By JACOB LUECKE of the Tribune's staff
Published Saturday, February 10, 2007

As medical practitioners in what Will Roland calls the "Bermuda Triangle" of tick-borne diseases, Missouri physicians should be on the lookout for sicknesses caused by the tiny bloodsuckers.

"In the spring and summer in Missouri, these tick-borne diseases should be on your head a little," said Roland, an associate professor of clinical medicine at the University of Missouri-Columbia.

Tick-borne diseases weren't prevalent decades ago in Missouri, but they have become a growing problem, Roland told a gathering of medical professionals yesterday at the Columbia Courtyard Marriott.

"The big reason in Boone County is deer," Roland said. "In the 1930s, you couldn't find a deer. The hillbillies had wiped them all out."

But as deer populations have grown, tick populations also have surged, the world of infectious disease experts such as Roland, deer "are just like giant rats."

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Central Missouri Teen Dies From Tick Disease

Created: 8/30/2007 11:13:23 AM
Last updated: 8/30/2007 11:14:51 PM

VIDEO

Click here to watch this report.

CENTRALIA, Mo. (AP) — Authorities say a Centralia girl has died of a tick-borne disease.

The Boone County Medical Examiner's Office says Emily Powell, 15, died Wednesday from Ehrlichiosis, a disease acquired from ticks. The girl was hospitalized Monday.

Advertisement

Don Brown CHEVROLET

Extra counselors are available at Centralia schools today to help students cope with the loss of a classmate.

Tick-borne diseases are being reported in Missouri this year at a rate far higher than the five-year average.



Ehrlichiosis-Related Fatalities

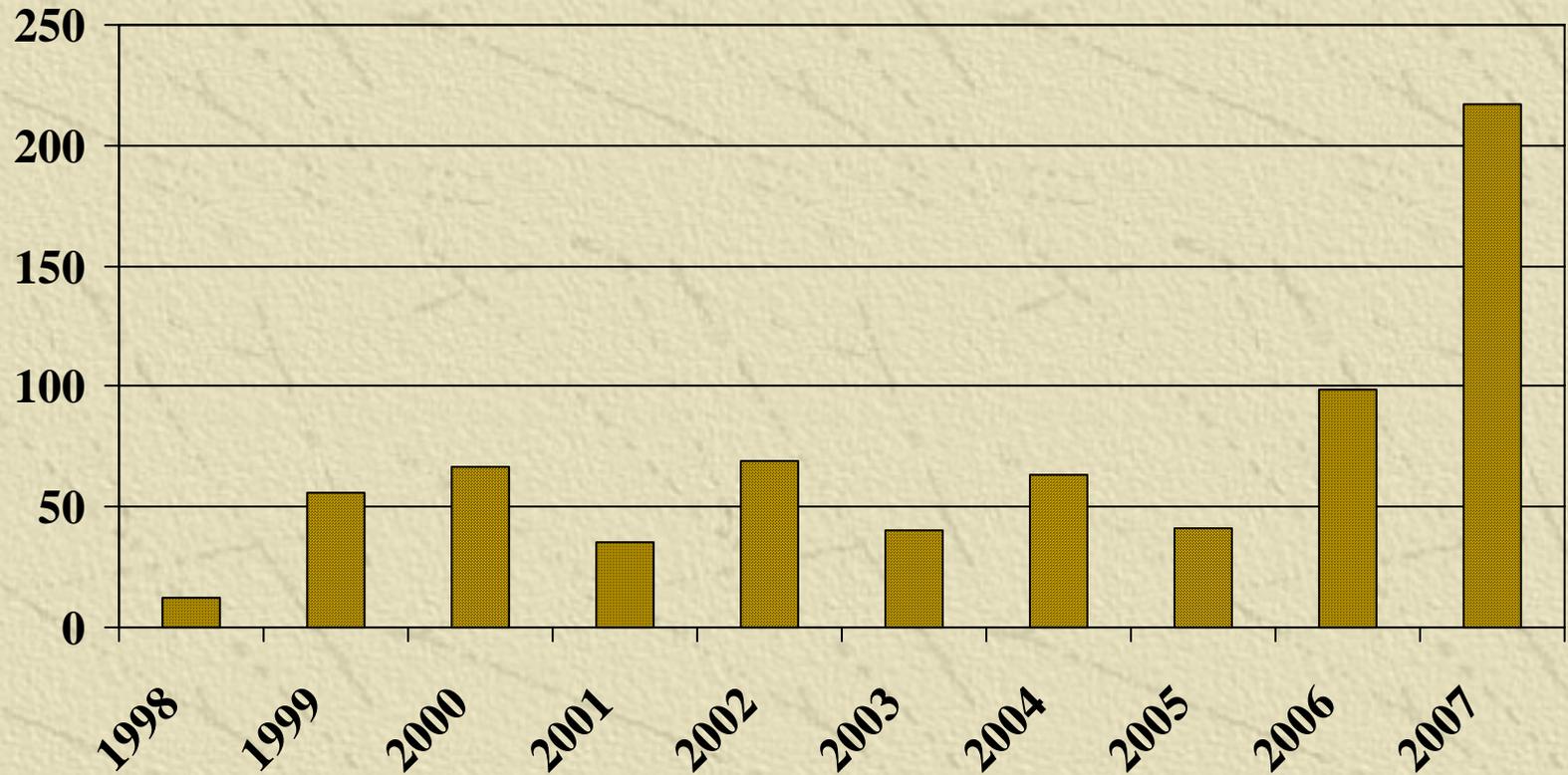
✦ Pediatric fatalities

- ✦ No known risk factors for severe infection
- ✦ Both succumb in <10 days

✦ Three other ehrlichiosis-related fatalities

- ✦ 2 in chemotherapy for cancer/leukemia
- ✦ 1 with heart disease

Case Reports for Ehrlichiosis/Anaplasmosis* Missouri, 1998 to 2007



*Infection with *Ehrlichiosis chaffeensis*, *E. ewingii*, *Anaplasma phagocytophilum*, and Ehrlichiosis/Anaplasmosis, unknown agent.

MO Ehrlichiosis HME – 2007

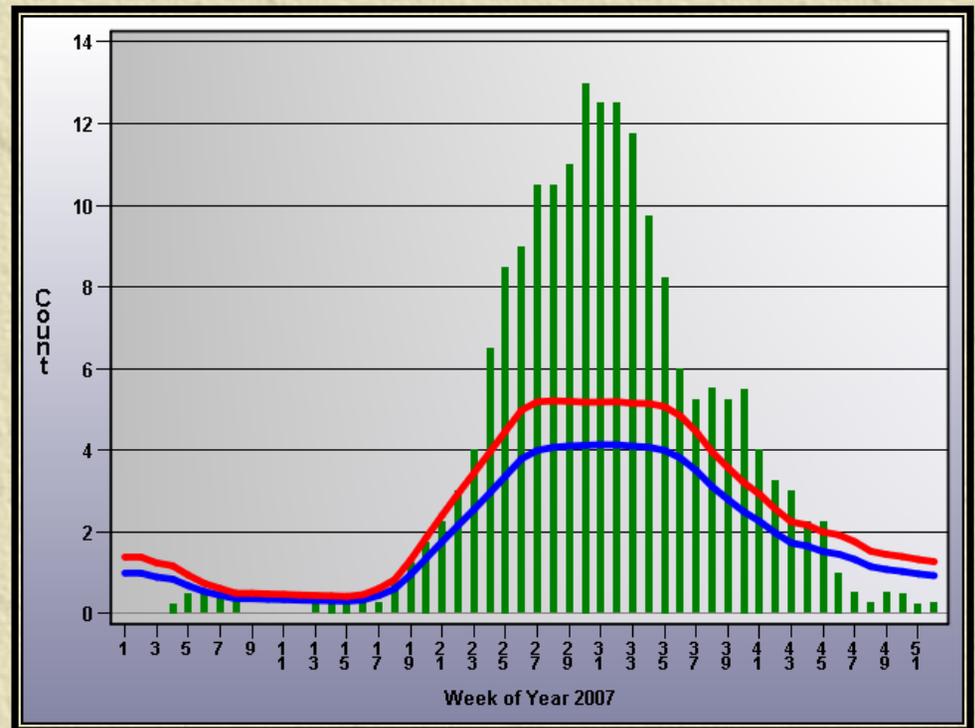
4-Week Count Mean: Week 52, 2007

(Provisional Data)

Legend Key

- 4-week Count (Mean)*
- Historical Limit (2 std)
- Historical Limit (3 std)

*4-week count mean based on the current and 3 previous weeks

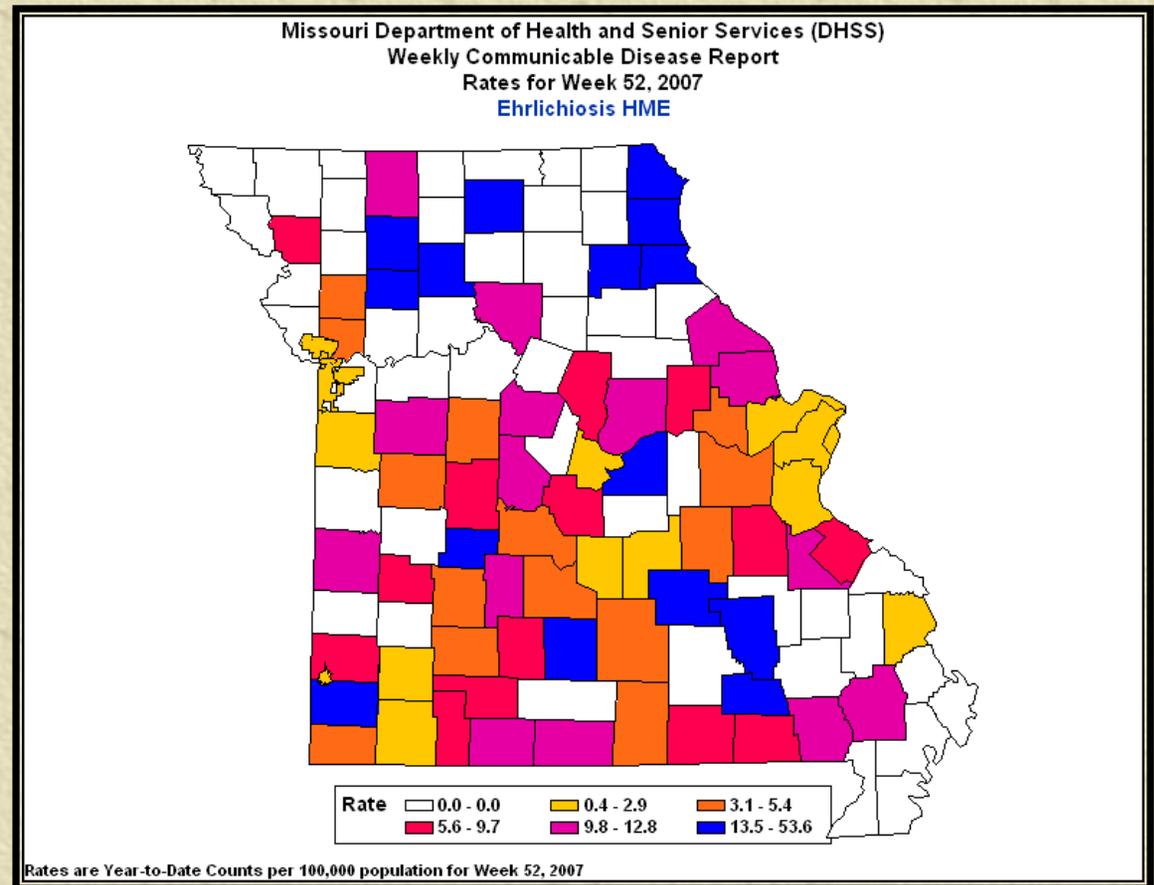


MO Ehrlichiosis HME – 2007

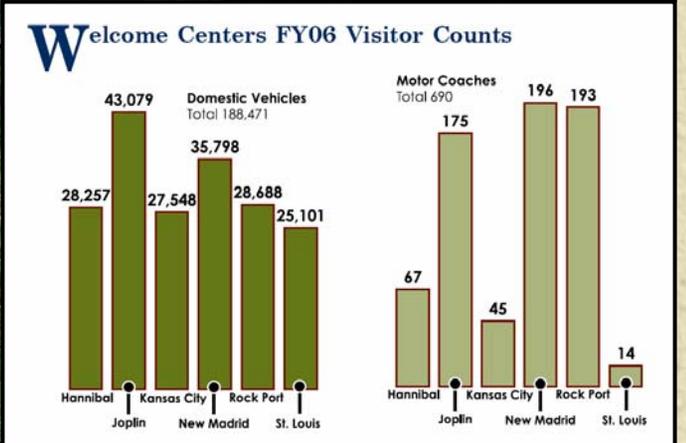
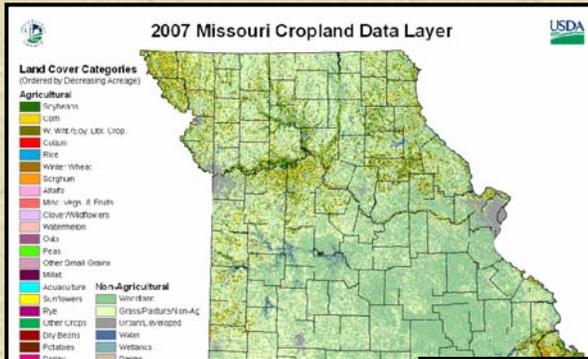
Rate per 100,000 by Local Health Agency:
Week 52, 2007

(Provisional Data)

Legend Key

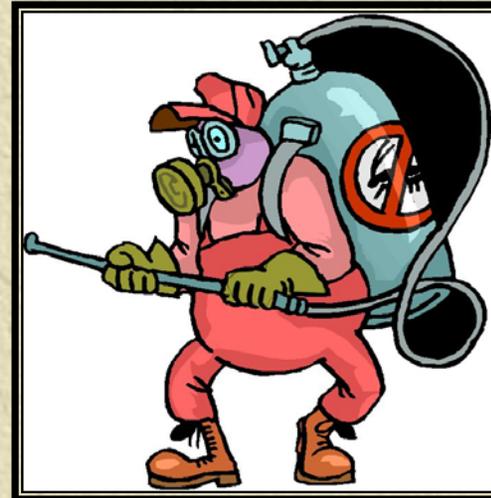
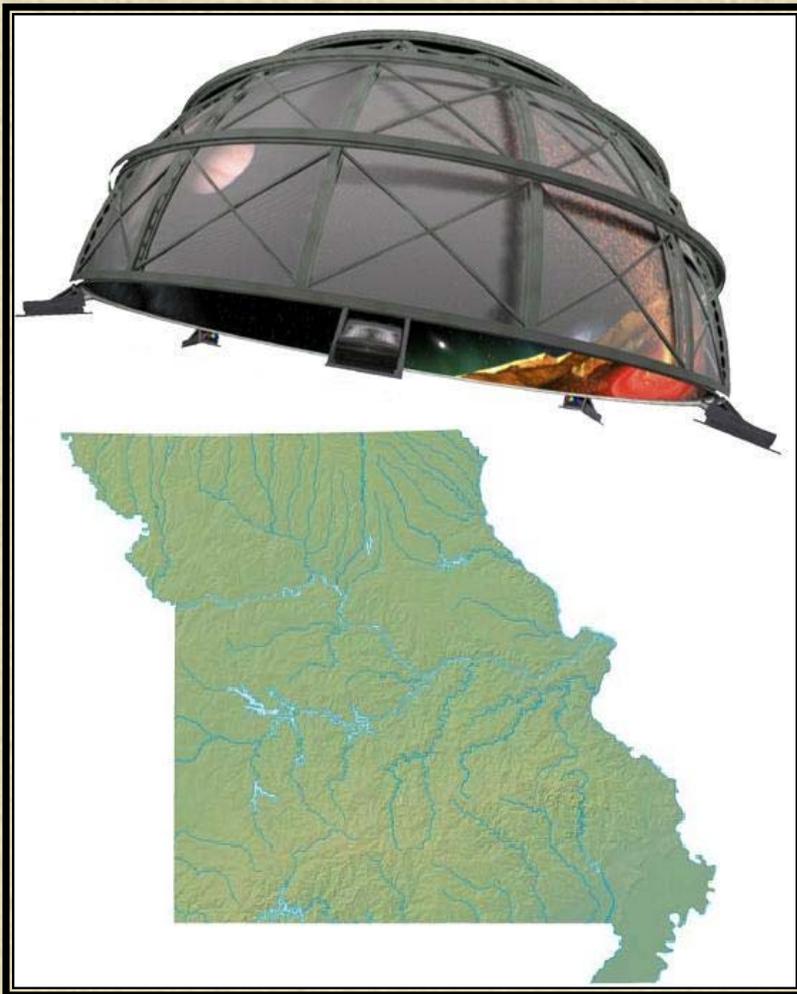


Staying Indoors Isn't One of the Choices!



Evidence-based Public Health Practices

No data to support building a dome and treating the entire state with pesticide. . .



DHSS Response to Increased Reports

Missouri Department of Health & Senior Services	
Health Advisory: Increase in Reported Cases of Tick-Borne Rickettsial Diseases June 14, 2007	Health Advisory June 14, 2007
<p>This document will be updated as new information becomes available. The current version can always be viewed at http://www.dhs.mo.gov.</p> <p>The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:</p> <p>Health Alerts: convey information of the highest level of importance which warrants immediate action or attention from Missouri health providers, emergency responders, public health agencies, and/or the public.</p> <p>Health Advisories: provide important information for a specific incident or situation, including that impacting neighboring states, may not require immediate action.</p> <p>Health Guidances: contain comprehensive information pertaining to a particular disease or condition, and include recommendations, guidelines, etc. endorsed by DHSS.</p> <p>Health Updates: provide new or updated information on an incident or situation; can also provide information to update a previously sent Health Alert, Health Advisory, or Health Guidance, unlikely to require immediate action.</p>	<p>FROM: JANE DRUMMOND DIRECTOR</p> <p>SUBJECT: Increase in Reported Cases of Tick-Borne Rickettsial Diseases in Missouri in 2007</p> <p>SUMMARY</p> <ul style="list-style-type: none">From January 1 to June 1, 2007, cases of suspected and confirmed tick-borne rickettsial diseases (TBRDs), including ehrlichiosis/anaplasmosis and Rocky Mountain spotted fever (RMSF), have increased in Missouri compared to the previous five years.Health-care providers should be aware of the signs and symptoms of these diseases, which include fever, headache, malaise, and rash. Rash is much more common in RMSF (90%) compared with ehrlichiosis/anaplasmosis (~10%-60%).Treatment should begin without delay.Adults- 100 mg per dose administered twice daily (orally or intravenously)Children- 2.2 mg/kg body weight per dose administered twice daily (orally or intravenously) to a maximum of 100 mg/doseConfirmatory testing, including polymerase chain reaction (PCR) and/or paired acute and convalescent serology can be obtained through the Missouri State Public Health Laboratory (MSPHL) at (573) 751-0633, or through the St. Louis Children's Hospital Virology Laboratory (PCR only) at 314-454-4161.TBRD should be suspected in anyone with symptoms as described above and a history of tick bite or spending time in a tick habitat (grassy or wooded area). Eliciting a history of possible tick exposure is critical to making the diagnosis. Suspect cases or positive laboratory results should be reported to the local public health agency, or the Missouri Department of Health and Senior Services (DHSS) at 573-751-6113.Primary prevention includes avoidance of tick habitats, the use of DEET-containing repellent, wearing long-sleeve shirts and pants, and thoroughly checking for and removing ticks promptly.Detailed information on the clinical presentation, diagnosis, treatment, and prevention of TBRDs is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5504a1.htm. <p>INTRODUCTION</p> <p>This Health Advisory is being issued following confirmation of a tick-borne disease-related fatality in a Missouri citizen. A northeast Missouri child died May 23, 2007. Diagnostic tests performed at St. Louis Children's Hospital indicate the child was infected with <i>Ehrlichia chaffeensis</i>, a tick-borne rickettsia that causes human monocytic ehrlichiosis (HME). Missouri Department of Health and Senior Services (DHSS) and local public health disease investigators found that the child had been hospitalized with symptoms consistent with ehrlichiosis after apparently being bitten by a tick. The child died about ten days after symptoms initially appeared despite intensive medical care.</p> <p>Ehrlichiosis/anaplasmosis, like Rocky Mountain spotted fever (RMSF), another tick-borne rickettsial disease (TBRD), can be life threatening. The early signs and symptoms of both</p>
<p>Office of the Director 912 Wildwood P.O. Box 570 Jefferson City, MO 65102 Telephone: (800) 392-0272 Fax: (573) 751-6041 Web site: http://www.dhs.mo.gov</p>	

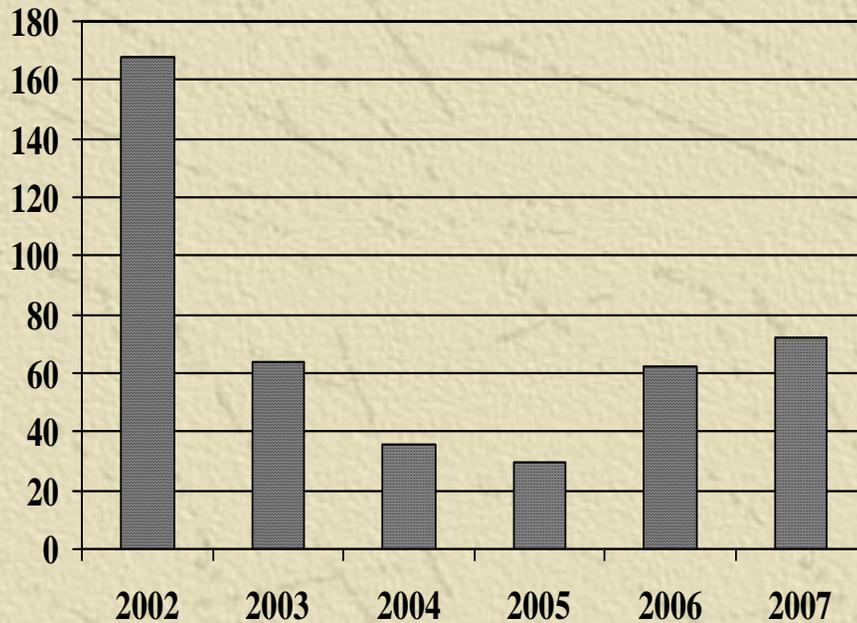
✦ DHSS Physician's Health Advisory

✦ Two DHSS press releases – June and August

✦ > 30 radio, TV, and newspaper interviews

✦ Field investigation with Washington University in St. Louis

Missouri in 2007— *West Nile Virus Still Active*



■ MO West Nile Virus Human Cases*

2007 WNV Human

77 confirmed and probable cases

- Neuroinvasive WNV 61
- Uncomplicated Fever 16
- Asymptomatic infection 14

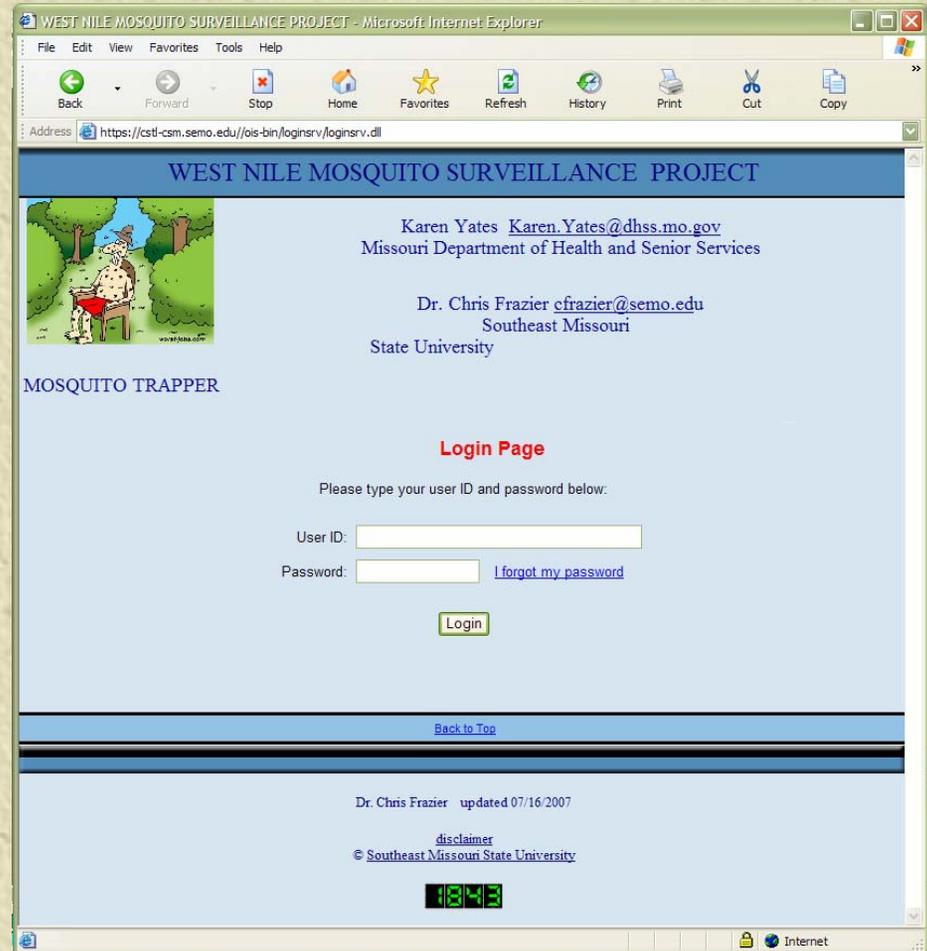
5 WNV-related fatalities

2007 WNV Equine

20 horses – down from 60 in 2006 and 30 in 2005

Mosquito-Borne Disease is Preventable Thanks to ELC

15 local public health agencies receive financial and technical support for mosquito surveillance



Mosquito-Borne Disease is Preventable Thanks to ELC

Remind the public that West Nile virus infection is still a threat.



Spray

before you work or play

on the porch
at the park
on the farm
in the yard
on the boat
on a picnic
at the beach
in the garden
on a hike

- Prevent West Nile Virus Disease - keep repellent handy.
- Dusk and dawn are when the mosquitoes are out.
- Use mosquito repellent with DEET or picaridin.

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State of Missouri
DEPARTMENT OF HEALTH AND SENIOR SERVICES

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Dead Bird Reporting

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Step 2: Reporting Form

* DENOTES REQUIRED FIELDS

REPORTER INFORMATION

*Last Name: *First Name: MI:

*Affiliation: PRIVATE CITIZEN

Address:

*City: *State: *Zip:

Phone: (###-###-####) Email:

DEAD BIRD INFORMATION

*Type of Bird:

*Date Found: (mm/dd/yyyy)

*Condition of Bird:

*Cause of Death:

*Address where bird was found:

*City: State: MO *Zip: [Find Zip](#)

For help completing this form, open the Dead Bird Reporting Tips & Tricks page using the link in the left sidebar.

[Submit](#) [Cancel](#)

Early Season Public Outreach to Prevent Vector-Borne Disease

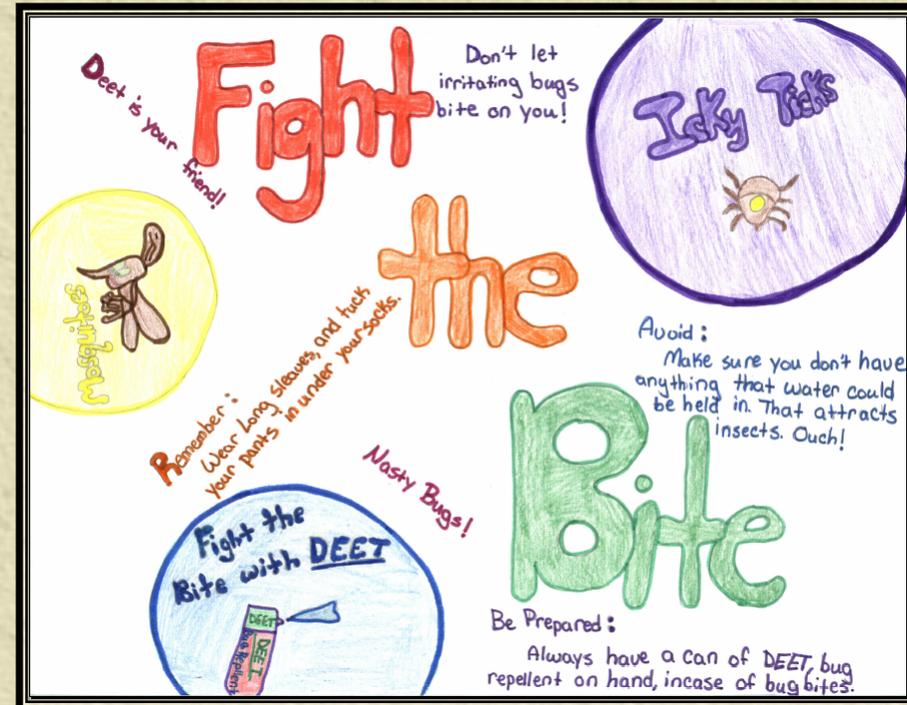


✦ Governor declares
May is “*Tick-Borne
Disease Awareness
Month*”

✦ Late June media
event

- ◆ DEET industry
- ◆ City of St. Louis
Department of
Health

Fight the Bite Poster Contest Missouri 2007 Winners



Please Don't Forget to
Enjoy the Outdoors!!!

Risk of Vector-Borne Disease
in Missouri

~5 cases per 100,000



Hey! I feel
like some
fresh air and
exercise!