

Annual Report



GLOBAL SOLUTIONS FOR MOSQUITO CONTROL

Pelican Group of Lakes Improvement District

2007



SERVICE



PRODUCTS



EQUIPMENT



EDUCATION



Pelican Group of Lakes Improvement District

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Clarke Mosquito Control

2007 Annual Report

At Clarke Mosquito Control, our focus is controlling nuisance mosquitoes, reducing the threat of mosquito-borne disease and in doing our part to ensure a comfortable and healthy community.

With adult mosquito management, we use the latest operational technology and minimally intrusive products. An environmentally sensitive, low-dosage, ultra-low-volume (ULV) misting technique is used to provide a contact kill on adult mosquitoes in flight. This treatment is commonly used to provide immediate control of existing mosquito populations. In addition, all of the control products used have been labeled and registered by the U.S. Environmental Protection Agency for mosquito control.

Each year, we add to our expertise by reviewing the treatment programs of our clients to provide key learnings for future mosquito control programs. This document will provide an overview of weather data, West Nile virus activity and a complete summary of services rendered.



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West Nile Update

While most mosquitoes are merely nuisances, some can transmit serious diseases. La Crosse encephalitis, western equine encephalitis, eastern equine encephalitis, West Nile virus, and dog heartworm are all mosquito-borne viruses found in Minnesota.

West Nile Virus, now endemic to the entire continental United States, showed considerable activity this year, with concentrations in Colorado (506 cases), North Dakota (343 cases) and California (322 cases). The northwest states also demonstrated significant areas of concentration (in Montana, Idaho and Wyoming).

This year, Minnesota had 96 human cases of West Nile Virus, including 2 deaths, that were found throughout 41 counties.

What is West Nile Encephalitis?

- West Nile Encephalitis is a viral disease transmitted to people and horses through the bite of an infected mosquito.
- West Nile virus (WNV) is maintained in a transmission cycle involving one or more species of mosquitoes and birds. Current research is focusing on which mosquitoes and birds are most important in this cycle.
- WNV is usually found in Africa and southern Europe. The virus was first reported in North America during a 1999 outbreak of encephalitis in New York City.

How serious is West Nile virus?

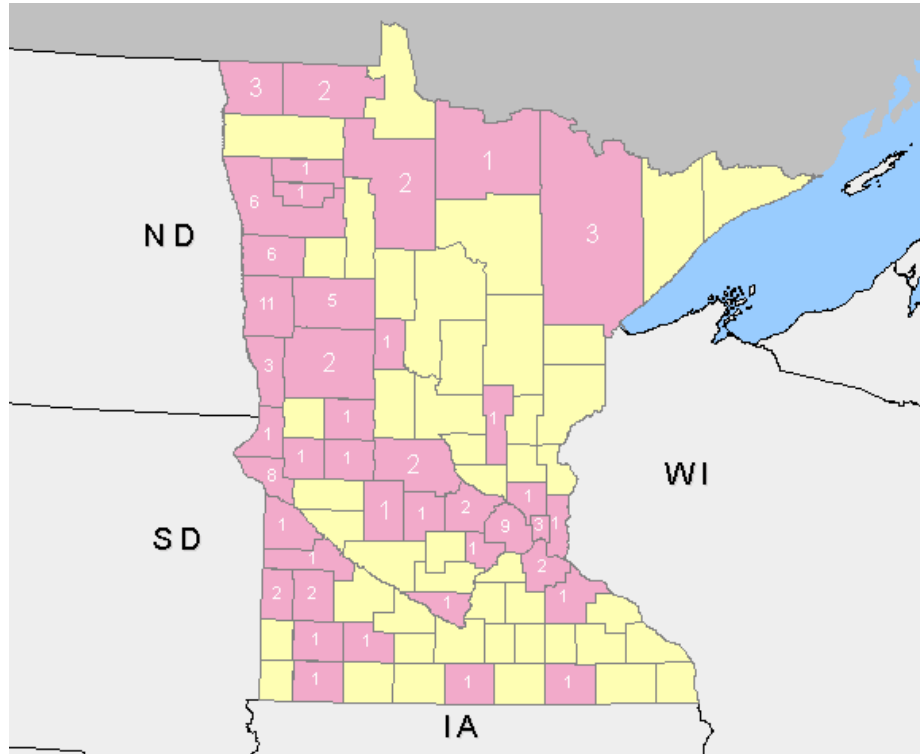
- Most people infected with WNV will have either no symptoms or a very mild illness. A small percentage of people, especially elderly patients, may develop encephalitis (inflammation of the brain). Approximately 10% of these encephalitis cases are fatal.
- Most of the severe human cases of WN encephalitis begin with sudden onset of fever, headache, stiff neck, and vomiting. The illness progresses quickly to include confusion and other mental status changes, altered reflexes, convulsions, and coma. There is no treatment for WN encephalitis other than supportive care.

What is the risk of a West Nile Encephalitis outbreak in Minnesota?

- Since 1999, WNV has moved rapidly to 47 states, the District of Columbia, 7 Canadian Provinces, 24 Mexican States, Dominican Republic, EL Salvador, Jamaica, and the Cayman Islands. WNV was detected in Minnesota (July 23rd, 2002).



Cumulative 2007 Data as of 3 am, Oct 16, 2007



Legend
 Positive Test Results
 No Positive Test Results*



YEAR	TOTAL US CASES	FATALITIES	MN CASES	MN FATALITIES
2001	66	9	0	0
2002	4156	284	48	0
2003	9862	264	148	4
2004	2539	100	34	2
2005	3000	119	45	3
2006	3011	94	65	3
2007	416	38	96	2



With our abundant mosquito and bird populations, we expect that WNV will continue its presence in Minnesota for the foreseeable future. Similar to other mosquito-transmitted diseases already established in this area (LaCrosse encephalitis, Western equine encephalitis, and Eastern equine encephalitis), WNV will likely cause sporadic illness in humans (especially elderly people).

What can people do to prevent West Nile Encephalitis?

- Personal protection measures such as use of mosquito repellents, avoiding outdoor exposures at dusk and dawn (peak feeding time for many mosquitoes), and wearing long-sleeved shirts and long pants can reduce the risk of WN encephalitis.
- Removal of water-holding containers (mosquito breeding sites) from residential areas will reduce numbers of several mosquito species.
- There is a vaccine available for horses to prevent WN encephalitis. Please contact your veterinarian for vaccine recommendations. A human WNV vaccine is still in development.

How can I help look for West Nile virus?

- The first indication of WNV in an area is usually an outbreak of the disease in wild bird populations. Over 255 species of birds have been found to be infected, but dead American crows and Blue jays are especially apparent in outbreak areas. If you find dead birds during the summer months (especially July-September), please report them to the Minnesota Department of Health.



SERVICES PERFORMED YEAR-TO-DATE

2007 Summary of Activities

- May 31: ULV Truck Spray and Barrier ATV Spray
- June 8: ULV Truck Spray and Barrier ATV Spray
- June 14: ULV Truck Spray and Barrier ATV Spray
- June 21: ULV Truck Spray and Barrier ATV Spray
- June 28: ULV Truck Spray and Barrier ATV Spray
- July 2: ULV Truck Spray and Barrier ATV Spray
- July 12: ULV Truck Spray and Barrier ATV Spray
- July 19: ULV Truck Spray and Barrier ATV Spray
- July 26: ULV Truck Spray and Barrier ATV Spray
- August 1: ULV Truck Spray and Barrier ATV Spray
- August 9: ULV Truck Spray and Barrier ATV Spray
- August 16: ULV Truck Spray and Barrier ATV Spray
- August 23: ULV Truck Spray and Barrier ATV Spray
- August 30: ULV Truck Spray and Barrier ATV Spray

Invoiced: 14 treatments at \$2,350.00 for a total cost of \$32,900.00