



Annual Report for:  
[Pelican Group of Lakes Improvement District](#)

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[What will this report do for you?](#)

This report will provide you with an overview of weather data, West Nile virus activity and a complete summary of services rendered.





## The New Clarke

Clarke is a global environmental products and services company. Our mission is to make communities around the world more livable, safe and comfortable. We do this by pioneering, developing and delivering environmentally responsible mosquito control and aquatic services to help prevent disease, control nuisances and create healthy waterways.

### Innovation

Introducing revolutionary ideas, and finding new and better solutions is what we continually strive to do.

### Community

We're enthusiastic about making a difference, so we are committed to helping people near and far as a business and in our everyday lives.

### Sustainability

We're guided by the principle of knowing that the actions we're taking today are lessening our impact on the earth, leaving the world better for future generations.

[Learn more at Clarke.com](http://Clarke.com)





## Contact Information

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## Operational Overview

With adult mosquito management, we use the latest operational technology. An environmentally sensitive, low-dosage, ultra-low-volume (ULV) misting technique is used to provide an on contact kill of 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 (EPA) for mosquito control. All Clarke applicators are licensed by the state of Minnesota.

### Product used in service

The product that we use is called **Biomist® 4+4**. Biomist® adulticides are specially formulated to fit into your Integrated Pest Management mosquito control program. It contains permethrin, that retains the rapid knockdown qualities associated with natural pyrethrins and is scientifically synergized to maximize the effectiveness of permethrin against mosquito populations. And with this synergism the amount of active ingredient needed is minimized, helping to reduce impact on the environment.

More information is available at [www.clarke.com](http://www.clarke.com)



## Weather Data

For the 2009 summer, the average temperature of 71.7 degrees F was 0.4 degree F below the 20th Century average. The 2008 average summer temperature was 72.7 degrees F.

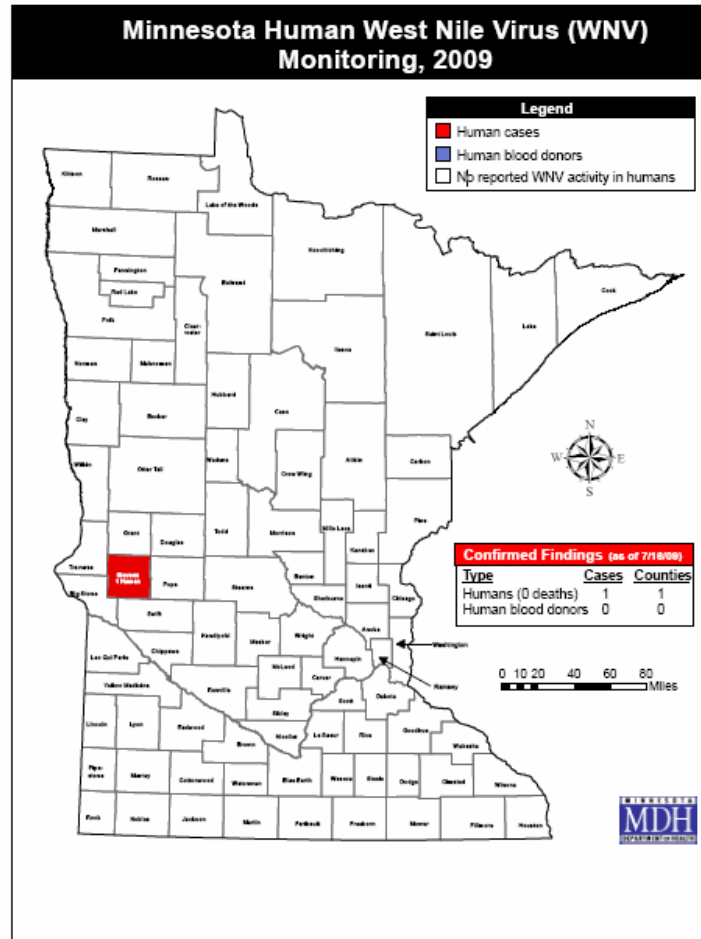
A recurring upper level trough held the June-August temperatures down in the central states, where Michigan experienced its fifth, Wisconsin, Minnesota, and South Dakota their seventh, Nebraska its eighth, and Iowa its ninth coolest summer. By contrast, Florida had its fourth warmest summer, while Washington and Texas experienced their eighth and ninth warmest, respectively.

The Michigan, Wisconsin, Iowa and Minnesota region experienced its **sixth coolest summer on record**. Only the Northwest averaged above normal temperatures.

### Statewide Precipitation Ranks for MINNESOTA 2008-2009

Period	Amount	Rank
Aug 2009 1-month period	3.66"	<a href="#">62<sup>nd</sup> driest</a> <a href="#">54<sup>th</sup> wettest</a>
Jul-Aug 2009 2-month period	6.13"	<a href="#">37<sup>th</sup> driest</a> <a href="#">79<sup>th</sup> wettest</a>
Jun-Aug 2009 3-month period	9.34"	<a href="#">23<sup>rd</sup> driest</a> <a href="#">93<sup>rd</sup> wettest</a>
May-Aug 2009 4-month period	11.18"	<a href="#">10<sup>th</sup> driest</a> <a href="#">106<sup>th</sup> wettest</a>
Apr-Aug 2009 5-month period	12.82"	<a href="#">12<sup>th</sup> driest</a> <a href="#">104<sup>th</sup> wettest</a>
Mar-Aug 2009 6-month period	15.54"	<a href="#">24<sup>th</sup> driest</a> <a href="#">92<sup>nd</sup> wettest</a>
Feb-Aug 2009 7-month period	16.55"	<a href="#">31<sup>st</sup> driest</a> <a href="#">85<sup>th</sup> wettest</a>
Jan-Aug 2009 8-month period	17.18"	<a href="#">28<sup>th</sup> driest</a> <a href="#">88<sup>th</sup> wettest</a>
Dec-Aug 2008-09 9-month period	18.76"	<a href="#">39<sup>th</sup> driest</a> <a href="#">76<sup>th</sup> wettest</a>

## West Nile Update



### 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 48 states, the District of Columbia, 7 Canadian Provinces, 24 Mexican States, Dominican Republic, EL Salvador, Jamaica, and the Cayman Islands. WNV was first detected in Minnesota July 23rd, 2002.
- From 1999-2006, 4,261 (956 deaths) human WN cases were reported in the United States. Of these, 430 (12 deaths) were Minnesota residents.
- With our abundant mosquito and bird populations, we expect that WNV will become established in Minnesota. 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) and horses.

## 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.

[Learn more by visiting www.health.state.mn.us](http://www.health.state.mn.us)





## Services Performed Year-To-Date

### 2009 Summary of Activities

#### **14 Truck ULV Treatments on:**

- May 28
- June 4
- June 11
- June 18
- June 25
- July 2
- July 9
- July 16
- July 23
- July 30
- August 5
- August 13
- August 20
- August 27

#### **1 Special Event Truck ULV Treatment on:**

- July 2 (Event)

To learn more about Clarke, please visit [www.clarke.com](http://www.clarke.com) or call 1-800-240-4262

