

# **Annual Report 2015**

# **North Shore Mosquito Abatement District**

117 Northfield Road  
Northfield, IL 60093  
[www.nsmad.com](http://www.nsmad.com)

P: (847) 446-9434

F: (847) 446-0248

**NORTH SHORE MOSQUITO ABATEMENT DISTRICT**

**2015 ANNUAL REPORT**

**TRUSTEES**

**Carol Blustein, President  
Nelson Howard, Vice-President  
William Zimmer, Treasurer  
John M. Zbesko, Secretary  
Kathleen Kendrick**

**EXECUTIVE DIRECTOR**

**Roger S. Nasci, PhD., July 2015  
Robert Berry, Retired March 2015**

Report prepared by Dave Zazra, Communications Manager, under the direction of Roger S. Nasci, Executive Director, with the assistance of the NSMAD staff.

## TABLE OF CONTENTS

### **Preface**

|   |               |
|---|---------------|
| <b>Introduction to the North Shore Mosquito Abatement District</b>    | <b>Pg. 1</b>  |
| Area Served   | Pg. 1         |
| Organization  | Pg. 1         |
| Mission Statement   | Pg. 1         |
| <b>Public Health and Mosquitoes</b>                                   | <b>Pg. 2</b>  |
| <b>Operations: Integrated Pest Management</b>                         | <b>Pg. 2</b>  |
| Surveillance Program & Determining Action Thresholds                  | Pg. 2         |
| Environmental Surveillance  | Pg. 2         |
| Monitoring Mosquito Populations                                       | Pg. 2         |
| <b>2015 Female Mosquito Species Trapped</b>                           | <b>Pg. 3</b>  |
| <b>2015 WNV Testing Results</b>                                       | <b>Pg. 4</b>  |
| <b>2015 <i>Culex</i> Abundance, Infection Rate &amp; Vector Index</b> | <b>Pg. 4</b>  |
| <b>Human WNV Cases per Year by NSMAD Community</b>                    | <b>Pg. 5</b>  |
| <b>Mosquito Control</b>   | <b>Pg. 6</b>  |
| 2015 NSMAD Mosquito Control Activities Summary                        | Pg. 7         |
| NSMAD Integrated Pest Management Protocol Summary                     | Pg. 8         |
| <b>Education and Communications</b>                                   | <b>Pg. 9</b>  |
| <b>2015 Combined Budget and Appropriations</b>                        | <b>Pg. 10</b> |
| <b>2015 Pesticide Usage</b>   | <b>Pg. 11</b> |
| <b>2015 Vehicles and Equipment</b>                                    | <b>Pg. 12</b> |

## PREFACE

2015 was a year of transition for the NSMAD. Robert Berry, our Executive Director for the past 12 years, retired in March 2015. Our new Executive Director, Roger S. Nasci, PhD., came on board in July 2015. In his previous position as Chief of the Arboviral Diseases Branch in the Division of Vector-Borne Diseases at the Centers for Disease Control and Prevention (CDC), National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), Dr. Nasci was responsible for directing the epidemiology, diagnostic, ecology and arbovirus research activities of the Arboviral Diseases Branch in Fort Collins, Colorado.

The Cook County Board appointed a new member, Kathleen Kendrick, to our Board of Trustees. Trustee Kendrick started her tenure in September 2015, replacing long-time member Otto Cesario, who passed away in 2014.

The 2015 season can be characterized as a low West Nile Virus activity year when compared to other years since the disease first appeared in Illinois in 2002. We urge everyone to remain vigilant about protecting themselves from mosquito bites and mosquito borne illness, both at home and when traveling.

The Illinois Department of Public Health reported 72 human cases of West Nile virus statewide in 2015, with 7 deaths. Cook County continues to be the most active part of the state for WNV activity. According to the Centers for Disease Control, there were 22 human cases in all of Cook County. Within the area served by NSMAD, there were three human cases and no deaths. Neuroinvasive illnesses, the more severe of WNV cases, were, once again, reported in greater numbers than non-neuroinvasive cases. It is widely believed by public health officials that the majority of milder WNV infections continue to be underreported. There were 44 neuroinvasive cases in Illinois in 2015.

You will find further details of the 2015 mosquito season in this Annual Report, including surveillance and collection data and a detailed description of the methods we use to control the local mosquito population.

## **Introduction To The North Shore Mosquito Abatement District**

The passage of the *Mosquito Abatement District Act* (Chap. 111 ½, Illinois Revised Act) by the Illinois legislature in September 1927 prompted a group of citizens to work for the organization of a mosquito abatement program for the North Shore of Cook County. This led to the establishment of the North Shore Mosquito Abatement District (NSMAD), which was officially chartered on December 8, 1927. This year, with support of the citizens of our District, we have successfully completed our 88<sup>th</sup> year of public health service. We are looking forward to continuing our success into our 89<sup>th</sup> year of public health service to the communities of the North Shore.

### **Area Served**

The District serves the municipalities of Deerfield (east of Pflingsten and south of Lake Cook Road only) Evanston, Glencoe, Glenview (east of Pflingsten Road), Golf, Kenilworth, Lincolnwood, Morton Grove (east of Washington Street), Niles (east of Harlem Avenue), Northbrook (east of Pflingsten Road), Northfield, Skokie, Wilmette and Winnetka.

The area covered by the NSMAD consists of 80 square miles of Cook County's North Shore. This sprawling and diverse area includes more than 900 miles of streets, 55,000 catch basins, 26.9 miles of rivers, 31.8 miles of railroad rights of way, 2.9 miles of ravines, 21.8 miles of bike trails, 17.8 miles of Forest Preserve District horse trails and approximately 3,500 acres of Forest Preserve District land.

### **Organization**

A five person Board of Trustees governs the North Shore Mosquito Abatement District. Trustees are residents of the District and are appointed by the Cook County Board President and serve without compensation. Operation of the District is supported by taxes levied on property located within the boundaries of the member townships.

The NSMAD employs seven full-time staff members and between 12-15 seasonal field technicians. Full time staff positions include: the Executive Director, a Chief Field Inspector, a Communications Manager, a Field Supervisor, an Internal Operations Manager, an Operations and Laboratory Manager and a Vector Biologist.

The District office, laboratory and maintenance facility is located at 117 Northfield Road, Northfield, Illinois.

### **Mission Statement**

The NSMAD controls mosquito populations in the District to:

1. Reduce the risk of disease from mosquito-borne illness
2. Minimize the negative impact mosquitoes have on quality of life

## **Public Health and Mosquitoes**

Mosquitoes are responsible for the transmission of many potentially deadly diseases around the globe, such as malaria, yellow fever, dengue, Zika, filariasis and many forms of viral encephalitis. These diseases are transmitted through the bite of an infected female mosquito.

In the United States, mosquito-borne viral encephalitis is the primary health concern of public health agencies. West Nile Virus (WNV), St. Louis Encephalitis (SLE), Eastern Equine Encephalitis (EEE), Western Encephalitis (WE), and La Crosse Encephalitis (LAC), are serious diseases with symptoms ranging from mild or flu-like to severe, including paralysis, coma and death. In northern Illinois, WNV is the mosquito-transmitted virus of greatest concern. Recovery from these diseases can be a long and painful process, with some people never fully recuperating. Unfortunately, there are no vaccines for humans for any of these diseases at this time, and prevention relies on mosquito control and avoiding mosquito bites.

## **Operations: Integrated Pest Management**

Our abatement program is based on the principles of integrated pest management (IPM). IPM utilizes a thorough understanding of the biology and ecology of the mosquitoes and mosquito-transmitted viruses that occur in the District and employs a comprehensive surveillance program to provide the information needed to develop action thresholds and to make sound decisions about mosquito control activities. In addition, IPM utilizes the full range of mosquito control tools and procedures and applies them as appropriate for a given situation.

There are four principal components of the NSMAD Integrated Pest Management Program:

- **Surveillance/Action Thresholds**
- **Larval Control/Source Reduction**
- **Adult Mosquito Control**
- **Public Outreach/Education**

## **Surveillance Program and Determining Action Thresholds**

The surveillance program monitors local mosquito population abundance and the prevalence of WNV-infected mosquitoes in the area. We also collect data about weather patterns that are associated with mosquito abundance and WNV activity levels. This information is evaluated against our evidence-based action thresholds and helps us make decisions regarding appropriate control methods.

## **Environmental Surveillance**

Weather conditions have a significant influence on the type and number of mosquitoes produced in NSMAD. Temperature and rainfall patterns are monitored throughout the year, and help determine when we initiate our surveillance and control efforts and to anticipate the type of mosquito problems we will encounter. Heavy, flooding rains early in the year tend to create large broods of nuisance mosquitoes that can affect the quality of life in the area, while warm and dry early-season conditions tend to create a favorable environment for increased *Culex* mosquitoes and a greater risk of WNV transmission during the latter part of the summer.

## **Monitoring Mosquito Populations**

We utilize 23 mosquito traps, strategically placed throughout the District to monitor mosquito abundance and WNV infection rates. Nine New Jersey light traps are placed in residential yards. Mosquitoes are attracted to a light source in the trap and a fan blows the mosquito into a jar where they are killed and held until picked up by one of the NSMAD field technicians. These traps are used primarily to monitor the abundance of nuisance mosquitoes in the area. New Jersey Light Traps are run 4 nights/week and the collections are picked up twice per week.

Gravid traps are placed at 14 sites throughout the District. Gravid traps are used to capture *Culex* mosquitoes, the vector of WNV and other potential diseases in this area. The gravid traps are run 7 days a week and the collections are returned to the laboratory for processing 3 times per week. Gravid traps provide a measure of the abundance of *Culex* mosquitoes. In addition, these mosquitoes are tested for the presence of WNV. Mosquitoes collected from the gravid traps are identified, then grouped into batches of no more than 50 mosquitoes and are tested in our laboratory for WNV via Rapid Analyte Measurement Platform (RAMP®) Test. This information provides an estimate of the WNV risk in the area. In addition to being used in NSMAD, the mosquito monitoring information is provided to the Illinois Department of Public Health (IDPH) for use in developing statewide WNV risk evaluations.

Larval mosquito populations are monitored either by directly observing the larval habitat for the presence of mosquito larvae and pupae in the water if possible, or by taking water samples from the aquatic habitats using a standard volume dipper and examining the sample for the presence of larvae or pupae.

### **2015 Female Mosquitoes Collected By Species**

| Mosquito Species      |  | Trap Type   |              | Totals       |
|-----------------------|--|-------------|--------------|--------------|
|                       |  | New Jersey  | Gravid       |              |
| <b><i>Aedes</i></b>   | <b><i>vexans</i><sup>1</sup></b>           | <b>2783</b> | <b>88</b>    | <b>2871</b>  |
| <i>Aedes</i>          | <i>sticticus</i>                           | 5           | 42           | 47           |
| <i>Aedes</i>          | <i>trivittatus</i>                         | 15          | 263          | 278          |
| <i>Aedes</i>          | <i>canadensis</i>                          | 8           | 0            | 8            |
| <i>Aedes</i>          | <i>grossbecki</i>                          | 11          | 0            | 11           |
| <i>Aedes</i>          | <i>triseriatus</i>                         | 24          | 224          | 248          |
| <i>Aedes</i>          | <i>japonicus</i>                           | 19          | 779          | 798          |
| <i>Aedes</i>          | <i>stimulans</i>                           | 6           | 0            | 6            |
| <i>Anopheles</i>      | <i>punctipennis</i>                        | 96          | 46           | 142          |
| <i>Anopheles</i>      | <i>quadrimaculatus</i>                     | 11          | 4            | 15           |
| <b><i>Culex</i></b>   | <b><i>pipiens/restuans</i><sup>2</sup></b> | <b>709</b>  | <b>87441</b> | <b>88150</b> |
| <i>Culex</i>          | <i>salinarius</i>                          | 2           | 0            | 2            |
| <i>Culex</i>          | <i>tarsalis</i>                            | 0           | 5            | 5            |
| <i>Culiseta</i>       | <i>inornata</i>                            | 2           | 4            | 6            |
| <i>Coquillettidia</i> | <i>perturbans</i>                          | 2           | 1            | 3            |
| <i>Orthopodomyia</i>  | <i>signifera</i>                           | 1           | 5            | 6            |
| <i>Psorophora</i>     | <i>ferox</i>                               | 6           | 8            | 14           |
| <i>Uranotaenia</i>    | <i>sapphirina</i>                          | 104         | 10           | 114          |
|                       |  | <b>3804</b> | <b>88920</b> | <b>92724</b> |

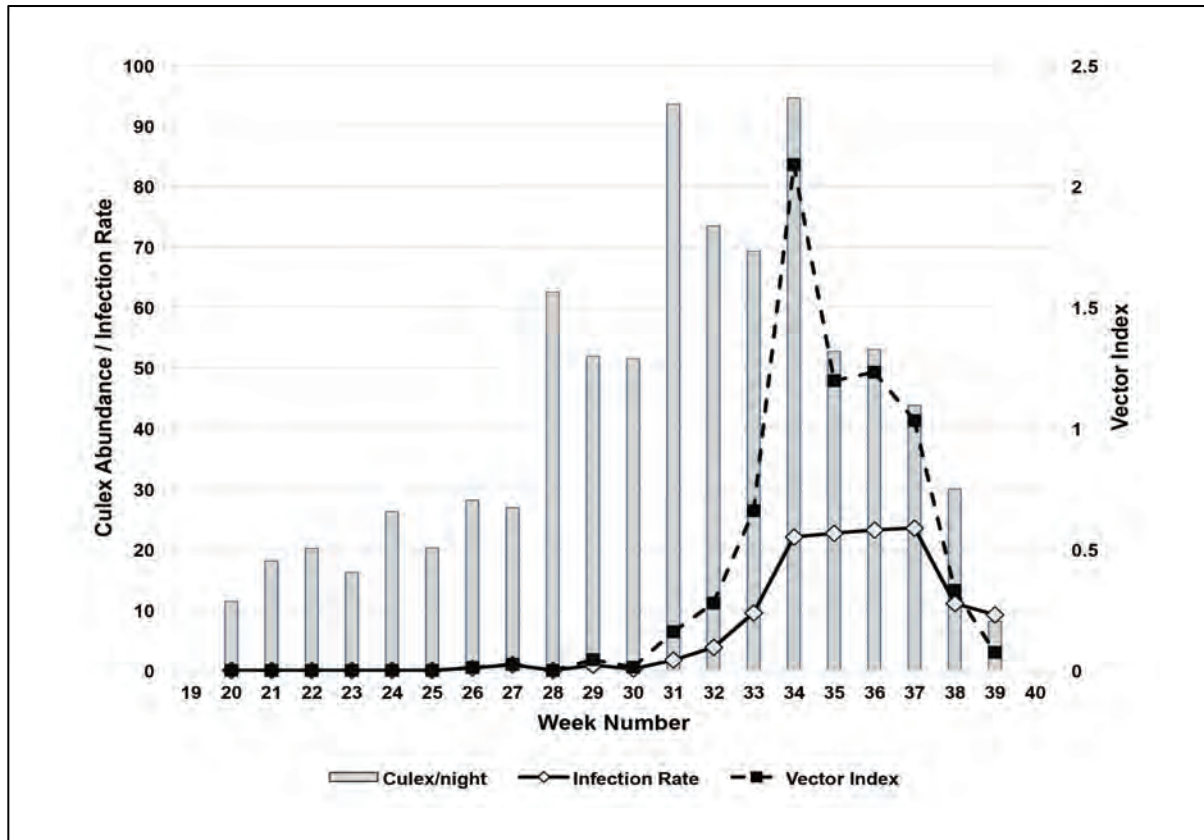
1 *Aedes vexans* are the primary nuisance/floodwater species found within NSMAD

2 *Culex pipiens/restuans* are the primary WNV vector species found within NSMAD

## 2015 NSMAD WNV Test Results

| Municipality  | # Positive Batches | # Batches Tested | # of Mosquitoes Tested |
|---------------|--------------------|------------------|------------------------|
| Evanston      | 22                 | 139              | 6240                   |
| Glencoe       | 11                 | 72               | 3209                   |
| Glenview/Golf | 67                 | 183              | 8506                   |
| Kenilworth    | 19                 | 81               | 3747                   |
| Lincolnwood   | 22                 | 97               | 4621                   |
| Morton Grove  | 22                 | 104              | 4793                   |
| Niles         | 15                 | 60               | 2507                   |
| Northbrook    | 9                  | 58               | 2543                   |
| Northfield    | 3                  | 60               | 2492                   |
| Skokie        | 44                 | 131              | 5851                   |
| Wilmette      | 8                  | 50               | 1923                   |
| Winnetka      | 16                 | 83               | 3781                   |
| <b>Totals</b> | <b>258</b>         | <b>1118</b>      | <b>50213</b>           |

## 2015 *Culex* Abundance, Infection Rate & Vector Index<sup>3</sup> Graph



<sup>3</sup> Vector index reflects the relative abundance of WNV infected mosquitoes per week



**NSMAD Human WNV Cases  
Per Year by Community**

|              | Evanston  | Glencoe  | Glenview  | Golf     | Kenilworth | Lincolnwood | Morton Grove | Niles     | Northbrook | Northfield | Skokie    | Wilmette  | Winnetka  | Total      |
|--------------|-----------|----------|-----------|----------|------------|-------------|--------------|-----------|------------|------------|-----------|-----------|-----------|------------|
| 2002         | 30        | 3        | 16        | 0        | 4          | 3           | 12           | 8         | 3          | 2          | 49        | 22        | 6         | 158        |
| 2003         | 1         | 0        | 0         | 0        | 0          | 0           | 0            | 0         | 0          | 0          | 3         | 0         | 0         | 4          |
| 2004         | 1         | 0        | 0         | 0        | 0          | 0           | 0            | 0         | 0          | 0          | 1         | 0         | 0         | 2          |
| 2005         | 8         | 0        | 4         | 0        | 1          | 0           | 4            | 3         | 2          | 0          | 8         | 6         | 3         | 39         |
| 2006         | 3         | 0        | 0         | 0        | 0          | 1           | 0            | 0         | 2          | 0          | 2         | 1         | 1         | 10         |
| 2007         | 1         | 0        | 1         | 0        | 0          | 0           | 0            | 0         | 0          | 0          | 1         | 1         | 0         | 4          |
| 2008         | 1         | 0        | 1         | 0        | 0          | 0           | 0            | 0         | 0          | 0          | 1         | 0         | 0         | 3          |
| 2009         | 0         | 0        | 0         | 0        | 0          | 0           | 0            | 0         | 0          | 0          | 0         | 0         | 0         | 0          |
| 2010         | 1         | 0        | 0         | 0        | 0          | 0           | 0            | 0         | 1          | 0          | 0         | 0         | 0         | 2          |
| 2011         | 0         | 0        | 1         | 0        | 1          | 0           | 0            | 0         | 1          | 0          | 0         | 0         | 0         | 3          |
| 2012         | 10        | 0        | 3         | 0        | 0          | 0           | 2            | 0         | 0          | 1          | 3         | 1         | 0         | 20         |
| 2013         | 0         | 0        | 0         | 0        | 0          | 0           | 0            | 3         | 0          | 0          | 1         | 0         | 0         | 4          |
| 2014         | 1         | 0        | 1         | 0        | 0          | 0           | 1            | 0         | 0          | 0          | 0         | 0         | 0         | 3          |
| 2015         | 0         | 0        | 0         | 0        | 0          | 0           | 0            | 0         | 1          | 0          | 2         | 0         | 0         | 3          |
| <b>Total</b> | <b>57</b> | <b>3</b> | <b>27</b> | <b>0</b> | <b>6</b>   | <b>4</b>    | <b>19</b>    | <b>14</b> | <b>10</b>  | <b>3</b>   | <b>71</b> | <b>31</b> | <b>10</b> | <b>255</b> |

## **Mosquito Control**

Mosquito larvae develop in water, and are found in a variety of water-holding habitats and manmade structures. **Larval Control** is aimed at killing mosquitoes while in their larval stages when they are the most concentrated and accessible. **Source reduction** is the physical elimination and/or reduction of the aquatic breeding sites. Our employees are trained to identify potential breeding sources and remove and properly discard them when possible. This pertains particularly to containers that tend to hold water that the *Culex* mosquito favors for egg laying. When the physical elimination of a breeding site is not possible, we utilize larval control products.

**During an average season, approximately 90% of the District's field program is focused on controlling mosquito larvae.** We treat approximately **2,500** off-road sites and more than **50,000** stormwater catch basins every year. Swampy lowland areas, new construction sites, ditches along roadways, railroad right-of-ways, flooded yards, storm sewers, and other small, temporary impoundments of water, are potential sources that can produce a brood of mosquitoes in 6-10 days. Fishponds and ornamental pools are also potential mosquito sources. These and other similar habitats are inspected periodically for the presence of mosquito larvae and are treated when natural predators are not present. Inspection and treatment of these types of areas continues throughout the summer on a weekly basis.

NSMAD utilizes three categories of larval control products: growth regulators, bacterial insecticides, and surface oils. Growth regulators contain methoprene, an insect hormone that is similar to that found naturally in mosquito larvae. Extended release formulations (either pellets or briquettes) containing methoprene are used to treat small enclosures of water such as poorly maintained ornamental ponds, abandoned swimming pools and catch basins that frequently produce *Culex* mosquitoes. When placed in these sites, the briquettes or granules slowly release the active ingredient into the water and prevent mosquito larvae from developing past the pupal stage. It is a mosquito specific treatment; therefore other organisms in the environment (such as other insects, waterfowl, and mammals) are not affected.

The bacterially derived larval control products used by NSMAD contain active ingredients produced by naturally occurring, soil inhabiting, bacteria species: *Bacillus sphaericus* (*B.s.*), *Bacillus thuringiensis var. israelensis* (*Bti*) and *Saccharopolyspora spinosa* (Spinosaad). These larvicides pose very little risk to humans and other animals. In order to treat small marshes, wastewater, drainage systems, tire dumps, and natural or manmade aquatic sites and catch basins, we may apply either of these bacterial larvicides in either briquette, granular or liquid formulations. *Bti* and *B.s.* granules are used in a variety of habitats ranging from temporary floodwater sites to permanent water sites. *Bacillus sphaericus* performs very well in stagnant and polluted water-areas where the encephalitis transmitting *Culex sp.* breed. Spinosaad is derived from a naturally occurring bacterium and is a new, cutting edge, reduced risk, larval control product and is formulated as both short-duration and extended release products for use in a variety of larval habitats.

Surface oils are used when late-stage larvae or pupae are present. These products make it extremely difficult for pupa and larvae to attach to the surface to breathe, resulting in their death. Surface oils are quick acting, short duration products.

The NSMAD **adult mosquito control** program is comprised of barrier applications or truck mounted, ultra-low-volume (ULV) insecticide applications. Based on its successful trial in 2000, the barrier control program became an integral part of adult mosquito control operations. Barrier control consists of applying a mosquito insecticide to vegetation (shrubs and bushes, tall grasses, hedges) and surfaces where mosquitoes rest. It is utilized to protect a limited size area for a relatively short period of time. Under ideal weather conditions, these applications can provide up to four weeks of adult mosquito control. The NSMAD uses barrier control to reduce mosquito biting for events in public areas, such as picnics, movies in the park, and other special

municipal events.

NSMAD's truck mounted ULV sprayers are an essential tool when controlling adult mosquitoes is required. It is used only when action thresholds are met and is applied only in the evening when host-seeking mosquitoes are active. The ULV adult mosquito control operations are used to immediately reduce the adult mosquito population to reduce the number of WNV-infected mosquitoes in an area, to interrupt WNV transmission and to limit the production of new mosquitoes in the area. The ULV technology uses specially designed spray devices to deliver less than 1.23 ounces of insecticide per acre in a fine aerosol mist that impacts and kills flying mosquitoes. The insecticide NSMAD currently uses for ULV applications is Duet™, which contains the active ingredients Sumithrin and Prallethrin, and a Piperonyl Butoxide synergist, and provides a quick knockdown of adult mosquitoes with no residual effect.

**The NSMAD only conducts ULV adult mosquito control operations at night when mosquitoes are most active and other insects are not. This minimizes exposure to non-target insects such as bees and butterflies.**

As part of the adult mosquito control program, the NSMAD maintains a Prior Notification List for residents who wish to be informed before adult mosquito control operations occur in their neighborhood. Residents can sign up for notification via our website to receive either an email or text message alerting them to scheduled adult mosquito control operations, as well as other important mosquito related news. When operations in the immediate neighborhood of these residents are scheduled, an email or SMS message will be sent to the resident typically with a 24-hour advance notice. Persons unable to receive email or SMS notification should contact our office to arrange to be notified via telephone. Residents who wish to have their property skipped during adult mosquito control operations should provide the NSMAD with a physician's note supporting a medical reason for such action. Please contact the NSMAD via telephone during normal business hours for further information.

The NSMAD also maintains a list of beehives in the area and avoids applying adult mosquito control products in areas where active beehives are present. This, in addition to spraying at night when bees are inactive, provides an added measure of pollinator protection.

## **2015 Control Activities Summary**

### **Larval mosquito control**

During the 2015 season, the NSMAD treated the following with larval control products:

- 238 (310.8 acres) floodwater sites
- 1,800 permanent water sites
- 50,000 catch basins

### **Adult mosquito control**

During the 2015 season, the NSMAD treated the following with adult mosquito control products:

- Three barrier treatments
- Nine ULV applications nights
- 37,165.3 acres
- 1,020.3 road miles

The table below summarizes the management options, associated surveillance and action thresholds, and the application methods used in the NSMAD integrated pest management program.

| Pest Management Options                       | Surveillance / Threshold   | Application Method   |
|---|--|--|
| Pesticide Application (Larval)                | <ul style="list-style-type: none"> <li>• Weather or environmental conditions</li> <li>• Rainfall producing standing water in forested areas</li> <li>• Larval surveillance conducted by dip samples of standing water and containers holding water containing 1-5 larvae per dip on average</li> <li>• Seasonal temperature and precipitation changes warrant the beginning of larval control in catch basins and off road sites</li> <li>• Inspecting catch basins and other sources of stagnant water for breeding and larval activity</li> <li>• Institutional knowledge and experience</li> <li>• Inspecting known mosquito breeding habitats</li> </ul>   | Hand application of either granular or briquette product using the application rates stipulated on the product labels.                   |
| Source Reduction - Urban                      | <ul style="list-style-type: none"> <li>• Property checks for mosquito breeding and larvae in pools, ponds, fountains and any other container with the ability to hold water</li> <li>• Larval dip counts looking for presence of mosquito larvae in containers</li> </ul>  | Removing and or emptying containers that hold water.   |
| Source Reduction - Forested                   | <ul style="list-style-type: none"> <li>• Weather conditions</li> <li>• Environmental conditions</li> <li>• Rainfall producing standing water in forested areas</li> <li>• Institutional knowledge and experience</li> <li>• Inspecting known mosquito breeding habitats</li> </ul>   | Flood prevention, removing and or emptying containers that hold water, ditch clearing, debris removal, increasing flow of water.         |
| Pesticide Application ULV (Adult Control)     | <ul style="list-style-type: none"> <li>• WNV positive mosquito pool found via RAMP test resulting in an infection rate <math>\geq 5/1000</math></li> <li>• WNV, SLE, EEE, or other vector/mosquito borne virus positive human, bird or other animal reported within the district or its border</li> <li>• High count or significant increase of public health risk mosquitoes (<i>Cx. pipiens</i>) in trap collection (daily average greater than 45 mosquitoes per trap for <math>\geq 2</math> weeks)</li> <li>• Resident complaints of mosquitoes</li> <li>• High count or significant increase of nuisance mosquitoes in trap collection (daily average greater than 25 mosquitoes per trap)</li> <li>• Combination of precipitation and temperature per institutional knowledge and experience</li> </ul> | Ultra Low Volume (ULV) application of insecticide via hand or truck mounted spray equipment applied as stipulated on the product labels. |
| Pesticide Application Barrier (Adult Control) | <ul style="list-style-type: none"> <li>• Resident complaints of mosquitoes</li> <li>• Public gatherings and events</li> <li>• Any combination of light trap counts, gravid counts, WNV or other positive pools of mosquitoes, dip samples or environmental and weather conditions</li> <li>• Areas inaccessible to truck ULV</li> </ul>  | Insecticide applied to vegetation using a handheld or backpack sprayer as stipulated on the product labels.                              |

## **Education and Communications**

The NSMAD website ([www.nsmad.com](http://www.nsmad.com)) provides residents a user-friendly interface with easy access to a wealth of information and links. Residents are encouraged visit the website to find out where and when adult mosquito control operations will be taking place (we utilize embedded Google Maps to provide a better visual reference), report dead birds, standing water and any other concerns regarding mosquitoes. Residents can sign up for email and/or SMS text message blasts to provide the most current information regarding our adult mosquito control operations, the risk of infection and other important mosquito news. Additionally, minutes from the NSMAD Board of Trustee's meetings can be found on our website.

The NSMAD Twitter feed (@NorthShoreMAD) is used to provide information on adult mosquito control operations and other important news items and information .

In addition to our website and Twitter feed, NSMAD has a 24-hour hotline that residents can call to determine the status of our adult mosquito control program, inform us of matters that we can address (i.e. increased adult mosquito activity in a specific area) and report standing water sites and dead birds.

## **Media and Community Relations**

The Executive Director and the Communications Manager visited with public health officials from within our District and the state to keep them apprised of our activities. During the season, a weekly status report is delivered via email with updates about our surveillance and operations. Media interviews are conducted to cover timely topics such as repellent usage, WNV, trap counts, testing data, and when adult mosquito control operations are to be conducted in the District. The NSMAD was consulted on numerous news stories this past year. We provided information for news items about mosquitoes, mosquito-borne illness and personal protection measures to the Chicago Tribune, Chicago Sun-Times, Pioneer Press, 22<sup>nd</sup> Century Media and other community newspapers throughout the season. WMAQ-TV, WLS-TV, WBBM-TV, WGN-TV, WBEZ-FM and WBBM-News Radio interviewed us for news items.

The NSMAD public information booth makes numerous visits to public events throughout the year. The Communications Manager, along with other staff members, attends these events to educate residents regarding personal protection methods and answer questions about mosquitoes and our program. This season, the public information booth visited Northbrook's Earth Day celebration and participated in the Fourth of July parades in Evanston and Skokie. A presentation on mosquitoes and personal protection was made to the Glenview Park District staff. The NSMAD information booth is available to appear at community events upon request.

## 2015 Combined Budget and Appropriations

|  |                     |
|--|---------------------|
| Purchase Of Equipment & Supplies             | \$ 111,950.00       |
| Mosquito Control Products                    | \$ 253,000.00       |
| Building Maintenance & Repairs               | \$ 17,000.00        |
| Capital Improvements Fund                    | \$ 105,500.00       |
| Utilities                                    | \$ 29,900.00        |
| Legal & Audit                                | \$ 52,000.00        |
| Salaries & Wages (8 Full-Time & 17 Seasonal) | \$ 652,000.00       |
| Social Security                              | \$ 49,200.00        |
| IMRF   | \$ 40,800.00        |
| Liability Insurance & Surety Bonds           | \$ 71,200.00        |
| Health Insurance                             | \$ 95,500.00        |
| Contingency                                  | <u>\$ 22,275.00</u> |
|  | \$ 1,500,325.00     |

## **2015 PESTICIDE USAGE**

### **Larval Control Products**

|                 |              |
|-----------------|--------------|
| Altosid Pellets | 0.0 lbs.     |
| BVA Oil         | 38.0 gallons |
| CoCoBear™       | 0.75 gallons |
| FourStar®       | 118.9 lbs.   |
| Natular™ XRT    | 2,124.3 lbs. |
| Natular™ T30    | 2,697.7 lbs. |
| VectoLex® FG    | 4,240 lbs.   |

### **Adult Mosquito Control Products**

|                   |               |
|-------------------|---------------|
| Duet™ ULV         | 220.5 gallons |
| Flit™ 13.3        | 0.5 gallons   |
| Mavrik® Perimeter | 0.0 oz.       |

## **2015 VEHICLES AND EQUIPMENT**

### **VEHICLES**

- 1 2001 GMC Sierra Pick-Up Truck
- 3 2004 GMC Canyon Pick-Up Trucks
- 1 2006 GMC Canyon 4x4 Pick-Up Truck
- 1 2007 GMC Canyon 4x4 Pick-Up Truck
- 1 2008 GMC Canyon 4x4 Pick-Up Truck
- 1 2010 Ford F150 Extended Cab Pick-Up Truck
- 1 2011 Ford F250 4x4 Pick-Up Truck w/ Snow Plow
- 1 2011 Ford Escape SUV
- 1 2012 Ford F150 Pick-Up Truck
- 1 2012 Toyota Tacoma Pick-Up Truck
- 1 2014 Ford F150 Pick-Up Truck
- 1 2015 GMC Sierra K1500 4x4 Pick-Up Truck
- 1 2015 GMC Canyon Crew Cab Pick-Up Truck

### **EQUIPMENT**

#### Application Equipment

- 6 Cougar Ultra Low Volume
- 2 Stihl Backpack Sprayers
- 5 Maruyama Backpack Sprayers
- 1 LECO Handheld Ultra Low Volume Sprayer

#### Trap Equipment

- 2 BG Sentinel Traps
- 10 Co2 Traps
- 30 Gravid Traps
- 18 New Jersey Light Traps