



Skeeter Scanner

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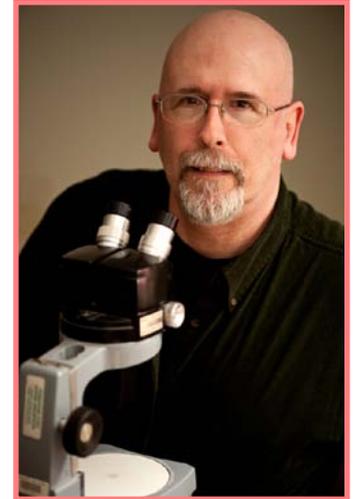
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INFORMATION
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COMMITTEE



www.mimosq.org

President's Message

MMCA is here to serve its members, most of whom earn their living in the research and control of mosquitoes. We are an industry that needs scientists and researchers with extensive education and skills needed to be able to perform safe and economically sound mosquito control. We also need a vast array of people with the skills to educate the public, take complaints, dip the breeding sites, apply control material, manage the money, repair the equipment and clean the offices. The people needed to make this industry run are wide and varied.



Yet, Michigan's seasonality brings challenges to those that choose to work in mosquito control. There are many employees, good hard working people, that aren't able to be employed throughout the winter in Mosquito control. With this in mind and looking for an opportunity to serve the members of MMCA we announce the "Opportunity Grant", a program modeled after AMCA's "Grassroots Award" where MMCA can help a small number of people that may not otherwise have the opportunity to attend the annual MMCA conference. There will be much more information coming in the near future.

On a more personal level, my time serving on the Board will soon be over. I am grateful for the opportunity to participate in MMCA's affairs. I have gained knowledge, made friends and learned a ton about organizations, procedures, SOP's and the various roles people have in mosquito control. This type of opportunity is open to all MMCA members, step on up and enjoy the process.

Peace,

Douglas Allen

Forgotten but Not Gone: West Nile virus Impacts Greater Number of Bird Species

Research funding for the West Nile virus has mostly dried up. But a [new study led by Colorado State University](#) finds that the deadly disease is killing birds — more so than previously thought — in the short- and long-term. The study findings have implications for the world's ecosystem, human health, bird populations, and activities like bird-watching, which has become a thriving industry.

A team led by CSU researcher T. Luke George analyzed 16 years of mark-recapture data collected at 574 [bird-banding stations](#) across the United States from 1992 to 2007. They found large-scale declines in survivorship and a larger proportion of species — at a minimum, 47 percent — that may have been affected by West Nile virus.

“Many more species of birds than we thought are susceptible to this virus,” said George, a senior research associate in the Department of Fish, Wildlife and Conservation Biology in the Warner College of Natural Resources at CSU. “We also found long-term effects on population growth rates of some species. Prior to this study, we generally thought the West Nile virus had a very short-term effect on bird survival.”

Tracking the virus

The team, which includes researchers from the University of California Los Angeles, Washington University and The Institute for Bird Populations, first used a map of West Nile virus prevalence among humans to get a handle on the intensity of West Nile virus across the continental United States. They had a hunch that it might correlate to the effect on bird populations. George said researchers also tested another hypothesis: Is it possible that the virus has a delayed effect on birds? “It’s kind of like the flu,” he said. “One week, you detect the flu in schools, and the next week, 30 percent of kids in the school are absent.”

They soon saw what George describes as a “big deal” — an impact on a higher percentage of

species than people had detected before, and that, for some species, the impact had long-term effects. Prior to this study, scientists did not really understand the extent of the burden of the virus. George said that several West Nile virus studies looked at specific locations, but the studies were short-term (two to three years) and looked at one species and one location. “Some people found effects, and others didn’t,” he said. “For about half of the species that were affected, the impact is not just during the year when West Nile virus arrived, but we saw its influence for many years afterwards,” he said. “And we found this occurring all over the United States.”

Some birds survive, others do not

The field sparrow, downy woodpecker and red-eyed vireo experienced significant declines in survival associated with the arrival of the virus, followed by recoveries. For others, such as the Swainson’s thrush, purple finch and tufted titmouse, survival declined upon arrival of the West Nile virus and consistently remained lower. George said he was surprised by the findings for the Swainson’s thrush, a species known for its flutelike songs. “Lab studies found that while Swainson’s thrushes were susceptible to West Nile infections, they always survived,” he said. “Our study suggests that their survival is reduced when they are exposed to West Nile virus in the wild.” What are the implications for this research? “Birds are part of our national heritage,” said George, who also has a research affiliation with The Institute for Bird Populations.

“The study suggests that West Nile virus is an additional factor that could reduce the growth rate of the bird population over the long-term. Since there are millions of thrushes, there is not an immediate threat to that species, George said. “For rare species, we’re adding another burden to their population. It may not lead to the extinction of the species, but the presence of West Nile virus will make it harder for populations to recover.”

Read more at

<http://scienceblog.com/479224/forgotten-but-not-gone-west-nile-virus-impacts-greater-number-of-bird-species/#j4PLjq5evy86FqLB.99>

Concurrent Outbreaks of St. Louis Encephalitis Virus and West Nile Virus Disease -- Arizona, 2015.

St. Louis encephalitis virus (SLEV) and West Nile virus (WNV) are closely related mosquito-borne flaviviruses that can cause outbreaks of acute febrile illness and neurologic disease. Both viruses are endemic throughout much of the United States and have the same *Culex* species mosquito vectors and avian hosts; however, since WNV was first identified in the United States in 1999, SLEV disease incidence has been substantially lower than WNV disease incidence, and no outbreaks involving the two viruses circulating in the same location at the same time have been identified. Currently, there is a commercially available laboratory test for diagnosis of acute WNV infection, but there is no commercially available SLEV test, and all SLEV testing must be performed at public health laboratories. In addition, because antibodies against SLEV and WNV can cross-react on standard diagnostic tests, confirmatory neutralizing antibody testing at public health laboratories is usually required to determine the flavivirus species.

This report describes the first known concurrent outbreaks of SLEV and WNV disease in the United States.

During 2010-2014, 537 WNV disease cases and only one SLEV disease case were reported to the Arizona Department of Health Services. However, during 2015, by the end of July, SLEV infection had been confirmed in seven ill Arizona residents. In addition, the Maricopa County Vector Control Division identified 60 pools of *Culex tarsalis* or *Culex quinquefasciatus* mosquitoes that tested positive for SLEV RNA by reverse transcription polymerase chain reaction, and 97 pools that tested positive for WNV RNA. An investigation was initiated to ascertain the magnitude and

describe the epidemiology of the outbreaks. Cases were defined according to national surveillance case definitions. If the patient had immunoglobulin M antibody against both WNV and SLEV, and insufficient sample or inconclusive results on neutralizing antibody testing, the case was classified as an unspecified flavivirus infection.

As of 24 November 2015, a total of 117 cases of flavivirus disease had been reported to the Arizona Department of Health Services, including 75 WNV, 19 SLEV, and 23 unspecified flavivirus disease cases. Laboratory testing is ongoing, and some cases will likely be reclassified.

This is the first known outbreak of concurrent WNV and SLEV disease. Enhanced clinical and laboratory surveillance activities in Arizona will continue through the end of the arboviral transmission season in late November [2015] to characterize the outbreak. WNV and SLEV disease cases will be compared to better understand differences in the epidemiology and outcomes of these diseases. Because of the similarity in clinical presentation for WNV and SLEV disease cases, cross reactivity between WNV and SLEV antibodies, and the lack of availability of a commercial SLEV test, SLEV disease cases could be incorrectly diagnosed as WNV disease cases or remain undetected if clinicians only request WNV testing and no confirmatory testing is conducted. Health care providers should consider both WNV and SLEV infections in the differential diagnosis of cases of aseptic meningitis and encephalitis and obtain appropriate cerebrospinal fluid, serum specimens, or both for laboratory testing. Confirmatory testing at state health departments or CDC will be required to distinguish these flavivirus infections. When feasible, vector control programs should test mosquitoes for SLEV in addition to WNV.

- Volunteer Needed
- 2018 Annual Conference
- Planning Committee Chairman
- Lansing, MI

The MMCA Board is looking for a 2018 Planning Chairman for the 32nd Annual Conference in February 2018 in Lansing, MI.

Get in touch with Doug Allen if you are interested at 989.832.8677 or dwallen@co.midland.mi.us



Puerto Rico Reports First Case of Zika Virus, Spread by Mosquitoes

Puerto Rico has reported its first case of Zika, a mosquito-borne virus that has been spreading across South America and the Caribbean and has been linked by Brazilian authorities to a serious birth defect, a U.S. Congressman said on Thursday.

Pedro Pierluisi, Puerto Rico's representative in Congress, said in a statement his office had been in touch with the U.S. Centers for Disease Control and Prevention, which had confirmed the single case of Zika on the island.

"There is no reason for alarm, and the public should continue to take common sense steps to avoid mosquito bites, like using repellent and wearing long pants and shirts," Pierluisi said.

Zika was first detected in Africa in the 1940s but was unknown in the Americas until last year.

The mosquito-transmitted disease has been confirmed in countries including Brazil, Panama, Venezuela, El Salvador, Mexico, Suriname, the Dominican Republic, Colombia, Guatemala and Paraguay, according to public health officials.

Brazilian authorities in November linked Zika to a surge in babies born with microcephaly, a birth defect that seriously limits a child's mental and physical abilities.

Brazil has reported nearly 2,000 cases of babies born with microcephaly, or unusually small brains, the World Health Organization (WHO) said this month.

Photo Salon - 2016

The Michigan Mosquito Control Association would like to request submission of photographs for presentation during the Awards Banquet at our 2016 Conference. All shutterbugs are invited to submit digital photos to Photo Salon organizer Randy Knepper. Email to rknepper26@chartermi.net by January 25, 2016. Please, do not submit photos that have been shown at previous MMCA salons.



If a sufficient number of photos are received, cash and prizes will be awarded in the following categories: Mosquitoes, Operations, Surveillance, Mosquito Habitat and Nature/Wildlife. A prize will also be offered for the most amusing title or intriguing story to accompany a slide.

MMCA
Board

CALL FOR NOMINATIONS!

MMCA encourages anyone with an interest in promoting mosquito control to please consider a position on the Board, we encourage new faces and new ideas.

**Positions open for the nomination of candidates will be:
Vice-President, Treasurer, and Trustee
To propose a candidate please contact
Alicia Wallace, wallacea@baycounty.net or (989) 895-4195.**

Elections will be held during our Annual Business Meeting at the MMCA Annual Conference, on Wednesday February 3, 2016.

Michigan Mosquito Control Association 30th Annual Conference Registration

Weber's Inn, 3050 Jackson Rd, Ann Arbor, MI 48103

February 3-4, 2016

Conference Registration - Regular	Attendees	Fees	Total
2-Day Registration (Includes membership, lunch and banquet)		\$100.00	
1-Day Registration for Feb 3 (Includes membership, lunch, and banquet)		\$75.00	
1-Day Registration for Feb 4 (Includes membership)		\$40.00	
Conference Registration - Student	Attendees	Fees	Total
2-Day Registration (Includes membership, lunch and banquet)		\$55.00	
1-Day Registration for Feb 3 (Includes membership, lunch and banquet)		\$30.00	
Conference Registration - Exhibitor	Attendees	Fees	Total
2-Day Registration (Includes one 6-ft table, membership, lunch and banquet)		\$200.00	
Additional Exhibition Space		\$50.00	
Conference Break Sponsorship		\$500.00	
Banquet	Attendees	Fees	Total
Extra Banquet Dinner		\$25.00	
Membership Dues (not attending conference)	Members	Fees	Total
Individual Membership		\$15.00	
Student Membership		\$7.50	
Business Membership (Agency, Association, etc. limited to 3 names)		\$50.00	
Total Amount Enclosed (Registration at the door will incur an additional \$10 fee)			\$

Attending lunch
Wednesday?

Yes No

Attending banquet
Wednesday?

Yes No

Enclose payment and mail to:

MMCA
PO Box 366
Bay City, MI 48707



OR

To use PayPal or credit card go to
www.mimosq.org/paypal/paypalconference.htm

Phone (989) 894-4555

Fax (989) 894-0526

info@mimosq.org

www.mimosq.org

Name(s)

Agency/Firm

Address

City

State

Zip

Phone

Fax

E-mail address for the Skeeter Scanner

Website

Cancellation Policy - MMCA will refund conference registration fee if cancellation notification is received 3 days prior to the conference.



MI Mosquito Control Association (MMCA020316)

February 2-4, 2016

Reservations Must Be Received By: January 12, 2016

Reservation requests received after this date will still be accepted, provided rooms are available.

Room Type	Single	Double	Triple	Quad
Guest Room	\$99	\$99	\$109	\$119

Check-in time is 4:00 pm Check-out time is 11:00 am

The above rates are per room, per day, plus 6% state tax and 5% county tax.

IF YOUR ORGANIZATION IS STATE TAX EXEMPT, YOU MUST MENTION THAT WHEN REGISTERING AND FURNISH A COPY OF THE STATE TAX EXEMPTION CERTIFICATE WHEN CHECKING IN. PAYMENT MUST BE MADE BY THE TAX EXEMPT ORGANIZATION.

Making a Reservation

Hotel room reservations may be made online or by calling Weber's Inn (see information below). Weber's has recently converted to electronic reservations, so you can no longer mail or fax a reservation form. You must guarantee your room reservation with a major credit card; however, payment is not required until check-in and can be made via credit card, check, or cash.

Online Reservations

Reservations can be made at Weber's main web page - **webersinn.com**. From the drop-down menu at the top of the page, position cursor over "Boutique Hotel" and click on "Make A Reservation". Don't forget to enter the **Group Code: MMCA020316**.

Phone Reservations

Individual attendees can make reservations for the event directly with Weber's at (800) 443-3050 or (734) 769-2500. Mention either the Michigan Mosquito Control Association or MMCA or our **Group Code: MMCA020316**.

REMINDER: the cutoff date for making reservations for Weber's Inn guest rooms is coming up on **January 12th**. You will still be guaranteed the discounted rate after the cutoff date has passed, but the rooms will not be guaranteed with our MMCA block. Guests can call Weber's for reservations at 734-769-2500 and mention **Michigan Mosquito Control Association** or make a reservation online and enter the group code **MMCA020316**.

Michigan Mosquito Control Association 30th Annual Conference Tentative Agenda

Wednesday, February 3, 2016

8:00 am	Registration (Century Ballroom) - Complimentary mugs and refreshments provided by Albert & Michael Schiffer, AI's Aerial Spraying
9:00 am	Welcome -Douglas Allen, 2015 MMCA President
9:05 am	Keynote Address -Elnian Gilbert, Zingerman's of Ann Arbor
10:05 am	AMCA Update -Joseph M. Conlon, AMCA Technical Advisor
10:25 am	Emerging Arboviruses in the Americas Update -Erik S. Foster Michigan Department of Health and Human Services
10:45 am	Mid-morning Break
11:00 am	Climate and Weather Impacts on the West Nile Virus Threat - Nancy E. Westcott University of Illinois at Urban Champaign, Prairie Research Institute, Illinois State Water Survey, Midwestern Regional Climate Center
11:30 am	Mosquitoes and the Local Health Department Experience -Sara Simmonds, MPA, REHS Kent County Health Department
William J. Lechel, II Memorial Scholarship Student Presentation Sponsored by Clarke & APM Mosquito Control	
11:45 am	Legacy Effects of Emerald Ash Borer, <i>Agilus planipennis</i>, on Stream Ecosystem Function Courtney Larson, Michigan State University
12:00 pm	MMCA Business Meeting and Lunch (East/West Ballroom)
1:30 pm	Rain Gardens -Susan Bryan, Washtenaw County Water Resources Office
2:00 pm	Why Is It So Hard to Control Bed Bugs in Lower-Income Housing? -Dr. Rajeev Vaidyanathan Clarke
2:20 pm	Pollinator Protection/Honey Bee Health -Michael Hansen, Michigan Department of Agriculture and Rural Development, Pesticide and Plant Pest Management Division
2:50 pm	Vendor Presentations
3:05 pm	Break
3:20 pm	MDARD/Regulatory Updates -Kevin C. Kern Michigan Department of Agriculture and Rural Development
3:40 pm	Succession Planning for Sustaining a Healthy, Vibrant Agency -Stephen A. Manweiler, PhD Metropolitan Mosquito Control District, Minnesota
4:00 pm	The Impact of Cholera and Mosquito-Borne Disease in 19th Century Michigan Territory Richard Adler, University of Michigan—Dearborn
4:30 pm	Effective Messaging -Joseph M. Conlon, AMCA
5:00 – 6:00pm – Cash Bar 6:00 – 9:00 pm Banquet & Entertainment (Artium Ballroom)	

Thursday, February 4, 2016

7:45 am	Refreshments Available (Century Ballroom)
8:15 am	Mosquito Control and Customer Service -Tami Seago/Chuck Mullins APM Mosquito Control
8:35 am	Home Remedies for Better or Worse - Mark D. Sheperdigian Rose Pest Solutions
9:05 am	The Brown Marmorated Stink Bug (BMSB): Michigan's Newest Home Invader Paul S. Botch, PhD, Michigan State University
9:20 am	Photography and Mosquito Control - Doug Allen Midland County Mosquito Control
9:35 am	Into the DNR Forest - Carl Doud, PhD Midland County Mosquito Control
9:55 am	Break
10:25 am	Benefits of fleet Tracking –Bradley D. Looby, Velocity Systems, LLC
Back-to-Basics Presentations	
10:45 am	Mosquito Control, The Public Perception - Brett R. Ireland Midland County Mosquito Control
11:00 am	The Importance of Mosquito Disease Surveillance to a Control Program -Chuck Pearce Saginaw County Mosquito Abatement Commission
11:15 am	Utilizing a Backpack Sprayer -Larry Zapfe Tuscola County Mosquito Abatement
11:30 am	Treating Around Organic Farms - Gavin Greer Tuscola County Mosquito Abatement
11:45 am	Concluding Remarks - Erik Foster 2016 MMCA President



News From Around The Districts

As is normal for this time of year staff are busy with winter projects that include: repair and maintenance of application equipment and vehicles; revising sections of the employee manual; body work on damaged vehicles; updates to various maps and data bases; updating yearly program plan; seasonal workforce recruitment; website updates; sending our letters to citizens on our No Spray and Medical Certification lists; and the purchasing and outfitting of two new vehicles for our fleet.

SAGINAW

Our 2015 annual report/2016 calendar is complete and can be reviewed on our website, www.scmac.org. If you would like a hard copy please call Gloria Katch at 989-755-5751 or email her at gkatch@scmac.org and let her know the amount of calendars you would like to receive.

School and community presentations by our education department continue to be in high demand. This school year our Education Coordinator has scheduled 157 classroom presentations at 35 schools and 9 Community Events.

We have submitted permit applications to conduct our limited aerial larviciding program for spring mosquitoes on the Shiawassee National Wildlife Refuge. We have also submitted and received treatment permits for the Shiawassee River State Game Area and Gratiot-Saginaw State Game Area. Due to mosquito-borne disease detections last year in our county, we do not anticipate problems securing the remaining permits for 2016.

Our agency is now in the hiring process for seasonal workers. We will accept summer job applications through February 21, 2016. Interested individuals can apply at our facility or directly on-line at www.scmac.org. Interviews will be held in February, with our annual training session scheduled for April 8-9, 2016.

The weather continues to baffle, experiencing sixty degree weather in December. We are hoping for drier conditions. A drop in the water table would help decrease the amount of floodwater habitat and resultant mosquitoes this upcoming mosquito season. Have a productive and safe New Year.

MIDLAND

We have been reflecting (most of the time with our eyes open) on the past season, which was noteworthy with an unusually high population of summer floodwater mosquitoes. Though there was some discontent among county residents that we did not do more, I think most were grateful that we were engaged in our efforts to provide relief during such an active mosquito year. We hope that that sentiment will remain into next year when the millage will again be voted on.

The 7F training event was once again successful and thanks to Doug, Mary and several others for making it happen. It is a significant event for MMCA that has enabled us to provide a needed service that also significantly helps the association with revenue. MMCA is now in the position of determining how to best invest back into the association – a nice place to be. Thanks to Tom Wilmot for his vision WRT to this program!

We have begun the process of obtaining pesticides and planning operations for 2016. As each year is unique, we never know exactly what the future might bring. Therefore, having a plan while remaining flexible, with an emphasis on flexibility, is the right formula for success.

The February conference will be here very soon and we look forward to spending a couple days together to discuss topics of interest – maybe even to include mosquito control.

Wishing all the best to each of you in 2016! Well the winter season is upon us and we have begun our routine maintenance to the ULV and handheld equipment. We have a few building maintenance projects that we would like to complete before we move into the new garage as well.

We've been hard at work preparing to move all of our equipment and pesticides into our new garage upon completion. Our equipment technician, along with the help of our night shift foremen, used the months of October and November to box up and get everything ready for the big move. It has been quite the process working through all of the little problems we've been experiencing with building plans, moving equipment, and just getting ready but it has been a fun process and we're very excited to get into the new garage. They tell us that it should be completed before Christmas so we're keeping our fingers crossed!

We've also been preparing our annual report and storing and updating information for the 2016 season. The staff has been updating our route maps due to the addition of a few more organic farms.

The staff is also looking forward to attending the MMCA conference in February. We'll be giving two presentations on our Pioneer backpacks and the effect that organic farming is having on our treatments around them.

It's once again time to both look back at our fourth quarter accomplishments and think about the upcoming year. The mosquito season wrapped up on October 2 when we finished the last of our clean-up. Since then we've been busy compiling data for the annual report, processing invoices, correspondence, cleaning, taking inventories, ordering supplies, helping organize the 7F Training Session, conducting equipment and vehicle repairs, subscribing to webinars (like the Entomological Society of America's "How to Conduct a Great Scientific Presentation"), and preparing for the 2016 season. The 2015 Annual Report was completed in early December and will be presented to the Mid-Michigan Technical Advisory Committee in March 2016. It will soon be available for viewing at our website www.baycounty-mi.gov/MosquitoControl under the "Resources-Reports, Brochures, Flyers" link. More recently, we have been putting together the 2016 Program Plan that will also be linked to the website.

Staff took part in the MMCA's 7F Training Session in October, giving several presentations to the attendees. At this, our seventh annual training session, there seems to be continued interest in having recertification seminars in the future – this year there were 76 attendees! Not only are we providing a needed service, but our own staff benefits by attending and qualifying for recertification credits.

The 2016 chemical order was compiled and bid specifications sent to vendors in early December in conjunction with Midland County Mosquito Control and Tuscola County Mosquito Abatement. Chemical bids will be opened on Midland January 13 and vendors will be notified.

We continue our community-outreach efforts, which include presentations at local elementary schools and developing new information for Bay3TV. Database and map updates continue to take place.

The MDEQ's NPDES annual report was filed in late-November, which was the third year we were required to submit a report for compliance. In December we mailed a "2016 Application/Permit to Use State Land" to the Bay City State Recreation Area. 2015 New Jersey Light Trap summary data (for the trap maintained at the park) was mailed concurrently. We expect to hear that treatment of the park property will continue as in 2015. We also filed paperwork with MDEQ for a 2016 Scrap Tire grant.

We look forward to meeting with colleagues and hearing presentations at the upcoming MMCA Conference February 3-4 (held at Weber's Inn, Ann Arbor). In the next few months we'll be working on MMCA annual meeting plans, the 2016 program plan, hiring of new seasonal staff, and continuing our mission of mosquito education.

Kenley Farrel Memorial Scholarship Winners



Bay City resident **Jenna McDonell** is a second year nursing student at SVSU. While taking classes full-time she also maintains employment at Bay Medical Care Facility as a Certified Nursing Assistant, working as a direct care provider with the elderly. Jenna eventually plans to get a Masters Degree in Public Health to help improve community well-being and to better understand ways to reduce the risk of human disease. Jenna also supports philanthropic organizations such as the American Cancer Society through participation in Relay for Life.

Ryan Miller is currently a senior at Heritage High School in Saginaw. Ryan is a motivated student who excels in and out of the classroom. He is involved in numerous extra-curricular activities including basketball, baseball, National Honor Society, and a 3-year DECA state-qualifier. Outside of school, Ryan is a church lector, a volunteer for Project Independence Ramp Builds, and has attended multiple National Young Leaders Conferences. Next year he plans to major in Business/Marketing while attending Michigan State University, the University of Michigan, or Trine University.



**Michigan Mosquito
Control Association
P.O. Box 366
Bay City, MI 48707**

Winter