



# Skeeter Scanner

April, 2010

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INFORMATION  
AND EDUCATION  
COMMITTEE



Having the privilege to write my first “President’s Message”, I’ll begin by thanking the membership for giving me this opportunity and thanking the previous Board and its President, Bill Stanuszek, for a terrific year. I hope to continue to provide the membership with a strong and beneficial organization.

I’d like to thank the Planning Committee and its chairman, Randy Knepper, for organizing an outstanding 2010 Annual Meeting. So much work is done behind the scenes to make the event come together and I’d just like to send a sincere thank you to the Planning

Committee and all volunteers and vendors who helped out in various ways. We could not have done it without each and every one of them. I’d also like to extend sincere congratulations to the new officers of the MMCA Board of Directors: Dr. Mike Kaufman (Vice-President), Joyce McLaughlin (Treasurer), and Rich Colopy (Trustee).

The Board plans to continue working on expanding our outreach program in educating other associations and individuals about mosquito control in Michigan. To that end, MMCA will be represented by 5 volunteer members who will attend the upcoming Michigan Environmental Health Association Annual Education Conference March 24-26 at the Doubletree Hotel in Bay City. We’re hoping to focus our outreach with this group on mosquito surveillance and will even raffle a CDC Miniature Light Trap! Margaret Breasbois is also spearheading efforts for our attendance at the State of Michigan’s Earth Day 2010 on April 22<sup>nd</sup>. “Last year, over 2,500 participants with more than 30 school groups and 14 partnering organizations attended...” MDEQ officials reported. So, we’re off to a great start!

Many of you may remember that last December the MMCA offered its first annual 7F Training Seminar which was very successful. The Board has therefore decided that we would like to offer this training again and has tentatively set a date in October. If you are interested in obtaining 7F recertification credits in lieu of re-testing, please watch for mailings that will inform you about the upcoming training. Speaking of training, Saginaw County MAC has tentatively set a date, May 19, for mosquito identification training at their facility. Make plans to attend if someone in your organization needs training or a refresher in identification and contact Randy Knepper at (989) 755-5751 or [randy@scmac.org](mailto:randy@scmac.org) for more information.

As I write this message, I look out at beautiful, blue skies and robins hopping about the lawn, hoping that the unseasonably warm weather we’ve experienced over the past several weeks doesn’t change. Today is March 26 and we’re in for a warm-up next week of 60-80 degree days! My colleagues have no doubt noticed that woodlots are quite dry this spring due at least in part to much-below spring rains as well as low snowfall that accumulated in Michigan from the Saginaw Valley northward. For those who enjoy snowmobiling, you’ll certainly know what I mean. The best trail conditions in the state were probably closer to Detroit than Gaylord – an oddity to say the least. However, we Michiganders know that weather changes quickly here, and are hoping for the spring rains to flood some woodland grounds so we can get closer to “normal” before we begin our assault on spring mosquitoes. And as this newsletter goes to press, we are all gearing up for what hopes to be a successful mosquito season. Continued success to all!



Mary J. McCarty

## Library of Insect DNA Barcodes

A library of insect DNA barcodes is being built by Industry & Investment New South Wales researcher Dr. David Gopurenko, it will prove crucial in the battle against invasive pests. The research is funded by the NSW Government's BioFirst initiative and is now in its third year. The bar-coding work characterizes a single gene across a broad range of species.

Information from the gene is used as a DNA barcode for species identification. As more species are bar-coded, the library builds up and can be used as a reference to later identify suspected insects pests. The technology is easily applied to insect eggs and larvae, which are often impossible to identify to species level by visual means.

"Bar-coding of insect DNA provides a rapid means of species identification greatly assisting and speeding efforts of the traditional insect taxonomists who are few and far between in Australia," Dr. Gopurenko said. "It is particularly useful for rapidly identifying invasive insect pests, such as the Asian gypsy moth, which if introduced to this region, would have terrible consequences for the timber industry. "The Asian gypsy moth is hard to distinguish, particularly the larval form. In the event of an outbreak here, speedy identification of the species and its likely source would be crucial to its mitigation".

He also said climate change may affect insect distributions, which would put even more pressure on researchers to rapidly identify outbreak pest species and their source populations.

The genetic library at Wagga Wagga currently has DNA barcodes for more than 4000 specimens and includes leaf hopper species, which can spread bacterial diseases across a broad range of crops.

Other targeted insects include moths, white flies, biting midges, grain beetles and a variety of insects detrimental to crops and livestock. "Insect populations can exhibit different levels of resistance to pesticides and bar-coding insect DNA can provide valuable information for identification and control of these pests," Dr. Gopurenko said.

## Flightless Mosquito Engineered To Fight Dengue

US and British researchers have genetically engineered a strain of flightless mosquito that may help curb the spread of Dengue fever. The researchers, from the University of California, Irvine (UCI) in the US, the University of Oxford and Oxitec Limited in the UK, wrote about their work in a paper published online on 22 February in the *Proceedings of the National Academy of Sciences, PNAS*.

Co-author Dr. Anthony James, told the media that: "Current Dengue control methods are not sufficiently effective, and new ones are urgently needed." "Controlling the mosquito that transmits this virus could significantly reduce human morbidity and mortality," he added.

The researchers anticipate that flightless *Aedes aegypti* females will die quickly in the wild, thus cutting down the number of mosquitoes, reducing spread of Dengue and eventually even eliminating it.

Using methods designed by senior author Dr. Luke Alphey of Oxitec based on technology he developed when he was at Oxford University, the researchers genetically engineered the *Aedes aegypti* so that wing muscles don't develop properly in female offspring rendering them unable to fly.

The idea is to introduce genetically altered males into the wild, they mate with wild females and the females of the next generation are rendered flightless. Males do not inherit the defect: they can fly as normal and show no ill effects from carrying the gene, said the researchers, but when they mate with females they pass on the gene.

The researchers wrote in their paper that they engineered "transgenic strains" of *Aedes aegypti* to have a "repressible female-specific flightless phenotype using either two separate transgenes or a single transgene, based on the use of a female-specific indirect flight muscle promoter from the *Aedes aegypti* Actin-4 gene".

"The technology is completely species-specific, as the released males will mate only with females of the same species," Alpey told the press.

The researchers estimated that if released, the new breed could sustainably suppress the wild mosquito population in six to nine months: "the strains are expected to facilitate area-wide control or elimination of dengue if adopted as part of an integrated pest management strategy", they wrote.

Alpey suggested that this approach is:

"Far more targeted and environmentally friendly than approaches dependent upon the use of chemical spray insecticides, which leave toxic residue."

"Another attractive feature of this method is that it's egalitarian: all people in the treated areas are equally protected, regardless of their wealth, power or education," he added.

The study is part of a research program sponsored by the Foundation for the National Institutes of Health through the Gates Foundation Grand Challenges for Global Health Initiative, which aims to support breakthrough advances for health challenges in the developing world.

## **AMCA Legislative & Regulatory Update**

On December 23, 2009, EPA proposed rules regarding the "Public Availability of Identities of Inert Ingredients in Pesticides" and has solicited comments from stakeholders. The document is linked below. The original comment period has been extended to April 22, 2010, giving the AMCA membership at large a chance to submit comments to the docket.

EPA is initiating this rulemaking in response to two petitions seeking disclosure of selected inert ingredients on pesticide labels, based on hazard. This action is ostensibly meant to assist consumers and users of pesticides in making informed decisions and reduce the presence of potentially hazardous ingredients in pesticides.

EPA is considering two general types of approaches to increasing public availability of inert ingredient identities. One would mandate disclosure only of

potentially hazardous ingredients, and the other would promote or mandate public availability of most or all inert ingredient identities, regardless of hazard. Each approach has variations and issues associated with it and EPA is soliciting ideas for alternative approaches, both regulatory and non-regulatory.

AMCA is currently reviewing the Rulemaking proposal and is preparing comments that will address the following:

AMCA wishes to keep the current inventory of public health pesticides and will oppose any action that may unnecessarily compromise the marketing of duly registered public health pesticides or reduce their availability.

1. AMCA does not wish to see innovation and development of new ingredient formulations needlessly stifled.
2. AMCA is unsure that the general public is in a position to properly evaluate risk from "hazardous" inert ingredients in pesticide formulations. The terminology utilized in identifying these ingredients and categorizing the risk is, by its nature, evocative and may needlessly alarm the consumer in addition to providing litigation fodder unless the hazard is properly contextualized in terms of various routes and amounts of exposure.
3. AMCA is uneasy with the Agency seeking to manipulate consumer choice in legal pesticide markets via its rulemaking authority.

Please review the below document and submit your comments and observations if so inclined. When submitting your comments, remember to:

1. Identify the document by docket ID number and other identifying information (subject heading, Federal Register date and page number).
2. Follow directions. The Agency is asking you to respond to specific questions in the rulemaking document.
3. Explain why you agree or disagree, while suggesting alternatives and/or substitute language for your requested changes.

4. Describe any assumptions and provide any technical information and/ or data that you used.
5. If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.
6. Provide specific examples to illustrate your concerns and suggest alternatives.
7. Explain your views as clearly as possible, avoiding profanity or personal threats.

Comments must be received on or before April 22, 2010. Submit your comments, identified by docket identification (ID) number EPA-HQ-OPP-2009-0635, via the Federal eRulemaking Portal: <http://www.regulations.gov>. Direct your comments to docket ID number EPA-HQ-OPP-2009-0635. EPA's policy is that all comments received will be included in the docket without change and may be made available on-line at <http://www.regulations.gov>. EPA recommends that you include your name and contact information in the body of your comment so that any questions the Agency may have regarding the comments can be directed to the proper source.

This rulemaking could have a profound effect on the future availability of many of our chemical tools. The chemical manufacturers are no doubt submitting some poignant comments of their own. However, it is critical that USEPA be fully apprised of end-user's concerns with this new Agency initiative.

## Pesticide Illness and Injury Surveillance in Michigan: 2008

The Michigan Department of Community Health (MDCH) has been conducting surveillance for acute work-related pesticide illnesses and injuries since 2001, and began collecting data on non-occupational cases in 2006.

In 2008, there were 165 reported occupational cases; 125 (75.8%) were confirmed. Michigan's Poison Control Centers (PCC) remain the main data source, reporting 114 (69.1%) occupationally exposed individuals. Antimicrobials continue to be a major type of exposure. In 2008, antimicrobials

accounted for over two-thirds of the confirmed occupational cases.

The most common contributing factors involved in confirmed occupational cases were spills or splashes of liquid or dust (29 or 25.0%) and mixing incompatible products (27 or 23.3%). Fourteen (16.1%) of the confirmed cases in 2008, where occupation was known, involved cleaners or housekeepers. Ten (11.5%) were in sales. Eight each (9.2%) were farm workers or inspectors, food service workers, and applicators or landscapers. Where activity of the exposed person was known, 31 (28.4%) were exposed to pesticides inadvertently while doing their regular work that did not involve applying pesticides.

Three cases in 2008 were referred to the Michigan Department of Agriculture (MDA) for investigation of possible pesticide use violations. Five events met the criteria for priority reporting to the National Institute for Occupational Safety and Health (NIOSH). Two events were referred for inclusion in the MDCH Hazardous Substance Emergency Event Surveillance (HSEES) program.

Three hundred seventy-six non-occupationally exposed pesticide cases were reported, of which 131 (34.8%) met the definition of a confirmed case. The most common contributing factors for confirmed non-occupational cases were excessive applications and other non-specified label violations (18 or 16.5% each).



I try to be considerate and always sterilize my proboscis before biting into a new victim.

## Michigan Mosquito Control Association 2010 Board Members

<b>President</b>	<b>Mary J. McCarry</b> , Bay County Mosquito Control 989.894.4555 Email: <a href="mailto:mccarrym@baycounty.net">mccarrym@baycounty.net</a>
<b>Vice-President</b>	<b>Michael Kaufman</b> , Michigan State University 517.353.6514 Email: <a href="mailto:Kaufma15@msu.edu">Kaufma15@msu.edu</a>
<b>Treasurer</b>	<b>Joyce McLaughlin</b> , Midland County Mosquito Control 989.687.5044 Email: <a href="mailto:jmclaughlin@co.midland.mi.us">jmclaughlin@co.midland.mi.us</a>
<b>Secretary</b>	<b>Margaret Breasbois</b> , Saginaw County Mosquito Abatement Commission 989.755.5751 Email: <a href="mailto:mbreasbois@scmac.org">mbreasbois@scmac.org</a>
<b>Trustees</b>	<b>Tom Anderson</b> , Saginaw County Mosquito Abatement Commission 989.755.5751 Email: <a href="mailto:tanderson@scmac.org">tanderson@scmac.org</a>
	<b>Richard Colopy</b> , Tuscola County Mosquito Abatement 989.672-3748 Email: <a href="mailto:rcolopy@tuscolacounty.org">rcolopy@tuscolacounty.org</a>
	<b>Bob Kline</b> , Bay County Mosquito Control 989.894.4555 Email: <a href="mailto:kliner@baycounty.net">kliner@baycounty.net</a>

## Michigan Mosquito Control Association 2010 Committee Chairmen and Members

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Mike Rogers  
Tom VanParis  
Alicia Wallace

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Joyce McLaughlin, Chair  
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Melinda Moreno  
Melissa Stanke  
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Rich Colopy  
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### Scientific Committee

Bill Stanuszek, Chair  
Doug Allen  
Jake Britton  
Randy Knepper  
Mary McCarry  
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Jake Britton  
Charles Dinsmore  
Dave Driver  
Gloria Katch  
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### NPDES Committee

Tom Wilmot, Chair  
Don Baumgartner  
Jake Britton  
Bob England  
Randy Knepper  
Mike Szyska  
Alicia Wallace

# Scenes from 2010 MMCA Conference



## NPDES Updates

It seems we are moving with certainty toward National Pollutant Discharge Elimination System (NPDES) permits for mosquito control pesticide applications. The 6<sup>th</sup> Circuit Court of Appeals two year stay on its vacatur of EPA's final rule National Pollutant Discharge Elimination System ends April 10, 2011 and the U.S. Supreme Court declined to review the 6<sup>th</sup> Circuit decision. The 2<sup>nd</sup> Circuit Court of Appeals recently ruled on a related case but their ruling did not seem to mandate any change in direction to EPA.

The EPA is working on draft NPDES permits for those states not possessing authority to draft their own. To this end, the Agency has conducted a number of workshops involving state water and pesticide regulators, who have provided substantial input into the drafting of a permit template, but the deliberations therein prior to publication of an actual draft permit, are not in the public domain. This permit will hopefully be available for review by the end of April. States such as Michigan that have NPDES permitting authority will then develop procedures for themselves. Something must be in place in each state by April 11, 2011. We will try to spread the word as soon as we hear of the draft

permit being published. We will then want to provide comments to the EPA and to make ourselves available to Michigan agencies tasked with developing the permit process.

## Statewide Certification Exam Schedule

Please visit

[http://www.michigan.gov/documents/mda/mda\\_exam\\_schedule\\_statewide\\_292974\\_7.pdf](http://www.michigan.gov/documents/mda/mda_exam_schedule_statewide_292974_7.pdf)

For a full schedule and updated information.

## Membership Reminder

Please remember to renew your MMCA Membership if you have not already done so.

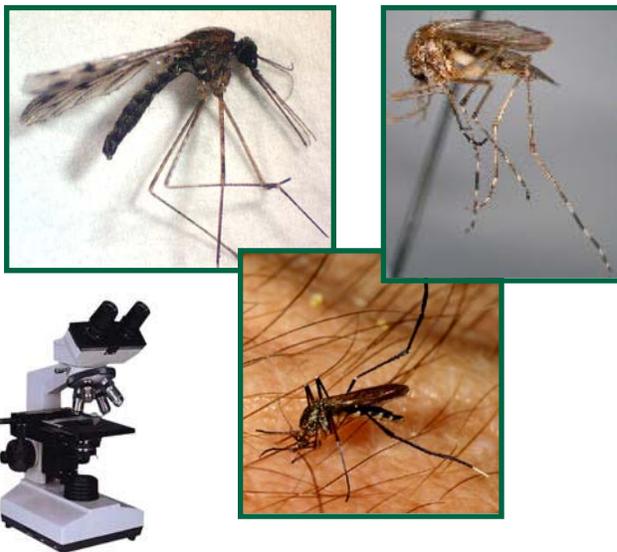
Please go to:

<http://www.mimosq.org/membership.htm> for a link to our membership form.

Mail the completed forms to:

Joyce McLaughlin, MMCA Secretary  
Midland County Mosquito Control  
2180 North Meridian Rd.  
Sanford, Michigan 48657

## MMCA Sponsors Annual Mosquito ID Class.



The Michigan Mosquito Control Association will sponsor a Mosquito ID Class on Wednesday, May 19th from 9am-3pm at Saginaw County Mosquito Abatement Commission.

Participants must bring their own microscopes.

Call **Randy at 989-755-5751** to make your free reservation for this seminar.



# News From Around The Districts

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Here in Michigan, March typically brings the infamous last snowfall of winter, but not this year. In fact, we're wishing it would have happened in order to make the spring woodlots wetter and woodland pools closer to average. As it stands, water levels are much below average for this time of year and although there's no doubt it will turn around, planning for the spring aerial campaign becomes more difficult.

Since attending Delta College's Employment Fair on March 2, we have been diligently interviewing to fill seasonal technician jobs for the 2010 season. While we have received over 100 applications, about two-thirds of employees from last season are returning.

**BAY**

The 2010 Program Plan was compiled in February, followed by hosting the Mid-Michigan Technical Advisory Committee meeting on March 3. Papers were filed with MDEQ for approval authorizing mosquito control in surface waters and our comprehensive community outreach program was revised and submitted to the MDA. BCMC's annual report was summarized and presented to the Bay County Board of Commissioners on March 9.

Control material bids were opened in January with prices seeing slight changes compared to 2009 with most products remaining the same or having a cost reduction. Fixed-wing applicators submitted sealed bids for the spring treat project in 2009 so 2010 will be the second year of our two-year contract with Jacob Baker of Earl's Spray Service (fixed-wing) and third year with Clarke (helicopter).

Staff continues to update training manuals, attend customer service presentations, revamp presentations that will soon be broadcast on our local Bay 3-TV, and send announcements to media and government offices in preparation for the upcoming season. Office staff is busy sending and receiving no spray, medical, and long-driveway notices.

Hopefully, summer 2010 will have temperatures closer to normal and mosquito populations we can keep in check!

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Spring has sprung! The first mosquito larvae were found on St. Patrick's Day this year at an archery club near Caro. The warm weather has not only buoyed spirits, but has brought on an early start for all of us. Spring woodlot larviciding started on Monday, April 5, 2010 in the southern townships.

In January hiring for the new Administrative Assistant position was completed and Kim Green started on the 18<sup>th</sup>. The process of hiring seasonal staff started in early February. New staff and veteran technicians with expired MDA credentials attended a two day training session on March 24<sup>th</sup> and 25<sup>th</sup> at the TCMA building. MDA staff was available on the afternoon of the 25<sup>th</sup> to allow TCMA staff as well as a few farmers from the area to complete their testing.

On January 13<sup>th</sup> Bay, Midland, and Tuscola counties attended the annual insecticide bid opening. This year we are excited to be able to try out two formulations of the new Natular larvicide. March 3<sup>rd</sup> our staff presented the 2009 Annual Report/2010 Program Plan to the Mid-Michigan Technical Advisory Committee, both were approved.

Two staff attended the 75<sup>th</sup> Annual AMCA conference in Lexington, KY. NPDES was a big topic of the presentations this year and I'm sure we will all be hearing more about this as the season progresses. After attending the Education and Public Relations symposium at AMCA our new Administrative Assistant has volunteered to head the new education program for Tuscola County.

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**TUSCOLA**

As always, the Michigan Mosquito Control Association's 2010 conference was an entertaining and educational event. We are very grateful to Doug Carlson, Jack Peterson, Bill Reynolds and others who traveled from far away to join us in Traverse City. As always, special thanks go to the vendors that provide the materials and information we need to do our jobs. We could not hold our conference without their generous support. For those of you that were unable to meet with us this year, please plan now to attend the 2011 conference in Grand Rapids. This 25<sup>th</sup> Annual Meeting promises to be a special event not to be missed.

Here in Midland County we have completed recruitment and training of seasonal employees and are now ready for the mosquito control season. This year we will continue testing of permethrin adulticide formulations and of various materials available for treatment of mosquito larvae in catch basin habitat. With the decline in West Nile virus activity in Michigan over the last few summers we have seen a reduced interest statewide in disease surveillance and mosquito control. However, WNV is not gone and not likely to go away so we must all maintain our vigilance.

Mosquito control operations in Michigan and throughout the nation will most likely be seriously affected by legislative and regulatory activities ongoing in Washington, Lansing and elsewhere. NPDES, Endangered Species Act and "inert ingredients" are likely to become as much a part of our lexicon as vexans, japonicus and Bti. Please join your colleagues in the MMCA in our efforts to become informed and involved and to do the best we can to provide the most safe and sound integrated mosquito management.

Interviews for seasonal employment were completed in early March and our annual training session was held on March 19-20<sup>th</sup>. New staff will represent approximately 35% of our seasonal workforce which is typical for our operation.

Spring *Aedes* larvae were first found on March 10<sup>th</sup> which is earliest since our district was established; historically we find our first larvae on March 22<sup>nd</sup>. Currently, water levels of vernal pools are extremely low with many normal sites completely dry. This is not the ideal situation for our spring aerial larviciding program but we can do nothing except monitor larval development and climatic conditions.

School presentations by our education department continue to be very popular. This school year our Education Coordinator has already scheduled 215 classroom presentations. This spring we will be conducting an essay contest for all third, fourth, and fifth grade students in Saginaw County with this year's theme "Mosquitoes, where are they coming from?" Margaret Breasbois and Bill Stanuszek judged science fair projects at the annual Saginaw County Science and Engineering Fair and selected two students to receive awards sponsored by our agency. Titles for the winning projects were: Junior Division – Microbial Fuel Cells: The Way to a Sustainable Future; Senior Division – Water Quality: An Analysis of the Effects of Residential Internal Plumbing on the Saginaw Water System.

We were disappointed in February when the U.S. Supreme Court decided not to review the 6<sup>th</sup> Circuit Court of Appeals ruling in regards to the Clean Water Act. Thus as it stands we will have to apply for National Pollutant Discharge Elimination System permits beginning in April 2011. We anxiously await the first draft of this new permit that is supposed to be released by the EPA sometime in April 2010



**William J. Lechel, II – Memorial Scholarship  
Student Paper Competition 2010 Winner**



**Ryan K. Kimbiruaskas  
Michigan State University**



Ryan is a doctoral candidate in entomology at Michigan State University investigating the role of aquatic insects in Buruli ulcer disease in Ghana, West Africa.

**Gut Content Analysis of Aquatic Hemiptera  
Using Molecular Techniques**

**Ryan K. Kimbiruaskas**

Department of Entomology, Michigan State University – East Lansing, MI



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

**Spring**