



Skeeter Scanner

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PRESIDENT'S MESSAGE

It has been an enjoyable summer – with the lack of rain most of the season, the mosquito trap counts have been fairly low. Rain entered the picture late in the season, and although there were a few hectic weeks, for the most part, mosquito numbers were controllable. By the 12th of October all of the Districts had shut down control operations for the year.



We were disappointed to hear about the revision in policy for the Michigan Department of Community Health (MDCH) Bureau of Laboratories: “In 2007, arbovirus testing resources will be directed toward detecting the most severe cases of neuro-invasion disease. Routine serum IgG testing of non-hospitalized patients with suspect WNV will not be available.” With the decision of the MDA earlier in the year to stop funding bird testing, this was a further blow to the surveillance of mosquito borne disease in Michigan. As we have mentioned before – “if you stop looking, it doesn’t mean it goes away.” This makes it very difficult to determine the extent of virus transmission and its effect on Michigan residents. Even with this limited testing there have been 13 human cases confirmed to date.

Surveillance for WNV has continued through the efforts of the four district programs. During the 2007 season the four districts tested or sent in for testing; 40 crows/blue jays with 4 WNV positives, 4151 mosquito pools with 6 positives (approximately 300 pools from August and September are still pending), 100 sparrow bloods with 14 positives, and 705 sentinel pheasant bloods with no positives.

The planning committee is hard at work organizing the 2008 conference in Kalamazoo. It promises to be an excellent program, with the agenda of speakers full of who’s who in mosquito control. Reports on current research will be given, as well as some of those back to basics presentations. There will be something for everyone. The Radisson Plaza Hotel is among the best in the state, and Kalamazoo has an ambiance all will enjoy. With all plans falling into place we must all remember that it is the membership that makes this association so special. We hope to see all of you there, put February 6th and 7th on your calendars now!

Margaret Breslow

Encephalitis from West Nile: Who's at risk?

A new study pinpoints several risk factors for developing deadly encephalitis (inflammation of the brain) caused by mosquito-borne West Nile virus infection.

Researchers took a look back at the hospital charts of 172 people with West Nile infection, including 113 cases of encephalitis (including 17 deaths), 47 of meningitis and 12 with uncomplicated fever. The median age of the hospitalized cases was 54, and the median age of those who died was 75 (range 47-95).

The researchers identified older age, history of heart and vascular disease, and history of hypertension (high blood pressure) as independent risk factors for developing encephalitis from West Nile infection.

In a presentation of the findings to the International Conference on Diseases in Nature Communicable to Man, in Madison, Wisconsin, Dr. Kristy Murray, of the University of Texas Health Science Center, Houston, suggested that high blood pressure might make it easier for the virus to enter the brain.

After adjusting for age, a suppressed immune system, being African-American, being infected with hepatitis C virus and having kidney disease all raised the risk of death from West Nile-associated encephalitis.

According to the Centers for Disease Control and Prevention, up to 20 percent of people who become infected with West Nile virus develop symptoms such as fever, headache and body aches, nausea, vomiting, swollen glands or skin rash.

About 1 percent of people infected with West Nile will develop severe illness, including high fever, headache, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, vision loss, numbness and paralysis. If the virus enters the brain, it can cause encephalitis or meningitis.

In the current case series, 42 percent of patients were still reporting symptoms related to West Nile virus infection 3 years post-onset.

Michigan Farm Animals Susceptible to Mosquito-Borne Diseases

The Michigan Departments of Community Health (MDCH) and Agriculture (MDA) received confirmation from the Michigan State University (MSU) Diagnostic Center for Population and Animal Health (DCPAH) that a yearling Quarter Horse from Cass County tested positive for the Mosquito-borne disease, Eastern Equine Encephalitis (EEE). The young stallion was demonstrating neurological signs associated with EEE and was humanely euthanized. Two equine cases of EEE were reported from Berrien St. Joseph counties respectfully.

Five emus on a farm in Berrien County, approximately 20 miles from the Cass County horse, also died from EEE. The emus were penned in an area that had a tremendous amount of mosquitoes. Four turkeys recently died from West Nile Virus (WNV) in Cass County as well.

Dead Birds Not Good Indicator of Viruses

New Hampshire officials are finding fewer birds dying from West Nile virus and Eastern equine encephalitis." It seems like we're not finding the same number of birds as we used to," said Jason Stull, state public health veterinarian*. "The predominant theory is the birds are developing antibodies to the disease and are not dying as much." (*Mosquito control districts in Michigan are also seeing a substantial decrease in dead crows.)

In past years, officials might see up to 20 dead crows a week in some towns, he said.

"There's not a catastrophic loss of birds anymore. ... Birds are just not dropping like they used to. They've adapted," Stull said the birds can't be used to pinpoint the virus's location because most

don't die immediately and can travel away from the infection site.

Mosquito test pools are considered the more accurate indicator of West Nile and EEE, and in tracking and learning about the diseases and the different carriers.

But while there are fewer dead birds, the diseases are as prevalent as ever, according to Stull. Mosquito test pools have tested positive for EEE this year. "I'm kind of disappointed. I really thought they would taper off and go away for a little while," said Morrison, whose company does mosquito spraying for communities in New Hampshire and Maine. "I think we'll always be dealing with this. It may taper off some years, but it will probably always be here."

Italian Virus Outbreak May Portend Global Spread

Another pathogen has jumped its traditional boundaries to begin what some fear is a march around the globe. This time the invader is a virus that causes Chikungunya, a crippling and painful disease until now found only in the tropics. This summer, it sickened more than 160 people in and around two small villages in Italy. Chikungunya is transmitted by the Asian tiger mosquito (*Aedes albopictus*), a species that is taking the world by storm, and medical entomologists worry that the disease has the potential to follow the insect.

Chikungunya is rarely fatal but can cause severe fevers, headaches, fatigue, nausea, and muscle and joint pains. People started falling sick in Castiglione di Cervia and Castiglione di Ravenna--two small villages separated by a river in the province of Ravenna--in early July, says Antonio Cassone of the Istituto Superiore di Sanità (ISS), a national government lab in Rome. But because symptoms overlap with those of other diseases, such as the Toscana virus, it took a long time to get noticed, he says. Samples reached ISS on 27 August, and the virus was identified the next day.

Epidemiological detective work suggests that the index patient was a man who traveled to one of

the villages and fell sick there, after having been infected in India. Isolation and sequencing of the virus is under way to confirm that theory, Cassone says. One patient, an 83-year-old man with severe previous medical problems, has died; more than 30 cases are still awaiting lab confirmation.

Chikungunya caused a massive outbreak at La Réunion, a French island in the Indian Ocean, as well as several nearby islands, in 2005 and 2006. India, too, has been hit very hard in recent years. Several European countries had seen "imported" cases of Chikungunya lately--that is, people who were infected elsewhere. But local transmission in Europe has never been observed before. "It's fascinating," says entomologist Paul Reiter of the Pasteur Institute in Paris, France.

It's too early to tell whether the virus now has a permanent foothold in Europe. New cases have slowed down to a trickle, says Cassone, in part because the mosquito population is dwindling. But the critical question is whether infected mosquitoes can survive the winter or pass on the virus to their offspring via their eggs, says Reiter. "If they can, we might see a rip-roaring epidemic next year," he says.

There are neither drugs nor vaccines against Chikungunya, but the outbreak at La Réunion has triggered renewed interest in an old vaccine candidate developed in the 1980s by a U.S. Army lab in Fort Detrick, Maryland, that was later shelved. Scientists at three French government institutions are currently working on that vaccine, and new clinical trials might begin before the end of 2008, says epidemiologist Antoine Flahault, who chaired a French task force on Chikungunya last year.

Exeter Rep Files Mosquito Bill Seacoast Moms Against EEE

A New England State Representative Marshall "Lee" Quandt filed a bill last week that would give his state Department of Health and Human Services the ability to override state Fish and Game officials in deciding when to treat department land for mosquitoes.

"It's going to allow Fish and Game, if they want to be reasonable and knock off this craziness that mosquito larvae are more important than our kids, to work with the Department of Health and Human Services," Quandt said.

Quandt's bill, which is still being drafted, would change the state Department of Health and Human Services policy for declaring a public health threat or emergency with regards to Eastern Equine Encephalitis or West Nile Virus. He would like to see DHHS have the ability to issue a public health threat or emergency early in the mosquito season for towns or areas that have had positive mosquitoes, or human cases, in the past three years. The state issued a public health warning this year only after positive mosquitoes and human cases of EEE were reported.

That ability to issue an early public health threat would allow towns to apply to Fish and Game to larvicide or adulticide on department land earlier in the season, which is when mosquito experts recommend treating for mosquitoes to better control their population, Quandt said. Under the proposed bill, if the state has issued a health threat, and a town has been unable to get approval from Fish and Game to treat their land by June 1, the state DHHS can authorize the mosquito treatment on Fish and Game managed land.

The issue of treatment for mosquitoes on Fish and Game land has come to a head recently due to two local human cases of EEE. Because the state has declared a public health warning, and because of the proximity of the EEE cases to Fish and Game land, the current Fish and Game mosquito policy allows for treatment.

But Quandt believes this is too little too late. "By the time it tests positive, it's too late," Quandt said. "If anybody's taken a walk through the woods, the mosquitoes have gone bye-bye. The mosquito season is over. We have to worry about the spring of 2008."

Quandt is also concerned about the permitting process with Fish and Game, which he said wastes time which should be spent treating for

mosquitoes. By the time a permit is approved, he said, it may be too late.

Quandt also urged Governor John Lynch to accept the town of Stratham's recent request that he come to the area to talk about the town's concerns about Fish and Game. "If the governor doesn't do that and he won't pony up, then we're going to have a very difficult time with this," Quandt said. "The governor needs to see the intensity of the issue, emotion of this issue."

Part of that emotion has been visible in the newly mobilized group Concerned Seacoast Moms Against EEE, a group of area mothers who want to see a regional mosquito control plan implemented. Quandt said the mothers group has quickly become a formidable force in the fight against EEE. "Fish and Game knows you never get between a mother and her bear cubs. What the state doesn't realize is they're between the moms and their cubs here," Quandt said.

Bush Treated for Lyme Disease Last Year

President Bush was treated for Lyme disease last August, the White House announced after failing to disclose the problem for nearly a year.

The treatment was revealed only when the White House made public all the results of Bush's annual physical exam on Wednesday. It showed up in the "past medical history" section and in the summary along with other skin conditions. Bush was treated for what his doctors described as "early, localized Lyme disease" after developing the characteristic bullseye rash.

White House spokesman Scott Stanzel said Bush's treatment was not disclosed earlier because it happened after his last physical, on Aug. 1, 2006. He said doctors decided not to perform blood tests for Lyme disease because the treatment worked for the one area where the president experienced a rash, and he never progressed to other symptoms or saw a recurrence. "It was a rash," Stanzel said. "It's not uncommon for the president to have tick bites when he's out biking."

Nominations for the MMCA Board of Directors



Positions open for nomination of candidates:

1. Vice-President
2. Treasurer
3. Trustee (one position)

The office of Vice-President is a 2-year term, serving one year as Vice-President and a second year as President. The Treasurer serves a 2-year term and Trustee serves for 2 years.

Everyone is welcome and urged to participate. You may volunteer your own services or nominate a colleague. Please call or send your nominations (by January 18, 2008) to MMCA Secretary, Mary McCarry (989-894-4555, 810 Livingston, Bay City, MI 48706, mccarrym@baycounty.net). Candidates must be MMCA members. The election will take place during the General Business Meeting during the Twenty-second Annual MMCA Conference at the Radisson Plaza Hotel at Kalamazoo Center on February 6 & 7, 2008.

Notice Regarding Mosquito and Mosquito-Borne Disease Management Policy in the National Wildlife Refuge System

A proposed policy that refuge managers will follow concerning mosquito and mosquito borne disease management on units of the National Wildlife Refuge System has been released for public comment. This draft policy describes the process we will follow to determine if and how to manage mosquito populations on lands administered within the Refuge System. This draft policy states that “we will allow populations of native mosquito species to function unimpeded unless they cause a human and/or wildlife health threat.” While we recognize mosquitoes are a natural component of most wetland ecosystems, we also recognize they may represent a threat to human and/or wildlife health. We may allow management of mosquito populations on Refuge System lands when those populations pose a threat to the health and safety of the public or a wildlife population. This draft policy outlines the procedures refuge managers will follow in planning and implementing mosquito and mosquito borne disease management within the Refuge System.

DATES: Comments must be received by November 29, 2007.

The entire document can be read at:

<http://a257.g.akamaitech.net/7/257/2422/01jan20071800/edocket.access.gpo.gov/2007/pdf/E7-20201.pdf>

Michigan Mosquito Control Association William J. Lechel, II Memorial Scholarship 2008 Annual Student Paper Competition

The William J. Lechel, II, Memorial Scholarship is a student presentation competition held in conjunction with the Michigan Mosquito Control Association Annual Conference. Those entering this competition will present findings from their research projects. The MMCA feels this competition will prove to be extremely valuable in both educating students as well as promoting student involvement in MMCA.

Presentations on mosquitoes in particular are preferred, but related research may include information in health or pest-related fields; insects, insect control, weather, Lyme Disease, science education, etc. A total of 15 minutes will be allowed for each presentation.

The written title and abstract will be reviewed and judged for clarity, organization, and grammar. Submission of abstracts may be made electronically (MS Word) to Thomas Wilmot, 2008 Chair of the Awards and Recognition Committee, at twilmot@co.midland.mi.us or in printed form to Thomas Wilmot, Midland County Mosquito Control, 2180 N Meridian Road, Sanford, Michigan 48657. The deadline for the paper title and abstract is January 1, 2008. In addition to the title and abstract, please provide name, university/college of attendance, degree program, advisor, address, phone, email, and audio-visual requirements. A limited number of presentation spaces are available. If more presentations are submitted than time allows, the judges will select presentations that they believe would be of most interest to the conference attendees. The Awards and Recognition Committee will coordinate with the conference Planning Committee chairperson to schedule presentations. Free conference registration, including a banquet ticket, will be provided to selected competitors.

Microsoft PowerPoint® presentations in the student competition will be evaluated in 3 areas:

1. written title and abstract submitted by published deadline (10 pts);
2. presentation organization and delivery (60 pts);
3. quality of research (30 pts)

The oral presentation will be judged for organization, delivery (including sensitivity to the audience, effective use of available time, and quality of spoken English), clarity, and effective use of visual aids. Quality of research will be judged on information contained in the written abstract and covered during the formal presentation. The research significance will be judged on how well the presentation represents the significance of the project and findings. Competitors should understand that the point awards are subjective and that the various evaluation categories have been arbitrarily assigned point values. The MMCA Board of Directors will select three judges (based on recommendations from the Awards and Recognition Committee) who will attend presentations and assign scores. Judges will confer after the presentation and select one competitor to receive the William J. Lechel, II Memorial Scholarship.

The winning student will receive a certificate and a \$1,000 scholarship, which are jointly sponsored by Advanced Pest Management (Fenton, Michigan) and Clarke Mosquito Control (Roselle, Illinois). The winning PowerPoint® presentation and abstract will be displayed on the MMCA website.

Applicant qualifications:

1. Must be enrolled in a U.S. undergraduate or graduate college/university program
2. Must not have received a previous MMCA Scholarship
3. Must provide a letter of recommendation from advisor/professor
4. Must provide a biography

Complete Application can be found at: <http://www.mimosq.org>

Promising Malaria Vaccine Is Found to Work in Babies

The world's most promising malaria vaccine has been shown to work in infants less than a year old, the most vulnerable group, according to a study being published in the *Lancet*. The study was small, involving only 214 babies in Mozambique, and was intended to show only that the vaccine was safe at such young ages. But it also indicated that the risk of catching malaria was reduced by 65 percent after the full course of three injections.

"We're now a step closer to the realization of a vaccine that can protect African infants," said Dr. Pedro Alonso, a professor at the University of Barcelona who leads clinical trials of the GlaxoSmithKline vaccine. If it passes much larger clinical trials due to start in 7 countries next year and is accepted by national regulatory agencies, it could be ready for distribution by 2012, said Dr. W. Ripley Ballou, Glaxo's vice president for international clinical trials.

In 2004, Dr. Alonso showed for the first time that the vaccine could protect children against infection or death. That study of 2,022 children aged 1 to 4 showed protection from infection about 45 percent of the time.

Such a relatively low level of protection would not be acceptable in a vaccine in the West, but malaria is a leading killer of African children, so even imperfect coverage is a major public health victory.

The vaccine, presently known as RTS,S and tentatively brand-named Mosquirix, is made by fusing a bit of outer protein of the deadly *falciparum* strain of the malaria parasite with a bit of hepatitis B virus and a chemical booster — the latter two added to provoke a stronger immune reaction.

At least 9 malaria vaccine candidates are in development, but Mosquirix is the farthest along. Glaxo has been refining it for 20 years, and expects to have spent up to \$600 million on it by the time it comes to market. About \$100 million has been paid by the Bill and Melinda Gates Foundation through the PATH Malaria Vaccine Initiative.

No decision has yet been made about the price to be offered to poor countries and international health agencies. But "if a child will benefit, price will not stand in the way," said Dr. Christian Loucq, director of the vaccine initiative.

It is not known how long protection lasts. But because the youngest children are the most vulnerable, Dr. Alonso said, vaccination buys them time to build up natural immunity, which is acquired by surviving multiple mosquito bites.

Speakers for 2008 MMCA Conference

Do you have a interesting or unique topic you would like to share with us. We are looking for 3-4 speakers for the 2008 Conference. Give Mark Harten, Planning Committee Chair a call at 989-755-5751, or email at: Mark@scmac.org if you are interested.



**Oh great!..
Another vampire costume!
This is turning into a disaster!"**



News From Around The Districts

BAY

The third quarter could be summed up as very dry. In fact, it wasn't until August 7-23 that about 5 inches of rain fell, followed by another two solid weeks with no rain. September continued on the dry side with just 2 inches of rainfall recorded for the month. October, the first full month of fall has brought with it continued mild daytime temperatures, but mosquitoes are sure to soon be gone and we'll be back in full swing for planning the 2008 season. We're happy to report that we made it through another mosquito season and will soon begin to get ready for the next one. Part of that practice involves assessing what happened over the course of the season and deciding what processes could be upgraded or changed.

Larviciding and fogging operations were suspended for the season on October 5, unless a warm spell or heavy rain causes the mosquito population to increase significantly. Since early September few citizen complaint calls (1-2 per week) have been received and few mosquitoes have been captured in traps.

The second scrap tire drive was held September 14-15 and 2,069 tires were collected. Considering both tire drives held this year, then, 4,542 tires were dropped off by our Bay County citizens.

Disease surveillance efforts will continue through September. None of the mosquito pools submitted to date have tested positive for West Nile Virus, although we are waiting for results on approximately 50 pools. Furthermore, of the 25 birds tested this year, only 3 have been positive compared to 48 of 96 in 2006 and 24 of 51 positive crows or blue jays in 2005. Few bird pick-ups have been required over the last few weeks.

TUSCOLA

It has been a really good season. We have tested over 100 mosquito pools and 3 corvids and have not found West Nile Virus. Mosquito numbers have been down due to the lack of rain. We were curious why one New Jersey Light Trap along the bay wasn't picking up any mosquitoes and found out that a well fed spider had built its web below the fan!

Third week of September is finding us with some unseasonably warm weather but for the most part it is still dry. We have kept five technicians and two foremen to handle any problems in the field. We lost half of our technicians the last day of August.

Our handhelds were overheating so our Mechanics have started making handheld foggers out of chainsaw motors. They are continuing to modify the design as they build one after another. This will save us some sizeable money.

Don't forget to mark your calendars for February 6-7, 2008 for the 22nd Michigan Mosquito Control Association Conference at the Radisson Plaza Hotel at Kalamazoo Center in Kalamazoo, Michigan.

It will be here before you know and I hope to see you there!

This past summer has been a mirror opposite of last summer which had heavy accumulations of rain and record high mosquito populations. During the 2007 control season rainfall was geographically dispersed and minimal, resulting in very few adult mosquito problems. You can never say this enough, but weather has such an important impact on mosquito densities and the past two years are classic examples.

By August 27th we had lost over half our seasonal employees as they return to college, thus all remaining seasonal staff were consolidated into one shift (4pm-12:30am) that conducted both larviciding and adulticiding activities. Our control season officially came to an end on October 5th.

Mosquito-borne disease activity was minimal this year. Only 10 birds from Saginaw County were tested for WNV with all being negative. As of this report only four mosquito samples have been diagnosed positive for WNV and they were located in Birch Run, Buena Vista, Carrollton, and St. Charles townships. Regretfully, there still are some pending mosquito sample results to be received.

Our Biology staff was busy this summer conducting insecticide bottle assays and caged mosquito tests for the following adulticide products: malathion, sumithrin, and permethrin. Data collected from this testing will help us assess our insecticide use for the 2008 control season.

Our three week long tire drives along with collections by our tire crew have again harvested a bounty of mosquito breeding tires this summer. For the summer, a total of 13,076 tires were collected and shredded.

Our agency has been working diligently with the Saginaw County Department of Public Health to eliminate mosquito breeding abandoned swimming pools. This has been successful but it seems that for every two pools we eliminate we find another that is in disrepair and breeding mosquitoes. Although this program is only two years old we have already removed or put back into proper working conditions over 100 pools that had been previous mosquito breeders.

After an entire summer spent in tremulous anticipation of West Nile virus's reappearance, we are almost ready to breathe a sigh of relief. Even if it was only a temporary reprieve, we very much appreciated the relative calm of the summer of 2007. We had few reports of dead birds in Midland County this summer and found no evidence of WNV in those birds or mosquito pools tested. Is it too much to ask for another cold spell in spring 2008 if that's what it takes to keep WNV at bay? I hope not.

We will be presenting a display on DNA fingerprint identification of mosquitoes at the Midland Chemical Society's 2007 Science Fest in October. This festival provides a wonderful opportunity to interact with youngsters interested in science and to provide a different look at mosquitoes and chemistry.

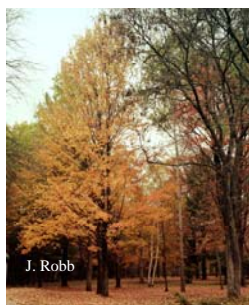
Joyce McLaughlin and Charles Dinsmore, with the help of Midland County's GIS coordinator, are working on the conversion of our maps from MapInfo to ArcGIS. As with any transition to a new software program, the experience has been "interesting" to say the least. Pay no attention next time you see Charles or Joyce if they are still muttering mild obscenities.

MMCA Photo Salon

We plan to continue the photo salon as part of the evening entertainment at our MMCA conference in February, 2008. Hopefully, you have all been taking photos this summer for possible use in the revised 7F Mosquito Control Manual. Please choose a few of your best shots and submit them for the photo salon. We expect to have cash and prizes for photos in the categories of: mosquitoes, mosquito habitat, mosquito control, surveillance and nature/wildlife. Digital photos can be (preferably) submitted to Tom Wilmot via email at: twilmot@co.midland.mi.us. If you are in the paper or slide photo mode, mail photos to Midland County Mosquito Control and they can be scanned. Thanks!



**Best of Show
2007 MMCA
Conference**



J. Robb

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

Fall