



The Biting Times

Newsletter for the
North Carolina
Mosquito & Vector
Control Association

August, 2011
16 pages

2011 NCMVCA Annual Meeting



**Atlantic Beach, NC
November 16th -18th**

Sheraton Atlantic Beach
2717 W. Fort Macon Rd.
P.O. Box 3040
Atlantic Beach, NC 28512
1.800.624.8875

The 2011 Annual Meeting of the North Carolina Mosquito and Vector Control Association will be held at the Sheraton Atlantic Beach Oceanfront Hotel November 16th –18th. Discounted room rates are available for conference attendees through Oct. 16th. Reserve your room now! Preliminary conference agenda and registration information may be found on pages 10-11. A detailed agenda will be printed in the next newsletter.

NPDES Talking Points

Jeff Brown (Brunswick County Mosquito Control)

Joe Conlon (AMCA Technical Advisor)

BENEFITS OF THE PESTICIDE GENERAL PERMIT (PGP) CITED BY EPA

EPA officials have cited 6 purported benefits that will be realized from imposition of NPDES requirements on public health pesticide applications. At first glance, these may seem reasonable to individuals outside of the mosquito control community. A closer look, however, reveals some substantial flaws in their underlying reasoning. Be advised that these “benefits” are being used by legislators or activists in support of the 6th Circuit Court of Appeals decision or by means of arguing that a legislative fix by way of [HR 872](#) is unnecessary. The American Mosquito Control Association (AMCA) disputes this rationale and is providing the following facts that call into question these benefits and their relevance to mosquito control operations. The benefits cited are:

1. Provides additional limitations on pesticide use in impaired waterbodies (303d) and outstanding national resource waters (Tier 3)

A) Fact: Of the 71,363 causes of impairment for listed waters on the EPA website, pesticides account for only 1,866 or 2.6%. Furthermore, studies have not linked mosquito control pesticide applications to water impairments. Indeed, the active ingredients currently in use in mosquito control are substantially different from the legacy pesticides found and do not contribute to additional impairment.

B) Fact: Many references are made to the USGS report “The Quality of Our Nation’s Waters – Pesticides in the Nation’s Streams and Ground Water, 1992-2001.”

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NPDES Talking Points *(continued)*

B) (*Continued from page 1*) Selection of 83 closely bunched watersheds and basins within discrete regions of targeted states while many other agricultural regions and states were largely ignored biases the total percentage of “*agricultural detections*” in the study. In addition, the lead author notes that modern agricultural management practices probably account for the decline in detections over the course of the study – without the need for CWA permitting stipulations.

C) Fact: The PGP states, “Except for discharges from pesticide applications made to restore or maintain water quality **or to protect public health or the environment that either do not degrade water quality or only degrade water quality on a short-term or temporary basis**, operators are not eligible for coverage under this permit for discharges to waters of the United States if the water is designated by a state or tribe as Tier 3 (Outstanding National Resource Waters) for antidegradation purposes under Title 40 of the *Code of Federal Regulations* (CFR) 131.12(a)(3).” Thus, there is no additional limitation proposed for public health mosquito control operations – the argument is erroneous.

D) Fact: The Federal Register Notice for the PGP states that, “Except for certain temporary changes, water quality cannot be lowered in such (Tier 3) waters. In broad terms, EPA’s view of ‘temporary’ is weeks and months not years.” The current pesticides utilized in mosquito control generally exert their effects in the first few hours in the case of adulticides and potentially a few weeks in the case of larvicides. They are, by definition, “temporary” and should not factor into Tier 3 limitations. However, this interpretation of “temporary” could be challenged in court by environmental groups.

Conclusion: Provisions in the PGP do not provide any demonstrable increase in protection for impaired or Tier 3 waterbodies from mosquito control operations.

2. Requires use of Integrated Pest Management practices for larger applications.

A) Fact: All government mosquito control agencies, regardless of size, will be required to file an NOI and be required to keep and maintain records describing pest management measure(s) implemented prior to the first pesticide application. This is a tacit mandate for IPM regardless of entity size.

B) Fact: This presupposes that IPM is not practiced at mosquito abatement districts and the PGP requirement would represent a manifest improvement over current practices. That is profoundly in error. Integrated Mosquito Management (IMM) activities were first proposed by A.F.A. King in 1883 and put into practice by J.B. Smith in New Jersey in 1905. In point of fact, the principles of IMM are an integral part of all public health applicator certification training nationwide and continue to form the basis for control operations to this day.

Conclusion: The PGP does not produce IPM benefits beyond those already practiced by districts nationwide.

3. Mandates immediate notification of adverse effects and expanded scope for who must report adverse effects on aquatic ecosystems.

A) Fact: Issues such as what constitutes an adverse incident and its cause, specific survey/control/monitoring methodologies, action thresholds, etc. will serve as rich sources of litigation based solely on differences of opinion between control districts and activists or misinformed citizens, potentially severely compromising time-sensitive activities required for effective and efficient mosquito control.

B) Fact: Reporting of supposed adverse pesticide application events or incidents from unreliable or biased witnesses could have substantial unintended and unforeseen detrimental consequences for applicators in local media and courts.

C) Fact: The expanded scope could generate endless court injunctions at several points in the recognition, reporting, and remediation of adverse events or incidents whose confounders are not and cannot be known.

D) Fact: Activists groups have stated that they intend to file citizen suits until all pesticide applications are permitted if even a remote possibility exists that the pesticide could come in contact with any “water,” that could possibly be a potential conveyance to a water of the U.S.

Conclusion: The proposal touted as a “benefit” is actually another opportunity for activists to unreasonably hamstring mosquito control operations.



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NPDES Talking Points *(continued)*

4. Mandates equipment calibration and maintenance programs.

A) Fact: Droplet size and application rate calibrations are already practiced at programs per label specifications and timetables. Smaller entities commonly have their equipment calibrated by manufacturers' representatives as a condition of their purchase.

B) Fact: Required droplet spectra are usually delineated on the label for Ultra Low Volume (ULV) products, as are application rates. Thus, failure to ensure proper droplet size or application rate would be a FIFRA violation – with no need for further regulatory enforcement action. Furthermore, improper droplet spectra or application rate would compromise efficacy. Applicators understand proper calibration as the cornerstone of effective ULV control, regardless of regulatory oversight.

Conclusion: Applicators are trained in certification courses to view proper calibration and maintenance of equipment as a necessary prerequisite for effective control – and the law, if stated on the label.

5. Mandates annual pesticide reporting – quantities and locations will be available to the public.

A) Fact: Pesticide usage is generally reported to the state agencies responsible for their regulation, and should be left to discretion of the states. The states should determine the need and/or value-added for such reporting in addition to its format and timeline. Additional federally-mandated reporting is not needed and would constitute an unnecessary administrative burden - with associated costs.

B) Fact: Although making this information available to the public appears to be a welcome transparency, it will no doubt be used by activists, health scam and fraud perpetrators to leverage injunctive relief from applicators. The utility of this measure in light of potential litigation should be viewed with extreme caution.

Conclusion: This information will provide excellent fodder for media scares. There is no compelling reason that it should go beyond the state level.

6. Permits will be enforceable under the CWA as a permit violation.

A) Fact: Permit violations would already be punishable by fines under FIFRA at \$7500 per incident. This provides ample deterrent to mosquito control programs already operating at slim fiscal margins. Adverse publicity associated with FIFRA violations and its effect on taxpayers constitutes a further deterrent. The argument for additional penalties (up to \$37,500/day for CWA violations) implies that the FIFRA fines, not to mention professional integrity, are not a meaningful deterrent to illegal activities by mosquito control districts.

B) Fact: There is no evidence that additional fines under CWA would have prevented the Talent Irrigation misuse of aquatic herbicides. The application constituted a clear label violation under FIFRA and should have been duly enforced under that statute.

C) Fact: Compliance with CWA will entail significant new expenses for applicators including filing and application fees, new monitoring, record-keeping and annual reporting requirements, and documentation of routine operational practices in the Pesticide Discharge Management Plan (PDMP).

Conclusion: FIFRA penalties are a sufficient deterrent to mosquito control programs operating on extremely tight (and shrinking) budgets and at the pleasure of the taxpayers or customers.

Passage of HR 872 will clarify Clean Water Act jurisdiction. It will not degrade the effectiveness of the EPA or their enforcement of existing Clean Water Act (CWA) regulations. The EPA Office of Pesticides regulates the availability and application of pesticides registered for use in water. The EPA Office of Water regulates any pollutants introduced into waters of the United States. Voting for passage of HR872 will ensure that each EPA office maintain their proper jurisdictions as originally intended upon the Agency's founding.

Passage of HR 872 will restore the authority of Congress. The U.S. Congress should continue to determine the environment policy of the United States, not the judicial system.

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NPDES Talking Points *(continued)*

Passage of HR 872 will not adversely impact any state regulatory programs that were in place prior to the Sixth Circuit ruling. Existing state permitting programs for pesticide applications will remain in effect.

Unless Congress acts by October 31, 2011, The Environmental Protection Agencies National Pollution Discharge Elimination System (NPDES) will change how mosquito control activities are conducted across The United States.

Jeff Brown is the NCMVCA Legislative Committee Chair. He may be reached by phone at (910) 253-2507 or by email at jbrown@brunSCO.net

Joe Conlon is the AMCA Technical Advisor. He may be reached by phone at (904) 215-3008 or by email at conlonamcata@gmail.com



NCMVCA Welcomes Dr. Stephanie Richards “Back Home”

The NCMVCA is proud to welcome Dr. Stephanie Richards back to North Carolina. Dr. Richards recently accepted an Assistant Professor position at East Carolina University in the Environmental Health Sciences program. Dr. Richards received her B.S. (Biology) and M.S. (Environmental Health) degrees from East Carolina University. She completed her Ph.D. in Entomology at North Carolina State University under the supervision of Dr. Charles Apperson. She completed her post-doctoral studies at the Florida Medical Entomology Laboratory (University of Florida) where she remained as a Research Assistant Scientist.

Dr. Richards’ research interests include investigating the complex relationship between environmental factors and mosquito-virus interactions affecting vector competence, spatial analysis using geographic information systems, and insects of forensic importance. We are pleased to have Dr. Richards back in NC and look forward to hearing more about her professional plans in the near future.



Call for Nominations!

Nominations are needed for candidates for the NCMVCA officers positions in this coming year. Positions that are available for nominations are President, Vice President, and Secretary/Treasurer. Although these positions move upward sequentially, nominations for these positions are always appreciated from the members of the association, and voting will occur at the annual business meeting. Another call for nominations for these positions will also be made during the beginning business meeting at the annual meeting in the Sheraton Atlantic Beach on Emerald Island, 16-18 November. Please take time to consider deserving persons in the organization that would make good association officers. Submit any nominations to: Bruce A. Harrison, Chairman, of the Nominations Committee. You can send them by e-mail to skeeterdoc@gmail.com or mail them to 661 Drumheller Rd., Clemmons, NC 27012.

Mid-Atlantic Mosquito Control Association Annual Meeting



The 37th annual MAMCA conference will be held February 21-23, 2012 at the Wyndham Gettysburg, 95 Presidential Circle, Gettysburg, PA 17325. Conference room rates at the Wyndham Gettysburg are \$99.00 + 9.00% Tax. Rooms can be reserved by calling 1-866-845-8885. When calling, you must mention that you are with a group - the Mid-Atlantic Mosquito Control Association - in order to receive the conference rate. Please make your reservations early. Deadline for the above group rate is 5:00 pm, Friday, January 20, 2012. For more information about the MAMCA meeting, please contact your MAMCA state representative: Dr. Brian Byrd (bdbyrd@wcu.edu) or visit the MAMCA website (www.mamca.org).

Mosquitoes and the Effects of Weather Phenomena

By Bruce A. Harrison

“Mosquito Control Personnel Need to Know How Mosquitoes Interact With Hot Temperatures, Humidity Levels, and Drought”

It is almost a “given” that mosquitoes prefer warm weather, and that rainfall usually causes more mosquitoes. However, in the feet on the ground world of mosquito control things are not that simple because all of the weather factors interact differently. Also, because mosquitoes are divided into separate species they function not as varieties of one organism, but interact as independent species with the weather variables. Thus, what happened last time may not happen the next time. However, there are enough generalities to provide some known interactions and species examples that occur among mosquitoes, high temperatures, humidity levels, and finally as a separate issue, drought. Everyone should understand that I will only be touching the surface with some of the bullets provided below. Nearly all of the known interactions listed below impact you and your mosquito control program, and thus you can use this information to help target where your next problems will come from and how to deal with them.

- Adult mosquitoes live longer in temperatures between 70 to the low 90’s. If the temperatures become too high evaporation increases the loss of body fluids and shortens their life span.
- They also live longer in humidity levels of 70 or more percent. That way they are less affected by evaporation. Thus, the hot temperatures with “muggy” humidity levels we have been experiencing this summer prolong the life spans of mosquitoes. Prolonging the life span of mosquitoes means more mosquito eggs in habitats that the females found suitable for the development of their immature stages when heavy rains come in late summer and early fall.
- As mentioned above, adult mosquitoes do not normally remain active in direct sunlight and temperatures over 93-95 degrees because of water loss. Thus, most day-biting mosquitoes are more active (seeking a blood source) early in the morning or late afternoon just before dark and into the first hour of darkness. This is reflected in the known bimodal activity curves of adults of *Aedes aegypti*, *Ae. albopictus*, *Ochlerotatus japonicus*, and *Oc. triseriatus*. This bimodal curve reflects the killing heat and lower humidity of midday. Another advantage of this curve is more potential blood hosts are also more active during the cooler and more humid early morning and late afternoon temperatures.

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Mosquitoes and the Effects of Weather Phenomena (Continued)

- Night-biting mosquitoes hunker down in cool forests or vegetation under heavy shade during the hot and humid days. During the day they can be found resting in hollow logs, hollow trees, along creek banks, under bridges, in burrows, and other places that are damp to avoid light and the low day time humidity levels. These species also take advantage of higher humidity levels in the evenings and before dawn to search for their blood hosts. It is likely that one reason many night biting species can fly longer distances in search of blood hosts is they utilize the higher night time humidity levels and lose less body fluids. In Asia one of the current successful malaria vector control methods is to apply a pesticide barrier spray on the underside of low vegetation that is between villages and nearby forests and fruit orchards. During the late afternoon dusk period the *Anopheles* malaria vectors disperse toward the village from inside the forests or fruit orchards and land and rest on the underside of the vegetation that was sprayed near the homes. After resting for another 20 or so minutes (darkness comes fast in the tropics) they would normally fly across the bare areas to the homes in search of a blood meal, but many are killed by the pesticides. Such barriers can successfully reduce population levels of vector mosquitoes and at the same time dramatically reduce malaria transmission to humans. In the USA, *Anopheles quadrimaculatus s.l.* and *An. crucians* complex have similar behavior patterns to those described above in Asia and can be effectively controlled by barrier sprays.
- High air temperatures also increase the temperatures of water in containers, ground pools and permanent water larval habitats and speed up the developmental times of immatures (larvae and pupae). Thus, a species that occurs from spring to late fall will develop and become adults more rapidly during the hot months. The average difference in time from egg to adult may be shortened as much as 3-5 days during the hot season. This increases mosquito population levels more rapidly. Species like *Aedes albopictus* that normally take about 11-12 days from egg to adult in May, may only take 7-8 days during a hot mid-summer period. Species like *Psorophora columbiae* that are typically found in open sunlight in shallow temporary grassy pools or even muddy pools on gravel roads, can develop from egg to adult in about 4-6 days during the hottest period of summer. However, in such scenarios high temperatures can have a negative effect on mosquito populations. Hot temperatures increase evaporation of temporary pool habitats and although the larval development rates speed up the pools often dry out before the adults can emerge. So if you are in the middle of an exceptionally hot period and you receive a 1-2 inch rain don't sweat the small stuff because small shallow pools that were created by the rain will generally dry up before the adults emerge. You need to focus on the deeper pools that you know last longer because more eggs will hatch from the rainfall and increase mosquito numbers in those pools.
- Hot temperatures usually do not have a major impact on species in tree holes that receive water through systemic circulation. Water temperatures in such tree holes are usually maintained at cooler temperatures throughout the year and the larvae, e.g., *Ochlerotatus triseriatus*, *Oc. japonicus*, and *Orthopodomyia signifera*, will develop at approximately the same rate, except during the coldest months of the year.

The following interactions address situations with high temperatures, low humidity and little or no rain = drought. Currently the coastal plain and eastern piedmont of NC is experiencing different degrees of drought and the following mosquito species scenarios may apply to your area. **(Continued)**

Mosquitoes and the Effects of Weather Phenomena (Continued)

- During severe droughts mosquito species that utilize temporary ground water pools will usually become uncommon (except possibly *Aedes vexans*). Many *Ochlerotatus* and *Psorophora* species fall into this category. At the same time the permanent ground water *Anopheles* and *Culex* species will become dominant in light traps in more rural areas, while numbers of species like *Culiseta melanura* in more shallow water semi-permanent water habitats may decline dramatically, and reduce the activity of the eastern equine encephalitis virus. Peridomestic species that utilize containers around residences like, *Aedes albopictus*, *Culex pipiens* complex, *Oc. japonicus*, and *Oc. triseriatus*, may remain abundant during droughts. Humans inadvertently introduce water into such containers when watering their yards or watering flower pots, and thus these species may not experience a drought. It should be noted that most of the viruses causing disease in humans in North Carolina are transmitted by the more abundant species mentioned above and not the temporary ground pool *Ochlerotatus* and *Psorophora*. So, even in drought conditions there are dangerous vector species out there that need to be controlled.
- Hot temperatures and little rain also has a very real impact on the *Culex pipiens* complex, the primary enzootic vectors of West Nile virus, because the water in pools, containers, and ditches where these species occur in the larval stage becomes more concentrated and organic pollution levels increase. This actually attracts the adult females to lay eggs in those sites because they have high levels of phyto- and zooplankton which are a primary food source for the larvae. Thus, during droughts and hot weather members of the *Culex pipiens* complex become more abundant and an increased threat for spreading West Nile virus in the bird populations. This in turn increases the risk of a bridge vector like *Culex salinarius* or *Cx. erraticus* biting an infected bird, becoming infected, and then transmitting this virus to humans. In coastal Georgia, West Nile virus is currently being picked up wherever mosquito pools are being submitted for testing. This means the enzootic cycle of this virus is very active and may spread north into South Carolina and North Carolina with continued hot dry weather. Remember that late August into October is the primary time for human WN virus cases. In this regard, *Culex pipiens* populations are an indicator species and can be impacted by larval control, but the more dangerous species that transmit to humans are bridge vectors like *Culex salinarius*, *Cx. erraticus*, *Aedes vexans*, *Ae. albopictus*, and several other species that are more difficult to control.
- *Aedes vexans* is a temporary water breeding mosquito, yet drought seems to have an unexpected positive and more dangerous public health effect on this species. Apparently, *Ae. vexans* is able to rest for long periods of time during drought situations due to a buildup of a fatty substance in the abdomen. Thus, during the drought of 2002, surveillance for West Nile virus in mosquitoes in Charlotte revealed that *Ae. vexans* was the most abundant species in light traps, followed by *Culex pipiens* complex, and *Ae. albopictus*. During the same year High Rock Lake in the piedmont shrunk down to the lowest level since the 1920s. This lake of 55,000 surface acres lost 33,000 of those acres and huge areas were exposed and grew up in sedges 4-5 ft. tall. Light trap surveillance revealed an extremely high population of *Ae. vexans*, yet temporary pools could not be found. After concerted efforts Parker Whitt found abundant *Ae. vexans* larvae in water in cracks in the dried mud that were 3 to 4 feet deep. Thus, we found a temporary freshwater species in the piedmont in cracks in mud like larvae of *Ochlerotatus sollicitans* and *Oc. taeniorhynchus* are found on dried coastal dredge spoil islands.

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Mosquitoes and the Effects of Weather Phenomena (Continued)



High Rock Lake - 2002 Drought: Searching for larvae on dried lake



High Rock Lake - 2002 Drought: Dipper handle in crack containing *Aedes vexans* larvae

The previous scenarios are intended to assist you in dealing with extreme weather situations and mosquitoes that are already present in the drought areas of eastern NC. This could change dramatically if a tropical depression or hurricane hits NC this summer-fall. For additional information on the seasonal activity of different mosquito species in eastern North Carolina visit the Brunswick County Mosquito Control website (See below for link). Be prepared and *Good Luck!*

www.brunsko.net/departments/operationservices/mosquitocontrol.aspx

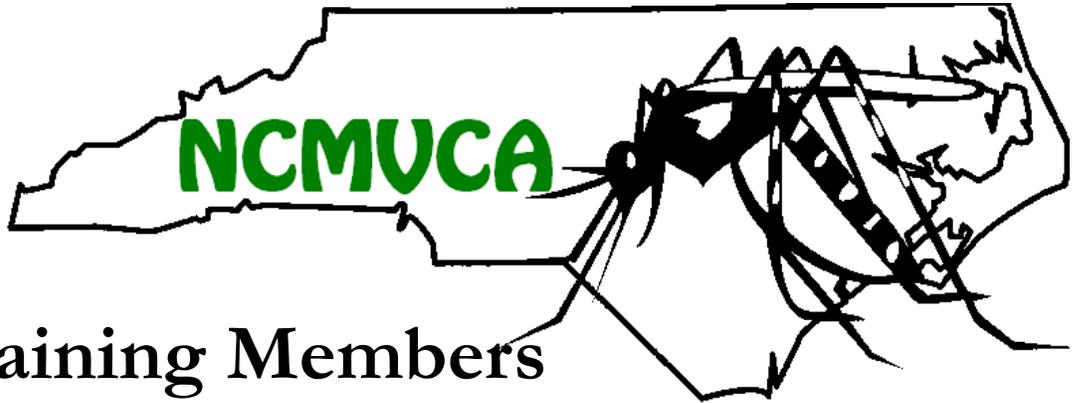
Use the following "Tiny URL" to get to the above website:

<http://tinyurl.com/3n5b5lv>

Dr. Bruce A. Harrison is a public health entomologist and taxonomist. He may be reached by phone at (336) 970-9732 or by email at: skeeterdoc@gmail.com

NCMVCA Annual Meeting Scholarship

The North Carolina Mosquito and Vector Control Association Annual Meeting Scholarship program is available to full-time students pursuing an undergraduate or graduate degree at any of North Carolina's College or Universities. The goal of this program is to promote greater student participation at the NCMVCA annual meeting and encourage scholarly mosquito control and vector biology research. Four students attended the 2010 annual meeting at the Sheraton-Atlantic Beach Hotel. Ms. Laura White and Mr. Theo Theomami (UNC-Greensboro) presented their work studying the ecology of La Crosse Encephalitis. Mr. Charlie Sither (Western Carolina University) presented his research on the molecular identification of *Aedes atlanticus* and *Aedes tormentor*. Ms. Samantha Kunze presented her work studying the thermal tolerance of rock pool mosquitoes in the Southern Appalachian mountains. More information about the NCMVCA Annual Meeting Scholarship may be found on the NCMVCA website (www.ncmvca.org). The number of annual scholarships is dependent on available funding.



2011 Sustaining Members

<p>Adapco, Inc. <u>Steve Molnar</u> (877) 881-6105 Fax (866) 330-9888 SMolnar@MyADAPCO.com</p>	<p>AMVAC Environmental Products <u>Peter Connelly</u> 751 Ocracoke Sq. S.W. Vero Beach, FL 32968 (772) 563-0606 Cell (772) 205-5280 Fax (772) 205-5280 PeterC@amvac.net</p>	<p>B & G Chemicals <u>David Sykes</u> 710 N.E. County Road 150 Madison, FL 32340 (850) 673-9598 dsykes@bgchem.com</p>
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<p>Gil Manufacturing <u>Kevin Kelly</u> Mosquito Control Products (334) 284-8111 Fax (334) 284-8320 gilmfgmosquito@aol.com</p>	<p>Univar USA <u>John Ryan</u> 5051-D L.B. McLeod Rd. Orlando, FL 32811 (407) 843-2611 Cell (321) 246-6351 Fax (407) 649-8433 john.ryan@univarusa.com</p>	<p>Valent Bio Science <u>Jim Andrews</u> 4908 Wedgefield Drive Wilmington, NC 28409 (910) 547-8070 Fax (910) 392-7621 Jim.Andrews@valent.com</p>

NCMVCA Annual Meeting Information

The 2011 Annual Meeting of the North Carolina Mosquito and Vector Control Association will be held at the Sheraton Atlantic Beach Oceanfront Hotel November 16th –18th. A preliminary list of presentations is provided below. There are still spaces available for speakers! Consider presenting your field observations, professional insights, technical experiences, and even useful “work arounds” at this year’s meeting. If you would like to present, or suggest a speaker, please contact Mr. James Bjerneboe (bjorneboe@mecklenburgcountync.gov).

Topic	Speaker Name	Affiliation
NPDES Permitting (tentative)	Jeff Poupart	NCDENR, DWQ
H.R. 872 /Legislative update	Jeff Brown	Brunswick County Mosquito Control
Vertical distribution of Container Inhabiting <i>Aedes</i> in a La Crosse Virus Endemic Area	Ms. Hope Mason	Western Carolina University
TBD	Dr. Mike Waldvogel	North Carolina State University
TBD	Ryan Harrison Dr. Bruce Harrison	Forsyth County Mosquito Control Previously NCDENR/PHPM
How to Inspect a Hotel Room for Bed Bugs	Dr. Jung Kim	NC Department of Agriculture
TBD	Dr. Stephanie Richards	East Carolina University
Mosquito IPM Training	Jeff Brown	Brunswick County Mosquito Control
Mosquito Myths	R. Joe Simmons	Chesapeake Mosquito Control Commission
Evolution of WNV in North America	Dr. Brian Byrd	Western Carolina University
TBD (Malaria)	Dr. Gideon Wasserberg	UNC-Greensboro
Progress on a Molecular Method to Identify <i>Cimex lectularis</i> and <i>Cimex hemipterus</i>	Ms. Erin Gymburch	Western Carolina University
Wing Length and Gonotrophic Status: Does Size Really Matter?	Ms. Tausha McCarthy	Western Carolina University
TBD	Dr. Carl Williams	NC Division of Public Health
TBD	Dr. Marcia E. Herman-Giddens	Tick-Borne Infections Council of North Carolina
Riparian Mosquitoes in North Carolina	Dr. Bruce Harrison	Previously NCDENR/PHPM
Beaver Management	Brunswick County Personnel	Brunswick County Mosquito Control
TBD	Tim McGonegal	

Recognize a Coworker !

Sometimes you cannot give that well deserved pay raise but, you can give honor and recognition. The NCMVCA gives you the opportunity to honor outstanding workers.

The *Hamilton W. Stevens Award* is given to a member of our Association who has made outstanding contributions to mosquito control in North Carolina. If you would like to nominate an individual who exemplifies professionalism and outstanding achievement in mosquito control, please submit a one page letter highlighting this person's contributions.

Nominate a Colleague for a Leadership Position in the NCMVCA or Recognize a Coworker for their contributions!

The *William F. Strickhouser Golden Dipper Award* is given to outstanding Vector Control Operators or Technicians. Those people who are on the front line of the vector control effort. Many of these people work long hours and go unnoticed. Please recognize these "unsung heroes". Again a one-page letter is all that is needed.

Letters of nomination should be emailed to Mr. Joe Andrews (joeskeeto@earthlink.net) before October 1, 2011.

Letter From the Editor (25 August 2011)

At "press time" Hurricane Irene seems intent on visiting the NC coast. With the recent abolishment of DENR's Public Health Pest Management group, this has many of us thinking about post disaster recovery plans in terms of mosquito abatement. We also recently learned that the State's Sentinel Chicken Surveillance Program will be discontinued next year (See page 14 for correspondence from the State Epidemiologist). It is clear that we now must live with a state-wide mindset of "emergency response" instead of proactive surveillance and prevention.

During the fall semesters at Western Carolina University, I teach a Medical Entomology course ("Vectors and Public Health Pests") that is required of all senior undergraduate Environmental Health students. On the second day of classes we discuss Gubler's 1998 article "Resurgent Vector-Borne Disease as a Global Health Problem" (*Emerging Infectious Diseases*, Vol 4., No.3, 1998) and the students are quizzed on the "factors" that influence vector-borne disease emergence. In addition to other factors, Gubler states that "***changes in public health policy decisions have greatly decreased the resources for surveillance, prevention, and control of vector-borne diseases in the 1960s and 1970s, primarily because control programs had reduced the public health threat from these diseases***". I always make a point to remind the students that this paper was written only **one year** before WNV was discovered in New York, an event that subsequently rekindled America's interest in vector-borne diseases.

It is easy to recall that during the last decade we witnessed unprecedented domestic funding and support for mosquito abatement, educational training programs, and vector research. Following these "boom" times, it is especially hard to fathom that the PHPM program is now gone.* Most of PHPM's senior staff members were "on board" well before the discovery of WNV in the U.S. and the "glory days" of funding support. Decades of irreplaceable expertise are now no longer part of the State's arsenal against vector-borne disease.

I do bring some good news. East Carolina University recently hired Dr. Stephanie Richards into a tenure-track Assistant Professor position in the Environmental Health Science/Health Education and Promotion program (See article on Page 4). She brings expertise in arboviral diagnostics, geographic information systems, and medical entomology. Given the recent changes discussed above, she is a much needed asset for eastern NC and the state at large. Please welcome her to the organization.

Brian Byrd (bdbyrd@wcu.edu)

****Although "gone" in an official state capacity, many of PHPM's staff remain engaged professionally and still play active roles in the NCMVCA. This is a true testament of their professionalism, dedication, and character.***

Dr. Harrison featured on NPR

Bruce Harrison was recently interviewed for a "Morning Edition" broadcast on NPR. The piece was titled "*Mosquito Research Feels Bite of Budget Cuts*" and is available for rebroadcast using the following link:

<http://www.npr.org/2011/08/25/139928697/mosquito-research-feels-bite-of-budget-cuts>

(Tiny URL: <http://tinyurl.com/3z238bm>)



Your 2011 NCMVCA Officers and Board of Directors

President

Tyler McKeithan

mckeithantd@apphealth.com

Vice-President

James Bjorneboe

james.bjorneboe@mecklenburgcountync.gov

Secretary/Treasurer

Vencent Dodge

vencent.dodge@davidsoncountync.gov

Past President

Joe Rowell

joe.rowell@mecklenburgcountync.gov

Website

Marcee Toliver

marceetoliver@gmail.com

Legislative

Jeff Brown

jbrown@brunscoco.net

Newsletter

Brian Byrd

bdbyrd@wcu.edu

Resolutions

Walker Rayburn

walkerrayburn@embarqmail.com

Constitution & Bylaws

Tommy Bowen

tommy.bowen@duke-energy.com

Nominating

Bruce Harrison

skeeterdoc@gmail.com

Parliamentarian

James Gardner

jhgardner@pittcountync.gov

Member-at-Large

Nolan Newton

nolan.newton@ncagr.gov

Industry Liaison

Joe Strickhouser

jstrickhouser@clarke.com

STANDING COMMITTEE CHAIRS

Auditing

Ryan Harrison

soam_k@yahoo.com

Awards

Joe Andrews

joeskeeto@earthlink.net

Membership/Program/Local Arrangements

James Bjorneboe

james.bjorneboe@mecklenburgcountync.gov

Finance/Ex-Officio

Vencent Dodge

vencent.dodge@davidsoncountync.gov



North Carolina Department of Health and Human Services
Division of Public Health • Communicable Disease Branch
 1902 Mail Service Center • Raleigh, North Carolina 27699-1902

Beverly Eaves Perdue, Governor
 Lanier M. Cansler, Secretary

Jeffrey P. Engel, M.D.
 State Health Director

Date: 1 August 2011
 To: NC Local Health Directors
 From: Dr. Megan Davies, State Epidemiologist *MDavies, MD*
 Subject: Sentinel Chicken Flock Program

The Sentinel Chicken Flock Program in North Carolina uses chickens for the purpose of arbovirus surveillance. Small flocks of chickens are positioned throughout the eastern portion of the state in areas with mosquito activity or where the chances of the chickens being bitten by mosquitoes that carry arboviruses are possible. Chickens are used because they are easily infected with a relatively small dose of virus. They develop antibodies to the virus and usually do not become ill from the disease. Blood is drawn from the chickens weekly and sent to the State Laboratory of Public Health (SLPH) to be tested for antibodies to the arboviruses. If antibodies are detected in a specific chicken flock, the Health department can notify medical doctors, veterinarians, Local Mosquito Control, and the general public of the potential for encephalitis disease transmission.

The program and staff in the Department of Environment and Natural Resources (Public Health Pest Management Section) that coordinated the sentinel flock program was abolished during the 2011 session of the General Assembly. Public Health Pest Management Section coordinated initial bird placement, bird replacement, leg banding and tracking of birds, and preparation of blood samples for serum testing. There was no transfer of any functions to any other state agency. The North Carolina Division of Public Health is committed to support the program for the remainder of the 2011 mosquito transmission season. Many counties and/or local mosquito control agencies have invested time and supplies to the program for this year and we will assist you, to the extent we can, in coordinating the sentinel flock program this year only.

The Public Health Pest Management program employed skilled and experienced medical entomologists that were invaluable to the development and maintenance of the sentinel flock program. Additionally, these staff members were able to provide the knowledge necessary to interpret results from the sentinel chicken program. The Division of Public Health does not employ any professional medical entomologists nor does it have existing staff to maintain the program. Because of this, the Division of Public Health will not provide support for the sentinel flock program beyond the conclusion of the 2011 mosquito season.

If you have any questions about serologic testing for the remainder of this season please call Joey Johnson at 919-733-7544. If you have any questions about sentinel flock maintenance please call Dr. Carl Williams at 919-733-0391.



North Carolina Public Health
 Working for a healthier and safer North Carolina
 Everywhere. Everyday. Everybody.



Location: 225 N. McDowell Street • Raleigh, N.C. 27699-1902
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Newsletter Update

This edition of the NCMVCA “Biting Times” represents the first newsletter submitted by your “new” editor (Brian Byrd). Please provide comments (likes and dislikes) directly to me at bdbbyrd@wcu.edu. Many thanks to James Bjorneboe and Marcee Toliver for their assistance providing previous templates and missing information. I would like to especially thank Marcee to putting out the last version of the newsletter for me when I found myself “a little overextended” in terms of obligations.

The articles provided in the newsletter typically originate from NCMVCA members. We rely on your submissions. Please consider writing an article for the newsletter. You can share some of your recent field observations, budget woes, technical advice, photographs, and much more. You don’t even have to turn in a “polished” submission. The editor will help you get your submission in shape. Submit any articles directly to Brian Byrd.

Consider Joining Other Professional Organizations

American Mosquito Control Association

<http://www.mosquito.org/>

Mid-Atlantic Mosquito Control Association

<http://www.mamca.org/>

Society for Vector Ecology (SOVE)

<http://www.sove.org/>

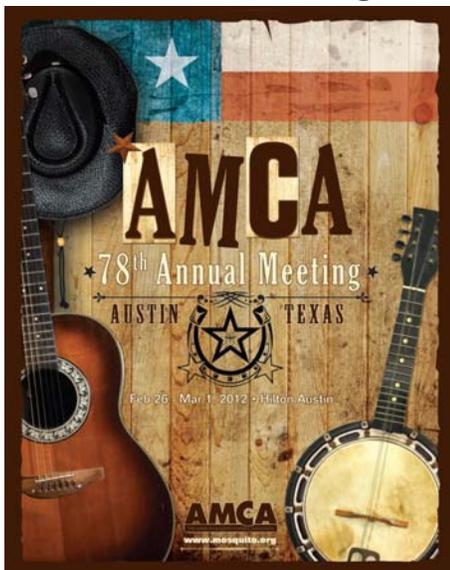
South Carolina Mosquito Control Association

<http://www.scmca.net/>

Virginia Mosquito Control Association

<http://www.mosquito-va.org/>

78th Annual Meeting of the American Mosquito Control Association

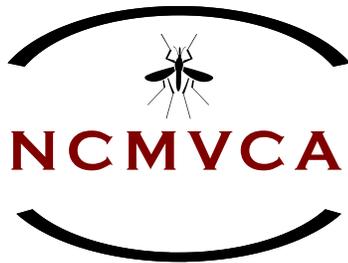


The 78th annual meeting of the American Mosquito Control Association will be held at the Hilton in Austin, Texas (February 26th through March 1st 2012).

“The AMCA Annual Meeting is the premier education and networking event for researchers, educators, vector control professionals, industry representatives, and students in mosquito control. Every year since 1935, hundreds gather to hear the latest research, share ideas, and form collaborations. The educational sessions and exhibit hall help to put attendees on the cutting-edge of this ever-expanding field!” For more information visit the AMCA website: www.mosquito.org

Mail Registration to:

NCMVCA
P.O. Box 40245
Raleigh, N.C. 27629-0245



New Membership Application and Membership Renewal Form

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Organization/Company: _____

Mailing Address: _____

_____ Zip Code: _____

Telephone Number: () _____ Dues Payment for Year: _____

E-Mail: _____ Total Dues Enclosed: _____

Dues: \$10.00/year

Make check payable to NCMVCA and mail to:

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