

Mosquito Control In The United States:

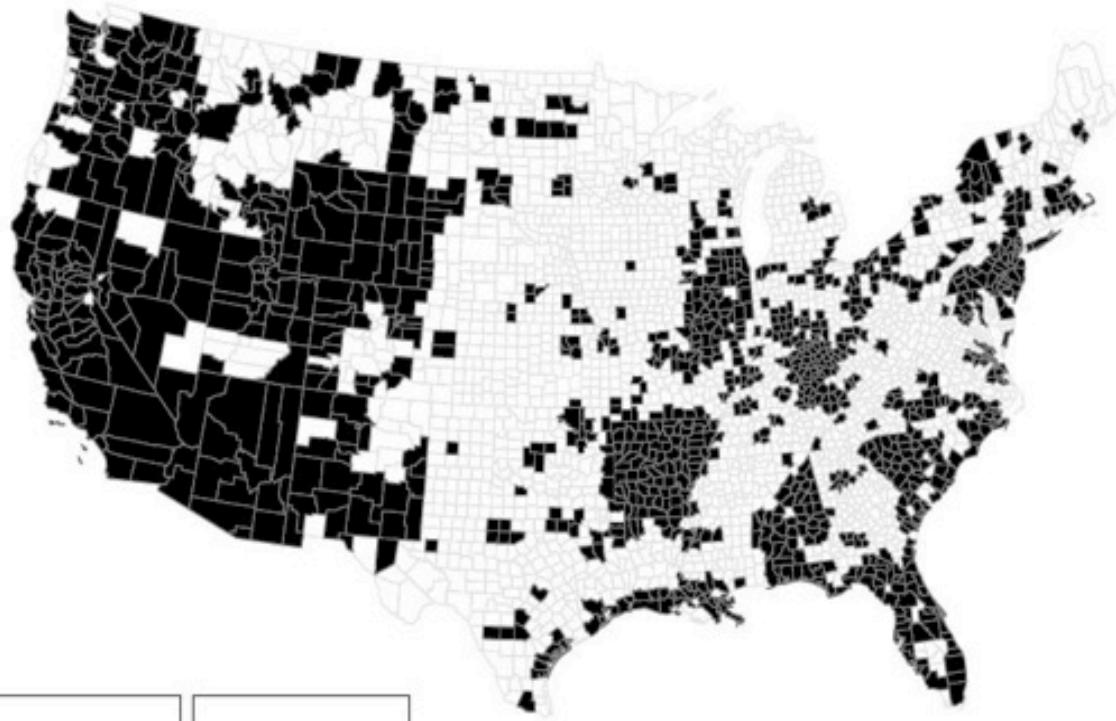
A Role For PMPs And Mosquito Control Districts

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Mosquito Control Districts

Updated as of March 1, 2016



Districts/Budgets

947 Government Mosquito Control Entities
Budgets >\$400 million

Florida	61 districts	\$165 million
California	72 districts	\$92 million
New Jersey	21 districts	\$12 million
Louisiana	18 districts	\$9 million



Typical Funding

- Dictated by local conditions
 - Dedicated millage
 - Fixed charges added to each household
 - Water meter account
 - Local sales tax
 - General revenue fund



Costs – Independent 2004

- Aerial (Hurricane Fran) = \$1,200 /sq. mi.
- Orange County, CA = \$5,578/sq. mi.
- Toledo, OH = \$4,096 /sq. mi.
- Minneapolis = \$3,308 /sq. mi.
- State of Illinois
 - \$467 /sq. mi.
 - \$13,425 /sq. mi.



Funding Challenges

- **Supplemental Funding?**
- **Vector-Borne Disease Regional Centers of Excellence - \$10 million**
 - **University of Florida**
 - **University of Texas Medical Branch at Galveston**
 - **University of Wisconsin in Madison**
 - **Cornell University**
 - **California Riverside/Davis**



Federal Funding Status

- **Smash Act passed on 6 September by unanimous consent in Senate**
 - Amends Public Health Service Act to extend CDC grants through FY2022
 - Grants may be used to address current issues in addition to improving existing programs
 - Preferences to public health emergency
 - Preference to control programs consistent with state preparedness
- **H.R. 3354 - Make America Secure and Prosperous Appropriations Act**
 - Dept of Labor, HHS and Related Agencies
 - \$156 billion in discretionary funding



Federal Funding Status

- **CDC Programs**
 - **\$7 billion - \$198 million below FY2017 request but \$1 billion over president's budget**
 - **\$499.5 million (a 6.7% decrease from FY17) appropriated for National Center for Emerging and Zoonotic Infectious Diseases**
 - **\$705 million for the Public Health Emergency Preparedness Cooperative Agreement.**



PMP Mosquito Control

- >7,000 offer mosquito control services
- >\$160 million revenue – residential
- >800 mosquito-specific franchises – 250 accounts per/franchise
- >4.6 million barrier treatments

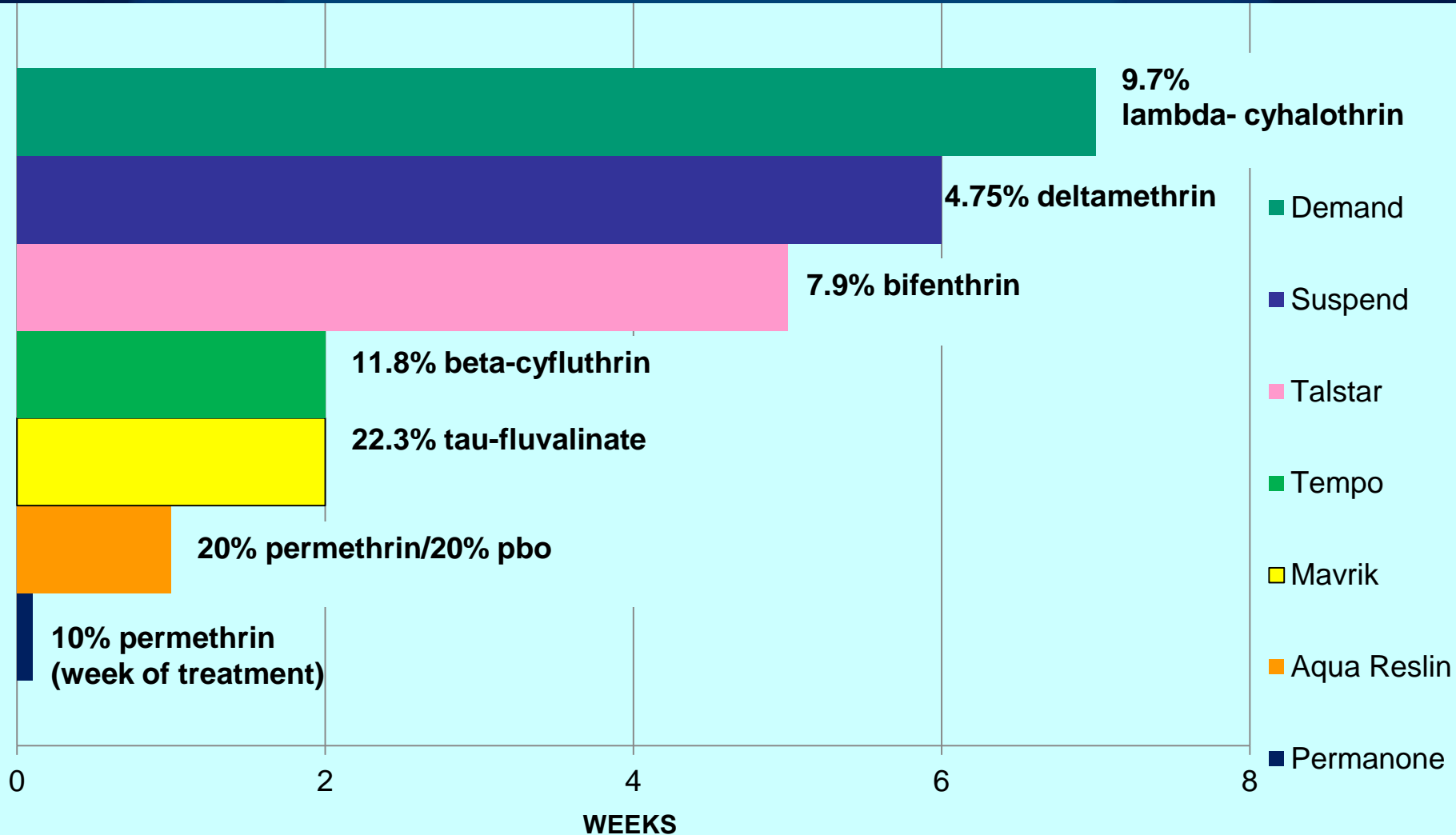


Residual Barrier Treatments

- Application to vegetation where mosquitoes rest
 - Repeated application as a prophylactic measure are not consistent with IMM BMPs.
 - Non-target impacts
- Vegetation growth must be monitored
 - At 4 wks substantial amounts of untreated leaves may be present, reducing treatment effectiveness.



70% Reduction Of Adult Mosquitoes From Barrier Treatments



Mosquito Control Districts Strengths

- Low cost
- Extensive coverage
- Historical surveillance data
- Communication among MCDs
- Wide range of control options



Mosquito Control Districts Weaknesses

- High profile
- Government regulation
- Resource volatility
- Travel restrictions for conferences
- “No-spray” zones



Commercial Applicators/Franchises

- **Strengths**
 - Motivation to please customer
 - Available where MCDs are absent
 - Familiarity with insect behavior
 - Familiarity with pesticide applications
 - Financial resources of parent company



Commercial Applicators/Franchises

- Weaknesses
 - Customer base – individual
 - Precludes wide area control
 - Precludes some larval control options
 - Time constraints on control/survey
 - Misting systems!!!!
 - Profit-driven paradigm



Cooperation is Critical!

- Dialogue with MCDs/Public Health Officials
- Acknowledge each other's credentials/expertise
- Attend specialized training
 - AMCA/CDC accreditation
 - NPMA workshops
- Membership in state/regional/national mosquito control associations
- Attend/present at each other's conferences



Cooperation Example

- **Mosquito Authority**
 - Recent contracts include portions of the "Asian Tiger Mosquito Integrated Vector Management Plan for Zika Virus Control for the Commonwealth of Virginia"
 - Development of an Integrated Mosquito Management Plan for Wake County, North Carolina.
 - Franchises in South Carolina are also providing on demand mosquito control to towns and counties across South Carolina under the auspices of SC DHEC



Other Challenges

- **Public Misconceptions/Activism**
 - Naled
 - Pyriproxifen
 - GMO
- **Control Tool Availability**
- **Regulatory Reform – NPDES Permits**



Control Tool Availability

- **Retain registrations – data call-in assistance**
- **Develop new surveillance technologies**
- **Develop, field validate and register new pesticides and control methodologies – Wolbachia, GMO, etc**



TRAVEL & DISEASE TRANSMISSION

Volume, Speed and Reach Unprecedented

>1 Billion Cross Boundaries on Airplanes

200 Million Work in Other Countries

190 Million Refugees

150 Million Displaced



EMERGING INFECTIOUS DISEASE

Demographics

Economic Development/Land Use

International Travel

Microbial/Viral Adaptation

Breakdown of Public Health



What is Next ?????

- Rift Valley
- Usutu
- Mayaro
- O'nyong-nyong
- Venezuelan Equine Encephalitis
- Bwamba
- Sindbis
- Barmah Forest
- Semliki Forest
- Ross River
- Rocio
- Spondweni
- Ilheus



2017-2018 Officers



T. Wayne Gale
President



Bill Walton
President-Elect



Jason Kinley
Vice President



Gary Hatch
Treasurer



Stanton E. Cope
Past President



2017-2018 Directors



Jason Trumbetta
Industry



Bob Duryea
North Atlantic



Dennis Salmen
Mid-Atlantic



Chris Lesser
South Atlantic



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North Central



Ary Faraji
West Central



Rick Duhrkopf
South Central



Ken Carver
North Pacific



Michelle Brown
South Pacific



Ildefonso Fernandez-Salas
International



Association Headquarters



Heather Gosciniak
Acting Executive Director

In 2006, AMCA partnered with Association Headquarters Inc.

- Executive management
- Membership services
- Financial management
- Web/technology services
- Data management
- Strategic planning
- Event/meeting management
- Marketing
- Public relations
- Creative services
- Content development
- Publishing
- Sponsorship sales
- New program development



Leadership

- **At the national level, the AMCA provides information and testimony having impacts on policy decisions**
- **Some current issues:**
 - **Clean Water Act/NPDES permit issue**
 - **Federal Funding for arbovirus control**
 - **Endangered Species Act considerations**
 - **USFWS national Mosquito Management Policy on National Wildlife Refuges**



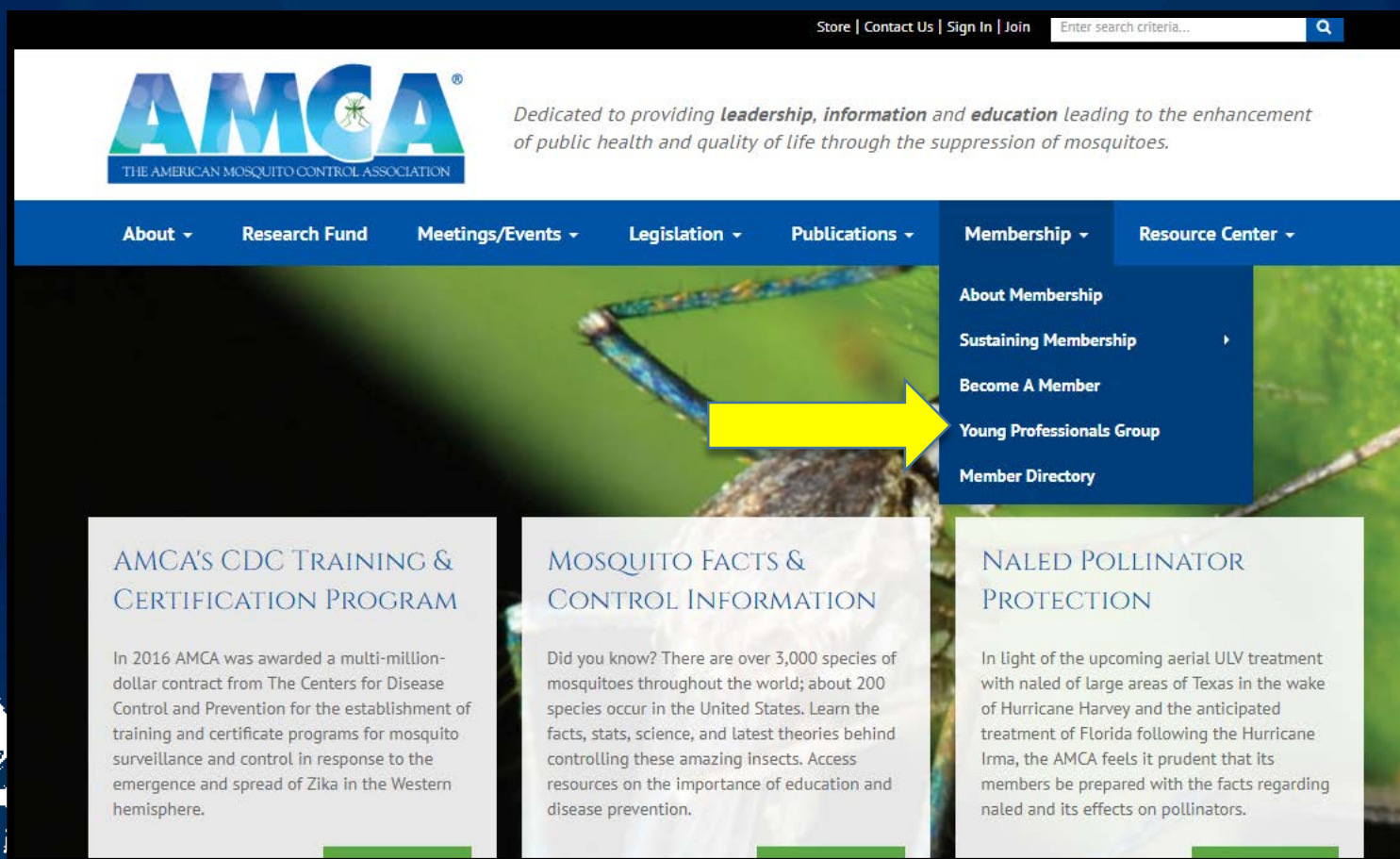
Membership Categories

- *Regular Membership \$135*
- *Retired Membership \$65*
 - **Receives 4 issues of: JAMCA & Newsletter**
 - **Right to vote on association matters**
 - **Access to “Members Only” area of AMCA website**
- *Associate Membership \$65*
 - **Receives 4 issues of: Newsletter**
 - **Access to “Members Only” area of AMCA website**
- *Student Membership \$35*
 - **Receives 4 issues of: JAMCA & Newsletter**
 - **Access to “Members Only” area of AMCA website**
- *Sustaining Membership*
 - Government Agencies*
(Based on budget)
 - Corporations \$1,600*
 - **Includes 1 Regular Membership or 2 Associate Memberships plus additional benefits**
 - **Significant financial contribution to legislative efforts**
 - **Recognition on website, publications, and at meetings**
 - **All employees receive discounted member rates at events/webinars**



Join the AMCA Young Professionals

Complete the online form at mosquito.org



The screenshot shows the AMCA website interface. At the top, there is a navigation bar with links for Store, Contact Us, Sign In, and Join, along with a search bar. The AMCA logo is prominently displayed, with the tagline: "Dedicated to providing **leadership**, **information** and **education** leading to the enhancement of public health and quality of life through the suppression of mosquitoes." Below the logo is a main menu with categories: About, Research Fund, Meetings/Events, Legislation, Publications, Membership, and Resource Center. The Membership dropdown menu is open, showing options: About Membership, Sustaining Membership, Become A Member, Young Professionals Group (highlighted by a yellow arrow), and Member Directory. The main content area features three columns: "AMCA'S CDC TRAINING & CERTIFICATION PROGRAM", "MOSQUITO FACTS & CONTROL INFORMATION", and "NALED POLLINATOR PROTECTION".

Store | Contact Us | Sign In | Join

AMCA
THE AMERICAN MOSQUITO CONTROL ASSOCIATION

*Dedicated to providing **leadership**, **information** and **education** leading to the enhancement of public health and quality of life through the suppression of mosquitoes.*

About ▾ Research Fund Meetings/Events ▾ Legislation ▾ Publications ▾ Membership ▾ Resource Center ▾

About Membership
Sustaining Membership ▸
Become A Member
Young Professionals Group
Member Directory

AMCA'S CDC TRAINING & CERTIFICATION PROGRAM

In 2016 AMCA was awarded a multi-million-dollar contract from The Centers for Disease Control and Prevention for the establishment of training and certificate programs for mosquito surveillance and control in response to the emergence and spread of Zika in the Western hemisphere.

MOSQUITO FACTS & CONTROL INFORMATION

Did you know? There are over 3,000 species of mosquitoes throughout the world; about 200 species occur in the United States. Learn the facts, stats, science, and latest theories behind controlling these amazing insects. Access resources on the importance of education and disease prevention.

NALED POLLINATOR PROTECTION

In light of the upcoming aerial ULV treatment with naled of large areas of Texas in the wake of Hurricane Harvey and the anticipated treatment of Florida following the Hurricane Irma, the AMCA feels it prudent that its members be prepared with the facts regarding naled and its effects on pollinators.

Education and Information

These publications are included with an AMCA Regular Membership

- *Journal of the American Mosquito Control Association*
 - Research articles
 - Operational and scientific notes
 - NOW SEARCHABLE ONLINE FOR MEMBERS!
- *AMCA Newsletter*
 - Reports from Regional Directors, Headquarters, committees and Technical Advisor
 - Recent developments
 - Membership notices
- *Wing Beats*
 - Operational trade magazine published by Florida Mosquito Control Association
 - Reports and articles keeping all interested parties informed on matters as they relate to mosquito control



Education and Information Webinars!

- AMCA brings quality education right to your desktops!
- FREE for members/\$100 non-members
- Past webinars available for FREE on AMCA website for Members ONLY:
 - *How Do I Deal With Someone Who Says Their Body Is Being Attacked By Invisible Bugs?*
 - *Give 'em What They Want: Advice to the Public on Biting Pest Control*
 - *Strategies for Safer Pesticide Applications*
 - *Risky Business? Mosquito Management and Risk Assessment*
 - *Eastern Equine Encephalitis*
 - *Dispelling Myths about Mosquito Control Utilizing the Media*
 - *What is an Integrated Mosquito Management Program?*



Education and Information

Print On Demand Publications



The American Mosquito Control Association (AMCA) and Fairfax County have partnered to bring you outreach materials that are customizable for your district. You are able to purchase children's books, calendars, brochures, posters, and more, all customized with your own logo and district name.





Establishment of Training and Certificate Programs for Mosquito Surveillance and Control





CDC Contract

Establish Industry Panel

- Graham White, Ph.D.
- Cynthia Roxanne Rutledge Connelly, Ph.D.
- Sarah R. Michael, MSPH
- Kirk Smith, Ph.D.
- Mustapha Debboun, Ph.D.
- Ary Faraji, Ph.D.
- Kenn K. Fujioka-,Ph.D.
- Chris Barker, Ph.D.
- Christopher Lesser
- Isik Unlu, Ph.D.
- Joe Conlon

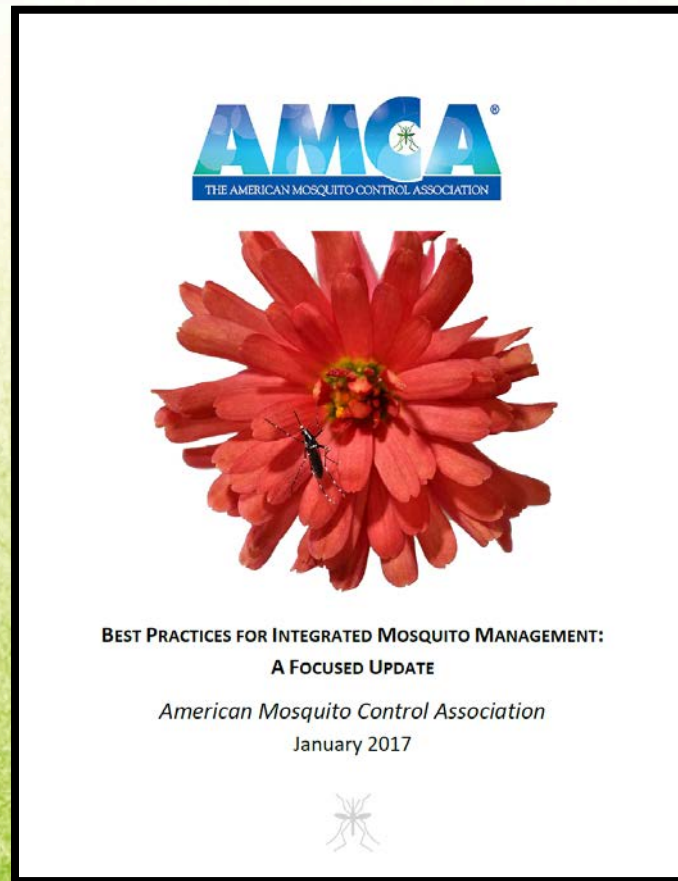
The group will review the existing Best Management Practices for Integrated Mosquito Management (AMCA 2009).





CDC Contract

2017 Best Practices Manual





CDC Contract

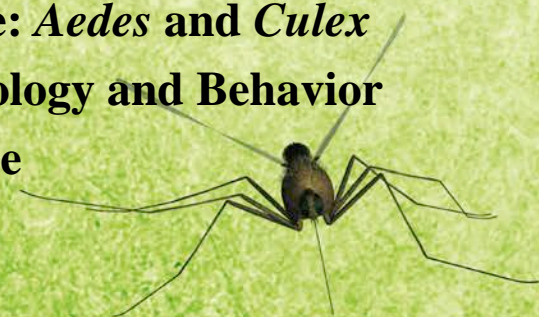
- **Track 1 - E-Modules**
 - **Free**
 - **Audience - Operational mosquito controllers**
 - **Successful completion will result in certificate of completion**
- **Track 2 – Train the Trainer Workshops**
 - **Live, 2 day events**
 - **Audience - Biologists and supervisory personnel**
- **Track 3 – Strategic Planning**
 - **Audience – district managers, trustees/commissioners, state/county health**





CDC Contract

- **Track 1 - E-Modules**
 - **Understanding and Controlling the Zika Virus**
 - **Covers basic mosquito biology, surveillance and control, emphasizing container breeders**
- **Training portal – <http://training.mosquito.org/>**
 - **To access e-modules you must have an account registered with AMCA**
 - **If member, sign in with member account**
 - **If not a member, you can register without becoming a member**
 - **Must score at least 85% to advance to next module**
 - **Module 1 – Overview of mosquitoes and disease: *Aedes* and *Culex***
 - **Module 2 – What and Why of *Aedes* species Ecology and Behavior**
 - **Module 3 - What and How of *Aedes* Surveillance**
 - **Module 4 - What and How of *Aedes* Control**





CDC Contract

- **Track 2 - Train The Trainer Certification Workshops**
 - Held at regional training hubs
 - Conducted by individuals having received AMCA Master Trainer Certification
 - Students will receive AMCA Train the Trainer Certification
 - Use the new *AMCA BMP for Mosquito Management*
 - Case study involving – surveillance , mapping, action thresholds and control
 - Working in teams to develop action plans
 - North Carolina – October 9/10
 - Florida – October 25/26
 - Texas – October 30/31
 - California – October 31
 - Colorado – March 13, 2018
 - Arizona – June 28-30





CDC Contract

- **Track 3 – Strategic Planning and Organizational Development**
- **Designed for district/state stakeholders and decision makers**
- **Plan for program goals and needs with respect to public health and mosquito control**



Annual Washington Conference

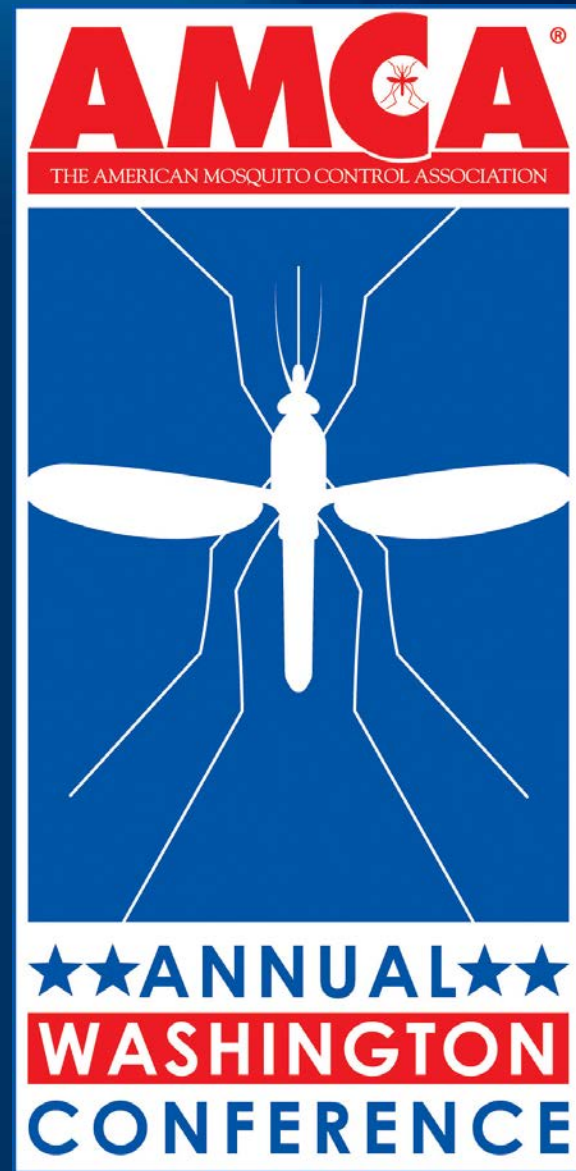
2018 Dates: TBA

Washington, DC

Are you concerned about the federal government making decisions that have an effect on mosquito control and public health pesticides?

Are you ready to get involved?

The AMCA Washington Conference is THE venue to identify issues that can only be resolved at the Federal level.



Future AMCA Annual Meetings

2018 Annual Meeting

February 26-March 2

Sheraton Kansas City Hotel at Crown Center
Kansas City, Missouri

2019 Annual Meeting

February 25-March 1

Caribe Royale Hotel and Convention Center
Orlando, Florida

2020 Annual Meeting

Portland, Oregon

2021 Annual Meeting

Salt Lake City, Utah



Monday: Kill mosquitoes
Tuesday: Kill mosquitoes
Wednesday: Kill mosquitoes
Thursday: Kill mosquitoes

Jim's Cell
519-8291

Take out Tras

Friday: Kill mosquitoes

Saturday: Kill mosquitoes
then rest if at all possible

Sunday: Say sorry for killing all week

Weekly Goal!
Kill as many as
possible !!