

Mosquito BEACONS Meeting 1

Meeting Minutes for 28 April 2021



Call to Order

The regular meeting of the Mosquito Beacons team was called to order at 2:00 PM EST on April 28, 2021 virtually on Zoom.

Meeting Minutes

Roll Call

Short introductions were made by each participant. The following persons were present:

Board Members: Bryan Giordano (Florida Medical Entomology Laboratory | IFAS), Benjamin Allen (City of Jacksonville Mosquito Control | IFAS), Lindsay Campbell (Florida Medical Entomology Laboratory), Dan Killingsworth (Environmental Pest and Lawn), Yoosook Lee (Florida Medical Entomology Laboratory | IFAS), Michael Riles (Beach Mosquito Control District)

Stakeholders: Brian Byrd (West Carolina University), Claudia Riegel (New Orleans Rodent, Mosquito, and Termite Control), Marah Clark (Florida Department of

Agriculture and Consumer Services), Jessica Ber (Florida Department of Agriculture and Consumer Services), Elmer Gray (University of Georgia), Ryan Harrison (North Carolina Mosquito and Vector Control Association), Chris Evans (State Public Health Entomologist South Carolina Department of Health and Environmental Control), Sarah Zohdy (CDC)

Open Items

Introductions

Objectives of the Mosquito Beacons team were stated

Identification of priorities and recognition of gaps

4 meetings (04/21, 08/21, 11/21, 2/22 – in person)

Description of capabilities for surveillance via surveys

Extension - improve knowledge transfer through stakeholder engagement

January 2022 a workshop will be held to improve the recording keeping and data sharing of mosquito control programs

Item 1: Research Breakout Room

A) What research and barriers needed for invasive species surveillance and control?

Integrate data across landscape and time are important for future mosquito control -->

Incorporate the bigger picture

There should be more research to get better predictions

Be cost efficient – pull methods across multiple disciplines to integrate and apply to interventions for invasive species control



B) Need to have more surveillance in ports?

Transportation hubs where movement of goods and people occurs would be ideal place to detect and control invasive species. Jacksonville has a big port but it is not monitored as far as we know.

Rapid response and interventions are critical for invasive species control. BEACONS working group can help development of surveillance plan coupled with a corresponding response strategy

C) What are the barriers for surveillance?

Gathering data to prove if there is an actual problem takes time and effort. Even within an area, people don't think there is a problem until it is too late to control. The typical time frame for data collection and dissemination may not be adequate for intervention of invasive species. There should be more monitoring and research to provide evidence.

Research is needed for transportation hubs and mechanisms of control of invasive mosquitoes in the US.

D) How can research help enhance control efforts?

Natural ecology for invasive mosquito distribution/dispersal capacity prediction – related to the issue of scale for surveillance and control.

Interaction between *Aedes albopictus* and *Ae. aegypti*: reintroduction or change in biology to overcome interspecific competition? We need to take a closer look in community dynamics in mosquitoes.

More research in correlation in housing density and mosquito species distributions across different landscape and time periods

museum and control district voucher specimens - opportunities for academic/research to support the operational side by aiding in data curation and sample archiving to study population dynamics and genetics.

E) How much surveillance should we really have to detect invasive species?

Interspecific interactions and distributions

Better understanding of species dynamics – Synthesizing what we already know using existing data available from mosquito control districts and published records may facilitate new predictions and forming hypotheses for future studies.

F) Summary of priority research areas:

Confirm and quantify points of entry and mechanisms of dispersal

How much sampling/surveillance is needed to detect invasive species

Need to incorporate additional ecological and environmental variables at multiple scales for better prediction

Need to integrate existing methods for example, mobility modeling and corridor modeling

Better understanding of impacts of interspecific interactions

Support for traceback – for example looking in archived mosquito collections or extracting genomic information from mosquito samples preserved in ethanol to identify movement patterns, points of entry, or time periods of entry.

Item 2: Extension Breakout Room

Identify Insect Pest Management (IPM) research and extension priority areas for invasive mosquito species through stakeholder meetings

A) Where do you get your information from?

Getting journal information to agencies, such as mosquito control districts, is critical but difficult due to limited budgets. Limited budget also prevents many from attending workshops/conferences.



journal publications also take a long time to get published; word-of-mouth is most effective.

Platform needed for making new journal article titles or pre-prints available so interested parties could obtain access and reach out when it is available.

Need for accessible and open-access data.

The American Mosquito Control Association (AMCA), government agencies, and state-wide mosquito control agencies are an excellent tool for disseminating information.

The AMCA & mid-Atlantic association publishes a quarterly newsletter: we could publish something similar.

Training channels could be implemented with a focus on mosquito control district participation.

Included an invasive species update at annual meetings; AMCA posts a quarterly report.

B) Where have you had measurable success in Extension programs?

Working directly with mosquito control programs.

New Orleans has a great surveillance program that gets the information collected out quickly; combination of mosquito, termite, and rodent control at the crossroads of private and public industry.

Importance for information to be fun and informative, not alarmist; Try to hunt down local government twitter counts having many followers (ex. Mayors office, local politician, etc.) and ask them to help re-tweet and share information. Surveys – Survey residents to find out gaps in knowledge, trust, etc.

Surveys worked to help identify gaps in knowledge but difficult to change behavior.

CEU's – should be easily accessible and at no cost to the participants

FDACS pushed all trainings online and observed increased participation (especially from the smaller districts with less funding)



hybrid courses (half online, half in-person) received positive response

Many states are decentralized, without funding, or lack funding and resources. Many counties do not have programs – large geographic regions are unorganized throughout the states (rural areas)

Many states have large areas without control due to the loss of state funding; this has created a very disjointed control effort and there is a lot of resistance from the public to advice such as cleaning up yard waste to prevent mosquito breeding

C) Discuss the use of fact sheets, pamphlets, direct engagement, and workshops.

Refresh people annually, updates can be provided during annual state association meetings.

Mandated recertification, such as continuing education units (CEU's) or a one long day or entertaining education

Example, "Mosquito academy - New Orleans Mosquito Control and Louisiana Mosquito Control Association"

Door-to-door canvassing/handing out flyers have been most impactful

Social media is an effective tool for disseminating information and engaging the local, county, and state-wide audience

Know your audience, be strategic, use targeted ads, extension for residents, government, and administration.

CANVA (graphic design platform) is very useful for social media graphics, costs ~\$100 a year.

D) Is there a need for engagement from members of the public or at the organizational level?

Training, lack of resources (e.g., identification keys, staff, traps, institutional subscriptions/publication access)

Importance in knowing your audience, whether it be the citizen, administrative staff, government official, scholar, etc.

State-funded outreach including ID courses, IPM training, and online webinars; more success seen with smaller programs.

Reaching out to emergency management departments has been helpful.

E) What stakeholders exist in your regions that may be able to control new introductions (port authorities, state freight borders, airports)?

Difficult to form relations.

F) Summary of priority areas in Extension

Quarterly newsletter on invasive mosquito species

Invasive species symposium at State mosquito control associations' annual meetings

Invasive species updates at State mosquito control associations' annual meetings

Continuing education units (CEU's)

Webinars / virtual training opportunities

Workshops / in-person training opportunities

Pamphlets

Fact Sheets

Social media as a tool for disseminating information

A central hub for regional information on invasive species



Action Items

Board of Directors will list the priority areas in research and Extension and have working group members and their colleagues rank these items.

Add working group members to the TEAMS page.

Survey task force will meet in Mid-May.

Extension task force meeting will be in June and July.

Meeting adjourned at 3:08 PM

