**NC DHHS/DPH Vector Borne Disease Program**

**Mosquito-Borne Disease Elements**

**September 2018**

**Program goals**

* Conduct surveillance for and investigation of human cases of reportable mosquito-borne diseases (arboviral encephalitis, malaria, chikungunya, Zika, dengue, and yellow fever).
* Provide guidance to local health departments to establish Integrated Mosquito Management (IMM) programs consistent within existing CDC guidelines
* Serve as the ArboNet and MosquitoNet points of contact for North Carolina; enter all appropriate human and veterinary case data, as well as mosquito pool surveillance data
* Provide guidance and technical support post emergency (hurricanes, tropical storms, etc.)

**Program limitations**

* The NC DPH vector borne disease program has an advisory/consultation role with local health departments and local vector control agencies. Staff can provide high level IMM guidance (e.g., baseline surveillance, threshold determination, larviciding, adulticiding, insecticide resistance monitoring, surveillance post control application, etc.).
* The DPH vectorborne disease program is not a resource for operational mosquito control supplies. We can assist local programs to coordinate with external resources as needed to implement various aspects of IMM.

**What will the DPH program do to assist with post storm Integrated Mosquito Management?**

* Collaborate with state emergency management, FEMA and other agencies to provide guidance and resources to local authorities
* Provide technical guidance and expertise as request by the State Emergency Operations Center
* Consult on specific and/or emerging issues with local programs through State Emergency Operations Center.

**What are the county and municipal roles in post storm Integrated Mosquito Management?**

* Perform mosquito surveillance (e.g., trapping and/or landing rate counts) and enter the data into MosquitoNet (DPH is available to assist with data submittal)
* Perform adulticiding, if deemed necessary by county or municipal officials, using:
  + County or municipal equipment and staff
  + MOA or MOU with a local city, county, or neighboring county/city
  + Mosquito control contractor, acquired through:
    - a county contract,
    - a multi-county shared contract, or
    - submitting a local emergency management resources request to State Emergency Management when local resources have been exhausted

**Discriminating post hurricane mosquito control versus disease vector mosquito control**

* Following a storm/rain event large populations of mosquitoes may emerge
* These mosquitos are generally salt marsh or flood plain mosquitoes and are NOT significant vectors of disease in North Carolina. (See Figure next page.)
* Increases in populations of disease vectors may occur, yet despite this, increases in human cases of endemic mosquito borne diseases (WNV, EEE, LACE) have not been typically detected in NC. However, emergence of these diseases is possible following a hurricane.
* See Figure 1

**How to Contact:**

* For vector control resources (once local and county-to-county resources have been exhausted) contact your local Emergency Management office to submit a resource request to the State Emergency Management office.
* For technical information on mosquito surveillance and control methods , call the Communicable Disease Branch at 919-733-3419

**Additional Information**

* <https://www.cdc.gov/westnile/vectorcontrol/aerial-spraying.html>
* <https://www.cdc.gov/zika/vector/mosquitoes-and-hurricanes.html>

**Figure 1: Relative capacities of State and Local resources**

Mosquitoes which can be a nuisance AND vector disease