**Pre-Treatment Checklist**

**Aerial Adulticiding for Mosquitoes**

Communicable Disease Branch - 919-733-3419

9-28-2018

**Immediate Items (Needed to contract Aerial Applications)**

\_\_\_\_\_Contact one or more aerial applicators of your choice and request bids[[1]](#endnote-1)

\_\_\_\_\_Obtain List of GIS layers useful for aerial ULV from Web EOC[[2]](#endnote-2)

\_\_\_\_\_Review aerial bids to ensure that the contractor has minimum requirements for aerial ULV night spraying[[3]](#endnote-3)

\_\_\_\_\_Edit Proposed spray blocks on paper or with GIS software, based on local needs[[4]](#endnote-4)

\_\_\_\_\_Review aerial spray blocks with contractor to assure that each block is suitable for aerial spraying

\_\_\_\_\_Submit proposed spray maps to USFWS if any spray blocks are in or near areas of environmental concern.[[5]](#endnote-5)

\_\_\_\_ Submit “Public Health Emergency” letter to the FAA, signed by an elected official (e.g., Health Director)[[6]](#endnote-6)

\_\_\_\_\_Request NC Dept. of Agric. waiver of normal aerial restrictions by submitting a letter from the County Health Director.[[7]](#endnote-7)

\_\_\_\_\_Begin Public Notifications of the upcoming spray event. Keep in mind that wind conditions may delay the event one or more days.[[8]](#endnote-8)

**Pre-Spray FEMA Items (Required for reimbursement)**

\_\_\_\_\_\_\_See FEMA documents “9 - NC Mosquito Abatement Fact Sheet - revised 9-13-18.pdf” and “10 - Public Assistance Program and Policy Guide V3.1\_Mosquito Abatement.pdf” (Source: WebEOC or your FEMA representative)[[9]](#endnote-9)

\_\_\_\_\_\_\_Perform Pre-spray Landing Rate Counts (LRCs) or collect adult mosquitoes using traps, or hire a contractor to do so[[10]](#endnote-10)

\_\_\_\_\_\_\_ Track as many mosquito-related items is as practical. [[11]](#endnote-11)

**Post-Spray FEMA Items (Required for reimbursement)**

\_\_\_\_\_\_\_Perform Post-spray Landing Rate Counts (LRCs), adult Mosquito Collections using traps. Notes on timing and locations[[12]](#endnote-12)

\_\_\_\_\_\_\_Fill out FEMA RPA Project Worksheet (Source: FEMA)

\_\_\_\_\_\_ Compile data to justify why post-Florence mosquito control exceeds normal spray operations in September – October.[[13]](#endnote-13)

**Other Post-Spray Items**

\_\_\_\_\_\_\_Obtain NPDES permit or waiver; Waiver may be obtained up to 90 days after the application in a disaster situation.[[14]](#endnote-14)

\_\_\_\_\_\_\_Enter LRC and/or trap data into MosquitoNet[[15]](#endnote-15)

1. A list of aerial applicators is found in “*7 - Aerial Pesticide Applicators holding NC Public Health Certification \_NCDA Pesticide Section*.” Bids should be based on the initial acreage estimate on the PDF map entitled *“[County]SprayAreas.pdf*” (Source: Web EOC) [↑](#endnote-ref-1)
2. The following list of GIS shapefiles will assist you in editing the proposed spray block. (Sources: County GIS office, or WebEOC).

	* “*18- Preliminary SprayAreas.zip*” (Source: Web EOC)
	* Buildings/Structures (Source: County GIS department) **NOTE: This is the most important local shapefile because it will guide counties to edit the spray block.**
	* USFWS-requested exclusion areas “*23-FWSprayAvoid903.kml*” (Source: Web EOC)
	* Beehives (for truck spraying only) <https://driftwatch.org/signup#applicator>); register for an account and request a GIS shapefile of your county; Note: Beehives cannot be avoided when using aerial spraying
	* Airports
	* Military property
	* Aquaculture sites “*24 – NCDA Aquaculture Ponds.kmz*” (Source: WebEOC)
	* Others listed in “*Suggested GIS layers for NC counties - truck or aerial ULV adulticiding.docx*” (Source: WebEOC) [↑](#endnote-ref-2)
3. Examples of qualified applicators include:

	* A valid NC Category B Public Health license
	* Nighttime vision and navigational equipment
	* Equipment designed specifically for mosquito adulticides (i.e., most agricultural equipment is not appropriate for ULV adulticiding)
	* The ability to name the county as “additional Named insured” [↑](#endnote-ref-3)
4. Counties are free to add or subtract area spray acreage based on local needs. For example, areas could be added where the public or recovery workers are outside due to high power outage levels, severe storm damage, etc. Alternatively, areas could be subtracted where mosquito populations are low. Each spray block should be large (approximately 5,000 acres or larger) and squared off as much as possible to allow for safer flying conditions. [↑](#endnote-ref-4)
5. See file “*23 - FWSprayavoid903.kml*” (Google Earth, or convertible to ArcGIS) to see locations of USFWS areas of concern. (Source: WebEOC). Submit to sara\_ward@fws.gov [↑](#endnote-ref-5)
6. This will shorten the Congested Area Plan process by days to weeks. See “*17 - FAA Congested Area Emergency Exemption Letter - Template.docx* “ (Source: WebEOC) [↑](#endnote-ref-6)
7. See “*15 - NCDA Aerial Exemption – Example*” (Source: Web EOC) Email to james.burnette@ncagr.gov [↑](#endnote-ref-7)
8. Recommendations for public information messages:

\_\_\_\_\_ Publish map of spray date and time in local newspapers and websites

\_\_\_\_\_\_Keep in mind that winds over 10 mph may postpone the event for one or more days – publish several alternate dates, and inform the public if the spray event did not occur

\_\_\_\_\_ Make Public Service Announcements on local radio

\_\_\_\_\_ Inform Beekeepers associations (Source: County Extension Office)

\_\_\_\_\_ Inform certified organic farms (Source: County Extension Office)

\_\_\_\_\_ Spray blocks published in newspaper or county website so chemically sensitive individuals can stay inside or leave the area

\_\_\_\_\_ Consider extra phone staff in the days immediately prior to the spray event. [↑](#endnote-ref-8)
9. FEMA has final responsibility to approve or deny reimbursement. The items on this checklist are intended solely to improve the package of information your county submits to FEMA, not supersede any FEMA requirements or decisions. [↑](#endnote-ref-9)
10. Notes on timing and locations of Landing Rate Counts or mosquito collections:

\_\_\_\_\_ See “*3- Hurricane Florence Landing Rate Instructions.docx*”

\_\_\_\_\_\_See “4*- Hurricane Florence Sample NC Mosquito LRC form.xlsx*”

\_\_\_\_\_ Do LRCs multiple times and places in the county within 14 days prior to spray event if possible – especially in the proposed treatment blocks.

\_\_\_\_\_ Do LRCs within 24-48 hours prior to spray event to document pre-spray mosquito density.

\_\_\_\_\_\_Keep data on paper or MosquitoNet Excel spreadsheet for entry into MosquitoNet after the event. See “*5 - MosquitoNET Data Form\_v1.7.5.xlsx*” (Source: WebEOC) [↑](#endnote-ref-10)
11. Examples of evidence of an abnormal increase in mosquito populations:

 \_\_\_\_\_# of citizen mosquito complaints over time

 \_\_\_\_\_mosquito collections or landing rate counts over time

 \_\_\_\_\_Evidence of increased ER visits due to mosquito bites (e.g., infections, allergic reactions) [↑](#endnote-ref-11)
12. Suggested post-spray mosquito LRCs or mosquito collections:

\_\_\_\_\_\_within 12-24 hours after the spray event (to document post-spray mosquito density)

\_\_\_\_\_\_several times in following days/weeks to determine if small, follow-up ground or aerial treatments might be necessary. After a successful aerial treatment, this often not necessary [↑](#endnote-ref-12)
13. Use 2014, 2015, and 2017 because Hurricane Matthew was not a normal year. See “*10 - Public Assistance Program and Policy Guide V3.1\_Mosquito Abatement*” (Source: WebEOC) [↑](#endnote-ref-13)
14. NC DWQ Pesticides General Permit Guidelines: “…Pesticide Discharge Management Plan Deadline:   Permittees commencing discharge in response to a declared pest emergency situation as defined in Appendix A that will cause the applicator to exceed an annual treatment area threshold-----no later than 90 days after responding to the declared pest emergency situation after April 1, 2017….” [↑](#endnote-ref-14)
15. MosquitoNet is a convenient method to permanently store mosquito collection data. It is managed by CDC, and locally administered by a State Public Health Entomologist at DHHS. It is accessible by local mosquito programs, CDC, DHHS, and files can be easily exported by any of the above for FEMA reimbursement purposes. See “*5 -5 - MosquitoNET Data Form\_v1.7.5.xlsx*” (Source: Web EOC) to input data. NOTE: Use of MosquitoNet is not required by FEMA for reimbursement. [↑](#endnote-ref-15)