OFFICE OF THE SECRETARY OF DEFENSE
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MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (INSTALLATIONS, ENERGY AND ENVIRONMENT)
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ASSISTANT SECRETARY OF THE AIR FORCE (INSTALLATIONS, ENVIRONMENT AND ENERGY)
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SURGEON GENERAL OF THE ARMY
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SURGEON GENERAL OF THE AIR FORCE

SUBJECT: Strategy for Control of Zika Virus Transmitting Mosquitos on Military Installations and Housing Areas

Effective immediately, this memorandum establishes a Department-wide strategy for vector surveillance, testing, and control on military installation and housing areas in locations within the distribution range of *Aedes albopictus, Aedes aegypti,* and *Aedes polynesiensis.* The Armed Forces Pest Management Board developed the attached guidance to ensure that military installations, where these species are present, can effectively surveil and manage for these known transmitters of the Zika virus. Guidance for Department medical and force health protection personnel concerning prevention, diagnoses and treatment of Zika virus infection was issued on February 5, 2016.

The point of contact for this subject is Colonel Jamie Blow, Director of the Armed Forces Pest Management Board, at 301-295-8307 or jamie.a.blow.mil@mail.mil.

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Attachments:
As stated

Department of Defense

Guidance for the Surveillance, Control and Testing of

***Ae. aegypti*, *Ae. albopictus* or *Ae. polynesiensis* for Zika Virus**

February 2016

1. INTRODUCTION

Objective

The objective of this document is to provide the Department of Defense (DoD) guidance for the Surveillance, Control and Testing of *Ae. aegypti*, *Ae. albopictus* or *Ae. polynesiensis* for the Zika virus.

Background

Zika virus is primarily spread from an infected person to an uninfected person through the bite of an infected Aedes species mosquito. Although most infections do not cause symptoms, Zika virus infection may result in fever, rash, joint/muscle pain, and conjunctivitis (Pink Eye). Outbreaks of Zika have occurred in parts of Africa, Southeast Asia, and the Pacific Islands. Zika spread to the Western Hemisphere in 2015 and has affected more than a million people in South and Central America, Mexico, and the Caribbean. With the recent outbreaks, the number of Zika cases among travelers visiting or returning to the United States will likely increase. These imported cases may result in local spread of the virus in some areas of the United States. Zika virus infection can be prevented by protecting against mosquito bites and eliminating mosquito breeding areas.

Some evidence suggests that Zika virus can also be spread from mother to child during pregnancy. The U.S. Centers for Disease Control and Prevention (CDC) is aware of increased numbers of babies with microcephaly (smaller than expected head size) in Brazil and is currently supporting the investigation into a possible link with Zika virus infection. There are currently no reports of infants getting Zika virus through breastfeeding. The CDC is also investigating a possible link between Zika virus and Guillain- Barré syndrome, a rare disorder in which the body's immune system attacks part of the nervous system.

Aedes aegypti and *Ae. albopictus* are known to transmit Zika and are well established in the United States, to include Puerto Rico, US Virgin Islands, Hawaii, Guam, and American Samoa. *Ae. polynesiesis* transmits dengue and potentially could transmit Zika and is found in the Pacific

region. There are other species of Aedes located throughout the US, but at this time we have no reason to suspect they can transmit Zika. Installations may choose to have additional Aedes spp. tested for Zika in coordination with their supporting testing laboratory. Overall, there are over 190 DoD installations located in areas where these three Aedes mosquitoes are known to occur thus making them at risk for Zika transmission.

2. MOSQUITO SURVEILLANCE

Military installations located (Map 1 and Table 1) in areas where *Ae. aegypti*, *Ae. albopictus* or *Ae. polyneisensis* are known to occur will expand their existing vector surveillance programs to specifically include *Ae. aegypti*, *Ae. albopictus* or *Ae. polynesiensis* if not already included.

The Biogent (BG) Sentinel trap with BG lure (Table 2) is specifically designed to target day biting mosquitoes and is the recommended trap for conducting surveillance for *Ae. aegypti*, *Ae. albopictus* or *Ae. polynesiensis*. Installations should have enough BG sentinel traps on hand to conduct surveillance in high population areas such as housing, Child Development Centers, youth centers, barracks, and other areas as deemed appropriate by public health authorities. For privatized housing installations should coordinate with the local housing developer.

Larval surveillance will be conducted on a routine basis to identify the presence of breeding populations on the installation and identify areas for source reduction or larviciding. Areas identified with multiple breeding sites (i.e. containers) will have source reduction measures implemented in those areas.

3. MOSQUITO TESTING

We have the capability to test Aedes collected during surveillance for the presence of Zika virus. Installations will coordinate with one of the below entomological testing laboratories for testing of collected *Ae. aegypti*, *Ae. albopictus* or *Ae. polynesiensis* for Zika.

- U.S. Army Public Health Center (Provisional) has five regional commands, all of which have Entomological Sciences Divisions that perform mosquito-borne disease surveillance. Four of the five regional commands have laboratories capable of testing for Zika in mosquito pools (the fifth lab can quickly set up capability).
    - For environmental laboratory support:
      LTC Robert Richards
      robert.s.richards.mil@mail.mil
      410-436-5060 (DSN 584-5060)

- The U.S. Air Force School of Aerospace Medicine (USAFSAM) identifies and tests mosquitoes worldwide for many arboviruses, including Zika and dengue. In addition, USAFSAM provides expertise for operational disease vector surveillance, control, and training.
    - Dr. Will Reeves
      Entomologist, USAFSAM

will.reeves@us.af.mil
Epidemiology Consult Services
937-938-3071 (DSN 798-3071)

These entomology laboratories and any other DoD laboratory that is testing mosquitoes for Zika will coordinate with each other to use the same screening and confirming assays.

The US Army Medical Research and Material Command, US Army Medical Research Institute of Infectious Disease (USAMRIID) will provide limit of detection (LOD) panels and positive controls in accordance with all applicable safety guidelines to the DoD testing laboratories to validate assays.

- For LOD panels and positive controls:
  LTC Robert Lowen
  robert.g.lowen.mil@mail.mil
  301-619-4881 (DSN 343-4881)

Collected *Ae. aegypti*, *Ae. albopictus* or *Ae. polynesiensis* will be submitted at least weekly for testing. Confirmed Zika positive mosquito pools will be reported back to the installation and to the Armed Forces Health Surveillance Branch (dha.ncr.health-surv.list.afhs-ib-alert-response@mail.mil) **within 24 hours of confirmation**. Reports will include at a minimum: Installation/Base, trap location, date collected, species, and test results.

Entomology testing laboratories will submit a monthly report to the Armed Forces Pest Management Board (osd.pentagon.ousd-atl.mbx.afpmb@mail.mil) of all the samples tested. Reports will include at a minimum: Installation/Base, trap location, date collected, species, and test results.

4. MOSQUITO CONTROL

Installation Pest Management Plans will include integrated measures such as source reduction, physical control (window/door screens), adult & larval control, and other appropriate control measures to reduce breeding habitat and feeding opportunities for *Ae. aegypti*, *Ae. albopictus* or *Ae. polynesiensis.*

This must be a sustained effort in order to reduce and control the population of *Ae. aegypti*, *Ae. albopictus* or *Ae. polynesiensis*. Failure to implement a coordinated sustained control effort will allow for an *Ae. aegypti*, *Ae. albopictus* or *Ae. polynesiensis* population that could transmit Zika.

Installations will also have a response plan, to include coordination with the installation medical authority and strategic communication, ready to implement if a positive mosquito sample is detected on the installation.

Map 1: *Aedes aegypti* and *Ae. albopictus* distribution range in the Continental United States

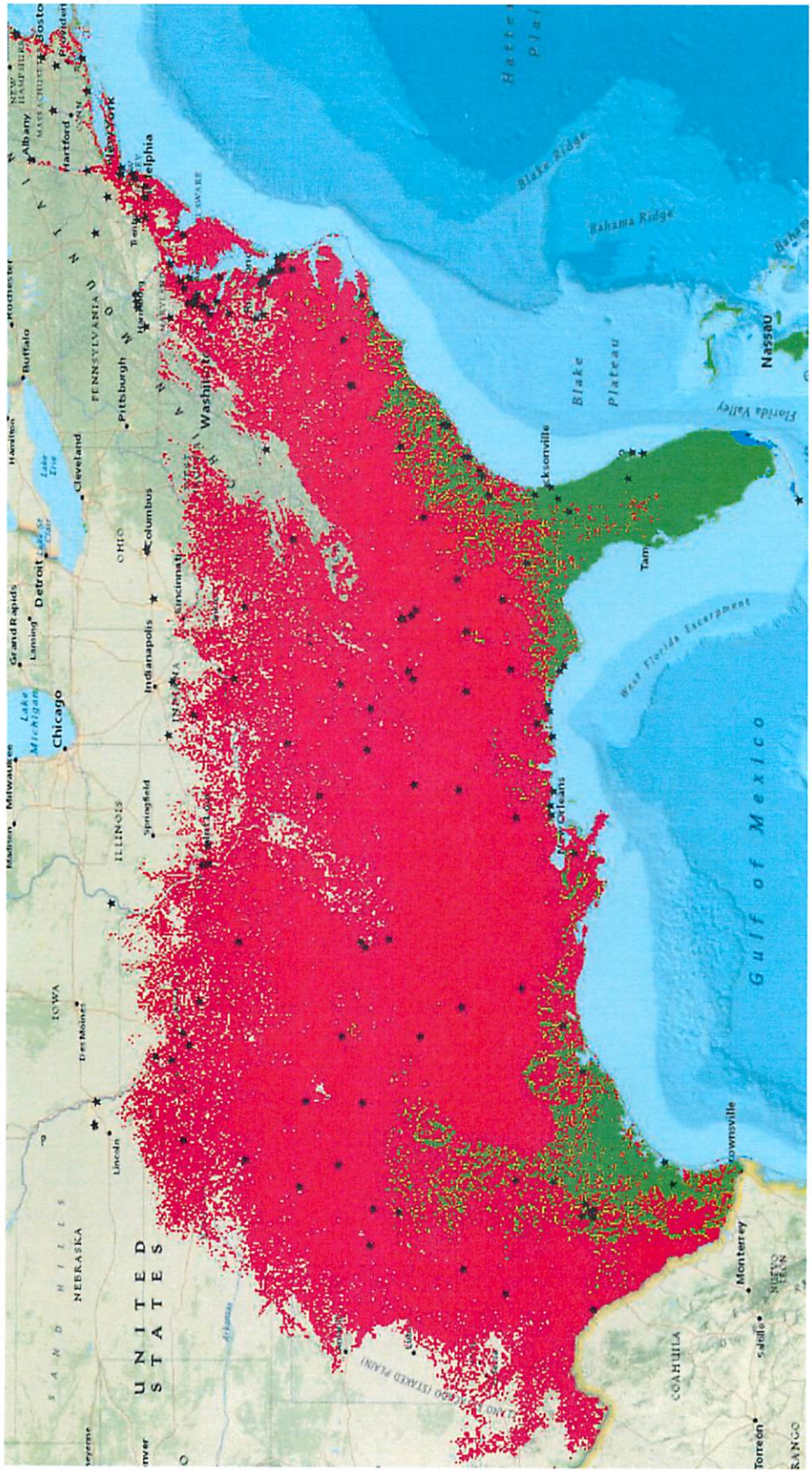

Table 1:

States/territories with U.S. Military Installations that fall within the predicted distribution of Ae. albopictus, Ae. aegypti and Ae. polynesiensis.	
Alabama	Missouri
Arkansas	Mississippi
Connecticut	North Carolina
The District of Columbia	Nebraska
Delaware	New Jersey
Florida	New York
Georgia	Ohio
Guam	Oklahoma
Hawaii	Pennsylvania
Illinois	Puerto Rico
Indiana	South Carolina
Kansas	Tennessee
Kentucky	Texas
Louisiana	Virginia
Massachusetts	
Maryland	

Table 2: Ordering Information for BG Sentinel Trap

NSN	Nomenclature	Cage Code	ACC*	Price	U/I	Users
3740-01-628-9325	BG Lure, Human Skin, Non-Toxic, Chemical Lure, P/N 2881 for use BG Sentinel 2880 Mosquito Trap	59590	Z	37.43	EA	A, N, F
3740-01-628-9327	BG Sentinel 2880 Mosquito Trap Catch Bag, P/N 2880C	59590	Z	9.26	EA	A, N, F
3740-01-628-9324	BG Sentinel 2880 Mosquito Trap 12 V Wall Charger for 2861 Battery, P/N 2861C	59590	Z	52.80	EA	A, N, F
3740-01-628-9326	BG Sentinel 2880 Mosquito Trap, P/N 2880	59590	Z	286.07	EA	A, N, F
6130-01-467-4177	BG Sentinel 2880 Mosquito Trap, 12 V DC Battery Pack, w/ Charger, P/N 2861	59590	L	268.23	EA	A, F, N
3740-01-464-9998	BG Sentinel 2880 Mosquito Trap, 12 V DC Replacement Battery , P/N 2861A	59590	Z	112.58	EA	A, F, N