**VECTOR DISEASE CONTROL INTERNATIONAL**

***NANTUCKET MOSQUITO CONTROL***

# 2016 ANNUAL OPERATIONS REPORT

District Name: **Town of Nantucket Mosquito Control Project**

Contractor: Vector Disease Control International


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**Report prepared by:** ***Emily Hibbard, MS Entomology, VDCI's Nantucket Contract Supervisor***

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## ORGANIZATION SETUP:

**Director**

**Kara Buzanowski**……**Director of Department of Public Works**
**Email: kbuzanowski@nantucket.ma.gov**

**Commissioner Names**

**Charles Stott**…… ……**Chair**
**Helene Weld, RN**……..**Board of Health**
**Dr. Timothy Lepore, MD, PhD**…… **Board of Health**
**Ashley Erisman**……**Conservation Commission**
**Mark Palmer**…..…… **Member at Large**

## VECTOR DISEASE CONTROL INTERNATIONAL

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**Emily Hibbard…….. ……Contract Supervisor**
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**Nolan Fernandez……Operations Coordinator**
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**Michael Lennon……Application Specialist**
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**Dr. Daniel Markowski……..National Operations Director**
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**Cristina Flores…….Regional Operations Director**
**Email: cflores@vdci.net**

**Joe Onarato……Business Development**
**Email: jonaroto@vdci.net**


**Administrative: Merridith O'Leary, Emily Hibbard**
**Biologist: Dan Markowski, Emily Hibbard**
**Entomologist: Emily Hibbard**
**Facilities: Nolan Fernandez, Emily Hibbard**
**Information Technology: Cristina Flores**
**Laboratory: Nolan Fernandez, Emily Hibbard**
**Operations: Nolan Fernandez, Emily Hibbard**
**Public Relations: Merridith O'Leary**

**For the year of this report, the following were maintained:**
**1 Vehicle**

## VECTOR DISEASE CONTROL INTERNATIONAL

*NANTUCKET MOSQUITO CONTROL*

**INTEGRATED PEST MANAGEMENT PLAN (IPM):**

**Current Services**:
Larval mosquito surveillance
Larval mosquito control
Source Reduction
Adult mosquito surveillance
Arbovirus testing
Education, Outreach & Public Education

**Definition**: Integrated Pest Management (IPM) is a comprehensive strategy of pest management to achieve reduced levels of pest control using an effective and environmentally sensitive approach. Successful IPM plans rely on a combination of practices to reduce the need for reliance on chemical pesticide. This can be accomplished by using the most current and comprehensive information on the life cycle of the pest and their interaction with the environment.

**Nantucket Mosquito Control IPM plan:** The goal of VDCI's Nantucket mosquito control program is to identify and treat mosquitoes in the most ecologically responsible manner through continuous monitoring techniques, source reduction, increased sanitation, and the use of lowest risk pesticides when necessary. All mosquito management decisions will be made after conducting surveillance and determining that mosquito populations have reached an action threshold. VDCI will implement a zero tolerance threshold and treat breeding populations in a most environmentally sound manner. Source reduction will be the primary control method and the application of larvicides will only be applied when source reduction is not an option. The approved larvicide used will be species specific and will not harm humans, animals, birds, other insects, fish, shellfish, plants or the environment. Aerial and truck spraying for adults will not be employed. Private property owners will be permitted to opt out of testing and treatment

## VECTOR DISEASE CONTROL INTERNATIONAL

## *NANTUCKET MOSQUITO CONTROL*

### LARVAL MOSQUITO SURVEILLANCE:

**Purpose:** The purpose of larval mosquito surveillance is to determine larval breeding zones

**Time frame**: May-October

**Areas**: Areas surveyed are public lands that could provide a breeding habitat for mosquito larvae. Examples of surveillance habitats include wetlands, marshes, flood plains, catch basins, drainage ditches, rain barrels, trash receptacles and/or any container capable of holding water.

**Total number of sites inspections**: 456

### LARVAL MOSQUITO CONTROL:

**Purpose**: The purpose of this mosquito control program is to manage mosquito populations in catch basins throughout the Town to protect public health from potential arboviral threats. Catch basins are one of the primary breeding habitats for *Culex spp*; the mosquito species known to vector West Nile Virus.

**Time frame**: June – September

**Areas**: Areas treated are all authorized catch basins found to contain mosquito larvae through the use of hand applied larvicide briquets.

**Equipment used**: hand application

**Products**:

**Product name:** FourStar 180 briquets

**EPA Reg. #:** 83362-3

**Application method:** hand applied

**Targeted life stage**: larvae

**Total amount applied**: 4 briquets

**Habitat**: Catch basins

**Application rates**: 1 briquets /100sq ft.

**Total # Catch Basins Treated**: 4

**Trigger for larviciding operations:** larval dip counts

**Product Name**: Vectobac G

**EPA Reg. #:** 73049-10

**Application method:** spreader/backpack sprayer

**Targeted life stage**: Larvae

**Total amount of concentrate applied**: 60,959 oz

**Application rates**: 2.5-10lbs/acre

**Total # Acres Treated**: 424

**Trigger for larviciding operations:** larval dip counts

## ADULT MOSQUITO CONTROL:

N/A

## SOURCE REDUCTION:

Removal, dumping, or filling of any containers on public property that would create a larval habitat for mosquitoes including but not limited to trash/recycling bins, birdbaths, buckets, wheelbarrows, children's pools, puddles, ditches, etc.

## WATER MANAGEMENT/ DICH MAINTENANCE:

**N/A**

## ADULT MOSQUITO SURVEILLANCE:

**Purpose:** The purpose is to sample adult mosquito populations to assess efficacy of the larval control measures and to monitor for the presence of arboviruses. All adults collected are counted and identified to species.

**Time frame**: May – October

**Trap Types Used:**
Gravid traps
CDC light trap with $CO_2$

**Types of adult mosquito surveillance traps:**

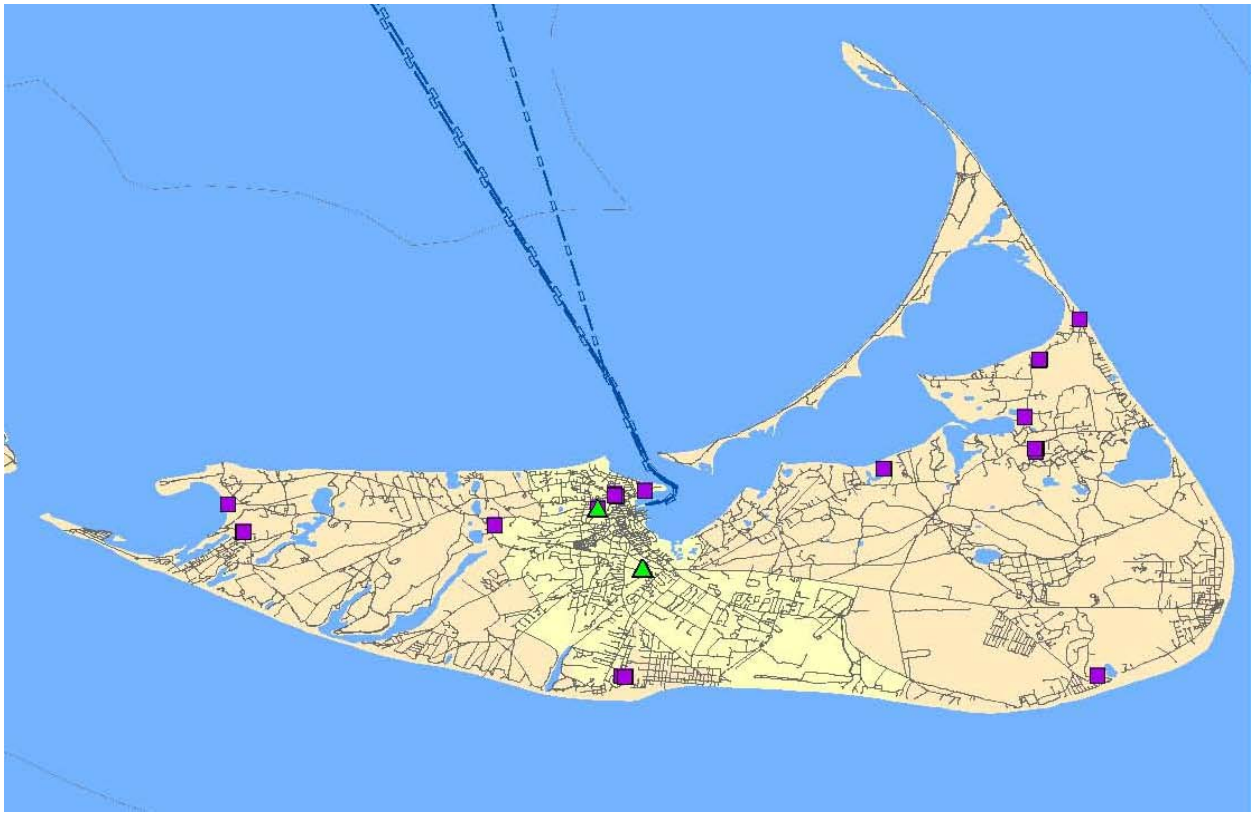
Gravid Trap

miniature CDC light trap with $CO_2$

## ADULT MOSQUITO SURVEILLANCE CONTINUED:

**Trapping sites**: Eight long term trap sites were maintained throughout the season. Long term trap sites were chosen in 2013 based on historical mosquito collection data and suspected larval habitat. Supplemental, short term traps were deployed as needed.

**Adult Surveillance trapping sites:**



## ADULT MOSQUITO SURVEILLANCE:

**Species of concern:**

*Ae. albopictus* (none collected)
*Ae.vexans*
*Ae. cinereus*
*An. punctipennis*
*An. quadrimaculatus*
*Cq. perturbans*
*Cx. pipiens*
*Cx. restuans*
*Cx. salinarius*
*Cs. morsitans*
*Cs. melanura*
*Oc. canadensis*
*Oc. excrucians*
*Oc. intrudens*
*Oc. japonicus*
*Oc. sollicitans*
*Oc. taeniorhynchus*
*Oc. triseriatus*
*Oc. trivittatus*
*Ps. ferox*
*Ur. sapphirina*

**Total number trapped and identified**: 17,054 mosquitoes

## ARBOVIRUS TESTING:

**Purpose:** The purpose of arbovirus testing is to identify mosquito borne diseases that may cause a threat to public health. Mosquitoes were collected, identified and sorted by VDCI staff and shipped to a VDCI laboratory for arboviral testing of West Nile Virus and Eastern Equine Encephalitis. Submissions were received the week of collection and testing was performed using RT-PCR assays.

**Testing**: 51 pools totaling 1,210 mosquitoes were tested using RT-PCR analysis.

**Results**: All pools tested were negative for WNV and EEE and no human, avian, or equine illnesses were reported in 2016

## DATA:

Data collected and maintained in the VDCI database and includes:

- Species identification
- Species distribution
- Population densities
- Mapping
- Arbovirus Testing Results

Reports and updates were also submitted to the Northampton Board of Health

## EDUCATION, OUTREACH, AND PUBLIC COORDINATION:

Educational materials are available through the Nantucket Public Works web page, the VDCI website as well as the MA Dept. of Public Health website:

http://www.nantucket-ma.gov/239/Mosquito-Control

http://vdci.net/index.php

www.mass.gov/dph/mosquito

## INFORMATION TECHNOLOGY:

All data collected was maintained in the VDCI Great Mechanism Database. GPS equipment was used for all site visits and GIS mapping is available through VDCI's GIS department.

## REVENUES & EXPENDITURES:

Privately funded by the Town of Nantucket

## SERVICE REQUESTS:

N/A

## EXCLUSIONS:

N/A

## SPECIAL PROJECTS:

N/A

## CHILDREN AND FAMILIES PROTECTION ACT:

This program is not impacted by the Children and Families Protection Act

## NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT PROGRAM:

Permit Number: MAG87A139

## GENERAL COMMENTS:

N/A