



VECTOR DISEASE CONTROL INTERNATIONAL
GREENFIELD/DEERFIELD MOSQUITO SURVEILLANCE PROGRAM

2016 ANNUAL OPERATIONS REPORT

Project Name: Greenfield/Deerfield Mosquito Surveillance Program

Contractor: Vector Disease Control International

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Report prepared by: *Emily Hibbard, MS Entomology, Contract Supervisor*

ORGANIZATION SETUP:

Town of Greenfield MA, Health Department

Nicole Zabko.....Director of Public Health
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Town of Deerfield MA, Board of Health

Carolyn Ness..... Chair, Board of Health and Board of Selectmen
Email: csness@town.deerfield.ma.us



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Vector Disease Control International

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Administrative: Nicole Zabko, Carolyn Ness, and 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: Nicole Zabko, Carolyn Ness

For the year of this report, the following were maintained:

1 Vehicle



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INTEGRATED PEST MANAGEMENT PLAN (IPM):

Current Services:

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.

Greenfield/Deerfield Mosquito Surveillance: The goal of VDCI's Greenfield/Deerfield mosquito surveillance program is to identify arboviral public health threats in the most ecologically responsible manner through continuous monitoring techniques and weekly disease testing. The current program is an adult surveillance only program and does not implement larval surveillance, larval or adult control.



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LARVAL MOSQUITO SURVEILLANCE:

N/A

LARVAL MOSQUITO CONTROL:

N/A

ADULT MOSQUITO CONTROL:

N/A

SOURCE REDUCTION:

N/A

WATER MANAGEMENT/ DICH MAINTENANCE:

N/A

ADULT MOSQUITO SURVEILLANCE:

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

Time frame: June – October

Trap Types Used:

Gravid traps

CDC light trap with CO₂

Types of adult mosquito surveillance traps:

Gravid Trap



miniature CDC light trap with CO₂





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Trapping sites: Five long term trap sites were maintained throughout the season. Additional short term 24-hour traps were deployed randomly throughout the season. All sites were chosen based on historical mosquito nuisance complaints and suspected larval habitat.

Long term trapping sites:

Trap Type	Street Address	Town
CDC light trap with CO ₂	Parkway Ave	Greenfield MA
CDC light trap with CO ₂	Whately Road	Deerfield MA
CDC light trap with CO ₂	Wapping Road	Deerfield MA
Gravid trap	Deerfield Street	Greenfield MA
Gravid Trap	Colorado Ave	Greenfield MA

Short-term trapping sites:

Trap Type	Physical address	Town
Gravid Trap	Little Meadow Rd	Deerfield MA
Gravid Trap	Temple Ave	Greenfield MA
CDC light trap with CO ₂	Power Court	Greenfield MA
CDC light trap with CO ₂	Cleveland St	Greenfield MA
CDC light trap with CO ₂	Frontier Regional High School	Deerfield MA
CDC light trap with CO ₂	Country Club Road	Greenfield MA



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ADULT MOSQUITO SURVEILLANCE:

Species of concern:

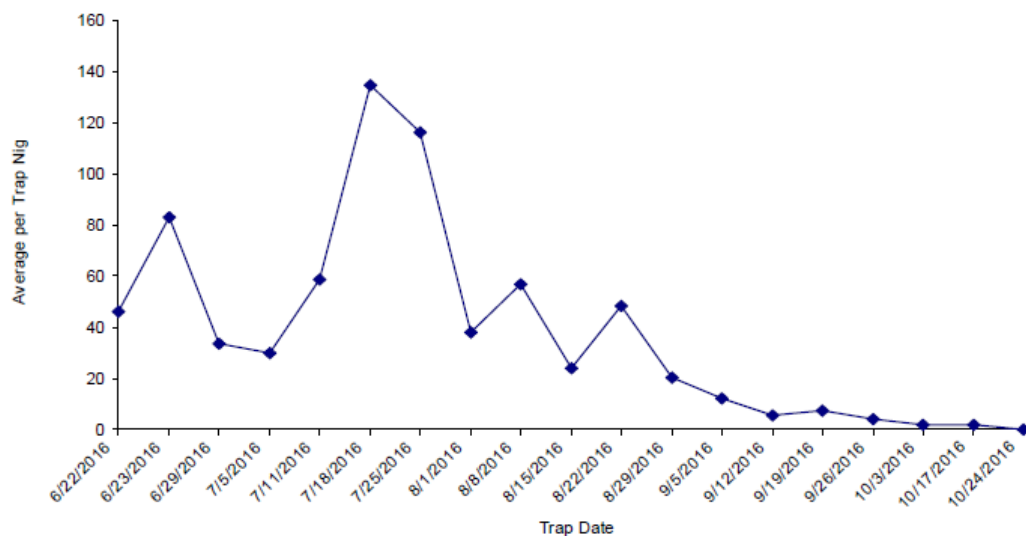
- | | |
|--|------------------------|
| <i>Ae. albopictus</i> (none collected) | <i>Cs. melanura</i> |
| <i>Ae. vexans</i> | <i>Oc. canadensis</i> |
| <i>Ae. cinereus</i> | <i>Oc. excrucians</i> |
| <i>An. punctipennis</i> | <i>Oc. intrudens</i> |
| <i>An. quadrimaculatus</i> | <i>Oc. japonicus</i> |
| <i>Cq. perturbans</i> | <i>Oc. triseriatus</i> |
| <i>Cx. pipiens</i> | <i>Oc. trivittatus</i> |
| <i>Cx. restuans</i> | <i>Ps. ferox</i> |
| <i>Cx. salinarius</i> | <i>Ur. sapphirina</i> |
| <i>Cs. morsitans</i> | |

Total number trapped and identified: 3,255 mosquitoes



Adult Mosquito Surveillance Summary

Greenfield/Deerfield



Vector Disease Control International
11 John Road
Sutton, MA 01590
800-413-4445



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ARBOVIRUS TESTING:

Purpose: The purpose of arbovirus testing is to identify mosquito borne diseases that may cause a threat to public health.

In 2016 the Massachusetts Department of Public Health William A. Hinton State Laboratory Institute Arbovirus Surveillance Program offered the Towns of Greenfield and Deerfield 100 free mosquito submission pools. Mosquitoes were collected, identified and sorted by VDCI staff and shipped to the state laboratory for arboviral testing of West Nile Virus and Eastern Equine Encephalitis using Real Time PCR assays. Submissions were accepted and testing was performed from June 16, 2016 through October 7, 2016. Once the state lab closed their testing operations on October 7, 2016 and additional pools were tested by the University of Massachusetts, Laboratory of Medical Zoology.

Testing: 114 pools totaling 1,294 mosquitoes were tested for arboviruses 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 Greenfield and Deerfield Health Departments

EDUCATION, OUTREACH, AND PUBLIC COORDINATION:

Educational materials are available through the Deerfield Board of Health website, the VDCI website as well as the MA Department of Public Health website:



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<http://vdcnet.net/index.php>

<http://www.deerfieldma.us/board-health/pages/mosquito-information>

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 in a joint contract by the Towns of Greenfield MA and Deerfield MA

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:

N/A

GENERAL COMMENTS:

N/A