



VECTOR DISEASE CONTROL INTERNATIONAL
NORTHAMPTON MOSQUITO CONTROL

2016 ANNUAL OPERATIONS REPORT

Project Name: City of Northampton Mosquito Control Project

Contractor: Vector Disease Control International

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Operations: Nolan Fernandez, Emily Hibbard

Public Relations: Merridith O’Leary

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

1 Vehicle



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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.

Northampton Mosquito Control IPM plan: The goal of VDCI's Northampton mosquito control program is to identify and reduce arboviral public health threats in the most ecologically responsible manner through continuous monitoring techniques, weekly disease testing, 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. Source reduction will be the primary control method and the application of larvicides to catch basin 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 adult mosquitoes will not be employed. Private property owners will be permitted to opt out of testing and treatment.



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LARVAL MOSQUITO SURVEILLANCE:

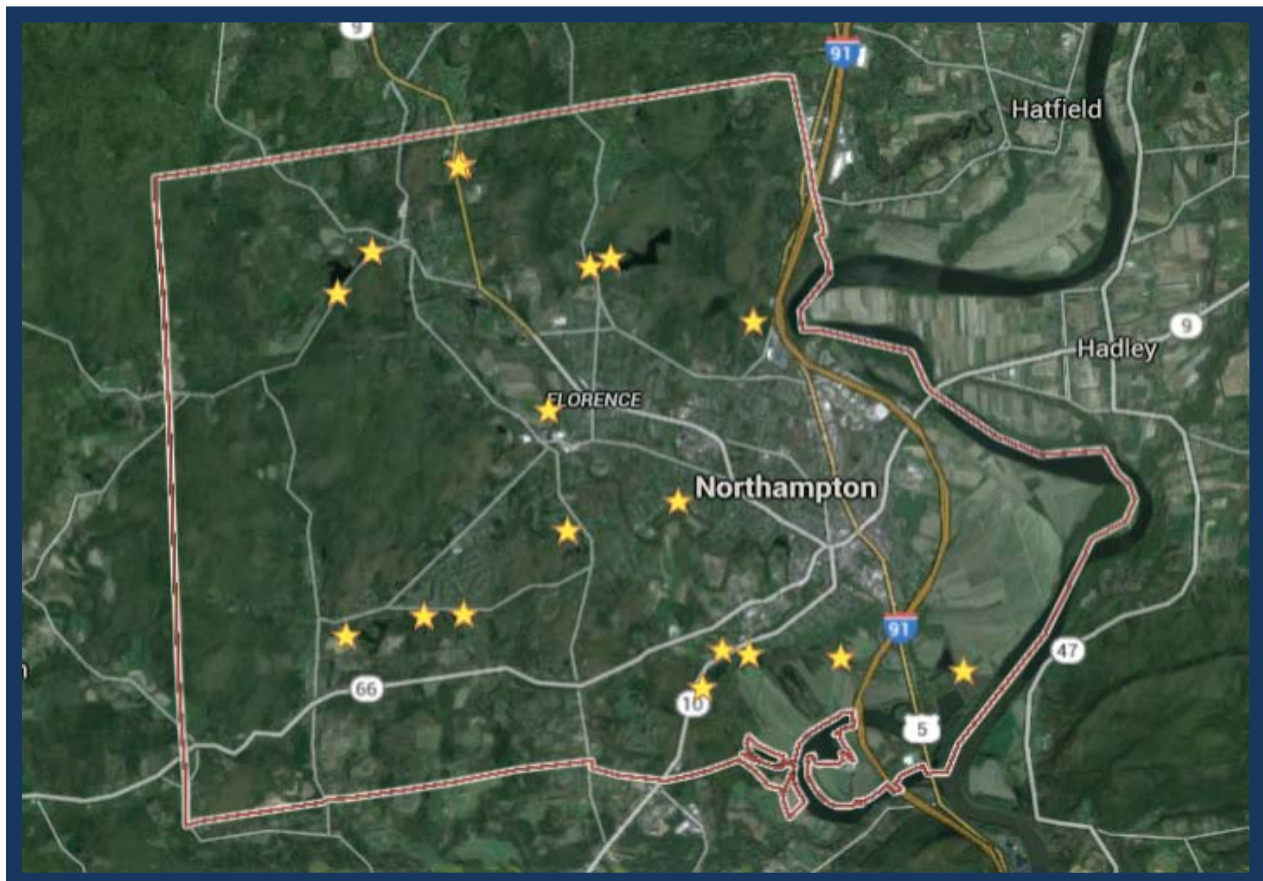
Purpose: The purpose of larval mosquito surveillance is to determine larval breeding zones

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: 288

Larval Surveillance Sites





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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: 132 briquets
Habitat: Catch basins

Application rates: 1 briquets /100sq ft.

Total # Catch Basins Treated: 132

Trigger for larviciding operations: larval dip counts

ADULT MOSQUITO CONTROL:

N/A



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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: June – October

Trap Types Used:

Ovitrap

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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ADULT MOSQUITO SURVEILLANCE CONTINUED:

Long term trapping sites: Four long term trap sites were maintained throughout the season. These sites were chosen based on historical mosquito collection data and suspected larval habitat.

Long term trapping sites:

Trap Type	Trap ID	Physical address	Latitude/longitude
CDC light trap with CO₂	CDC001_16	N Farms Road (Fitzgerald Conservation)	42.3519, -72.6515
CDC light trap with CO₂	CDC002_16	Ellington Ave (Gutowski Conservation)	42.3194, -72.6757
Gravid trap	GVD001_16	Easthampton Rd	42.3009, -72.6553
Oviposit trap	OVI001_16	Searles Auto Recycling (Easthampton Rd)	42.3054, -72.6512



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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

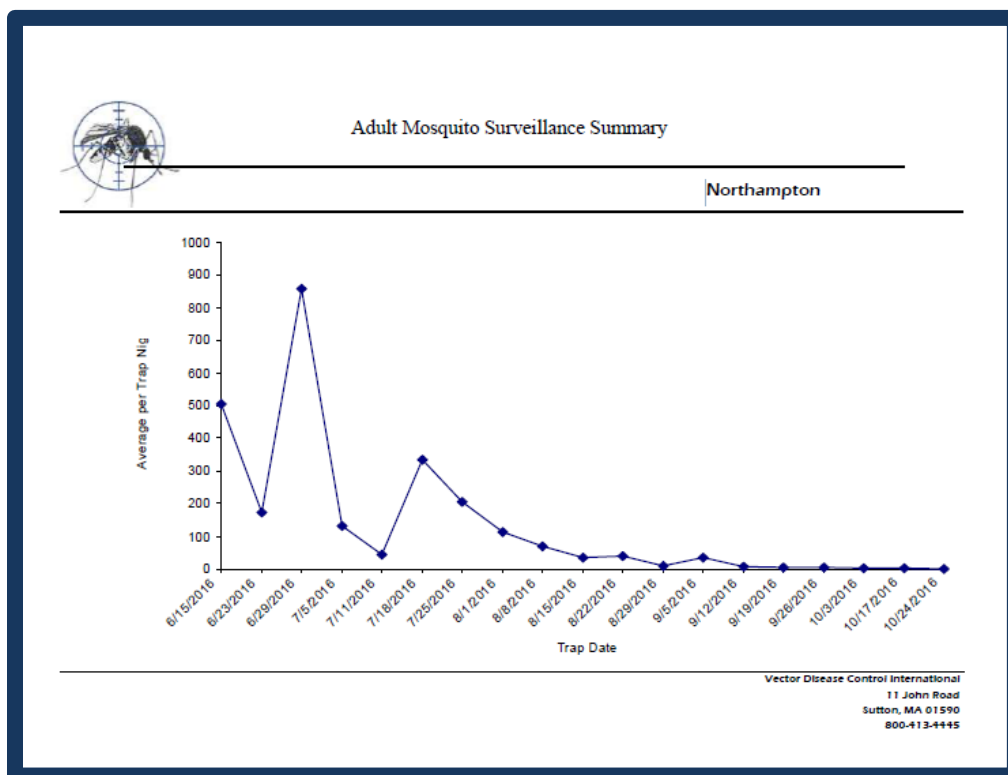
Oc. triseriatus

Oc. trivittatus

Ps. ferox

Ur. sapphirina

Total number trapped and identified: 7,891 mosquitoes





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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 Town of Northampton 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. 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 an additional 4 pools were tested by the University of Massachusetts, Laboratory of Medical Zoology.

Testing: 68 pools totaling 1,583 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 Northampton Board of Health

EDUCATION, OUTREACH, AND PUBLIC COORDINATION:

Educational materials are available through the Northampton Board of Health website, the VDCI website as well as the MA Dept. of Public Health website:



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

<http://northamptonma.gov/1597/Mosquito-Information>

<http://northamptonma.gov/CivicAlerts.aspx?AID=240>

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 Northampton

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