

MASSACHUSETTS MOSQUITO CONTROL

ANNUAL OPERATIONS REPORT



Year Report Covers: 2015 Date of Report: 1/19/2016

Project/District Name: **Norfolk County Mosquito Control Project**

Address: 61 Endicott St, Suite 66

City/Town: Norwood Zip: 02062

Phone: 781 762-3681 Fax: 781 769-6436

E-mail: info@norfolkcountymosquito.org

Report prepared by: *David Lawson*

NPDES permit no. **MAG87A021**

If you have a mission statement, please include it here: "The Norfolk County Mosquito Control District Commission represents the interests of the member communities and their residents by providing oversight of Project activities. The Commissioners each live or work within a community serviced by the Project, were nominated by municipal authorities, and were evaluated and appointed to their posts by the State Reclamation and Mosquito Control Board. The Commission strives to ensure that the member communities receive services consistent with applicable laws and justified by tenets of public health, vector control, environmental safety and fiscal responsibility. The Commission invites input and questions from community officials and residents. The Project's website announces the Commission's monthly meetings and planned agendas, and hosts minutes from past meetings."

ORGANIZATION SETUP:

Commissioner names:

Linda R. Shea, Chairman

Maureen P. MacEachern

Robin L. Chapell

Richard J. Pollack

Norman P. Jacques

Superintendent/Director name: David Lawson

Superintendent/Director contact phone number: 781 762-3681

Asst. Superintendent/Director name: Caroline Haviland

District/Project website: <http://www.norfolkcountymosquito.org>

Twitter handle: @

Facebook page: <http://www.facebook.com/Norfolk-County-Mosquito-Control-District-152138671525303/?fref=ts>

Staffing levels for the year of this report:

Full time: 12

Part time:

Seasonal: 1

Other: (please describe)

Of the above, how many are:

(Please check off all that apply, and list employee name(s) next to each category)

- Administrative Liz Donnell, David Lawson, Caroline Haviland
- Biologist Kaitlyn O'Donnell, Caroline Haviland
- Educator Kaitlyn O'Donnell, David Lawson
- Entomologist Kaitlyn O'Donnell
- Facilities David Lawson, Caroline Haviland
- Information technology Nate Boonisar
- Laboratory Kaitlyn O'Donnell
- Operations Caroline Haviland, David Lawson, Brian Moore, William Haviland, Robert O'Halloran, John Tuana, Anthony Caso, Eric Tarala, Greg Gangitano
- Public relations Kaitlyn O'Donnell, Caroline Haviland, David Lawson
- Wetland scientist Caroline Haviland
- Other (please describe)

For the year of this report, the following were maintained (enter number in the column to the left):

- 4 Modified wetland equipment (list type) Linkbelt 1600 quantum series excavator, modified (extended tracks) Kobelco SK60 excavator, non wetland - John deere 880 bulldozer, Bombadier Muskeg
- 1 Larval control equipment (list type) Mid-Atlantic Equipment high pressure larvicide unit, A-1 Mist sprayer
- 8 ULV sprayers (list type) 7 Clarke Dura Promist, 1 Cougar
- Vehicles

Other (please be specific):

Comments: _____

How many cities and towns are in your service area?* 25

Alphabetical list: Avon, Bellingham, Braintree, Canton, Dedham, Dover, Foxborough, Franklin, Holbrook, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Plainville, Quincy, Randolph, Sharon, Stoughton, Walpole, Westwood, Weymouth, Wrentham

Were there any changes to your service area this year? No

Cities/towns added:

Cities/towns removed:

***Please attach a map of your service area (or a website link to that map).**

INTEGRATED PEST MANAGEMENT (IPM):

Check off all services that your district/project currently provides to member cities and towns as part of an IPM program (details will be provided in the sections below):

- Adult mosquito control**
- Adult mosquito surveillance**

- Ditch maintenance
- Education, Outreach & Public education
- Larval mosquito control
- Larval mosquito surveillance
- Open Marsh Water Management
- Research
- Source reduction (tire removals)
- Other (please list): Tire removal program

Comments: _____

LARVAL MOSQUITO CONTROL:

If you have a larval mosquito control program, please fill out the section below, else skip ahead to the next section.

Describe the purpose of this program: Targeted preemptive control measures are the most cost effective, efficient and environmentally friendly way to reduce mosquito populations. NCMCD applies insecticides to shallow water to control mosquitoes in their most vulnerable aquatic stages in an attempt to prevent the emergence of adult mosquitoes. A GIS database of mosquito larval development sites are checked and treated as necessary by means of hand and/or aerial application. Spring and summer flooding following snow melt and/or heavy rainfall creates a potential each year for significant mosquito larval development in various wetlands across Norfolk County. The predominate species which develop in the spring are Ochlerotatus abserratus, Ochlerotatus excrucians and Ochlerotatus canadensis. In the summer the predominate species following river flooding are Ochlerotatus trivittatus, Aedes cinereus, Aedes vexans, Psorophora ferox and Ochlerotatus canadensis. All of these mosquito species are strong human biters and can create significant nuisance level populations during the late spring and summer months. During certain years some of the summer mosquito species, such as Aedes vexans, may be involved in the transmission of Eastern Equine Encephalitis (EEE) from birds to humans. In an effort to proactively control these aggressive human biting species, and in an environmentally responsible manner, the Norfolk County Mosquito Control District conducts aerial larval control operations using products with the active ingredient Bacillus thuringiensis israelensis (Bti). In small wetlands and in larval development sites proximate to homes, where aircraft applications are not suitable, hand applications using the same products at the same rates are utilized.

NCMCD makes applications of an insecticide to catch basins, storm water structures, etc. to control primarily Culex mosquitoes in their aquatic stages. Culex species have been identified as likely vectors of WNV.

What months is this program active? April - September

Describe the types of areas where you use this program: Ground larvicide treatments are typically made to smaller natural and manmade wetlands and depressions. The typical wetlands treated during the spring aerial larvicide are described as large (greater than five acres)

Wooded Swamp Deciduous/Coniferous/Mixed, Shrub Swamp, Shallow Marsh/Meadow/Fen wetlands. Summer aerial applications applications are more typically conducted over river floodplain areas especially within wetlands adjacent to the Neponset and Charles Rivers. Maps of aerially targetted wetlands are available on the District's website.

Rain Basin treatments typically occur in high density population areas around centers of towns and heavy residential/commercial areas.

Do you use:

Ground application (hand, portable and/or backpack, etc.)

Aerial applications

Other (please list):

Comments: _____

List all products that you use for larval mosquito control in the table below (leave blank if not applicable):

Product Name	EPA #	Application Rate(s)	Application Method	Targeted life stage	Habitat Type	Total finished product applied
VectoBac GR	73049-486	2.5-10lbs/acre	Aerial	Larvae	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	34,100 lbs
VectoBac G	73049-10	2.5-10lbs/acre	hand	Larvae	<input type="checkbox"/> Catch basins <input checked="" type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	2,325 lbs
VectoBac 12AS	73049-38	.25-2 pints/acre	Pressure sprayer	Larvae	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	37.7 pints
VectoLex WSP	73049-20	1 pouch/50 sq ft.	hand	Larvae	<input checked="" type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	4,638 pouches
Fourstar Briquets	83362-3	1 briquet/100 sq. ft.	hand	Larvae	<input checked="" type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	3,133 briquets
Altosid XR	2724-421	1 briquet/100 sq. ft.	hand	Larvae	<input checked="" type="checkbox"/> Catch basins <input checked="" type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	1,670 briquets
Altosid 30 Day	2724-375	1 briquet/100 sq. ft.	hand	Larvae	<input checked="" type="checkbox"/> Catch basins <input checked="" type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	10,057 briquets

List all products that you use for larval mosquito control in the table below (leave blank if not applicable):

Product Name	EPA #	Application Rate(s)	Application Method	Targeted life stage	Habitat Type	Total finished product applied
Altosid WSP	2724-448	One pouch/135 sq. ft.	hand	Larvae	<input checked="" type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	1,642 pouches
Natular XRT	8329-84	1 tablet/100 sq. ft.	hand	Larvae	<input checked="" type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	3,063 tablets
CocoBear Oil	8329-93	10 oz./1,000 sq. ft.	hand pump sprayer	Larvae/pupae	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input checked="" type="checkbox"/> Other (please list): man made water sources	295 oz.
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	

What is your trigger for larviciding operations? (check all that apply)

- Best professional judgment
- Historical records
- Larval dip counts – please list trigger for application:
- Other (please describe):

Comments: _____

Please attach a map of your service area (or a website link to that map).

ADULT MOSQUITO CONTROL:

If you have a larval mosquito control program, please fill out the section below, else skip ahead to the next section.

Describe the purpose of this program: When larviciding is not a viable option (example: *Coquillettidia perturbans*) and/or when adult mosquito populations reach levels which are either bothersome to residents and/or a public health concern is realized, targeted adulticiding applications are used. NCMCD makes decisions to use adulticides based on evaluations of the risks of EEE or WNV transmission to humans in collaboration with MDPH or based on evaluations of the nuisance level that residents report to NCMCD. NCMCD also bases decisions to adulticide on mosquito surveillance (trap counts), field crew observations and after careful analysis of predicted local weather conditions.

Describe the types of areas where you use this program: ULV applications can be conducted anywhere the trucks can access, though mostly on paved streets in residential neighborhoods. Barrier applications are conducted on municipal properties where the public is present and at risk, such as schools, public parks, and athletic fields.

What is the time frame for this program? June through September

Describe the types of areas where you use this program:

Do you use:

- Aerial applications
- Portable applications
- Truck applications
- Other (please list):

Comments: _____

For each product used, please list the name, EPA #, and application rate(s):

Product Name	EPA #	Application Rate(s)	Application Method	Total finished product applied
Duet	1021-1795-8329	0.65 oz /acre	Truck mounted ULV	437 gallons
Zenivex	2724-807	0.65 oz/acre	Truck mounted ULV	248 gallons
Mavrik Perimeter	2724-478	0.1oz/gallon/ 1000 sq ft.	Truck mounted mist sprayer	452 Oz

Please describe the maximum amounts or frequency used in a particular time frame such as season and areas

ULV is potentially conducted in each town once per week. Possibly more if disease a threat warrants further applications. Barrier applications are conducted based on requests from municipal officials and our own assessments and surveillance.

What is your trigger for adulticiding operations? (check all that apply)

- Arbovirus data
- Best professional judgment
- Complaint calls (Describe trigger for application: GEIR - more than one call per square mile)
- Landing rates (Describe trigger for application)
- Light trap data (Describe trigger for application GEIR - more than 5 human biting mosquitoes per trap night)

Comments: _____

Please attach a map of your service area (or a website link to that map).

SOURCE REDUCTION (Tire Removals)

If you practice source reduction methods, such as tire removal, please fill out the section below, else skip ahead to the next section.

Please describe your program: NCMCD advises residents/Boards of Health in person or via phone or internet to empty any containers that may hold water on their property. When performing site visits, personnel will overturn containers or tires that hold water with mosquito larvae present. In 2012 NCMCD initiated a tire removal program which continued into 2015. The District picks up tires from residents who request this service. Tires must be off the rim and the District takes no more than 10 tires per resident. The District also removes dumped tires from the environment. Locations are reported as employees find tires during routine field work.

What time frame during the year is this method employed? All year

Comments: _____

WATER MANAGEMENT/DITCH MAINTENANCE

If you have a water management or ditch maintenance program, please fill out the section below, else skip ahead to the next section.

Please check all that apply:

- Inland/freshwater
- Saltmarsh

Please describe your program: The NCMCD Water Management Program consists of clearing previously existing and maintained drainage ditches and streams of silt, vegetation and debris in order to restore proper water flow, eliminate standing water, thus reducing mosquito larval development. Crews clear these systems through the use of several different types of hand tools, as well as through the use of our two specialized wide-tracked, low ground pressure excavators. This work is performed pursuant to chapter 252 of the MA General Laws in compliance with established federal (USACE) guidelines and oversight. The NCMCD is interested in working with the regulatory community, within the legal thresholds, in order to implement source reduction practices that specifically improve our wetland resources or habitats for fish and wildlife. Water Management work can reduce the amount of insecticide the District has to use in order to reduce the nuisance/vector population of mosquitoes in the surrounding area. We refer to this type of work as source reduction work and consider such work to be an important part of an Integrated Pest Management (IPM) strategy. Data collection and surveillance measures are important elements of any mosquito IPM strategy. Data collected during insecticide applications is used to aid in the determination of future water management project sites.

For **inland/freshwater water management**, check off all that apply.

Maintenance Type	Estimate of cumulative length of culverts, ditches, swales, etc. maintained (ft)
<input checked="" type="checkbox"/> Culvert cleaning	145 culverts cleaned - approx. 1,450 ft.
<input checked="" type="checkbox"/> Hand cleaning	88,585 ft.
<input checked="" type="checkbox"/> Mechanized cleaning	700 ft.
<input type="checkbox"/> Stream flow improvement	
<input checked="" type="checkbox"/> Other (please list): brushing	500 ft.

Comments: _____

For **saltmarsh ditch maintenance**, check off all that apply:

Maintenance Type	Estimate of cumulative length of ditches maintained (ft)
<input checked="" type="checkbox"/> Hand cleaning	1,385
<input type="checkbox"/> Mechanized cleaning	
<input type="checkbox"/> Other (please list):	

Comments: _____

What time frame during the year is this method employed? all year, but primarily fall-winter.

Comments: _____

Please attach a map of ditch maintenance areas (or a website link to that map).

OPEN MARSH WATER MANAGEMENT

If you have an Open Marsh Water Management program, please fill out the section below, else skip ahead to the next section.

Describe the purpose of this program:

What months is this program active?

Please give an estimate of total square feet or acreage:

Comments: The NCMCD has conducted OMWM in the past, but has stopped performing OMWM due to onerous regulatory requirements that make it overly burdensome to the District. The Districts OMWM permit from the ACOE expires January 2016, and is not being renewed.

Please attach a map of OMWM areas (or a website link to that map).

MONITORING (Measures of Efficacy)

Describe monitoring efforts for each of the following:

Aerial Larvicide – wetlands: In the weeks prior to a spring aerial application, wetlands are dipped in all aerial regions and this data is compiled in the GIS map data. Post application dipping is conducted.

Ground ULV Adulticide: NCMCD did not conduct efficacy on ULV in 2015

Larvicide – catch basins: NCMCD did not monitor efficacy in catch basins in 2015

Larvicide-hand/small area The Director randomly inspects ground larvicide sites in the spring for employee reporting follow up and concurrently inspects sites for efficacy.

Open Marsh Water Management: NA

Source Reduction: The Field Operations Manager conducts follow-up site visits to water management project sites to make sure the work is functioning as designed.

Other (please list):

Provide or list standard steps, criterion, or protocols regarding the documentation of efficacy (pre and post data), and resistance testing (if any):

No resistance testing was conducted in 2015.

Check the boxes below, indicating if your program has performed any of the following:

Research Project	Details
Bottle assays	
Efficacy testing	
Other:	
Other:	

ADULT MOSQUITO SURVEILLANCE

If you have an adult mosquito surveillance program, please fill out the section below, else skip ahead to the next section.

Describe the purpose of this program: CDC Light Traps: CDC Light Traps with CO₂ are used to determine the presence of adult mosquitoes and their density. CDC Light Traps with CO₂ are also used to monitor for EEE and West Nile Virus. Collections of mosquitoes (pools) are submitted weekly to the Massachusetts Arbovirus Surveillance Laboratory (MDPH) for the purpose of monitoring the presence of West Nile Virus and EEE in local mosquito populations. Gravid Traps: These traps are used by NCMCD to collect primarily *Culex pipiens* and *restuans* mosquitoes for submission to the Massachusetts Arbovirus Surveillance Laboratory (MDPH) for West Nile Virus analysis. Gravid mosquitoes which are attracted to these traps are important to sample because they may have recently fed on a bird. The bird biting species are usually the first to pick up the virus.

Resting boxes are used to accentuate capture of *C. melanura* for the detection of EEE.

What months is this program active? June - October

Check off all trap types currently in use by your program:

- | | |
|---|---------------------------------|
| <input type="checkbox"/> ABC light traps | <input type="checkbox"/> Canopy |
| <input type="checkbox"/> ABC light traps w/CO ₂ | <input type="checkbox"/> Canopy |
| <input checked="" type="checkbox"/> CDC light traps | <input type="checkbox"/> Canopy |
| <input checked="" type="checkbox"/> CDC light traps w/CO ₂ | <input type="checkbox"/> Canopy |
| <input checked="" type="checkbox"/> Gravid traps | |
| <input type="checkbox"/> Landing rate tests | |
| <input type="checkbox"/> NJ light traps | <input type="checkbox"/> Canopy |
| <input type="checkbox"/> NJ light traps w/CO ₂ | <input type="checkbox"/> Canopy |
| <input type="checkbox"/> Ovitrap | |
| <input checked="" type="checkbox"/> Resting boxes | |
| <input type="checkbox"/> Other (please describe): | |

Do you maintain long-term trap sites in any of your areas? Yes

If yes, please describe how you chose these long-term sites:

CDC Light Traps: CDC Light traps with CO₂ are placed for maximum collection of species of interest both for monitoring of human biting populations as well as for collection of species important in the transmission of EEE and WNV.

Gravid Traps: Gravid Traps are placed at locations for maximum collection of *Culex pipiens* and *restuans*. Traps are located in all 25 communities usually in the highest urbanized areas for maximum collections.

Please check off the species of concern in your service area:

- | | |
|--|---|
| <input type="checkbox"/> <i>Ae. albopictus</i> | <input checked="" type="checkbox"/> <i>Ae. cinereus</i> |
|--|---|

- Ae. vexans*
- An. punctipennis*
- An. quadrimaculatus*
- Cq. perturbans*
- Cx. pipiens*
- Cx. restuans*
- Cx. salinarius*
- Cs. melanura*
- Cs. morsitans*
- Oc. abserratus*
- Other (please list):

- Oc. canadensis*
- Oc. cantator*
- Oc. j. japonicus*
- Oc. sollicitans*
- Oc. taeniorhynchus*
- Oc. triseriatus*
- Oc. trivittatus*
- Ps. ferox*
- Ur. sapphirina*

Do you participate in the MDPH Arboviral Surveillance program? Yes
 How many pools do you submit weekly on average? 15

Number of traps in your service area **placed by MDPH**: 1
 Were these long-term trap sites or supplemental trapping sites? long-term

Which arboviruses were found in your area during the previous mosquito season? Enter the number of pools/cases below:

Arbovirus	Positive Mosquito Pools	Equine Cases	Human Cases
<input type="checkbox"/> Eastern Equine Encephalitis (EEE)			
<input checked="" type="checkbox"/> West Nile Virus (WNV)	3		
<input type="checkbox"/> Other (please list):			

Comments: _____

For each arbovirus listed below, please list the risk levels in your project area at both the start and end of the season (if more than one, please list all):

Arbovirus	Start of Season	End of Season
EEE	low	low
WNV	remote	moderate

Comments: _____

EDUCATION, OUTREACH & PUBLIC RELATIONS

If you have an education/outreach program, please fill out the section below, else skip ahead to the next section.

Describe the purpose of this program: NCMCD maintains a very informative website which is updated frequently during the season. It contains fact sheets concerning West Nile virus and EEE virus. It also contains notices and news regarding treatment beginning and end dates and ways to protect yourself from mosquito bites around the home. The website also contains links to the Massachusetts Department of Public Health and the Centers for Disease Control and Prevention (CDC) where residents can find up to date information on arbovirus activity in the county, the state as well as country wide. Our Entomologist participates in educational activities such as classroom activities in the schools and field education activities with summer camp programs as appropriate, as well as health fairs. Employees leave door hangers at residents homes after completing larvicide requests. The hangers highlight actions a resident can do to reduce or eliminate mosquito breeding on their property. Employees conducting ULV have brochures on the ULV program to hand to residents with questions regarding the program. Employees connect to various outside organizations in an effort to better inform the public about what the District does.

What time frame during the year is this method employed? all year

Check off all education/outreach methods that were performed by your program this year:

- Development/distribution of brochures, handouts, etc.
- Door-to-door canvassing (door hangers, speaking to property owners, etc.)
- Facebook page, Twitter, or other social media
- Mailings (Describe target audience(s):)
- Media outreach (interviews for print or online media sources, press releases, etc.)
- Presentations at meetings
- School-based programs, science fairs, etc.
- Tabling at events (local events, annual meetings, etc.)
- Website
- Other (please describe):

Estimate the audience reached this year using the education/outreach methods above:

Comments:

List your program's top 3 education/outreach activities for this year:

1. Website
2. Employee participation at public events
3. Director engagement with Newsprint and radio.

Were you involved in any collaborations with the following partners this year? Provide details below, including a list of technical reports, white/grey papers, journal publications, trade magazine articles, etc:

- Academia

- Another mosquito control district/project
- Another state agency (DCR, DPH, etc.)
- Environmental groups
- Industry

List any training/education your staff received this year:

Please list the certifications and degrees held by your staff: Director - Master of Science (Geology), Field Operations Manager - Bachelor of Science (Biology), GIS Coordinator - Master of Science (Geological Oceanography), Entomologist - Master of Science (Entomology)

Comments: _____

INFORMATION TECHNOLOGY (IT)

Does your program use (check all that apply):

- Aerial Photography
- Databases
- Dataloggers (monitoring for temperature, etc.)
- GIS mapping (Describe: _____)
- GPS equipment
- Smartphones
- Tablets/Toughbooks
- Other (please describe): _____

Describe any changes/enhancements in IT from the previous year:

Describe any difficulties your program had with IT software/equipment this year: The District attempted over the past 2 years to integrate a tablet into ULV operations. The idea was to have tablet that could show an autorotating map for use by drivers. In 2015 we have determined that no tablet that will work with the program will auto-rotate adequately. The ULV data program we are using will not be able to integrate with an iPad tablet at this time, so the purchase of standard Trimble hand held units are in order for 2016.

Comments: _____

REVENUES & EXPENDITURES

Please provide the amounts for your approved budgets for the current, previous, and future fiscal years. Please note if the budget for the next fiscal year is an estimate, or put "n/a" if it is not yet available.

Fiscal Year	Approved Budget
FY 2015	\$1,628,967
FY 2016	\$1,669,691

List each member municipality, along with the corresponding (cherry sheet) funding assessment dollar amount, for the current fiscal year (or provide a web link to this information):

NCMCD Municipality Total Town Assessment

AVON	\$19,391
BELLINGHAM	\$63,013
BRAINTREE	\$89,584
CANTON	\$96,920
DEDHAM	\$67,470
DOVER	\$61,192
FOXBOROUGH	\$74,532
FRANKLIN	\$115,394
HOLBROOK	\$28,384
MEDFIELD	\$61,610
MEDWAY	\$45,703
MILLIS	\$34,828
MILTON	\$80,369
NEEDHAM	\$100,036
NORFOLK	\$46,569
NORWOOD	\$68,854
PLAINVILLE	\$36,526
QUINCY	\$136,068
RANDOLPH	\$57,646
SHARON	\$82,334
STOUGHTON	\$77,797
WALPOLE	\$96,266
WESTWOOD	\$66,682
WEYMOUTH	\$106,107
WRENTHAM	\$62,347
	\$1,775,623

Comments: _____

SERVICE REQUESTS

How many service requests did you receive this season? 7,439

How many were for larviciding? 6,947

How many were for aduaticiding? 492

Was this an increase or decrease over last season? Decrease

Comments:

EXCLUSIONS

How many exclusion requests did you receive this season? 86

Was this an increase or decrease over last season? Increase

Do you have large areas of pesticide exclusion, such as estimated or priority habitats? Yes

If yes, please explain, and attach maps or a web link if possible. Our largest exclusion zone is the Massachusetts Audubon Society's Moose Hill Wildlife Sanctuary in Sharon. NCMCD does not adulticide or larvicide this area. Moose Hill accounts for approximately 11% of the Town of Sharon's wetland area. The towns of Canton and Norfolk have smaller, but still significant Audubon properties that are excluded. All resident exclusion zones are located via parcel maps, geocoding, or field checks, and a 300-foot buffer zone is placed around them. These areas are shown on the field crew ULV maps, along with the written address of the exclusion.

SPECIAL

SPECIAL PROJECTS

Did your program perform any of the following special projects? Check all that apply.

- Inspectional services (inspections at sewage treatment facilities, review of subdivision plans, etc.)

Describe:

- Work with DPW departments or other local or state officials to address stormwater systems, clogged culverts, or other areas identified as man-made mosquito problem areas

Describe: NCMCD is in direct communication with both state DOT and local DPW departments with regard to clogged culverts, general drainage issues, and stormwater systems. NCMCD coordinates with several local DPWs annually to clean outfall areas and drainage pipes and associated drainage ditches of sand and debris that may eventually discharge into adjacent wetlands. Some town departments have assisted NCMCD by bearing the burden of disposing of sands and sediments NCMCD removes from drainage ditches and/or streams. NCMCD has communicated with several Conservation Agents and Planning Board members in recent years relative to review, advice and discussion of stormwater issues.

- Work with groups as described above on long term solutions?

Describe:

- Conduct or participate in any cooperative research or restoration projects?

Describe:

- Participate in any state/regional/national workgroups or panels, or attend any meeting pertaining to the above?

Describe: The Director was invited to be a part of the Massachusetts Pollinator Stewardship Committee.

- Work on any biological control projects, such as enhancement of habitat for native predators, release of predatory fish or invertebrates, etc.?

Describe:

CHILDREN AND FAMILIES PROTECTION ACT (CFPA)

Is your program impacted by the CFPA? Yes

If yes, please explain: Throughout the Districts service area, NCMCD has approximately 225 schools and 250+ day cares that must comply with this law. Each school/day care has been located either through parcel maps, when available, or through geocoding, combined with aerial photography. These properties are excluded from routine applications. The exclusion zones are clearly marked on the ULV route maps that are posted on the districts website in an effort to keep the public informed of the exclusionary status of these areas.

If you have data on compliance rates with the CFPA within your program area, please list here: NCMCD has a GIS layer showing points as locations of schools/day cares, and has a separate GIS layer depicting red lines as the exclusion zones around such properties. These are displayed on ULV notification maps during the ULV season.

Describe any difficulties you have had with the implementation of your program due to the CFPA, please elaborate here:

Comments:

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT PROGRAM

Did your program report any adverse incidents during this reporting period? No

If yes, please list any corrective actions here: _____

GENERAL COMMENTS

Please add any comments here for topics not covered elsewhere in this report: _____