

MASSACHUSETTS MOSQUITO CONTROL

ANNUAL OPERATIONS REPORT



Year Report Covers: 2018 Date of Report: 01/29/2019

Project/District Name: **Northeast Mass. Wetlands Mgmt. Mosquito Control**

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Report prepared by: *Kimberly A. Foss, Robyn Januszewski, and William Mehaffey*

NPDES permit no. **MAG87A028**

If you have a mission statement, please include it here: The Northeast Massachusetts Mosquito Control and Wetlands Management District represents the mosquito control and wetland management interests of those communities that choose to subscribe to its services. The prime directive of the District is to protect its citizens from mosquito-borne diseases by targeting precise, measured, and preemptive responses to specific risks as prescribed by the District's annually-revised "Integrated Pest & Vector Management Plan" (IPVMP). To ensure that our citizens quality of life and regional economy is not severely impacted by abundant pestiferous mosquito outbreaks; strategies targeted to reduce dominant mosquito populations are implemented as prescribed by the District's annually-revised "Best Management Practice" (BMP) plans. BMPs are designed to incorporate the District's environmentally sensitive and cost effective mosquito control strategies with the specific needs and concerns of each member community.

ORGANIZATION SETUP:

Commissioner names:

John W. Morris, CHO; Chairman

Vincent J. Russo, MD, MPH; Vice Chairman

Joseph Giarrusso, Conservation Officer

Paul Seigny, RS, CHO

Rosemary Decie, RS

Superintendent/Director name: Roy Melnick (Executive Director)

Superintendent/Director contact phone number: 978-352-2800

Asst. Superintendent/Director name:

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

Twitter handle: @

Facebook page: <http://www.facebook.com/>

Staffing levels for the year of this report:

Full time: 11

Part time:

Seasonal: 2

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 Roy Melnick, Bettijane Morgan
- ☒ Biologist Robyn Januszewski
- ☒ Educator Kimberly Foss
- ☒ Entomologist Kimberly Foss
- ☒ Facilities William Mehaffey, Roy Melnick, Barry Noone
- ☒ Information technology Robyn Januszewski, Kelsey Liakos (Website Design/Management)
- ☒ Laboratory Kimberly Foss
- ☒ Operations Kimberly Foss, Timothy Hay, Robyn Januszewski, Kelsey Liakos, Ross Mehaffey, William Mehaffey, Barry Noone, Andrew Sheehan, Emily Sullivan and Seasonal Employees: William Montgomery, Jake Greeney
- ☒ Public relations Kimberly Foss, Robyn Januszewski, Kelsey Liakos, William Mehaffey
- ☒ Wetland scientist (Wetlands Project Coordinator) Emily Sullivan
- ☐ Other (please describe)

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

- ☐ 13 Modified wetland equipment (list type) Kassbohrer PB270D "PistenBully" Flail Mower/Grader; Kassbohrer PB270DS "PistenBully" Flail Mower/Grader; Kassbohrer PB270DS "PistenBully" Flail Mower/Grader/Rotary Ditcher; Kassbohrer PB260DW "PistenBully" Dump Body/Grader; Kassbohrer "PistenBully" 100 All-Season Flail Mower; 1987 Bombadier "Muskeg" Backhoe/Dump Body; 1999 LinkBelt 1600 Excavator; 1996 Hudson Spray Trailer; 1996 Rokon all-terrain Motorcycle; 1987 ARGO 8 wheel Amphibious ATV; 2012 Starcraft 14' Aluminum Boat; 2012 Mercury 20hp Outboard Motor; 2012 EZ-Loader Boat Trailer
- ☐ 3 Larval control equipment (list type) Maruyama MD300 Backpack Dusters
- ☐ 6 ULV sprayers (list type) Clarke "Dura Pro" sprayers
- ☐ 18 Vehicles
- Other (please be specific): 1 Leco HD Series D 70001047 (Blower Model: 26-3210) Barrier Sprayer and 1 Leco 1100 (Blower Model: RAI 89D) Barrier Sprayer
- 1 Maruyama MM181 Backpack Mistblower
- 1 Invasive Vegetation Sprayer: Roots ID # 865-105-20) Rears Ag Sprayer S-95-1044
- 3 Hand operated Solo Backpack Sprayers for Invasive Vegetation Control

Comments: n/a

How many cities and towns are in your service area?* 33

Alphabetical list: Amesbury, Andover, Beverly, Boxford, Danvers, Essex*, Georgetown, Groveland, Hamilton, Haverhill, Ipswich, Lynn, Lynnfield, Manchester-by-the-Sea, Marblehead, Merrimac, Methuen, Middleton, Nahant, Newbury, Newburyport, North Andover, Peabody, Revere, Rowley, Salem, Salisbury, Saugus, Swampscott, Topsfield, Wenham, West Newbury and Winthrop

*Subscribes to Northshore Greenhead Fly Program ONLY

Service Area: <https://www.nemassmosquito.org/resident-services/pages/towns-we-serve>

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

Cities/towns added: None

Cities/towns removed: None

***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):** Inspectional services, wastewater and water treatment facility inspections and treatments, greenhead fly control, source reduction, wetlands management and restoration

Comments: The primary vector species of West Nile Virus, Culex pipiens, typically breeds in highly organic waters such as that found in catch basins and retention/detention ponds. The District routinely inspects and treats known breeding areas, and will assess areas of concern as requested by local Boards of Health. Additionally, the District provides inspection services for planned developments upon request to advise on reducing potential mosquito breeding habitat.

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: To reduce larval mosquito populations before adult emergence can occur.

What months is this program active? March-October

Describe the types of areas where you use this program: Fresh and salt water wetlands, stormwater control structures, catch basins and containers

Do you use:

- ☒ **Ground application (hand, portable and/or backpack, etc.)**
- ☒ **Aerial applications**
- ☒ **Other (please list):** Source Reduction

Comments: n/a

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
Fourstar Bti-CRG	85685-4	7.5-20.0 lbs./acre	Hand or Backpack Sprayer	Larvae	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input checked="" type="checkbox"/> Other (please list): saltmarsh	730.29 lbs.
VectoBac G	73049-10	2.5-10.0 lbs./acre	Hand or Backpack Sprayer	Larvae	<input type="checkbox"/> Catch basins <input checked="" type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input checked="" type="checkbox"/> Other (please list): saltmarsh	1,170.84 lbs.
VectoBac 12AS	73049-38	1 qt. / acre	Aerial	Larvae	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input checked="" type="checkbox"/> Other (please list): saltmarsh	1,620 gals.
Altosid WSP	2724-448	1 WSP/catch basin = 7 gm.	Hand	Larvae	<input checked="" type="checkbox"/> Catch basins <input checked="" type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	35,986 pouches = 555.29 lbs.
Altosid XR Briquet	2724-421	1 briquet/catch basin = 1.28 oz.	Hand	Larvae	<input checked="" type="checkbox"/> Catch basins <input checked="" type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	15 briquets = 1.2 lbs.
Fourstar 90-day Briquet	83362-3	1 briquet/catch basin = 20.85 gm.	Hand	Larvae	<input checked="" type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	490 briquets = 22.52 lbs.
VectoMax WSP	73049-429	1 WSP/catch basin = 10 gm.	Hand	Larvae	<input checked="" type="checkbox"/> Catch basins <input checked="" type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	22,533 pouches = 496.71 lbs.

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
Cocobear	8329-93	3 gals/acre	Hand held Sprayer	Larvae/pupae	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	2.53 gals.
				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):	
				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: >1 per 5 dips average
☐ Other (please describe):

Comments: n/a

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

<https://www.nemassmosquito.org/resident-services/pages/towns-we-serve>

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: To reduce adult mosquito populations in response to virus positive mosquito pools and nuisance mosquito complaints

What is the time frame for this program? June through October, weather permitting

Describe the types of areas where you use this program: Streets, recreational areas (per Municipal office request), schools (per Children's Protection Act)

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
Suspend SC	432-763	1.0 fl. oz : 1.0 gal water. 1.0 gal / min.	truck mounted barrier sprayer	102 fl. oz.
Zenivex E4RTU	2724-807	1.0 fl.oz/acre	truck mounted ULV sprayer	107.9 gals.

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

Zenivex E4 RTU: No more than 25 applications per site per year.

Suspend SC: No more than 1 application per site in a two week period.

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

- ☒ Arbovirus data
- ☒ Best professional judgment
- ☒ Complaint calls (Describe trigger for application: 1 or more on street or in neighborhood and/or BOH requests)
- ☐ Landing rates (Describe trigger for application)
- ☒ Light trap data (Describe trigger for application increasing amount of disease carrying vectors)

Comments: ADULTICIDING - Ultra Low Volume

Adulticiding is conducted based on recommendations in the EIR.

ADULTICIDING - Ground Barrier

Applications on School Property: All applications on school property must be in compliance with Massachusetts Children and Families Protection Act.

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

<https://www.nemassmosquito.org/resident-services/pages/towns-we-serve>

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: District personnel coordinate with local municipalities to remove tires at community events, large tire dump sites and tires discarded at road-side and/or wetland sites.

Total Tires Removed in 2018: 465

What time frame during the year is this method employed? January-December

Comments: n/a

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: Maintenance and restoration of both freshwater and salt marsh ditches to increase flow and reduce mosquito breeding habitat.

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	1,250
<input checked="" type="checkbox"/> Hand cleaning	8,988
<input type="checkbox"/> Mechanized cleaning	
<input type="checkbox"/> Stream flow improvement	
<input type="checkbox"/> Other (please list):	

Comments: _____

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

Maintenance Type	Estimate of cumulative length of ditches maintained (ft)
<input type="checkbox"/> Hand cleaning	
<input type="checkbox"/> Mechanized cleaning	
<input checked="" type="checkbox"/> Other (please list): Phragmites australis mowing to allow access for larval treatments	

Comments: n/a

What time frame during the year is this method employed? January-December

Comments: n/a

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

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: Mosquito control through improved hydrology and creation of predator fish access and habitat.

What months is this program active? January-December

Please give an estimate of total square feet or acreage: 0

Comments: Previously constructed/permitted OMWM sites will be reviewed and maintained as necessary and in compliance with current OMWM regulations.

Please attach a map of OMWM areas (or a website link to that map).
http://maps.massgis.state.ma.us/map_ol/oliver.php

Select "available data layers" (right side), open "Coastal and Marine Features", open "Northeast Salt Marsh Projects" and then add layer.

MONITORING (Measures of Efficacy)

Describe monitoring efforts for each of the following:

Aerial Larvicide – wetlands: Salt marsh: Pre and Post dips at up to ten dip stations per participating municipality

Ground ULV Adulticide: Surveillance and supplemental traps set in all member municipalities

Larvicide – catch basins: Random basins in each municipality checked post treatment as needed

Larvicide-hand/small area Pre-treatment dips with >1 larvae present in 5-dip average; post treatment dips as necessary

Open Marsh Water Management:

Source Reduction:

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):

Note 1- Aerial Larvicide- wetlands: Salt marsh, pre and post dips at up to ten dip stations per participating municipality

Note 2- Larvicide-catch basins: post treatment dip counts as needed and/or collection of larvae to be reared.

Note 3- Larvicide-hand/small area: post treatment dip counts as needed

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

Research Project	Details
Bottle assays	
Efficacy testing	See notes above
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: To monitor species, especially vector species for management of populations and testing for arboviruses. From Introduction to "Best Management Plans" and as outlined in our Integrated Pest and Vector Management Plan (IPVMP): The District focus is to collect a representative sample of mosquitoes in a city or town on a regular basis. Historical collection stations are in areas where substantial portions of municipality residents reside to determine arboviral risk. Supplemental trapping is initiated after WNV/EEE positives are detected from historical surveillance trap sites.

What months is this program active? May-October

Check off all trap types used this past season by your program:

Trap Type	Canopy? (check box for yes)	Number of traps (leave blank if zero)
<input type="checkbox"/> ABC light trap	<input type="checkbox"/>	
<input type="checkbox"/> ABC light trap w/CO ₂	<input type="checkbox"/>	
<input type="checkbox"/> CDC light trap	<input type="checkbox"/>	
<input checked="" type="checkbox"/> CDC light trap w/CO ₂	<input type="checkbox"/>	35
<input checked="" type="checkbox"/> Gravid trap		37
<input type="checkbox"/> Landing rate test		
<input type="checkbox"/> NJ light trap	<input type="checkbox"/>	
<input type="checkbox"/> NJ light trap w/CO ₂	<input type="checkbox"/>	
<input checked="" type="checkbox"/> Ovitrap		30+-
<input checked="" type="checkbox"/> Resting box		160
<input type="checkbox"/> Other (please describe):		
<input type="checkbox"/> Other (please describe):		
<input type="checkbox"/> Other (please describe):		

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

If yes, how many:

54

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

- | | |
|--|---|
| <input checked="" type="checkbox"/> <i>Ae. albopictus</i> | <input checked="" type="checkbox"/> <i>Oc. abserratus</i> |
| <input checked="" type="checkbox"/> <i>Ae. cinereus</i> | <input checked="" type="checkbox"/> <i>Oc. canadensis</i> |
| <input checked="" type="checkbox"/> <i>Ae. vexans</i> | <input checked="" type="checkbox"/> <i>Oc. cantator</i> |
| <input checked="" type="checkbox"/> <i>An. punctipennis</i> | <input checked="" type="checkbox"/> <i>Oc. j. japonicus</i> |
| <input checked="" type="checkbox"/> <i>An. quadrimaculatus</i> | <input checked="" type="checkbox"/> <i>Oc. sollicitans</i> |
| <input checked="" type="checkbox"/> <i>Cq. perturbans</i> | <input checked="" type="checkbox"/> <i>Oc. taeniorhynchus</i> |
| <input checked="" type="checkbox"/> <i>Cx. pipiens</i> | <input checked="" type="checkbox"/> <i>Oc. triseriatus</i> |
| <input checked="" type="checkbox"/> <i>Cx. restuans</i> | <input type="checkbox"/> <i>Oc. trivittatus</i> |
| <input checked="" type="checkbox"/> <i>Cx. salinarius</i> | <input checked="" type="checkbox"/> <i>Ps. ferox</i> |
| <input checked="" type="checkbox"/> <i>Cs. melanura</i> | <input type="checkbox"/> <i>Ur. sapphirina</i> |
| <input checked="" type="checkbox"/> <i>Cs. morsitans</i> | |
| <input checked="" type="checkbox"/> Others (please list): Spring pest species: <i>Oc. punctator</i>, <i>Oc. excrucians</i>/stimulans/fitchii complex. | |

Number of adult mosquitoes collected this season (whether submitted to DPH or not): 48,178
 Number of adult mosquito pools collected this season (submitted and unsubmitted): 3,298 non-submitted, submitted and supplemental trap pools
 Number of ovitrap collections this season, if any: 94 egg papers submitted
 Any other trap collections of note (please describe): Ae. albopictus adult female (n=1) was collected in Manchester-by-the-Sea in 2018- EPI week 35.

Do you participate in the MDPH Arboviral Surveillance program? Yes
 Total number of adult mosquito pools submitted to DPH this past season: 547
 How many pools do you submit weekly on average? ~29 (2018=547 pools sent over 19 EPI week season)

Number of traps in your service area **placed by MDPH**: ovitraps (Ae. albopictus) only
 Were these long-term trap sites or supplemental trapping sites? supplemental

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)	18	0	9
<input type="checkbox"/> Other (please list):			

Comments: 2018 data

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-remote	low-remote
WNV	low	moderate-high (see comments)

Comments: WNV: MODERATE RISK: The entire state was raised to moderate risk on 8/21/2018
WNV: HIGH RISK - on 9/7/2018 Lynn, Revere, Saugus and Winthrop

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: The District provides educational outreach on vector-borne disease, personal protection, residential source reduction, storm water management, habitat restoration, invasive species, and environmental science primarily relevant to mosquitoes. This information is made available to schools, civic organizations, not for profit organizations, public access TV, the general public, as well as state, federal and municipal officials upon request or during the course of routine operations. District personnel are available to meet at Government and community meetings (i.e. Conservation Commissions, US

Army Corps, Public Works Departments, Boards of Health, Board of Selectmen or other) to provide information related to all of the above.

The District's new website (www.nemassmosquito.org) went online in February 2017. It provides information about operational strategies, procedures, equipment and materials, links to others including state DPH sites regarding disease/virus information and prevention as well as seasonal activity summaries.

Other Media: The District has various hand-outs, posters, presentations and DVDs which are available to the public upon request.

Outreach Programs: The District creates educational programs tailored to the specific needs of schools, civic organization and public officials.

What time frame during the year is this method employed? January-December

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): Merrimack Valley Planning Commission/DPW meeting presentation, Winthrop BOH/WCAT TV collaborative educational video, Essex County Beekeepers Association meeting presentation.

Estimate the audience reached this year using the education/outreach methods above:
~800,000

Comments: n/a

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

1. Website
2. Property owner outreach
3. Meeting presentations

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 CT. Agricultural Experimental Station - Cx. pipiens genome study and a Powerpoint presentation on Wy. smithii at NMCA 2018 Annual meeting
- ☐ Another mosquito control district/project

- ☒ Another state agency (DCR, DPH, etc.) MA DPH/Winthrop BOH/WCAT TV - Mosquito Documentary
- ☒ Environmental groups Pesticide Environmental Stewardship Program
- ☐ Industry

List any training/education your staff received this year: TRAINING:

All District employees are trained annually in accordance with the Commonwealth's PACE Program. Additionally some of the District's staff have attended the following: ESRI courses, M.U.S.T. Excavation Safety Seminar, Northeastern Mosquito Control Association (NMCA) Annual Meeting, NMCA's Field Day (Safe Pesticide Handling, Personal Protection Equipment, Spill Response, and Understanding the Label and vendor overview of a variety of current mosquito control products and equipment).

Please list the certifications and degrees held by your staff: Various scientific and environmental degrees including: Associates, Bachelors and Masters Degrees and Doctoral level education. District certifications and licensing include: MA Pesticide Core License; Commercial Certification Category 47 (Public Health, Mosquito and Biting Fly), Category 39 (Aquatic Pests) and Category 40 (Right of Way); MA Hoisting Engineer Class 2A and 1C; MA Commercial Driver's license - Class A & B; Massachusetts Trappers Certification.

Comments: n/a

INFORMATION TECHNOLOGY (IT)

Does your program use (check all that apply):

- ☒ Aerial Photography
- ☒ Databases
- ☐ Dataloggers (monitoring for temperature, etc.)
- ☒ GIS mapping (Describe: ArcGis 10.5.1)
- ☒ 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: Slow network speed impedes efficient work flow.

Comments: n/a

REVENUES & EXPENDITURES

Please enter your approved budgets for the current, previous, and future fiscal years.

	Date of Fiscal Year	Approved Budget	Notes

Previous	2018	1,637,226.20	
Current	2019	1,751,183.00	
Future	2020	1,777,453.00	Estimate

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):

https://dls.gateway.dor.state.ma.us/reports/rdPage.aspx?rdReport=CherrySheets.cherrysheetdetail_main

Comments: n/a

SERVICE REQUESTS

How many service requests did you receive this season? 1,625

How many were for larviciding? 39

How many were for adulticiding? 1586

Was this an increase or decrease over last season? Increase

Comments: n/a

EXCLUSIONS

How many exclusion requests did you receive this season? 311

Was this an increase or decrease over last season? Decrease

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. US Fish & Wildlife/Parker River Refuge (Newbury, Rowley, Ipswich), The Trustees of Reservations and MA Audubon

http://www.fws.gov/uploadedFiles/Region_5/NWRS/North_Zone/Parker_River_Complex/Parker_River/ParkerRiverMap.pdf

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: Review of potential site mediation in Revere (3 sites) and Manchester-by-the-Sea (1 site)

- ☒ 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: Coordinate catch basin treatment with local DPW cleaning schedules; inspect and/or treat stormwater systems as requested by member municipality officials

- ☐ 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:

- ☐ 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: Pesticide materials used by the District are required to be listed on a school's IPM plan to allow the District to treat the property. In recent years, the District has been asked by local Boards of Health to spray town fields including school properties for adult mosquitoes, particularly in the event of virus outbreaks.

If you have data on compliance rates with the CFPA within your program area, please list here: The compliance rates for schools with updated IPM plans are as follows: 29.8% of all educational facilities (Public schools, 11.4%; Private schools, 3.8%; Daycare facilities, 14.5%; Family daycare facilities, 0.1%)

Describe any difficulties you have had with the implementation of your program due to the CFPA, please elaborate here: The District is often asked by local Boards of Health to spray town properties, including schools, for adult mosquitoes, particularly during times of virus outbreaks. Schools that do not include mosquito control as part of their IPM plan reduce the District's ability to provide proactive and emergency mosquito control in those municipalities. This may lead to the possibility of increased virus for the surrounding towns and increased costs to the District.

Comments: Comments received from schools include:

1) Schools are unaware of the requirements

- 2) Online forms are challenging for individual school IPM coordinators to complete
- 3) Many schools do not have a dedicated IPM coordinator

The District will continue to reach out and work with the schools in member municipalities to increase the number of schools that include mosquito control as part of their IPM plan.

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: n/a

GENERAL COMMENTS

Please add any comments here for topics not covered elsewhere in this report: For NEMMC District specific Management and Operations details please visit "2019 Integrated Pest and Vector Management Plan" @ https://www.nemassmosquito.org/sites/nemmc/files/pages/2019_ipvmp_final.pdf