MASSACHUSETTS MOSQUITO CONTROL

ANNUAL OPERATIONS REPORT

Year Report Covers: 2024 Date of Report: 01/20/2025

Project/District Name: **Pioneer Valley Mosquito Control District**

Address: 270 Stockbridge Road

City/Town: Amherst Zip: 01003

Phone: 413-545-7136 Fax:

E-mail: john.c.briggs@mass.gov

Report prepared by: ***John Briggs***

NPDES permit no. **MAG870015**

If you have a mission statement, please include it here:

ORGANIZATION SETUP:

Commissioner names:

Jennifer Brown
Jeanne Galloway
Gregory Lewis
Dr. Andrew Lover
Carolyn Ness

Superintendent/Director name: John Briggs
Superintendent/Director contact phone number: 413333-545-7136
Asst. Superintendent/Director name:

District/Project website: http://www.mass.gov/info-details/pioneer-valley-mosquito-control-district-pvmcd
Twitter handle: @
Facebook page: http://www.facebook.com/
Other social media accounts:

Staffing levels for the year of this report:
Full time: 1
Part time:
Seasonal: 1
Other: 1 (please describe) Lab and Field Tech Intern

Of the above, how many are:
(Please check off all that apply, and list employee name(s) next to each category)

☒ Administrative John Briggs
☐ Biologist
☒ Educator John Briggs
☒ Entomologist John Briggs, Alivia Liberty, and James Tsalah
☒ Facilities John Briggs
☒ Information technology John Briggs
☒ Laboratory John Briggs, Alivia Liberty, Emily Ottomaniello, and James Tsalah
☒ Operations
☒ Public relations
☐ Wetland scientist
☒ Other (please describe) GIS: John Briggs and James Tsalah

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

[ ] Modified wetland equipment (list type)
[1] Larval control equipment (list type) Backpack Sprayer
[ ] ULV sprayers (list type)
[2] Vehicles
Other (please be specific):

Comments: _____

How many cities and towns are in your service area?* 24
Alphabetical list: Amherst, Bernardston, Buckland, Chicopee, Deerfield, East Longmeadow, Erving, Gill, Granby, Greenfield, Hadley, Heath, Holyoke, Leyden, Northampton, Northfield, Palmer, Rowe, Shelburne, Shutesbury, South Hadley, Southampton, Sunderland, and West Springfield.

Were there any changes to your service area this year? Yes
Cities/towns added: Erving
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):**

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: To reduce populations of both invasive and vector mosquito species.

What months is this program active? April to September

Describe the types of areas where you use this program: Wetlands, tire piles, and catch basins/storm drains.

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**
FourStar Bti CRG	85685-4	7.5 lbs per acre	Backpack and Hand	Larvae	☐ Catch basins ☒ Containers ☒ Wetland ☐ Other (please list):	28.45 lbs
FourStar 90-Day Briquets	83362-3	1 per basin	hand	Larvae	☒ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	800 briquets
FourStar 45-Day Briquets	83362-3	1 per basin	han	Larvae	☒ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	1,487 briquets
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	

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**
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ 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: 5 larvae per 10 dips
☐ 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 an adult mosquito control program, please fill out the section below, else skip ahead to the next section.

Describe the purpose of this program:

What is the time frame for this program?

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**

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

What is your trigger for adulticiding operations? (check all that apply)
☐ Arbovirus data
☐ Best professional judgment
☐ Complaint calls (Describe trigger for application:)
☐ Landing rates (Describe trigger for application)
☐ Light trap data (Describe trigger for application)
Comments: _____

Please attach maps of your service areas (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:

What time frame during the year is this method employed?

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:

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

Maintenance Type	**Estimate of cumulative length of culverts, ditches, swales, etc. maintained (ft)**
☐ Culvert cleaning	
☐ Hand cleaning	
☐ Mechanized cleaning	
☐ Stream flow improvement	
☐ Other (please list):	

Comments: _____

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

Maintenance Type	**Estimate of cumulative length of ditches maintained (ft)**
☐ Hand cleaning	
☐ Mechanized cleaning	
☐ Other (please list):	

Comments: _____

What time frame during the year is this method employed?

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: _____

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:

Ground ULV Adulticide:

Larvicide – catch basins:

Larvicide-hand/small area Pre and post treatment data are collected

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):
Larval habitat treated during the season are monitored by collecting both pre and post treatment data. All data are entered into the QField App and stored via QField Cloud. Data are analyzed to determine efficacy of treatments.

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: To monitor and assess populations of vector mosquito species and the prevelence of arboviruses.

What months is this program active? April - November

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)
☐ ABC light trap	☐	
☐ ABC light trap w/CO_2	☐	
☐ CDC light trap	☐	
☒ CDC light trap w/CO_2	☐	24-30 per week
☒ Gravid trap		24-34 per week
☐ Landing rate test		
☐ NJ light trap	☐	
☐ NJ light trap w/CO_2	☐	
☐ Ovitrap		
☒ Resting box		2 rotated througout the season.
☒ Other (please describe): CDC with BG Lure		3 rotated throughout the season.
☐ Other (please describe):		
☐ Other (please describe):		

Do you maintain long-term trap sites in any of your areas? Yes
If yes, how many:

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

☒ *Ae. albopictus*
☒ *Ae. cinereus*
☒ *Ae. vexans*
☒ *An. punctipennis*
☒ *An. quadrimaculatus*
☒ *Cq. perturbans*
☒ *Cx. pipiens*
☒ *Cx. restuans*
☒ *Cx. salinarius*
☒ *Cs. melanura*
☐ *Cs. morsitans*
☐ Others (please list):

☒ *Oc. abserratus*
☒ *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? 36
Total number of adult mosquito pools submitted to DPH this past season: 612
Number of adult mosquito pools collected but not submitted to DPH ("Unsubmitted"): 1485

Total number of adult mosquitoes submitted to DPH this past season: 12328
Number of adult mosquitoes collected this season but not submitted to DPH: 18066

Number of ovitrap collections this season, if any:
Any other trap collections of note (please describe):

Number of traps in your service area **placed by MDPH**: Varies across Franklin, Hampden, and Hampshire Counties and is based on need.
Were these long-term trap sites or supplemental trapping sites? both

Which arboviruses were found in your area during this past mosquito season? Enter the number of positive pools and/or cases below:

Arbovirus	Positive Mosquito Pools	Equine Cases	Human Cases
☐ Eastern Equine Encephalitis (EEE)			
☒ West Nile Virus (WNV)	6	0	2
☐ 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	Low	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: Education/outreach is a key aspect of the District's objectives to reduce arbovirus risk across Franklin, Hampden, and Hampshire Counties. Engaging with the public provides us with the opportunity to educate people about mosquitoes and the diseases they carry, source reduction, and what people can do to protect themselves and reduce the risk of illness.

What time frame during the year is this method employed? Year round

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 past year:

1. Incidental interations with the public while conducting arbovirus surveillance
2. Presentations at LBOHs and regional health groups
3. Weekly reports distibuted to member community contacts

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 JCV research with NEWEC
☒ Another mosquito control district/project Trained and worked with field crews sampling Cs. melanura habitat.
☒ Another state agency (DCR, DPH, etc.)
☐ Environmental groups
☐ Industry

List any training/education your staff received this year: NMCA Annual Meeting, NMCA Field Day, and MDAR Invasive Species Webinar

Please list the certifications and degrees held by your staff: John Briggs, B.S. in Environmental Science.

Comments: _____

INFORMATION TECHNOLOGY (IT)

Does your program use (check all that apply):
☒ Aerial Photography
☒ Databases
☐ Dataloggers (monitoring for temperature, etc.)
☒ GIS mapping (Describe: QGIS and QField)
☒ GPS equipment
☒ Smartphones
☒ Tablets/Toughbooks

☐ Other (please describe):

Describe any changes/enhancements in IT from the previous year: App/widget created to collect larviciding data with QField.

Describe any difficulties your program had with IT software/equipment this year:

Comments: _____

REVENUES & EXPENDITURES

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

	Date of Fiscal Year	Approved Budget	Notes
Previous	FY24	97,000	Reflects revenue generated.
Current	FY25	118,258.76	Reflects revenue generated.
Future	FY26	126,554.81	Reflects projected revenue and is yet to be approved.

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):
PVMCD member communities are required to appropriate $5,000 annually for membership. The following communites approved additional appropriations for arbovirus mitigation services: Amherst - $3,033.00, Deerfield, $2,800.18, South Hadley - $3,049.00, Northampton - $11,800.00, and West Springfield - $531.00.

Comments: _____

SERVICE REQUESTS

How many service requests did you receive this season? 2
How many were for larviciding? 2
How many were for adulticiding?

Was this an increase or decrease over last season? Increase

Comments:

EXCLUSIONS

How many exclusion requests did you receive this season? 64

Was this an increase or decrease over last season? Increase

Do you have large areas of pesticide exclusion, including priority habitat? Yes

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:

- ☐ 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: Per the CFPA, any pesticides used for outdoor larval treatments on school properties must be listed the schools' outdoor IPM plan. Most schools across Franklin, Hampden, and Hampshire Counties do not include products used to control larval mosquito populations on their outdoor IPM plans. MassNRC.org is utilized to find information regarding IPM plan contacts and compliance.

If you have data on compliance rates with the CFPA within your program area, please list here:

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: _____