

State Reclamation and Mosquito Control Board 2018 Annual Report

STATE AGENCY MEMBERS:

Taryn LaScola-Miner, designee Commissioner John Lebeaux, DAR

Gary Gonyea, designee Commissioner Martin Suuberg, DEP

Jim Straub, designee Commissioner Leo Roy, DCR

STAFF:

Juan Carlos Gutierrez, Operations Coordinator

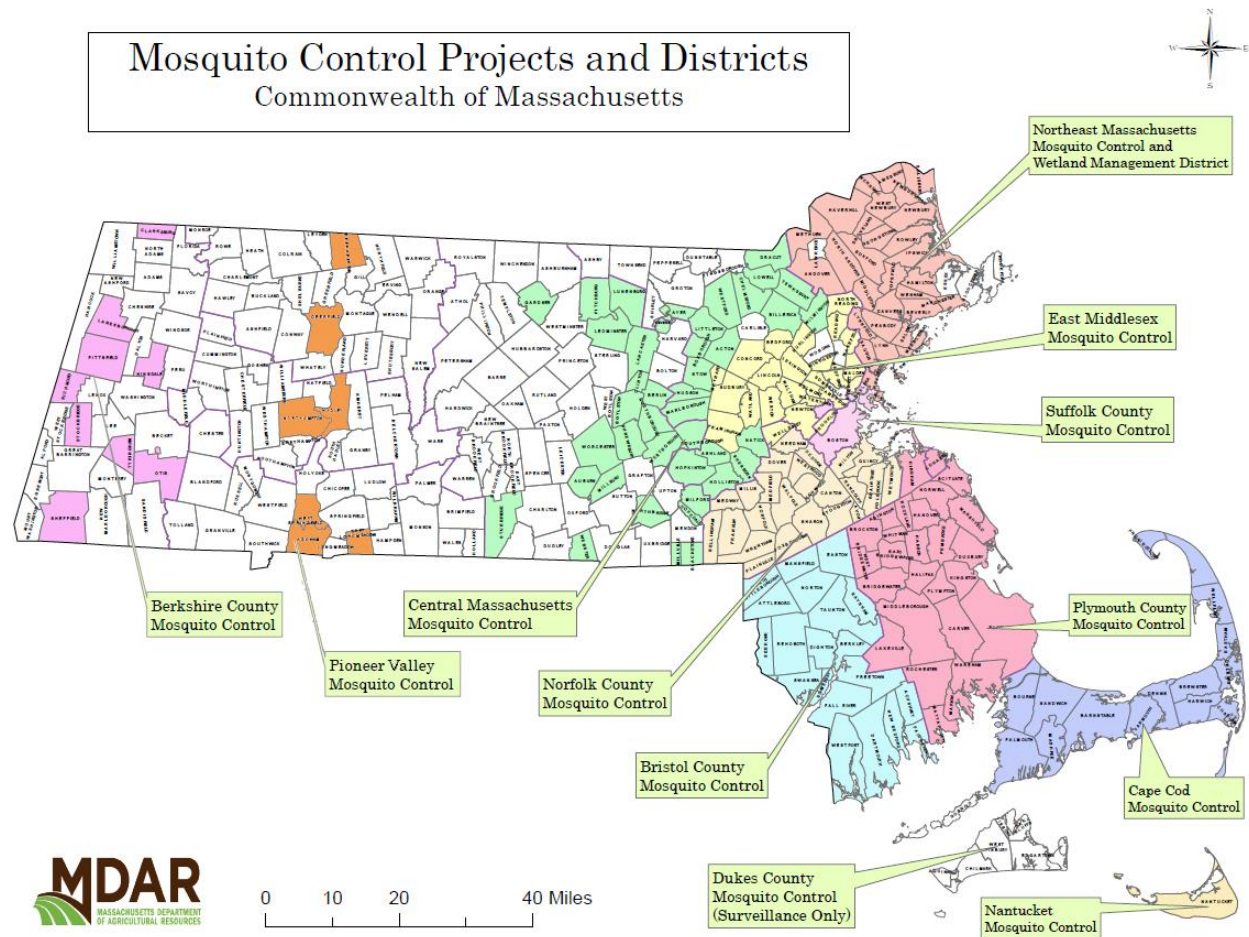
Jennifer Forman Orth, Environmental Biologist

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Mosquito Control Districts/Projects, and Member Municipalities

There are currently 12 regional mosquito control districts/projects in the Commonwealth that cover 214 (61%) of the state's 351 municipalities. All but Nantucket Mosquito Control provided surveillance or mosquito control services in 2018.



For a full list of member communities, see <https://www.mass.gov/service-details/mosquito-control-projects-and-districts>

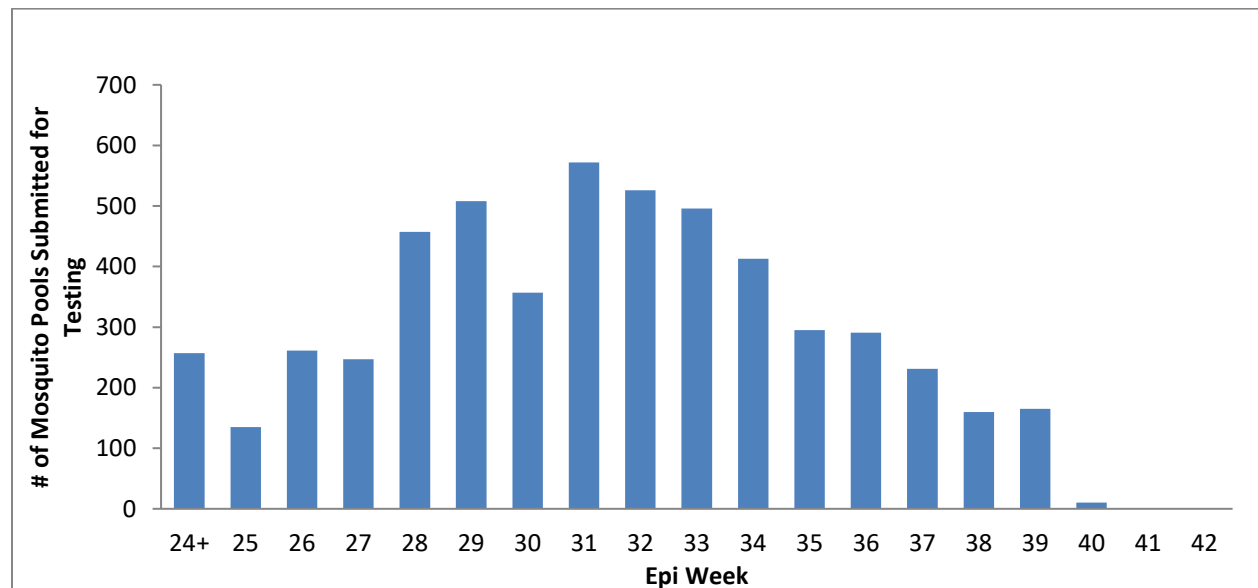
2018 Mosquito Control Season

Over the course of the 2018 season, the districts/projects collected over 546,000 mosquitoes from surveillance traps, a significant increase over 2017, in part due to the city of Worcester joining the Central Mass. MCP. More than 139,000 of these (about 5051 pools) were submitted for arbovirus testing. See the table below for details:

| Mosquito Control District/Project/Area* | Total pools collected | Total pools submitted for testing | Total mosquitoes collected | Total mosquitoes submitted for testing |
|---|-----------------------|-----------------------------------|----------------------------|--|
| Berkshire | 1138 | 408 | 43282 | 16367 |
| Bristol | 2157 | 508 | 44481 | 13658 |
| Cape Cod | 1452 | 324 | 41225 | 9218 |
| Central | 5470 | 1964 | 100907 | 48745 |
| Martha's Vineyard | 10 | 10 | 95 | 95 |
| East Middlesex | 1840 | 171 | 79243 | 5165 |
| Norfolk | 3668 | 233 | 83700 | 7612 |
| Northeast | 3389 | 546 | 48722 | 7788 |
| Pioneer Valley | 763 | 362 | 19753 | 12042 |
| Plymouth | 1883 | 453 | 84614 | 17723 |
| Suffolk | 707 | 72 | 18390 | 1572 |
| | | | | |
| TOTAL | 22477 | 5051 | 564412 | 139985 |
| AVERAGE | 2043 | 459 | 51310 | 12726 |

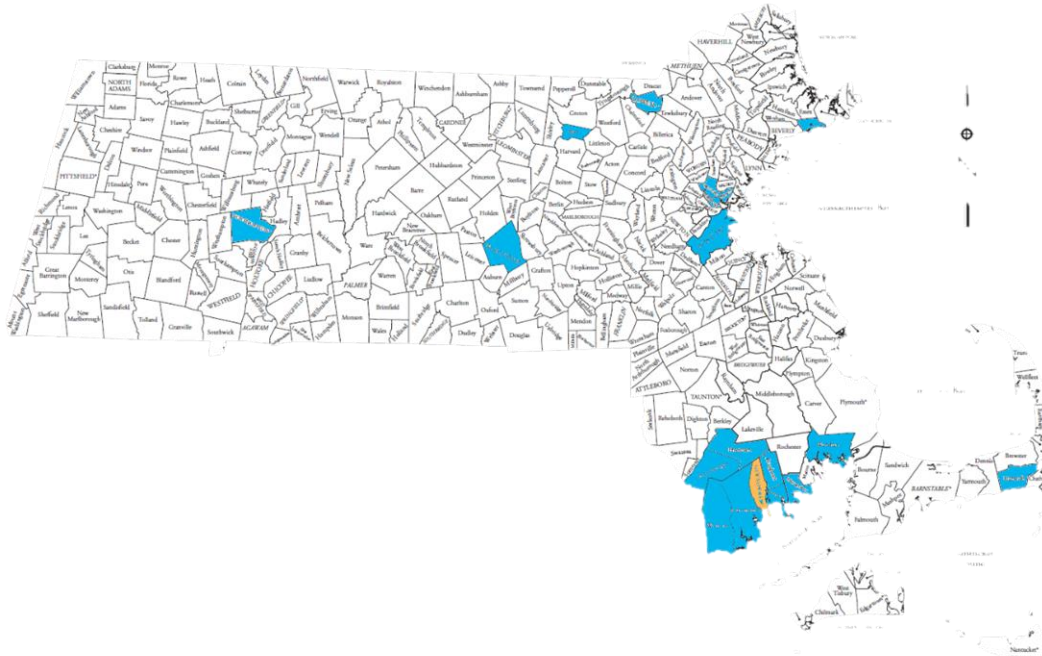
* Information for Nantucket was not provided.

Total number of mosquito pools submitted, by Epi Week. Epi Week 24 began 6/10/2018 and Epi Week 40 ended 10/6/2018 (includes supplemental testing done by DPH):



Asian Tiger Mosquito (ATM)

Asian tiger mosquito (*Aedes albopictus* or ATM) continued to be under close scrutiny in 2018. Surveillance detected this species in 4 new municipalities: Freetown (Bristol County), Harwich (Barnstable County), Manchester-by-the-Sea (Essex County), Medford (Middlesex County). An updated map is below. Bristol County MCP has continued their treatment efforts in New Bedford and has seen a decrease in population levels, with only 335 adult ATMs collected in Bristol County in 2018.



Mosquito Management

Aerial adult mosquito control operations by aircraft were not necessary during 2018 (the last aerial adulticiding operation was in 2012). The districts/projects were able to keep mosquito populations suppressed (and arbovirus load low enough) using standard techniques of larviciding, accompanied by ULV spraying of adulticide in response to finds of arbovirus-positive mosquitoes. Several districts/projects also provided ULV-spraying to property owners by request. In 2018, the majority of districts that take larviciding and adulticiding requests saw an increase in those service requests vs. 2017 and 2016, a reflection of increased mosquito populations and arbovirus activity across most of the state (though it should be noted that the Northeast and East Middlesex saw a decrease in pool submissions).

Some districts/projects also performed ditch maintenance and other water body management techniques proven to reduce mosquito-breeding habitat, including clearing brush, removing debris from In 2018, 9 districts performed freshwater management (over 672,000 linear feet managed), and 5 performed salt water management (about 62,000 linear feet managed), a decrease over 2017 numbers.

The Catch Basin Applicator Permit Program, put in place in 2015, allows government employees (state, city or town) to apply for a permit to use MDAR-registered dry formulation mosquito larvicides in storm drains and catch basins, provided the employees are working under the supervision of a certified or licensed pesticide applicator. There were 10 active permits for the 2018 season, including 1 person who signed up for the exam in 2018, and 9 renewals.

Arbovirus Detections

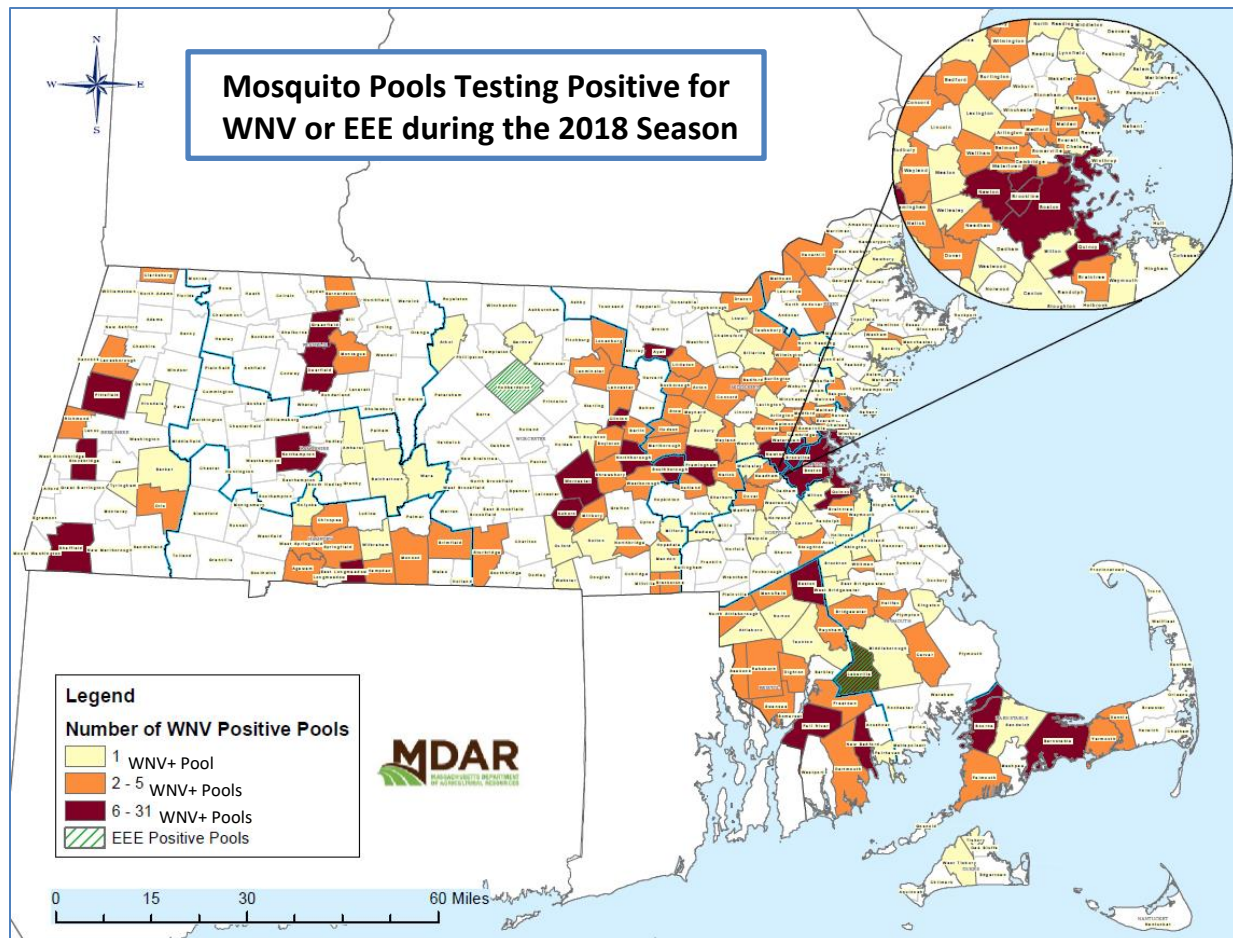
The first 2 WNV+ mosquito pools of 2018 were found in Norfolk County (Weymouth) and Worcester County (Hopedale) during Epi Week 25, in *Culex pipiens/restuans*. WNV activity was at record levels, with 579 positive mosquito pools, 2 animal cases, and at least 38 human cases. In contrast, it was another very quiet season for EEEv, with only two detections, one during Epi Week 38 in Plymouth County (Lakeville), and one in Epi Week 39 in Worcester County (Hubbardston). Both detections were in *Culiseta melanura*. There were no human cases of EEEv.

Mosquito testing and arbovirus levels, 2018-2012*:

| Year | # Pools Submitted | # WNV+ | # EEEv+ | Total Mosquitoes Submitted for Testing | % pools WNV+ | % pools EEEv+ |
|------|-------------------|--------|---------|--|--------------|---------------|
| 2018 | 5917 | 579 | 2 | 170,568 | 9.8% | 0.03% |
| 2017 | 5381 | 290 | 1 | 154,284 | 5.4% | 0.02% |
| 2016 | 6386 | 189 | 4 | 186,947 | 3% | 0.06% |
| 2015 | 4527 | 164 | 1 | 137,253 | 4% | 0.02% |
| 2014 | 5038 | 56 | 33 | 132,776 | 1% | 0.7% |
| 2013 | 6090 | 335 | 61 | 171,390 | 5.5% | 1% |
| 2012 | 6746 | 305 | 262 | 150,565 | 4.5% | 4% |

*This table has been updated to reflect the latest numbers from the DPH database, and counts may be off slightly for reports from previous years or the weekly reports from MDAR or DPH.

Below is a map showing all WNV+ and EEE+ mosquito pools found in 2018:



Communications

In November 2018, the Pioneer Valley Mosquito Control District (PVMCD) and DPH entered into an Interdepartmental Service Agreement (ISA), the purpose of which was for DPH to provide services to PVMCD such as mosquito surveillance and testing, data collection, mapping and reporting.

FY18 (July 2017 – June 2018) and FY19 Budget (July 2018 – June 2019)

The FY18 budgets for the 9 regional programs plus the SRB Administrative Fund totaled \$12,777,031, an increase of about 4% over FY17. The total FY19 budgets were \$13,516,346, an increase of 5.5%, with increases per program ranging from 3% to 9%.

The following table indicates the FY18 and FY19 budget amounts certified by the SRMCB:

| District | FY2018 SRMCB Certified Budget | FY2019 SRMCB Certified Budget | % Change |
|-----------------|--------------------------------------|--------------------------------------|-----------------|
| Berkshire | \$253,031 | \$267,914 | 5.6% |
| Bristol | \$1,416,734 | \$1,473,403 | 3.8% |
| Cape Cod | \$2,161,745 | \$2,300,565 | 6.0% |
| Central Mass | \$2,266,843 | \$2,492,984 | 9.1% |
| East Middlesex | \$722,795 | \$755,120 | 4.3% |
| Norfolk | \$1,762,776 | \$1,824,473 | 3.4% |
| Northeast | \$1,637,226 | \$1,751,183 | 6.5% |
| Plymouth | \$1,770,648 | \$1,832,621 | 3.4% |
| Suffolk | \$273,221 | \$281,418 | 2.9% |
| SRB Admin | \$505,811 | \$536,665 | 5.7% |
| Total: | \$12,770,830 | \$13,516,346 | 5.5% |

The Pioneer Valley MCD did not certify a budget for FY19, but did receive grants and supplemental funding from the Community Compact Cabinet and DPH. The Dukes County Mosquito Surveillance Program, whose budget is not certified by the SRB, had a FY2018 budget of \$6201. Their FY2019 budget was not available at the time this report was published. Full versions of the SRMCB annual reports, as well as the annual operational reports for each district/project, are archived at <https://www.mass.gov/state-reclamation-and-mosquito-control-board-annual-reports>