

COMMONWEALTH OF MASSACHUSETTS
STATE RECLAMATION & MOSQUITO CONTROL BOARD

CENTRAL MASSACHUSETTS MOSQUITO CONTROL PROJECT
est. 1973



EXECUTIVE SUMMARY
2004

January 2005

CMMCP MISSION STATEMENT

The objective of the Central Massachusetts Mosquito Control Project (CMMCP) is to attain an efficient, economic mosquito control operation which will provide the best results possible and be consistent with all ecological aspects and the best interests of the member towns.

Our goal is to reduce mosquito exposure to the public, and the potential for disease transmission by mosquitoes, by utilizing proven, sound mosquito control techniques. CMMCP believes the best way to accomplish this task is by practicing an Integrated Pest Management (IPM) approach as it relates to mosquito control in Massachusetts. IPM utilizes a variety of control techniques and evaluation procedures. Control efforts are undertaken only after surveillance data has been collected and analyzed. Training, experience and common sense dictate our response in any given situation.

It is our desire and responsibility for this Project to have the best mosquito control for the communities that we serve.

INTRODUCTION:

The Central Massachusetts Mosquito Control Project currently provides its services to 36 cities and towns throughout Middlesex and Worcester Counties. The Project's headquarters is located at 111 Otis Street, Northboro, MA. Please call (508) 393-3055 during business hours for information. Seventeen (17) full time and three (3) summer interns were employed at CMMCP in 2004. This the year we received a total of six thousand, five hundred and seventy three (6,573) requests for service from town residents and officials. A map of our service area is on page 5.

EDUCATION:

The Mosquito Awareness Program which we offer to elementary schools and other civic organizations in our district has become very popular. Project staff meets with students, teachers or residents to discuss mosquito biology, mosquito habitat, and control procedures. Much of the presentation is directed towards what can be done to prevent mosquitoes from breeding around their homes. This program is tailored to meet the needs of the specific audience. One thousand, eight hundred and forty four (1,844) students and/or residents attended these programs in 2004. Educational pamphlets are available to anyone interested in learning about mosquito control and the services provided by the Project, and these items are routinely stocked in member Town/City Halls and libraries. Display boards with information on our program are rotated through area Town/City Halls throughout the year. We also have a website at www.cmmcp.org that has extensive information on mosquito biology, our control procedures, products we use, etc.

WETLAND RESTORATION:

As part of our effort to reduce the need for pesticides we continue to place great emphasis our wetlands restoration program. By cleaning clogged, degraded and overgrown waterways, mosquito breeding from that area can be reduced or eliminated and drainage areas are restored to historic conditions. Five thousand and nine (5,009) culverts were cleaned in an attempt to eliminate unnecessary standing water and reduce mosquito breeding. This work was done in conjunction with cleaning, clearing, and digging of one hundred and thirty four thousand, nine hundred and fifty one (134,951) feet of streams, brooks and ditches. This represents almost twenty five and one-half (25½) miles of waterways which were cleaned and improved by Project personnel in 2004. Three (3) ponds were reclaimed in 2004 resulting in seven thousand, sixty four (7,064) square feet of pond area restored. Our staff was complemented this year by the addition of a Wetland Project Coordinator, whose full time duties are dedicated solely to this area of our program. In 2004, the Wetland Project Coordinator looked at over 130 sites, out of which 110 were surveyed. Sixty-eight percent (68%) of the jobs were brought to the attention of the Project through resident phone calls. Of the remaining sites, sixteen percent (16%) were called in by town officials, and sixteen percent (16%) were identified by CMMCP staff.

ARBOVIRUS CONTROL:

As part of our West Nile Virus (WNV) prevention program, thirty thousand, seven hundred and sixty one (30,761) catch basins were treated with larvicidal product to control the mosquitoes that seek out these cool dark wet areas to breed, including the *Culex* species of mosquito, a major target for West Nile Virus transmission. We identify priority areas in each town and treat the basins in these selected areas to reduce the emergence of this arbovirus. The priority areas are as follows: Prior year WNV activity; senior centers & over 55 housing developments; recreation areas; schools; neighborhoods (higher density first); industrial areas. No WNV was detected in our service area in birds, humans or horses this year.

MOSQUITO SURVEILLANCE:

The Project's surveillance program monitors adult mosquito and larval population density, and is the backbone for prescribing various control techniques. Specialized mosquito traps are deployed throughout the Project's service area to sample for adult mosquitoes that may be transmitting mosquito-borne diseases. In conjunction with the Mass. Dept. of Public Health, we sample in areas suspected of harboring WNV, EEE and other mosquito-borne viruses. One thousand and thirty (1,030) pools (collections) of mosquitoes totaling eight thousand, two hundred and eighty (8,280) specimens were tested for mosquito-borne viruses this year, and two (2) pools of the species *Culiseta melanura*, one each in Billerica and Wilmington, were confirmed to be infected with the EEE virus late in the season. Two (2) horses in these towns were confirmed with EEE but no human cases were reported. No West Nile Virus was reported in birds, mosquitoes, horses or humans in 2004. Three (3) full time employees were hired for the summer to assist our Staff Entomologist in his duties. A table with the 2004 arbovirus information for our service area as well as the statewide results is included on page 5. Adult mosquito surveillance began in May and concluded in mid-October.

LARVAL MOSQUITO CONTROL:

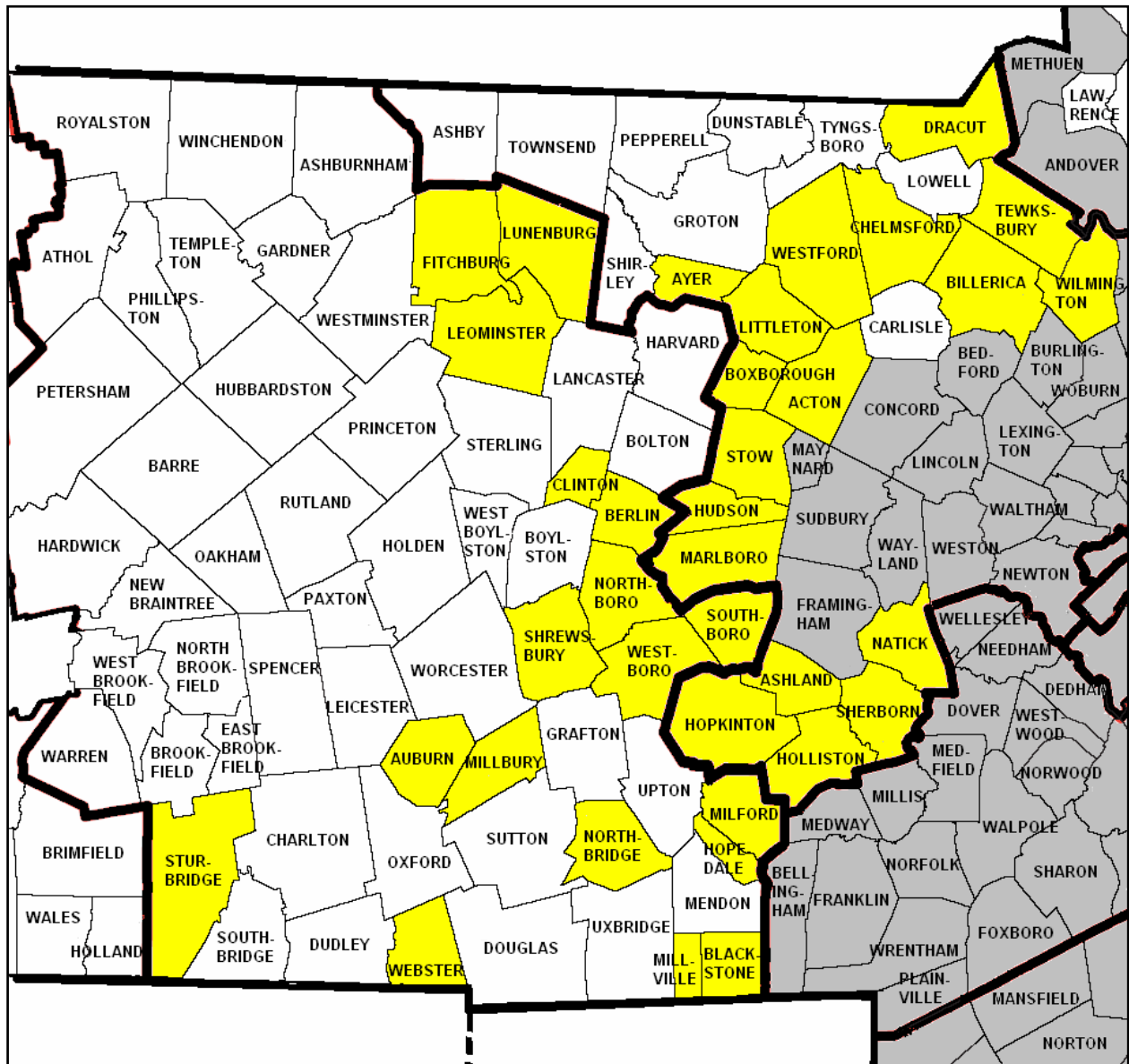
Bti (*Bacillus thuringiensis* var. *israelensis*) mosquito larvicide is a species specific, non-reproducing bacterium and is used to treat areas where mosquito larvae are found. Our field crews will investigate areas we have databased and treat the area only if surveillance gathered at the time shows an imminent threat of mosquito emergence. A total of over six thousand (6,000) pounds of Bti was applied by helicopter in 2 towns, Chelmsford & Billerica, and five thousand, five hundred and ninety two (5,592) pounds were applied by hand throughout our service area to area wetlands to reduce the emergence of adult mosquitoes. This represents over two thousand, three hundred and eighteen (2,318) acres of wetland that was treated with this mosquito-specific product, significantly reducing adult mosquito populations in these areas. Seven hundred and seventy six (776) requests for this service were received, and we have several thousand areas catalogued that are checked and treated (if necessary) on a routine basis. Larval control began in March and continued throughout the month of September.

ADULT MOSQUITO CONTROL:

Our goal is to manage all mosquito problems with education, wetlands restoration or larviciding, but we recognize that there are times when adult mosquito spraying is the only viable solution. In such cases specific areas are treated with either hand-held or pickup truck mounted sprayers if surveillance gathered at the time exceeds a pre-determined threshold to warrant an application. This program is offered on a **request-only** basis, and the exclusion process under CMR 10.03 (21A) allows residents and/or town officials to exclude areas under their control from this or any part of our program. Five thousand, seven hundred and ninety eight (5,798) requests for this service were responded to by CMMCP field crews for a total of one hundred and ten thousand and thirty (110,030) acres treated with a low residual product called *resmethrin*. We apply this product at the lowest label rate of .001 pounds of active ingredient per acre (lb ai/A). One thousand, seven hundred and fourteen (1,714) landing counts were performed by Project field staff as additional surveillance or prior to the application of resmethrin to confirm that pre-determined thresholds of mosquitoes were exceeded to warrant an application. Adult control began in early June and ended in mid-September with the onset of low nighttime temperatures, reduced service requests and low mosquito population density.

CMMCP SERVICE AREA

2004



LEGEND:
Yellow towns are in the CMMCP service area; **gray** towns are in other mosquito control districts; **white** towns do not belong to a program at this time.

No new towns joined the CMMCP service area in 2004. Inquiries from town officials regarding membership have been received and the Executive Director has attended many informational meetings on behalf of CMMCP. Since 2001 Sturbridge, Webster, Northbridge, Hopkinton, Acton, Millville and Auburn joined CMMCP.

2004 SUMMARY TOTALS

NOTE: A full report of our work done in 2004 is sent to most town Boards and Committees, and is also available on our website in its entirety.

Service Requests	Bti Lbs.	Bti Acres	Scourge Gallons	Scourge Acres
6,573	11,592	2,318	426	110,030

Mosquito Pools Sent to MDPH	Landing Counts	Culverts Cleaned	Restoration Footage	Catch Basins Treated
1,030	1,714	5,009	134,951	30,761

ARBOVIRUS SUMMARY 2004

WNV Surveillance Summary – Statewide	
Dead Birds Reported	1,688
Birds Submitted for Testing	106
Birds Tested	86
Birds Positive	8
Mosquito Pools Positive	15
Horses Positive	0
Humans Positive	0
EEE Surveillance Summary – Statewide	
Mosquito Pools Positive	39
Horses Positive	7
Humans Positive	4
NOTE: An emu from Essex County and an alpaca from Middlesex County tested positive for EEE in 2004.	
CMMCP Surveillance Summary	
Mosquito Pools Submitted	1,030
# Mosquitoes Tested (total)	8,280
Mosquito Pools Positive WNV	0
Horses Positive WNV	0
Humans Positive WNV	0
Pools Positive EEE	2 (Billerica & Wilmington, <i>Cs. melanura</i>)
Horses Positive EEE	2 (Billerica & Wilmington)
Humans Positive EEE	0

Town	Service Requests	Bti Pounds	Bti Acres	Scourge Gallons	Scourge Acres	Catch Basins	Mosquito Pools	Landing Counts	Culverts Cleaned	Restoration Footage
Acton	333	67.0	13.4	12.25	3,162	800	21	55	219	2,595
Ashland	182	57.5	11.5	8.25	2,130	1,005	20	50	104	5,690
Auburn	16	389.0	77.8	1.25	323	1,408	31	7	117	2,490
Ayer	38	52.0	10.4	3.75	968	402	21	14	159	3,180
Berlin	35	126.5	25.3	4.75	1,226	347	16	35	114	4,035
Billerica	590	3,150.5	630.1	44	11,358	1,020	74	137	150	8,710
Blackstone	50	225.5	45.1	5	1,291	668	27	29	92	3,608
Boxboro	78	124.0	24.8	8.5	2,194	431	21	23	146	1,905
Chelmsford	325	3,219.0	643.8	20.75	5,356	1,200	29	87	124	4,955
Clinton	48	50.0	10.0	4.75	1,226	400	15	17	93	2,985
Dracut	254	110.0	22.0	30.5	7,873	810	15	70	249	2,440
Fitchburg	9	57.0	11.4	5.25	1,355	1,502	20	5	178	8,330
Holliston	229	184.0	36.8	10.25	2,646	1,017	19	50	144	2,535
Hopedale	20	55.5	11.1	1.25	323	544	22	12	28	3,545
Hopkinton	358	171.5	34.3	12	3,098	800	69	57	215	2,500
Hudson	172	143.5	28.7	19.5	5,034	1,206	22	45	190	2,585
Leominster	44	76.5	15.3	7	1,807	1,200	14	21	178	3,635
Littleton	80	70.0	14.0	6	1,549	795	21	40	61	3,140
Lunenburg	54	43.0	8.6	6.25	1,613	567	16	21	199	2,610
Marlboro	130	230.5	46.1	11	2,839	1,205	22	48	97	4,386
Milford	77	111.5	22.3	5.25	1,355	1,607	17	46	165	3,200
Millbury	55	209.0	41.8	6.5	1,678	625	14	26	117	2,770
Millville	43	291.5	58.3	4.25	1,097	272	28	23	125	2,298
Natick	380	232.0	46.4	12	3,098	1,285	20	60	93	5,820
Northboro	223	250.5	50.1	12	3,098	1,002	21	61	85	3,495
Northbridge	30	220.0	44.0	4	1,033	896	21	23	87	9,080
Sherborn	90	149.0	29.8	5.25	1,355	600	16	63	117	2,600
Shrewsbury	229	202.0	40.4	11	2,839	1,200	35	55	137	2,520
Southboro	145	141.0	28.2	7.5	1,936	999	23	45	83	4,645
Stow	228	82.0	16.4	15	3,872	649	33	44	182	3,234
Sturbridge	36	191.0	38.2	3	774	384	33	33	164	2,725
Tewksbury	610	141.0	28.2	40	10,325	1,200	47	130	153	6,015
Webster	30	301.0	60.2	4	1,033	640	27	21	115	2,555
Westboro	201	176.0	35.2	12	3,098	0	114	53	159	3,140
Westford	515	174.0	34.8	28.25	7,292	875	18	99	204	2,615
Wilmington	636	118.0	23.6	34	8,776	1,200	48	109	166	2,380
Totals	6,573	11,592	2,318	426	110,030	30,761	1,030	1,714	5,009	134,951