



**2016 Annual Report
Town of Windsor
Mosquito Control Program**



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**Town of Windsor
Mosquito Management Operations**

Annual Report For 2016

Table of Contents

	Page
PROGRAM OBJECTIVES	3
CMC'S COMMITMENT	3
2016 SEASON PERSPECTIVE CLIMATE COMPARISON DATA	4
WEST NILE VIRUS SEASON WNV ACTIVITY BY STATE (2016 HUMAN CASE MAP) UNITED STATES AND COUNTY (2016 HUMAN CASE MAP) COLORADO MAP (2016 HUMAN CASE REPORTS)	5
LARVAL MOSQUITO CONTROL LARVAL SITE INSPECTIONS & TREATMENTS IN THE TOWN OF WINDSOR LARVAL ACREAGE TREATMENTS IN THE TOWN OF WINDSOR LARVICIDE PRODUCT APPLICATION BY TYPE	7
CMC SURVEILLANCE LABORATORY CDC LIGHT TRAP COMPOSITE SUMMARY FOR TOWN OF WINDSOR 2016 CDC LIGHT TRAP COMPOSITE SUMMARY FOR LARIMER COUNTY 2016 CSU/CDPHE WEST NILE VIRUS MOSQUITO SAMPLE TESTING RESULTS	10
ADULT MOSQUITO CONTROL SEASON DETAILS ADULT MOSQUITO CONTROL APPLICATION REPORT FOR WINDSOR 2016	14
PUBLIC RELATIONS AND EDUCATION MOSQUITO LINE CALLS IN THE TOWN OF WINDSOR	15
APPENDIX 1. TOWN OF WINDSOR INDIVIDUAL LIGHT TRAP SUMMARIES 2016 2. ADULT MOSQUITO SURVEILLANCE LIGHT TRAP GENUS SUMMARIES 2016 3. ADULT SAMPLE POOL TEST RESULTS FOR WEST NILE VIRUS POSITIVE LOCATIONS 4. TOWN OF WINDSOR ADULTICIDE APPLICATION DATA	17

Program Objectives

Colorado Mosquito Control, LLC (CMC) completed its 14th year of cost-effective Integrated Mosquito Management (IMM) for The Town of Windsor in 2016. The primary objective of Windsor's IMM Program is to monitor and reduce mosquito populations through the use of specific, environmentally sound, control techniques in order to protect its residents from the threat of mosquito-borne diseases. CMC prioritizes the detection and elimination of larval mosquitoes in aquatic habitats, in conjunction with the monitoring of adult mosquito populations through routine surveillance, in order to assess West Nile virus vector species abundance in the area.

Open communication is maintained by CMC between the HOA Residents, Property Management Companies, the Weld and Larimer County Departments of Health & Environment and surrounding municipalities in order to ensure that the highest level of mosquito control and epizootic response is achieved. This diligent and cooperative communication is important to the Town of Windsor mosquito management program and provides significant benefit to public health throughout the entire area.

CMC's Commitment

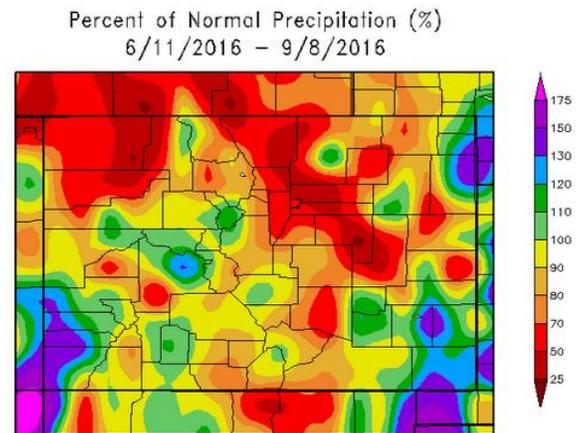
Colorado Mosquito Control is a company built on the foundations of public health, ethics, professionalism, and technical expertise. CMC is committed to providing our customers with scientifically based, environmentally sensitive and technologically advanced Integrated Mosquito Management (IMM) programs of the highest quality. All of our employees are committed to excellence in vector control and public health and strive to improve the quality of human life in communities through public education and the control of mosquitoes and the diseases they can transmit. CMC currently has programs across the state of Colorado, providing services for towns, cities, counties, homeowners associations, and encephalitis surveillance monitoring programs for county health departments.

Colorado Mosquito Control, as the contractor for The Town of Windsor, will continue to use proven scientific Integrated Mosquito Management techniques to survey and control local mosquito populations using biorational larval controls and limited low-toxicity insecticide applications. All of the methods and materials used have been reviewed and registered by the US Environmental Protection Agency, the Centers for Disease Control, the Colorado Department of Agriculture and the American Mosquito Control Association.

2016 Season Perspective

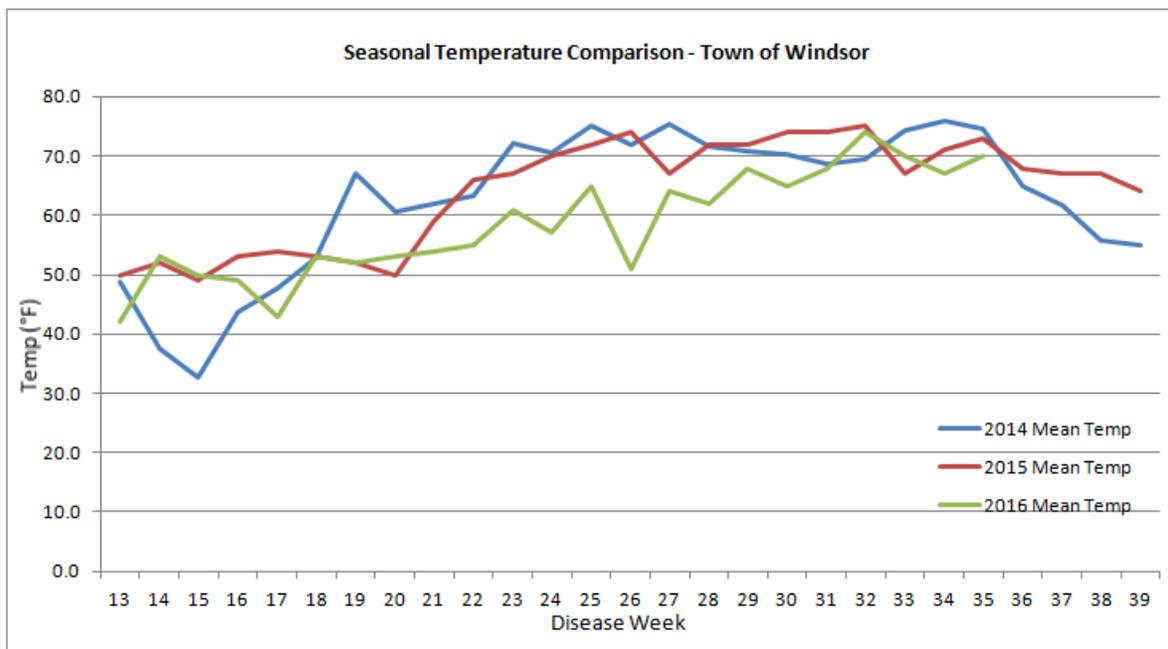
At CMC we have come to expect each Colorado summer to present a unique set of temperature, precipitation, irrigation, and human interactions that combine to create new and different challenges in both mosquito control and mosquito-borne disease proliferation. The summer of 2016 started off with a very early report of West Nile virus activity in a Larimer County resident. Mosquito abundance remained below historical averages for most of the season, but West Nile virus activity in both mosquito and human populations surged in late July and remained active throughout the rest of the summer. Colorado summers continue to record higher than average temperatures and due to the lack of moisture over the summer months, Larimer County and other Northern Colorado regions officially entered into a drought situation during the month of August. Drought indicators include factors such as snowpack, runoff and reservoir levels. Drought situations can be particularly challenging for mosquito control professionals as mosquito breeding sites become smaller and inconspicuous.

Abnormally dry conditions are nothing new for Northern Colorado, which was last classified as such from mid-September to mid-October 2015. “But the city hasn’t seen a summer like this since 2012-2013, when historic dryness and West Nile virus infection overtook Colorado” according to an article from the Coloradoan. Northern Colorado also saw periods of drought and abnormal dryness from 2009-2011.



Generated 9/9/2016 at HPRCC using provisional data.

Regional Climate Centers



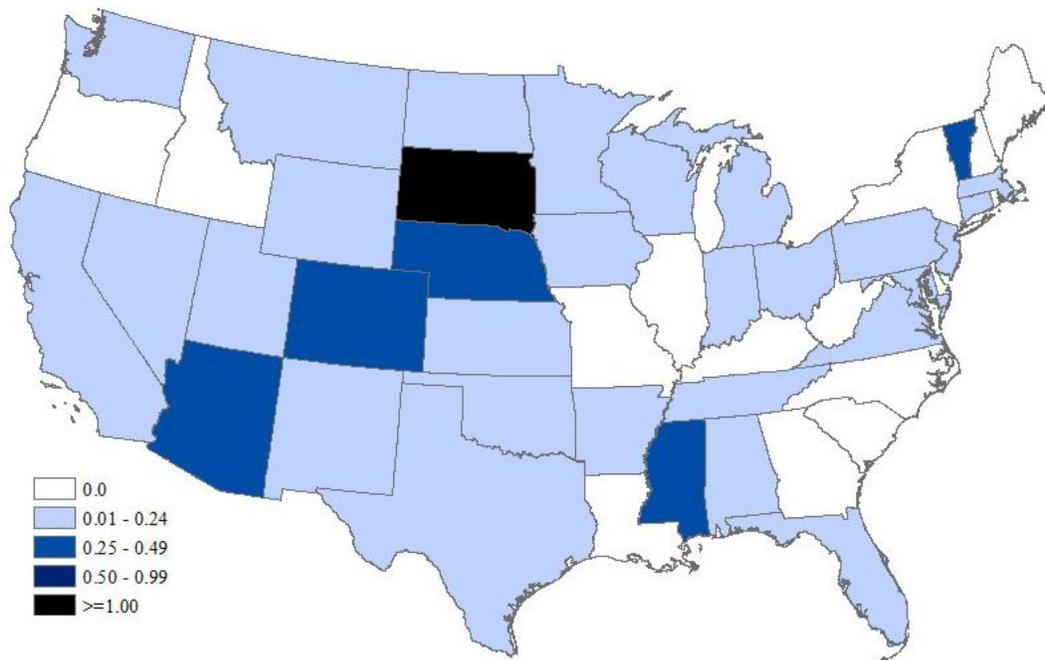
Colorado 2016

As of September 9, 2016 The Colorado Department of Health and Environment has identified 76 cases of human West Nile virus (WNV) infections. The CDC reports only 61 cases as of September 2nd with 4 (6%) asymptomatic blood donors, 23 (37%) neuroinvasive cases including symptoms of meningitis or encephalitis (including meningoencephalitis), and 38 (62%) non-neuroinvasive which includes cases where individuals are non-symptomatic or present with fever and other minor symptoms. There have been three deaths associated with West Nile virus infections from undisclosed locations in Colorado during the 2016 season.

Larimer County currently has the 4th highest number of West Nile virus human cases in the country with 28 cases (meaning 1 in 11,285 individuals are infected). Other West Nile virus hubs include Los Angeles County, Dallas County and Maricopa County all of which have significantly higher population density making the case load in Larimer County alarming.

To date Larimer County reports 28 human cases of West Nile virus infection, Weld County reports 11 cases and Boulder County reports 8 human cases.

West Nile Virus Neuroinvasive Disease Incidence by State - United States, 2016 (as of September 6, 2016)





In 2016 Colorado Mosquito Control performed 1,724 larval site inspections, of which 1,395 sites (80.9%) were wet upon inspection and 592 (42.4%) were producing mosquito larvae in the Town of Windsor. CMC applied 2,956 lbs. of VectoBac (Bti) and 15.6 gallons of BVA mineral oil to 558.8 acres of lands in the Town of Windsor.

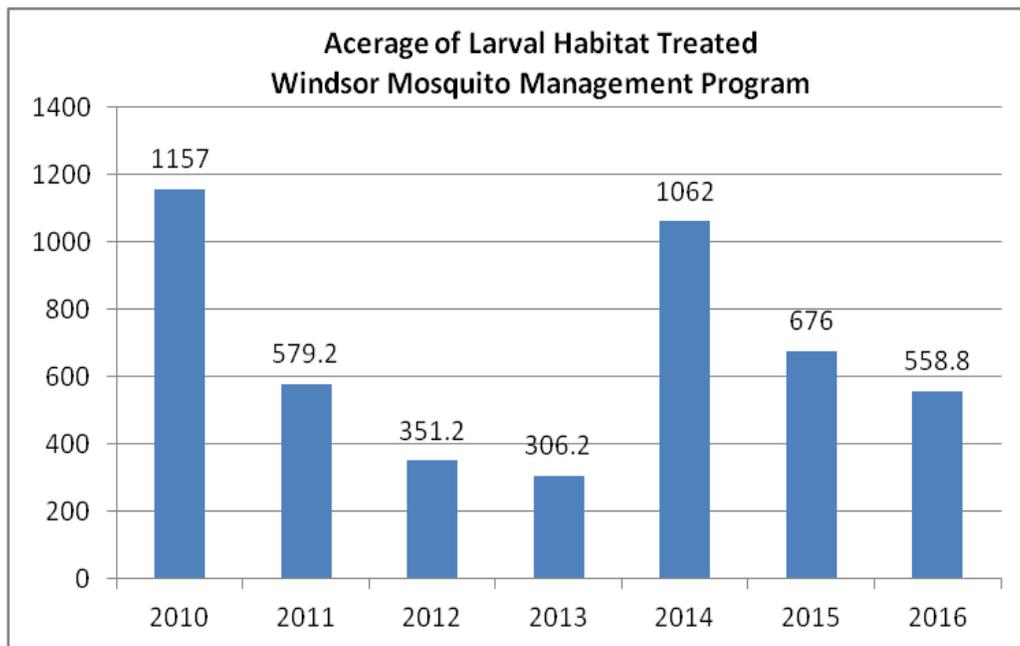
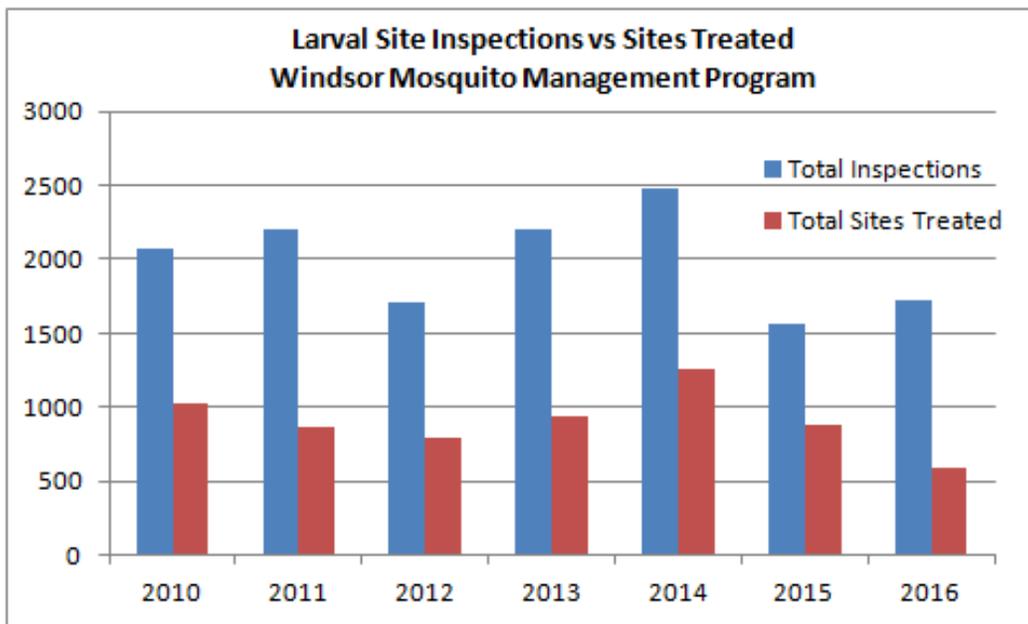
By comparison, in 2015 Colorado Mosquito Control performed 1,587 larval site inspections, of which 1,401 sites (88.3%) were wet upon inspection and 878 (62%) were producing mosquito larvae in the Town of Windsor. An estimated 2.1 billion mosquito larvae were eliminated before emerging as adults via larvicide applications. CMC applied 5,112.3 lbs. of VectoBac (Bti), 278.1 lbs. of Vectolex (Bs), and 26.6 gallons of BVA mineral oil to 676 acres of lands in the Town of Windsor.

Larval mosquito control can be achieved in several ways including biological, biochemical, chemical, and mechanical means. No single larvicide product will work effectively in every habitat where mosquito larvae are found, so a variety of products and methods should be employed. Additionally, although there are a variety of methods for reducing larval populations, some may have negative consequences that outweigh their benefits. Mechanical or physical habitat modification is a technique which CMC uses on relatively small scale projects, as the area to be modified must be carefully reviewed.



CMC's favored method of larval mosquito control is through the use of bacterial bio-rational products. The main product used by CMC is a variety of bacteria (*Bacillus thuringiensis var. israeliensis*). *Bti*, as it is known, has become the cornerstone of mosquito control programs throughout the world. The benefits include its efficacy and lack of environmental impacts. When used in accordance with its label, successful control of mosquito larvae can be achieved without impact to non-target species such as other aquatic invertebrates, birds, mammals, fish, amphibians, reptiles, or humans. A broad label allows for the use of the product in the majority of the habitats throughout the service area. Another bacterial product closely related to *Bti* is *Bacillus sphaericus* (*Bs*). *BS* provides similar benefits to *Bti* while also providing residual control of certain species of mosquitoes. It is used specifically in difficult to treat areas where *Culex* are the predominant species due to its limitations and high cost.

Other larval control products include the insect growth regulator methoprene (Altosid), and light mineral oils (BVA 2 larvicide oil). Methoprene is a synthetic version of a juvenile growth hormone in larval mosquitoes. The hormone prevents the normal development of larval mosquitoes into pupae and adults, eventually causing death. Abate is an effective product, but given its effects on non-target species, label restrictions limit its use in many areas. CMC limits the use of chemical larvicides to areas with little biodiversity, such as road side ditches, or areas that chronically produce high mosquito populations. They are only used after a thorough assessment has been made of any habitat where their use is being considered. Mineral oil is the only product effective in controlling mosquito pupae and therefore is an essential tool when pupae are present.



CMC Surveillance Laboratory

Information about mosquito abundance and species diversity is essential to integrated program. Colorado Mosquito Control employs two kinds of traps to monitor mosquito populations. The most commonly used is the CDC light trap which uses carbon-dioxide from dry ice as bait to attract female mosquitoes seeking a blood meal from a breathing animal. Once attracted by the CO₂, the mosquitoes are lured by a small light to a fan that pulls them into a net for collection. The second type of trap CMC uses is called a gravid trap. Gravid traps use a tub of highly-organic water as bait to attract female mosquitoes that are looking for a place to lay their eggs. A fan placed close to the water surface forces mosquitoes that come to the water into a collection net. Once back in the laboratory, the contents of the trap nets are counted and speciated by trained technicians.

In 2016, Colorado Mosquito Control monitored a statewide network of hundreds of weekly trap sites, collecting 439,190 adult mosquitoes that were counted and identified to species by the CMC Surveillance Laboratories. While individual traps provide only limited information, trap data is interpreted in the context of historical records for the same trap site, going back in time more than a decade. Individual traps are also compared to other traps from around the region that were set on the same night and therefore exposed to similar weather conditions. Technicians working in the Surveillance Laboratories at Colorado Mosquito Control are trained to provide accurate species-level identification of both larval and adult mosquitoes.



Additionally, the CMC Surveillance Laboratory conducts an intensive larval identification program with larval mosquito samples collected by I&L technicians prior to larviciding being identified to species. This information is now invaluable in targeting mosquito control efforts as we gain a greater understanding of the habitat types preferred by Colorado mosquito species and the seasonality of these habitats as sites for mosquito development.

Specimens and data collected from these traps and larval identification are used in:

-  Determining the effect of larval control efforts. Each mosquito species prefers specific kinds of habitats for larval development. If a trap includes large numbers, it could indicate the presence of an unknown larval habitat and, based on the species identification and known habitat preference for that species, direct field technicians as to possible sources of the mosquitoes collected.

-  Determining larval and adult mosquito species. This helps to illustrate the threat of mosquito-borne disease amplification and transmission because different mosquito species can vector different diseases to people and animals.
-  Determining where adult control efforts were necessary. While mosquito eradication is impossible, significant population reduction is achievable. In places where larval control is insufficient, such as neighborhoods where adult mosquitoes have migrated in from outside of the control area, it may be necessary to use adulticide methods, such as ULV truck fogging or barrier sprays of harborage areas. Trap counts that exceed an acceptable threshold for an area may trigger adult control measures.
-  Surveillance for Mosquito-borne Disease. Historically, CMC efforts were targeted primarily at controlling mosquito nuisance problems with limited disease surveillance. However, since the arrival of the West Nile virus in Colorado in August of 2002, the paradigm has shifted toward disease prevention and control. Accurate species identification of the mosquitoes in the traps is important when monitoring species population trends. It also is necessary for evaluating whether a population spike represents an actual increase in disease transmission potential or only an increased nuisance level.

SURVEILLANCE LIGHT TRAP DATA

In 2016, an average of 10 surveillance light traps monitored adult mosquito populations on a weekly basis within the Town of Windsor. Surveillance trapping began the week of June 1st and trapping was concluded on August 28th. The surveillance locations for the Town of Windsor included: Lake Osterhout (WR-02), Chestnut Street Alley (WR-05), Lee Lake (WR-06), River Ridge (WR-11), Eastman Park (WR-12) replaced WR-03 Kiva Circle, Highland Meadows Golf Course (WR-14), North Shores (WR-15), Steeplechase (WR-16), Water Valley North (WR-17), and Water Valley South (WR-18).

In 2016, 120 surveillance light traps were set within the Town of Windsor, which collected 22,045 total mosquitoes. The average number of mosquitoes collected per trap per night was 184 and the average number of *Culex spp.* mosquitoes collected per trap per night was 44. The percent composition of mosquitoes collected in 2016 included 76.2% (16,789) *Aedes/Ochlerotatus spp.*, 23.8% (5,236) *Culex spp.*, and less than 1.0% (19) *Culiseta spp.* mosquitoes.

In 2015, 140 surveillance light traps were set within the Town of Windsor, which collected 27,878 total mosquitoes. The average number of mosquitoes collected per trap per night was 199 and the average number of *Culex spp.* mosquitoes collected per trap per night was 50. The percent composition of mosquitoes collected in 2015 included 74.6% (20,796) *Aedes/Ochlerotatus spp.*, 25.2% (7,024) *Culex spp.*, and less than 1.0% (58) *Culiseta spp.* mosquitoes.

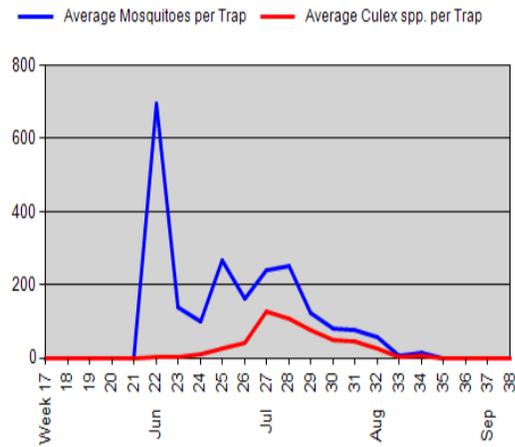
2016 Windsor CDC Trap Composite Data

Total number of trap/nights set: 120
Total number of mosquitoes collected: 22,045
Average mosquitoes per trap/night: 184
Average Culex per trap/night: 44

Species collected and abundance:

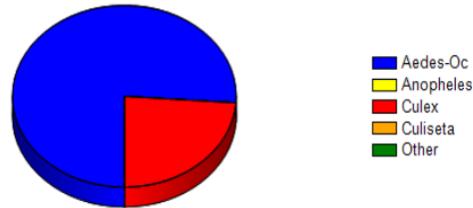
<i>Aedes (Oc.) dorsalis</i>	274	1.2 %
<i>Aedes (Oc.) fitchii</i>	27	0.1 %
<i>Aedes (Oc.) hendersoni</i>	3	0.0 %
<i>Aedes (Oc.) increpitus</i>	21	0.1 %
<i>Aedes (Oc.) melanimon</i>	1333	6.0 %
<i>Aedes (Oc.) nigromaculis</i>	5	0.0 %
<i>Aedes (Oc.) spencerii idahoensis</i>	4	0.0 %
<i>Aedes (Oc.) trivittatus</i>	38	0.2 %
<i>Aedes vexans</i>	15084	68.4 %
<i>Anopheles punctipennis</i>	1	0.0 %
<i>Culex pipiens</i>	457	2.1 %
<i>Culex salinarius</i>	18	0.1 %
<i>Culex tarsalis</i>	4761	21.6 %
<i>Culiseta inornata</i>	19	0.1 %

Seasonality



Genus proportions:

Genus	Number	Percent of Total
<i>Aedes/Ochlerotatus</i>	16,789	76.2 %
<i>Anopheles</i>	1	0.0 %
<i>Culex</i>	5,236	23.8 %
<i>Culiseta</i>	19	0.1 %
Other	0	0.0 %



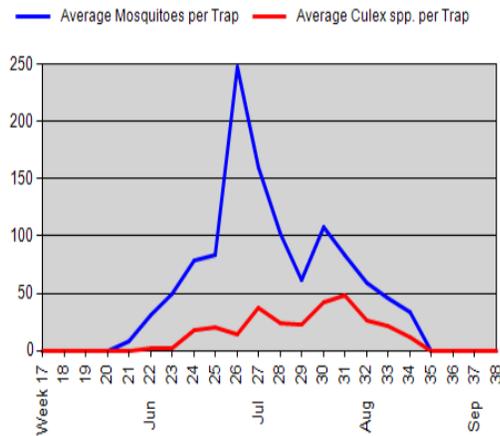
2016 Larimer CDC Trap Composite Data

Total number of trap/nights set: 82
Total number of mosquitoes collected: 6,979
Average mosquitoes per trap/night: 85
Average Culex per trap/night: 21

Species collected and abundance:

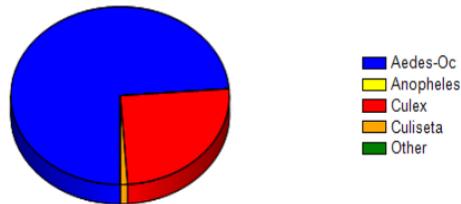
<i>Aedes (Oc.) dorsalis</i>	190	2.7 %
<i>Aedes (Oc.) increpitus</i>	34	0.5 %
<i>Aedes (Oc.) melanimon</i>	42	0.6 %
<i>Aedes (Oc.) nigromaculis</i>	1	0.0 %
<i>Aedes (Oc.) trivittatus</i>	2	0.0 %
<i>Aedes vexans</i>	4879	69.9 %
<i>Coquillettidia perturbans</i>	3	0.0 %
<i>Culex pipiens</i>	158	2.3 %
<i>Culex tarsalis</i>	1598	22.9 %
<i>Culiseta inornata</i>	72	1.0 %

Seasonality



Genus proportions:

Genus	Number	Percent of Total
<i>Aedes/Ochlerotatus</i>	5,148	73.8 %
<i>Anopheles</i>	0	0.0 %
<i>Culex</i>	1,756	25.2 %
<i>Culiseta</i>	72	1.0 %
Other	3	0.0 %



CSU WEST NILE VIRUS MOSQUITO SAMPLE TESTING RESULTS - LARIMER COUNTY

Many local health departments have moved towards mosquito-based surveillance indicators to assess the weekly risk of West Nile transmission and guide response decisions for adult mosquito control applications. The vector index and infection rate is derived by testing the mosquitoes CMC collects for the presence of West Nile virus. This value is closely monitored by the CDPHE and local health departments to evaluate the risk posed by the vector mosquito population.

As defined in the CDC guidelines for West Nile virus surveillance, prevention and control, the vector index (VI) is an estimate of the number of West Nile virus infected mosquitoes in an area. This number can serve as a human health risk value. An operational value of 0.5, which was derived from the comparison of historical data for human infections, as well as relative abundance and infection in mosquitoes, serves as an indicator of high risk for West Nile virus transmission to humans in the corresponding area. As the value of the vector index increases there is a corresponding risk of human disease and this value can be used to offset epidemics.

Due to budget cutbacks associated with West Nile virus surveillance in recent years, the CDPHE does not have the ability to test mosquitoes from across the state. As a result, there is very limited testing done within unincorporated Larimer County. As stated on the CDPHE website, the seasonal variation of West Nile virus risk can change throughout a summer and it is best to assume you have some risk for WNV if you have mosquitoes.

As of September 9th, 2016 Colorado State University's Department of Microbiology, Immunology and Pathology, has tested a total of 1,311 mosquito pools from Larimer County. Of these, 1,151 pools came from Fort Collins and 160 pools were collected from Loveland. Of the Fort Collins mosquito pools, 96 pools tested positive for West Nile virus and 18 pools from Loveland tested positive for the virus. Testing of these mosquitoes for West Nile virus is paid for by the City of Fort Collins and Loveland.

The first West Nile Virus positive mosquito sample pool of the 2016 season was identified in Loveland on June 29th and Fort Collins saw its first positive mosquito sample pool on July 6th.

CDPHE WEST NILE VIRUS MOSQUITO SAMPLE TESTING RESULTS – WELD COUNTY

In 2016 Weld County traps collected a total of 121,968 mosquitoes. A total of 16 species were represented. No exotic/introduced species (such as Asian Tiger Mosquitoes) were collected this season. The graphs show that the majority of mosquitoes in Weld County are floodwater species resulting from high snow melt runoff and floodwater irrigation throughout the season.

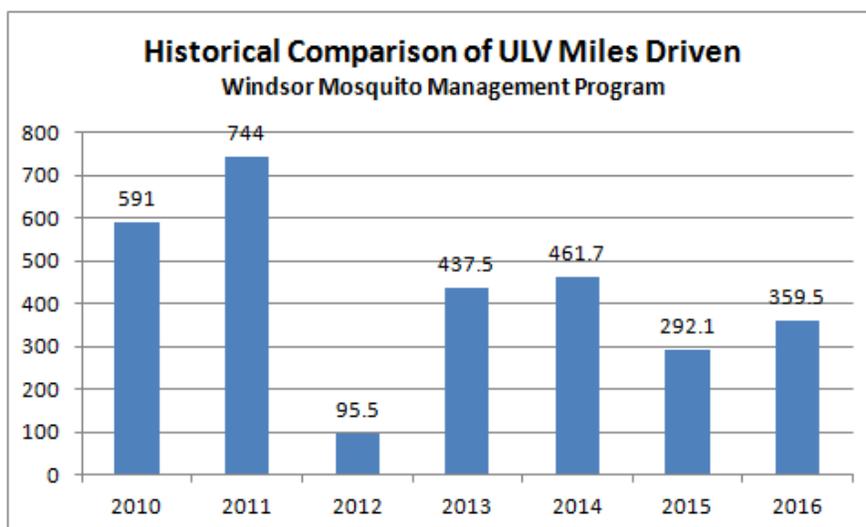
By comparison Weld County traps collected a total of 199,847 mosquitoes in 2015, 167,722 in 2014, and only 70,502 mosquitoes in 2013 and 50,494 mosquitoes during the 2012 drought season.

ADULT MOSQUITO CONTROL

The goal of Colorado Mosquito Control is to provide our customers with the best options for safe, effective, modern mosquito management. The primary emphasis of the Eagle Ranch Mosquito Management Program is to control mosquitoes in the larval stage, using safe biological control products. When mosquito counts surpass nuisance or disease thresholds of 100 mosquitoes or 50 *Culex* mosquitoes respectively, CMC uses EPA and CDC approved adulticides to reduce mosquito populations. During the 2016 season a total of 359.5 miles of roads and access paths within Windsor were fogged using AquaKontrol3030 (Active Ingredient - Permethrin).

Backpack barrier applications, utilizing long term residual mosquito control products (Talstar Professional), were performed on an as needed basis at Boardwalk and Eastman Park. Please reference Appendix 4 for specifics regarding individual adulticide applications.

CMC uses state of the art technology, calibrated application timing, and least-toxic products to minimize non-target impacts. All adult mosquito control is accomplished using Ultra Low Volume (ULV) fogging equipment and performed after dusk when the majority of mosquito species are most active. This type of equipment produces droplets averaging 12 microns in diameter and allows for a minimal amount of product to be put into the environment. These treatments take place in the evening when mosquitoes are flying in greater numbers and non-target insect activity (for example, day-flying pollinators like bees) is greatly reduced. Using this application technique, the overall goal of minimal environmental impact and effective adult control is achieved in the targeted area.



2016 Annual Report of Mosquito Management Operations
Colorado Mosquito Control

Public Relations and Education

CMC is dedicated to providing strong Public Outreach and Education Programs to residents in all of our communities. Citizen complaints, inquiry, information and satisfaction surveys can aid in evaluating the effectiveness of a program. CMC constantly looks for ways to better serve the communities we work with and encourages both the citizen and local media involvement in order to increase the effectiveness of our programs. We have clearly demonstrated that commitment and belief by proactively serving Town of Windsor (and all of our contracted communities) with numerous innovative programs, activities and services.

Customer service is always a high priority for CMC. We take pride in training each and every technician so that they have the knowledge to provide residents with the correct answers to their questions. Each field technician spends part of their day responding to resident concerns in their work area. This in-field customer service personalizes the mosquito control program, provides CMC with local information on mosquito activity and presents a valuable opportunity to educate our residents about mosquito biology and control.

MosquitoLine™

CMC maintains a toll-free telephone line: (877) 276-4306 and local lines at 970-962-2582 and 970-663-5697 (at no cost to the customer) to accept calls from the public concerning:

- * Information about mosquito biology and source reduction of mosquito habitats
- * information on program components, operations and monitoring
- * Information on program components, operations, and monitoring
- * Seasonal West Nile virus activity
- * Personal protection options for mosquito annoyances and West Nile virus risk
- * Reports about mosquitoes and possible larval mosquito habitats
- * Requests to perform larvicide applications and/or opt-out of any adulticide spraying
- * Request notification when adulticide spraying is planned in their neighborhood
- * Request health and safety information about mosquito control operations and pesticide products used

CMC has provided Mosquito Hotlines to the residents in communities which we are contracted to also reduce workload by municipal personnel. This enables direct communication and response by mosquito control employees to resident's concerns about West Nile virus and larval site activity and treatment. CMC maintains a log of calls received and will summarize call activity in monthly and annual reports.

In 2016 CMC received 34 phone calls from residents of Windsor. Twenty-six mosquito annoyance reports, 3 new larval site reports of standing water, one report of a newly developed subdivision and four requests for barrier applications on private property for special events.

CALL NOTIFICATION & SHUTOFF SYSTEM

CMC continues to maintain a comprehensive Call Notification & Shutoff database and will notify residents on the list when conducting ULV adulticide spray applications within the Town of Windsor.

DAILY POSTING OF ULV SPRAY ZONES are maintained and updated online by 3 pm at

<http://www.comosquitocontrol.com/SpraySchedules.html>

Appendix 1: Town of Windsor Individual Light Trap Summaries

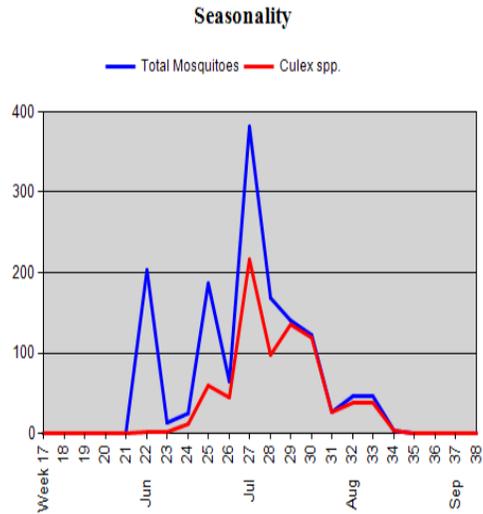
WR-02: Windsor - Lake Osterhout

Season: 2016
 Trap Type: Light/CO2
 Location: west side of Lake Osterhout
 GPS: N40° 29.320' W104° 54.675'

Total number of trap/nights set: 12
 Total number of mosquitoes collected: 1,381
 Average mosquitoes per trap/night: 115
 Average Culex per trap/night: 63

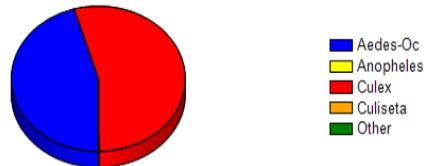
Species collected and abundance:

<i>Aedes (Oc.) dorsalis</i>	129	9.3 %
<i>Aedes (Oc.) melanimon</i>	33	2.4 %
<i>Aedes (Oc.) spencerii</i>	1	0.1 %
<i>Aedes vexans</i>	465	33.7 %
<i>Culex pipiens</i>	7	0.5 %
<i>Culex tarsalis</i>	744	53.9 %
<i>Culiseta inornata</i>	2	0.1 %



Genus Proportions:

Genus	Number	Percent of Total
<i>Aedes/Ochlerotatus</i>	628	45.5 %
<i>Anopheles</i>	0	0.0 %
<i>Culex</i>	751	54.4 %
<i>Culiseta</i>	2	0.1 %
Other	0	0.0 %



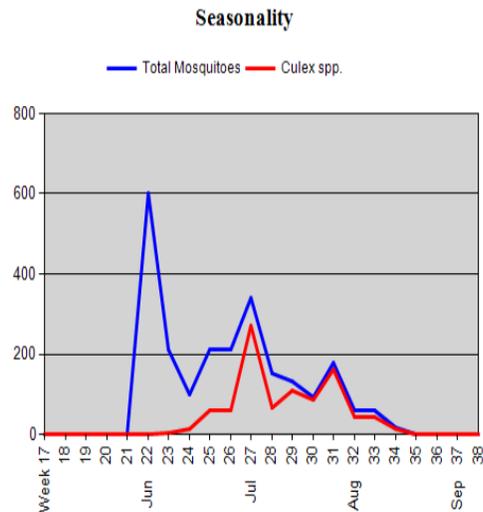
WR-05: Windsor - Chestnut Street Alley

Season: 2016
 Trap Type: Light/CO2
 Location: Alley north of Chestnut street and east of 1st Str
 GPS: N40° 28.435' W104° 53.815'

Total number of trap/nights set: 11
 Total number of mosquitoes collected: 2,088
 Average mosquitoes per trap/night: 190
 Average Culex per trap/night: 75

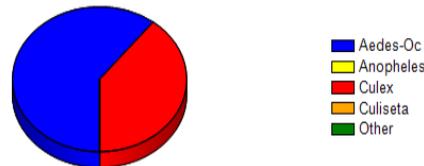
Species collected and abundance:

<i>Aedes (Oc.) dorsalis</i>	6	0.3 %
<i>Aedes (Oc.) fitchii</i>	1	0.0 %
<i>Aedes (Oc.) increpitus</i>	4	0.2 %
<i>Aedes (Oc.) melanimon</i>	126	6.0 %
<i>Aedes vexans</i>	1127	54.0 %
<i>Culex pipiens</i>	193	9.2 %
<i>Culex tarsalis</i>	631	30.2 %



Genus Proportions:

Genus	Number	Percent of Total
<i>Aedes/Ochlerotatus</i>	1,264	60.5 %
<i>Anopheles</i>	0	0.0 %
<i>Culex</i>	824	39.5 %
<i>Culiseta</i>	0	0.0 %
Other	0	0.0 %



WR-06: Windsor Lee Lake Area

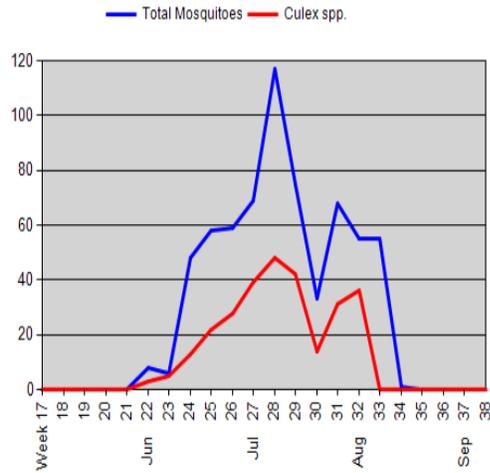
Season: 2016
Trap Type: Light/CO2
Location: 6771 Stevens Street in North Windsor
GPS: N40° 32.165' W104° 55.835'

Total number of trap/nights set: 12
Total number of mosquitoes collected: 597
Average mosquitoes per trap/night: 50
Average Culex per trap/night: 23

Species collected and abundance:

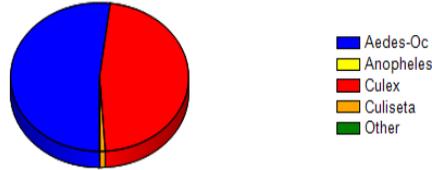
<i>Aedes (Oc.) dorsalis</i>	78	13.1 %
<i>Aedes (Oc.) fitchii</i>	1	0.2 %
<i>Aedes (Oc.) melanimon</i>	8	1.3 %
<i>Aedes vexans</i>	223	37.4 %
<i>Culex tarsalis</i>	281	47.1 %
<i>Culiseta inornata</i>	6	1.0 %

Seasonality



Genus Proportions:

Genus	Number	Percent of Total
<i>Aedes/Ochlerotatus</i>	310	51.9 %
<i>Anopheles</i>	0	0.0 %
<i>Culex</i>	281	47.1 %
<i>Culiseta</i>	6	1.0 %
Other	0	0.0 %



WR-11: Windsor River Ridge

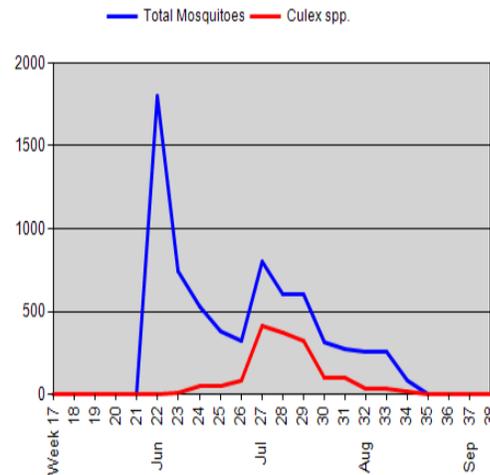
Season: 2016
Trap Type: Light/CO2
Location: off River Ridge Drive along drainage in River West
GPS: N40° 28.465' , W104° 56.785'

Total number of trap/nights set: 12
Total number of mosquitoes collected: 6,697
Average mosquitoes per trap/night: 558
Average Culex per trap/night: 128

Species collected and abundance:

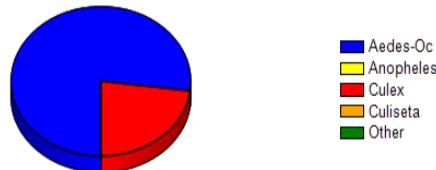
<i>Aedes (Oc.) dorsalis</i>	4	0.1 %
<i>Aedes (Oc.) fitchii</i>	25	0.4 %
<i>Aedes (Oc.) hendersoni</i>	3	0.0 %
<i>Aedes (Oc.) increpitus</i>	6	0.1 %
<i>Aedes (Oc.) melanimon</i>	119	1.8 %
<i>Aedes (Oc.) spencerii</i>	1	0.0 %
<i>Aedes (Oc.) trivittatus</i>	8	0.1 %
<i>Aedes vexans</i>	4996	74.6 %
<i>Culex pipiens</i>	55	0.8 %
<i>Culex salinarius</i>	6	0.1 %
<i>Culex tarsalis</i>	1473	22.0 %
<i>Culiseta inornata</i>	1	0.0 %

Seasonality



Genus Proportions:

Genus	Number	Percent of Total
<i>Aedes/Ochlerotatus</i>	5,162	77.1 %
<i>Anopheles</i>	0	0.0 %
<i>Culex</i>	1,534	22.9 %
<i>Culiseta</i>	1	0.0 %
Other	0	0.0 %



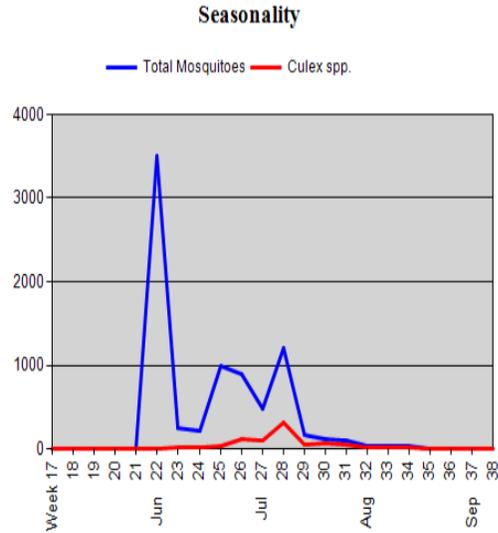
WR-12: Windsor Eastman Park

Season: 2016
Trap Type: Light/CO2
Location: west end of Eastman Park Drive
GPS: N40° 27.920' W104° 54.740'

Total number of trap/nights set: 12
Total number of mosquitoes collected: 8,013
Average mosquitoes per trap/night: 668
Average Culex per trap/night: 66

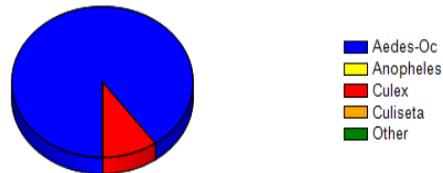
Species collected and abundance:

<i>Aedes (Oc.) dorsalis</i>	9	0.1 %
<i>Aedes (Oc.) increpitus</i>	3	0.0 %
<i>Aedes (Oc.) melanimon</i>	796	9.9 %
<i>Aedes (Oc.) trivittatus</i>	28	0.3 %
<i>Aedes vexans</i>	6382	79.6 %
<i>Anopheles punctipennis</i>	1	0.0 %
<i>Culex pipiens</i>	151	1.9 %
<i>Culex salinarius</i>	11	0.1 %
<i>Culex tarsalis</i>	631	7.9 %
<i>Culiseta inornata</i>	1	0.0 %



Genus Proportions:

Genus	Number	Percent of Total
<i>Aedes/Ochlerotatus</i>	7,218	90.1 %
<i>Anopheles</i>	1	0.0 %
<i>Culex</i>	793	9.9 %
<i>Culiseta</i>	1	0.0 %
Other	0	0.0 %



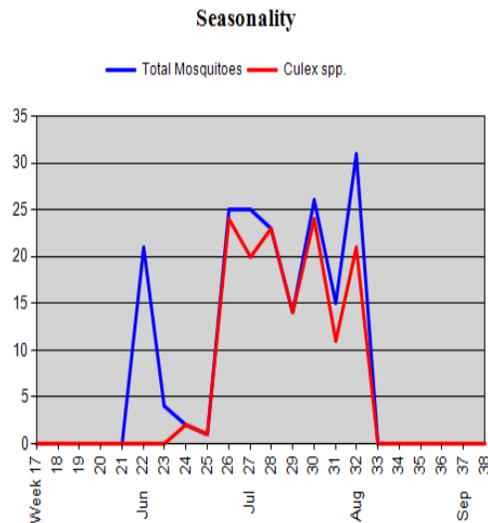
WR-14: Windsor Highland Meadows

Season: 2016
Trap Type: Light/CO2
Location: 5316 Regatta Ct.
GPS: N40° 28.360', W104° 58.690'

Total number of trap/nights set: 12
Total number of mosquitoes collected: 187
Average mosquitoes per trap/night: 16
Average Culex per trap/night: 12

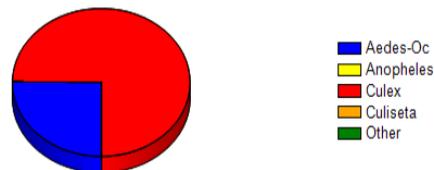
Species collected and abundance:

<i>Aedes (Oc.) increpitus</i>	1	0.5 %
<i>Aedes vexans</i>	46	24.6 %
<i>Culex pipiens</i>	6	3.2 %
<i>Culex tarsalis</i>	134	71.7 %



Genus Proportions:

Genus	Number	Percent of Total
<i>Aedes/Ochlerotatus</i>	47	25.1 %
<i>Anopheles</i>	0	0.0 %
<i>Culex</i>	140	74.9 %
<i>Culiseta</i>	0	0.0 %
Other	0	0.0 %



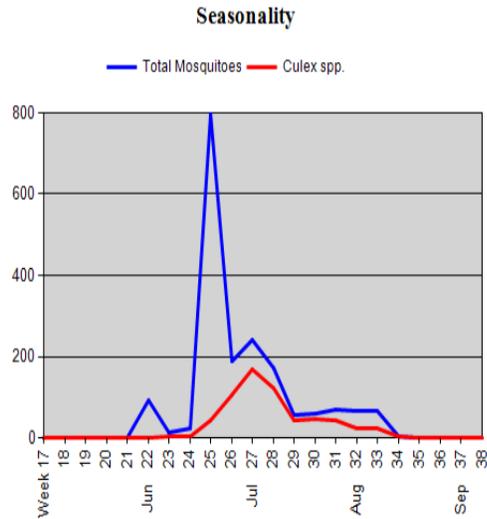
WR-15: Windsor North Shores

Season: 2016
Trap Type: Light/CO2
Location: 225 Madera Way, Windsor
GPS: N40° 30.190' W104° 53.880'

Total number of trap/nights set: 12
Total number of mosquitoes collected: 1,780
Average mosquitoes per trap/night: 148
Average Culex per trap/night: 51

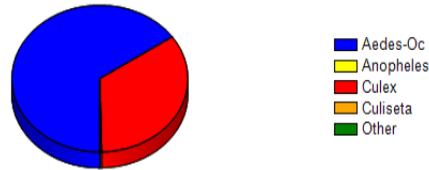
Species collected and abundance:

<i>Aedes (Oc.) dorsalis</i>	20	1.1 %
<i>Aedes (Oc.) increpitus</i>	3	0.2 %
<i>Aedes (Oc.) melanimon</i>	25	1.4 %
<i>Aedes (Oc.) trivittatus</i>	1	0.1 %
<i>Aedes vexans</i>	1115	62.6 %
<i>Culex tarsalis</i>	610	34.3 %
<i>Culiseta inornata</i>	6	0.3 %



Genus Proportions:

Genus	Number	Percent of Total
<i>Aedes/Ochlerotatus</i>	1,164	65.4 %
<i>Anopheles</i>	0	0.0 %
<i>Culex</i>	610	34.3 %
<i>Culiseta</i>	6	0.3 %
Other	0	0.0 %



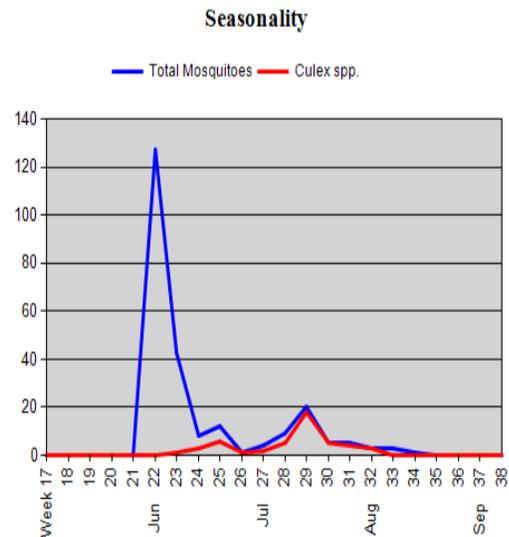
WR-16: Steeplechase

Season: 2016
Trap Type: Light/CO2
Location: Drainage So. of 8632 Steeplechase Dr.
GPS: N40° 26.715', W104° 56.890'

Total number of trap/nights set: 12
Total number of mosquitoes collected: 238
Average mosquitoes per trap/night: 20
Average Culex per trap/night: 4

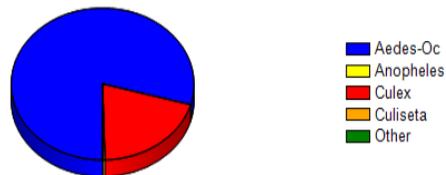
Species collected and abundance:

<i>Aedes (Oc.) dorsalis</i>	11	4.6 %
<i>Aedes (Oc.) increpitus</i>	1	0.4 %
<i>Aedes (Oc.) melanimon</i>	22	9.2 %
<i>Aedes (Oc.) nigromaculis</i>	4	1.7 %
<i>Aedes (Oc.) spencerii</i>	2	0.8 %
<i>Aedes vexans</i>	149	62.6 %
<i>Culex pipiens</i>	3	1.3 %
<i>Culex tarsalis</i>	45	18.9 %
<i>Culiseta inornata</i>	1	0.4 %



Genus Proportions:

Genus	Number	Percent of Total
<i>Aedes/Ochlerotatus</i>	189	79.4 %
<i>Anopheles</i>	0	0.0 %
<i>Culex</i>	48	20.2 %
<i>Culiseta</i>	1	0.4 %
Other	0	0.0 %



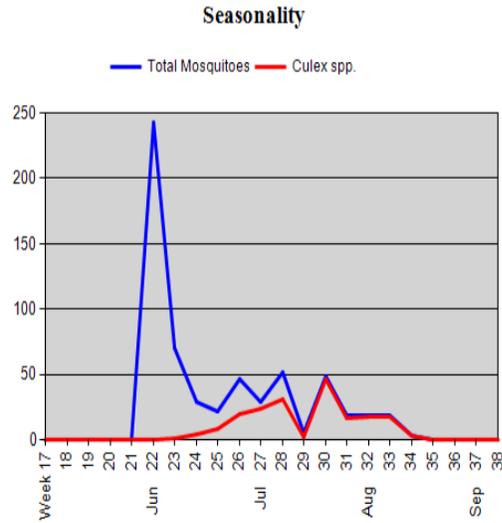
WR-17: Windsor Water Valley North

Season: 2016
Trap Type: Light/CO2
Location: drainage west of Bayside Circle townhomes
GPS: N40° 27.625' W104° 53.865'

Total number of trap/nights set: 12
Total number of mosquitoes collected: 587
Average mosquitoes per trap/night: 49
Average Culex per trap/night: 14

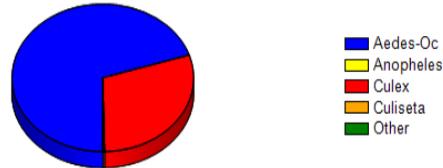
Species collected and abundance:

<i>Aedes (Oc.) dorsalis</i>	9	1.5 %
<i>Aedes (Oc.) increpitus</i>	3	0.5 %
<i>Aedes (Oc.) melanimon</i>	57	9.7 %
<i>Aedes vexans</i>	342	58.3 %
<i>Culex pipiens</i>	39	6.6 %
<i>Culex salinarius</i>	1	0.2 %
<i>Culex tarsalis</i>	134	22.8 %
<i>Culiseta inornata</i>	2	0.3 %



Genus Proportions:

Genus	Number	Percent of Total
<i>Aedes/Ochlerotatus</i>	411	70.0 %
<i>Anopheles</i>	0	0.0 %
<i>Culex</i>	174	29.6 %
<i>Culiseta</i>	2	0.3 %
Other	0	0.0 %



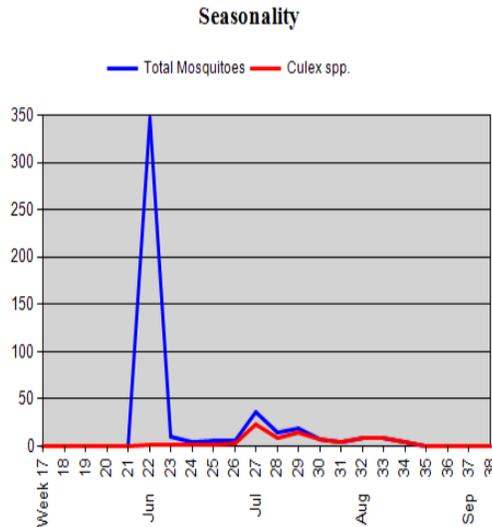
WR-18: Windsor Water Valley South

Season: 2016
Trap Type: Light/CO2
Location: playground near 1859 Seadrift Dr.
GPS: N40° 26.835' W104° 53.725'

Total number of trap/nights set: 12
Total number of mosquitoes collected: 469
Average mosquitoes per trap/night: 39
Average Culex per trap/night: 6

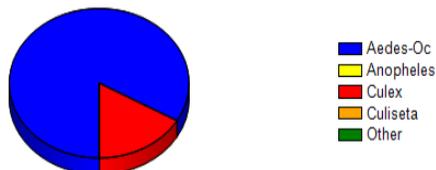
Species collected and abundance:

<i>Aedes (Oc.) dorsalis</i>	5	1.1 %
<i>Aedes (Oc.) melanimon</i>	147	31.3 %
<i>Aedes (Oc.) nigromaculis</i>	1	0.2 %
<i>Aedes (Oc.) trivittatus</i>	1	0.2 %
<i>Aedes vexans</i>	237	50.5 %
<i>Culex pipiens</i>	3	0.6 %
<i>Culex tarsalis</i>	75	16.0 %



Genus Proportions:

Genus	Number	Percent of Total
<i>Aedes/Ochlerotatus</i>	391	83.4 %
<i>Anopheles</i>	0	0.0 %
<i>Culex</i>	78	16.6 %
<i>Culiseta</i>	0	0.0 %
Other	0	0.0 %



Appendix 2: Adult Mosquito Surveillance Trap Genus Summaries



Colorado Mosquito Control

Adult Trap Data - Genus Summary

Trap #	Type	County	Date		Ae/Oc	An	Cx	Cs	Other	TOTAL
WR-02	LIGHT	Weld	06/09/2016	Windsor - Lake Osterhout	202	0	1	0	0	203
WR-02	LIGHT	Weld	06/16/2016	Windsor - Lake Osterhout	13	0	0	0	0	13
WR-02	LIGHT	Weld	06/23/2016	Windsor - Lake Osterhout	13	0	12	0	0	25
WR-02	LIGHT	Weld	06/30/2016	Windsor - Lake Osterhout	128	0	59	0	0	187
WR-02	LIGHT	Weld	07/07/2016	Windsor - Lake Osterhout	19	0	44	1	0	64
WR-02	LIGHT	Weld	07/14/2016	Windsor - Lake Osterhout	165	0	217	0	0	382
WR-02	LIGHT	Weld	07/21/2016	Windsor - Lake Osterhout	70	0	97	1	0	168
WR-02	LIGHT	Weld	07/28/2016	Windsor - Lake Osterhout	5	0	135	0	0	140
WR-02	LIGHT	Weld	08/04/2016	Windsor - Lake Osterhout	3	0	119	0	0	122
WR-02	LIGHT	Weld	08/11/2016	Windsor - Lake Osterhout	0	0	26	0	0	26
WR-02	LIGHT	Weld	08/18/2016	Windsor - Lake Osterhout	9	0	38	0	0	47
WR-02	LIGHT	Weld	09/01/2016	Windsor - Lake Osterhout	1	0	3	0	0	4
WR-05	LIGHT	Weld	06/09/2016	Windsor - Chestnut Street	600	0	0	0	0	600
WR-05	LIGHT	Weld	06/16/2016	Windsor - Chestnut Street	207	0	4	0	0	211
WR-05	LIGHT	Weld	06/23/2016	Windsor - Chestnut Street	86	0	13	0	0	99
WR-05	LIGHT	Weld	06/30/2016	Windsor - Chestnut Street	151	0	60	0	0	211
WR-05	LIGHT	Weld	07/07/2016	Windsor - Chestnut Street	0	0	0	0	0	0
WR-05	LIGHT	Weld	07/14/2016	Windsor - Chestnut Street	72	0	270	0	0	342
WR-05	LIGHT	Weld	07/21/2016	Windsor - Chestnut Street	87	0	65	0	0	152
WR-05	LIGHT	Weld	07/28/2016	Windsor - Chestnut Street	24	0	108	0	0	132
WR-05	LIGHT	Weld	08/04/2016	Windsor - Chestnut Street	5	0	86	0	0	91
WR-05	LIGHT	Weld	08/11/2016	Windsor - Chestnut Street	15	0	162	0	0	177
WR-05	LIGHT	Weld	08/18/2016	Windsor - Chestnut Street	14	0	44	0	0	58
WR-05	LIGHT	Weld	09/01/2016	Windsor - Chestnut Street	3	0	12	0	0	15
WR-06	LIGHT	Weld	06/09/2016	Windsor Lee Lake Area	5	0	3	0	0	8
WR-06	LIGHT	Weld	06/16/2016	Windsor Lee Lake Area	1	0	5	0	0	6
WR-06	LIGHT	Weld	06/23/2016	Windsor Lee Lake Area	35	0	13	0	0	48
WR-06	LIGHT	Weld	06/30/2016	Windsor Lee Lake Area	35	0	22	1	0	58
WR-06	LIGHT	Weld	07/07/2016	Windsor Lee Lake Area	31	0	28	0	0	59
WR-06	LIGHT	Weld	07/14/2016	Windsor Lee Lake Area	30	0	39	0	0	69
WR-06	LIGHT	Weld	07/21/2016	Windsor Lee Lake Area	69	0	48	0	0	117
WR-06	LIGHT	Weld	07/28/2016	Windsor Lee Lake Area	33	0	42	0	0	75
WR-06	LIGHT	Weld	08/04/2016	Windsor Lee Lake Area	15	0	14	4	0	33
WR-06	LIGHT	Weld	08/11/2016	Windsor Lee Lake Area	36	0	31	1	0	68
WR-06	LIGHT	Weld	08/18/2016	Windsor Lee Lake Area	19	0	36	0	0	55
WR-06	LIGHT	Weld	09/01/2016	Windsor Lee Lake Area	1	0	0	0	0	1
WR-11	LIGHT	Larimer	06/09/2016	Windsor River Ridge	1800	0	0	0	0	1,800
WR-11	LIGHT	Larimer	06/16/2016	Windsor River Ridge	737	0	8	0	0	745
WR-11	LIGHT	Larimer	06/23/2016	Windsor River Ridge	477	0	47	1	0	525
WR-11	LIGHT	Larimer	06/30/2016	Windsor River Ridge	332	0	47	0	0	379
WR-11	LIGHT	Larimer	07/07/2016	Windsor River Ridge	243	0	81	0	0	324
WR-11	LIGHT	Larimer	07/14/2016	Windsor River Ridge	390	0	410	0	0	800



Adult Trap Data - Genus Summary

Trap #	Type	County	Date		Ae/Oc	An	Cx	Cs	Other	TOTAL
WR-11	LIGHT	Larimer	07/21/2016	Windsor River Ridge	228	0	372	0	0	600
WR-11	LIGHT	Larimer	07/28/2016	Windsor River Ridge	280	0	320	0	0	600
WR-11	LIGHT	Larimer	08/04/2016	Windsor River Ridge	209	0	102	0	0	311
WR-11	LIGHT	Larimer	08/11/2016	Windsor River Ridge	179	0	96	0	0	275
WR-11	LIGHT	Larimer	08/18/2016	Windsor River Ridge	220	0	37	0	0	257
WR-11	LIGHT	Larimer	09/01/2016	Windsor River Ridge	67	0	14	0	0	81
WR-12	LIGHT	Weld	06/09/2016	Windsor Eastman Park	3500	0	0	0	0	3,500
WR-12	LIGHT	Weld	06/16/2016	Windsor Eastman Park	245	0	9	1	0	255
WR-12	LIGHT	Weld	06/23/2016	Windsor Eastman Park	194	1	20	0	0	215
WR-12	LIGHT	Weld	06/30/2016	Windsor Eastman Park	974	0	26	0	0	1,000
WR-12	LIGHT	Weld	07/07/2016	Windsor Eastman Park	783	0	117	0	0	900
WR-12	LIGHT	Weld	07/14/2016	Windsor Eastman Park	383	0	103	0	0	486
WR-12	LIGHT	Weld	07/21/2016	Windsor Eastman Park	880	0	320	0	0	1,200
WR-12	LIGHT	Weld	07/28/2016	Windsor Eastman Park	114	0	53	0	0	167
WR-12	LIGHT	Weld	08/04/2016	Windsor Eastman Park	57	0	63	0	0	120
WR-12	LIGHT	Weld	08/11/2016	Windsor Eastman Park	44	0	54	0	0	98
WR-12	LIGHT	Weld	08/18/2016	Windsor Eastman Park	28	0	13	0	0	41
WR-12	LIGHT	Weld	09/01/2016	Windsor Eastman Park	16	0	15	0	0	31
WR-14	LIGHT	Larimer	06/09/2016	Windsor Highland Meado	21	0	0	0	0	21
WR-14	LIGHT	Larimer	06/16/2016	Windsor Highland Meado	4	0	0	0	0	4
WR-14	LIGHT	Larimer	06/23/2016	Windsor Highland Meado	0	0	2	0	0	2
WR-14	LIGHT	Larimer	06/30/2016	Windsor Highland Meado	0	0	1	0	0	1
WR-14	LIGHT	Larimer	07/07/2016	Windsor Highland Meado	1	0	24	0	0	25
WR-14	LIGHT	Larimer	07/14/2016	Windsor Highland Meado	5	0	20	0	0	25
WR-14	LIGHT	Larimer	07/21/2016	Windsor Highland Meado	0	0	23	0	0	23
WR-14	LIGHT	Larimer	07/28/2016	Windsor Highland Meado	0	0	14	0	0	14
WR-14	LIGHT	Larimer	08/04/2016	Windsor Highland Meado	2	0	24	0	0	26
WR-14	LIGHT	Larimer	08/11/2016	Windsor Highland Meado	4	0	11	0	0	15
WR-14	LIGHT	Larimer	08/18/2016	Windsor Highland Meado	10	0	21	0	0	31
WR-14	LIGHT	Larimer	09/01/2016	Windsor Highland Meado	0	0	0	0	0	0
WR-15	LIGHT	Weld	06/09/2016	Windsor North Shores	93	0	0	0	0	93
WR-15	LIGHT	Weld	06/16/2016	Windsor North Shores	8	0	5	0	0	13
WR-15	LIGHT	Weld	06/23/2016	Windsor North Shores	19	0	5	0	0	24
WR-15	LIGHT	Weld	06/30/2016	Windsor North Shores	754	0	43	1	0	798
WR-15	LIGHT	Weld	07/07/2016	Windsor North Shores	79	0	107	1	0	187
WR-15	LIGHT	Weld	07/14/2016	Windsor North Shores	71	0	169	1	0	241
WR-15	LIGHT	Weld	07/21/2016	Windsor North Shores	47	0	123	1	0	171
WR-15	LIGHT	Weld	07/28/2016	Windsor North Shores	13	0	42	0	0	55
WR-15	LIGHT	Weld	08/04/2016	Windsor North Shores	12	0	48	1	0	61
WR-15	LIGHT	Weld	08/11/2016	Windsor North Shores	26	0	42	1	0	69
WR-15	LIGHT	Weld	08/18/2016	Windsor North Shores	42	0	23	0	0	65
WR-15	LIGHT	Weld	09/01/2016	Windsor North Shores	0	0	3	0	0	3



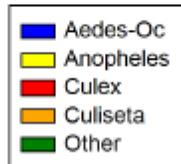
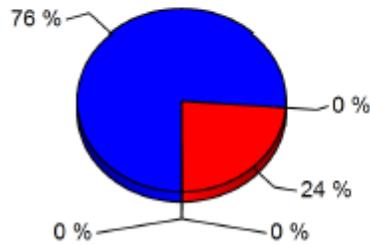
Adult Trap Data - Genus Summary

Trap #	Type	County	Date		Ae/Oc	An	Cx	Cs	Other	TOTAL
WR-16	LIGHT	Larimer	06/09/2016	Steeplechase	127	0	0	0	0	127
WR-16	LIGHT	Larimer	06/16/2016	Steeplechase	41	0	1	1	0	43
WR-16	LIGHT	Larimer	06/23/2016	Steeplechase	5	0	3	0	0	8
WR-16	LIGHT	Larimer	06/30/2016	Steeplechase	6	0	6	0	0	12
WR-16	LIGHT	Larimer	07/07/2016	Steeplechase	0	0	1	0	0	1
WR-16	LIGHT	Larimer	07/14/2016	Steeplechase	2	0	2	0	0	4
WR-16	LIGHT	Larimer	07/21/2016	Steeplechase	4	0	5	0	0	9
WR-16	LIGHT	Larimer	07/28/2016	Steeplechase	2	0	18	0	0	20
WR-16	LIGHT	Larimer	08/04/2016	Steeplechase	0	0	5	0	0	5
WR-16	LIGHT	Larimer	08/11/2016	Steeplechase	1	0	4	0	0	5
WR-16	LIGHT	Larimer	08/18/2016	Steeplechase	0	0	3	0	0	3
WR-16	LIGHT	Larimer	09/01/2016	Steeplechase	1	0	0	0	0	1
WR-17	LIGHT	Weld	06/09/2016	Windsor Water Valley Nort	243	0	0	0	0	243
WR-17	LIGHT	Weld	06/16/2016	Windsor Water Valley Nort	69	0	1	0	0	70
WR-17	LIGHT	Weld	06/23/2016	Windsor Water Valley Nort	25	0	4	0	0	29
WR-17	LIGHT	Weld	06/30/2016	Windsor Water Valley Nort	14	0	8	0	0	22
WR-17	LIGHT	Weld	07/07/2016	Windsor Water Valley Nort	26	0	20	1	0	47
WR-17	LIGHT	Weld	07/14/2016	Windsor Water Valley Nort	4	0	24	1	0	29
WR-17	LIGHT	Weld	07/21/2016	Windsor Water Valley Nort	21	0	31	0	0	52
WR-17	LIGHT	Weld	07/28/2016	Windsor Water Valley Nort	3	0	2	0	0	5
WR-17	LIGHT	Weld	08/04/2016	Windsor Water Valley Nort	3	0	46	0	0	49
WR-17	LIGHT	Weld	08/11/2016	Windsor Water Valley Nort	2	0	17	0	0	19
WR-17	LIGHT	Weld	08/18/2016	Windsor Water Valley Nort	1	0	18	0	0	19
WR-17	LIGHT	Weld	09/01/2016	Windsor Water Valley Nort	0	0	3	0	0	3
WR-18	LIGHT	Weld	06/09/2016	Windsor Water Valley Sou	345	0	2	0	0	347
WR-18	LIGHT	Weld	06/16/2016	Windsor Water Valley Sou	9	0	1	0	0	10
WR-18	LIGHT	Weld	06/23/2016	Windsor Water Valley Sou	4	0	0	0	0	4
WR-18	LIGHT	Weld	06/30/2016	Windsor Water Valley Sou	5	0	1	0	0	6
WR-18	LIGHT	Weld	07/07/2016	Windsor Water Valley Sou	3	0	3	0	0	6
WR-18	LIGHT	Weld	07/14/2016	Windsor Water Valley Sou	13	0	23	0	0	36
WR-18	LIGHT	Weld	07/21/2016	Windsor Water Valley Sou	7	0	8	0	0	15
WR-18	LIGHT	Weld	07/28/2016	Windsor Water Valley Sou	4	0	15	0	0	19
WR-18	LIGHT	Weld	08/04/2016	Windsor Water Valley Sou	0	0	7	0	0	7
WR-18	LIGHT	Weld	08/11/2016	Windsor Water Valley Sou	1	0	4	0	0	5
WR-18	LIGHT	Weld	08/18/2016	Windsor Water Valley Sou	0	0	9	0	0	9
WR-18	LIGHT	Weld	09/01/2016	Windsor Water Valley Sou	0	0	5	0	0	5



Adult Trap Data - Genus Summary

Trap #	Type	County	Date		Ae/Oc	An	Cx	Cs	Other	TOTAL
WR-FLOA	LIGHT	EMPTY	08/24/2016	OBSOLETE	5	0	3	0	0	8
					16,789		5,236		0	
						1		19		22,045



TOTAL	%
16,789	76 %
1	0 %
5,236	24 %
19	0 %
0	0 %

Appendix 3: Adult Sample Pool Data for West Nile Virus Positive Locations



Colorado Mosquito Control

Pool	Date	County	Trap Number	Quantity	Results	Species	Trap Type
CSU-9037	06/29/2016	Larimer	LV-020	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9093	07/06/2016	Larimer	LV-104	42	POSITIVE	Culex tarsalis	LIGHT
CSU-9118	07/07/2016	Larimer	FC-039	30	POSITIVE	Culex spp.	LIGHT
CSU-9144	07/07/2016	Larimer	FC-050	6	POSITIVE	Culex tarsalis	LIGHT
CSU-9184	07/11/2016	Larimer	FC-092gr	44	POSITIVE	Culex pipiens	GRAVID
CSU-9297	07/18/2016	Larimer	LV-095	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9310	07/18/2016	Larimer	FC-040gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9322	07/18/2016	Larimer	FC-036	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9401	07/21/2016	Larimer	FC-029gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9421	07/25/2016	Larimer	LV-069	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9465	07/26/2016	Larimer	FC-039	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9467	07/26/2016	Larimer	FC-039	3	POSITIVE	Culex pipiens	LIGHT
CSU-9468	07/26/2016	Larimer	FC-053	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9472	07/26/2016	Larimer	FC-064	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9475	07/26/2016	Larimer	FC-075gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9476	07/26/2016	Larimer	FC-075gr	26	POSITIVE	Culex pipiens	GRAVID
CSU-9489	07/26/2016	Larimer	FC-027	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9494	07/27/2016	Larimer	FC-069	32	POSITIVE	Culex tarsalis	LIGHT
CSU-9505	07/27/2016	Larimer	LV-020	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9535	07/28/2016	Larimer	FC-029gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9537	07/28/2016	Larimer	FC-054	24	POSITIVE	Culex tarsalis	LIGHT
CSU-9562	08/01/2016	Larimer	FC-040	50	POSITIVE	Culex pipiens	LIGHT
CSU-9566	08/01/2016	Larimer	FC-066	37	POSITIVE	Culex pipiens	LIGHT
CSU-9567	08/01/2016	Larimer	FC-036	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9571	08/01/2016	Larimer	FC-006	35	POSITIVE	Culex pipiens	LIGHT
CSU-9573	08/01/2016	Larimer	FC-066gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9591	08/02/2016	Larimer	FC-040gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9594	08/02/2016	Larimer	FC-031	2	POSITIVE	Culex pipiens	LIGHT
CSU-9602	08/02/2016	Larimer	FC-053	6	POSITIVE	Culex pipiens	LIGHT
CSU-9615	08/02/2016	Larimer	FC-004	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9619	08/02/2016	Larimer	FC-075gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9620	08/02/2016	Larimer	FC-075gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9621	08/02/2016	Larimer	FC-075gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9627	08/03/2016	Larimer	FC-050	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9648	08/03/2016	Larimer	FC-073	44	POSITIVE	Culex tarsalis	LIGHT
CSU-9656	08/04/2016	Larimer	FC-029gr	33	POSITIVE	Culex pipiens	GRAVID
CSU-9657	08/04/2016	Larimer	FC-001	20	POSITIVE	Culex tarsalis	LIGHT
CSU-9659	08/04/2016	Larimer	FC-054	41	POSITIVE	Culex tarsalis	LIGHT
CSU-9670	08/04/2016	Larimer	FC-068	10	POSITIVE	Culex tarsalis	LIGHT
CSU-9673	08/04/2016	Larimer	FC-037	48	POSITIVE	Culex tarsalis	LIGHT
CSU-9676	08/08/2016	Larimer	FC-066gr	21	POSITIVE	Culex pipiens	GRAVID
CSU-9678	08/08/2016	Larimer	FC-038	14	POSITIVE	Culex pipiens	LIGHT
CSU-9679	08/08/2016	Larimer	FC-014	50	POSITIVE	Culex tarsalis	LIGHT

CSU-9686	08/08/2016	Larimer	FC-066	48	POSITIVE	Culex tarsalis	LIGHT
CSU-9699	08/08/2016	Larimer	LV-069	9	POSITIVE	Culex pipiens	LIGHT
CSU-9708	08/08/2016	Larimer	FC-067	24	POSITIVE	Culex tarsalis	LIGHT
CSU-9711	08/09/2016	Larimer	FC-063gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9727	08/09/2016	Larimer	FC-049	49	POSITIVE	Culex pipiens	LIGHT
CSU-9737	08/09/2016	Larimer	LV-104	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9738	08/09/2016	Larimer	LV-104	34	POSITIVE	Culex tarsalis	LIGHT
CSU-9740	08/10/2016	Larimer	FC-073	14	POSITIVE	Culex tarsalis	LIGHT
CSU-9745	08/10/2016	Larimer	FC-036	6	POSITIVE	Culex tarsalis	LIGHT
CSU-9748	08/10/2016	Larimer	FC-040gr	11	POSITIVE	Culex pipiens	GRAVID
CSU-9752	08/10/2016	Larimer	FC-075gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9757	08/10/2016	Larimer	FC-064	9	POSITIVE	Culex tarsalis	LIGHT
CSU-9761	08/10/2016	Larimer	FC-088gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9762	08/10/2016	Larimer	FC-088gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9763	08/10/2016	Larimer	FC-088gr	46	POSITIVE	Culex pipiens	GRAVID
CSU-9767	08/10/2016	Larimer	FC-004	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9772	08/10/2016	Larimer	FC-027	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9776	08/10/2016	Larimer	FC-027	42	POSITIVE	Culex pipiens	LIGHT
CSU-9790	08/11/2016	Larimer	FC-029gr	4	POSITIVE	Culex pipiens	GRAVID
CSU-9797	08/11/2016	Larimer	FC-093	12	POSITIVE	Culex pipiens	LIGHT
CSU-9800	08/11/2016	Larimer	FC-089gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9805	08/11/2016	Larimer	FC-037	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9808	08/15/2016	Larimer	FC-069	38	POSITIVE	Culex tarsalis	LIGHT
CSU-9813	08/15/2016	Larimer	LV-069	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9819	08/15/2016	Larimer	FC-040gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9820	08/15/2016	Larimer	FC-040gr	36	POSITIVE	Culex pipiens	GRAVID
CSU-9826	08/15/2016	Larimer	FC-034	38	POSITIVE	Culex tarsalis	LIGHT
CSU-9828	08/15/2016	Larimer	FC-036	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9831	08/15/2016	Larimer	FC-006	34	POSITIVE	Culex tarsalis	LIGHT
CSU-9836	08/15/2016	Larimer	FC-066gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9838	08/15/2016	Larimer	FC-066gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9841	08/15/2016	Larimer	FC-092gr	40	POSITIVE	Culex pipiens	GRAVID
CSU-9845	08/15/2016	Larimer	FC-091gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9846	08/15/2016	Larimer	FC-091gr	30	POSITIVE	Culex pipiens	GRAVID
CSU-9854	08/15/2016	Larimer	FC-067	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9858	08/15/2016	Larimer	FC-067	49	POSITIVE	Culex pipiens	LIGHT
CSU-9862	08/16/2016	Larimer	LV-089	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9868	08/16/2016	Larimer	FC-075gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9869	08/16/2016	Larimer	FC-075gr	16	POSITIVE	Culex pipiens	GRAVID
CSU-9873	08/16/2016	Larimer	FC-075	23	POSITIVE	Culex tarsalis	LIGHT
CSU-9875	08/16/2016	Larimer	FC-088gr	54	POSITIVE	Culex pipiens	GRAVID
CSU-9876	08/16/2016	Larimer	FC-074	12	POSITIVE	Culex tarsalis	LIGHT
CSU-9877	08/16/2016	Larimer	FC-004	50	POSITIVE	Culex tarsalis	LIGHT
CSU-9880	08/16/2016	Larimer	FC-027	52	POSITIVE	Culex tarsalis	LIGHT
CSU-9904	08/17/2016	Larimer	FC-090gr	36	POSITIVE	Culex pipiens	GRAVID
CSU-9913	08/17/2016	Larimer	FC-049	15	POSITIVE	Culex tarsalis	LIGHT
CSU-9921	08/18/2016	Larimer	FC-089gr	46	POSITIVE	Culex pipiens	GRAVID
CSU-9930	08/18/2016	Larimer	FC-093	8	POSITIVE	Culex pipiens	LIGHT
CSU-9949	08/22/2016	Larimer	LV-069	26	POSITIVE	Culex tarsalis	LIGHT
CSU-9952	08/22/2016	Larimer	LV-079gr	47	POSITIVE	Culex pipiens	GRAVID
CSU-9954	08/23/2016	Larimer	LV-074gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9955	08/23/2016	Larimer	LV-074gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9957	08/23/2016	Larimer	FC-031	14	POSITIVE	Culex tarsalis	LIGHT
CSU-9961	08/23/2016	Larimer	FC-047	8	POSITIVE	Culex tarsalis	LIGHT
CSU-9976	08/23/2016	Larimer	FC-059	9	POSITIVE	Culex pipiens	LIGHT
CSU-9981	08/23/2016	Larimer	FC-088gr	35	POSITIVE	Culex pipiens	GRAVID
CSU-9984	08/23/2016	Larimer	FC-075gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-10000	08/24/2016	Larimer	FC-090gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-10001	08/24/2016	Larimer	FC-090gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-10006	08/24/2016	Larimer	FC-063gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-9991	08/24/2016	Larimer	LV-020	14	POSITIVE	Culex tarsalis	LIGHT
CSU-9999	08/24/2016	Larimer	FC-090gr	50	POSITIVE	Culex pipiens	GRAVID
CSU-10024	08/25/2016	Larimer	FC-040	13	POSITIVE	Culex pipiens	LIGHT
CSU-10027	08/25/2016	Larimer	FC-040gr	29	POSITIVE	Culex pipiens	GRAVID
CSU-10036	08/29/2016	Larimer	FC-075gr	48	POSITIVE	Culex pipiens	GRAVID
CSU-10038	08/29/2016	Larimer	FC-047	5	POSITIVE	Culex tarsalis	LIGHT
CSU-10044	08/29/2016	Larimer	FC-088gr	10	POSITIVE	Culex pipiens	GRAVID
CSU-10053	08/29/2016	Larimer	FC-050	10	POSITIVE	Culex pipiens	LIGHT
CSU-10067	08/30/2016	Larimer	FC-040gr	37	POSITIVE	Culex pipiens	GRAVID
CSU-10068	08/30/2016	Larimer	FC-092gr	6	POSITIVE	Culex pipiens	GRAVID
CSU-10097	08/31/2016	Larimer	FC-041	5	POSITIVE	Culex pipiens	LIGHT
CSU-10106	09/01/2016	Larimer	FC-029	1	POSITIVE	Culex tarsalis	LIGHT

Appendix 4: Town of Windsor Adulticide Application Data



Colorado Mosquito Control

Adulticide Data

Customer	Subdiv/Area	Material	Start Time	End Time	Miles
Windsor, Town of					
Backpack					
05/31/2016	Boardwalk Park	Talstar	09:00:00	09:30:00	0.5
05/31/2016	Eastman Park	Talstar	09:45:00	10:15:00	0.5
06/15/2016	Eastman Park	Talstar	13:55:00	14:55:00	1.5
07/27/2016	Eastman Park	Talstar	08:40:00	09:29:00	1.0
Backpack				Sum	3.5
				Avg	0.9
				Min	0.5
				Max	1.5
Truck					
06/09/2016	Hilltop Estates	Aqua Kontrol 30 30	22:28:00	22:45:00	4.0
06/09/2016	Steeplechase	Aqua Kontrol 30 30	21:20:00	22:15:00	11.0
06/09/2016	River Ridge	Aqua Kontrol 30 30	12:15:00	12:45:00	7.0
06/09/2016	Lake Osterhout	Aqua Kontrol 30 30	20:32:00	21:04:00	6.0
06/09/2016	Hilltop Estates	Aqua Kontrol 30 30	22:28:00	22:45:00	4.0
06/09/2016	Eastman Park	Aqua Kontrol 30 30	21:14:00	21:17:00	0.0
06/09/2016	East of 7th	Aqua Kontrol 30 30	22:26:00	23:24:00	13.0
06/09/2016	West of 7th	Aqua Kontrol 30 30	21:27:00	22:21:00	10.0
06/16/2016	River Ridge	Aqua Kontrol 30 30	23:22:00	23:53:00	7.0
06/16/2016	East of 7th	Aqua Kontrol 30 30	20:40:00	21:51:00	14.0
06/16/2016	West of 7th	Aqua Kontrol 30 30	22:11:00	23:10:00	12.0
06/23/2016	West of 7th	Aqua Kontrol 30 30	20:52:00	21:44:00	12.0
06/23/2016	Eastman Park	Aqua Kontrol 30 30	22:24:00	22:26:00	1.0
06/30/2016	RIVER RIDGE	Aqua Kontrol 30 30	22:09:00	22:17:00	7.0
06/30/2016	LAKE OSTERHOUT	Aqua Kontrol 30 30	23:36:00	12:06:00	6.0
06/30/2016	EASTMAN PARK	Aqua Kontrol 30 30	22:21:00	22:23:00	0.0
06/30/2016	EASTMAN PARK	Aqua Kontrol 30 30	22:21:00	22:23:00	0.0
06/30/2016	EAST OR 7TH	Aqua Kontrol 30 30	21:07:00	22:11:00	12.0
06/30/2016	WEST OF 7TH	Aqua Kontrol 30 30	22:33:00	11:29:00	12.0
06/30/2016	WEST OF 7TH	Aqua Kontrol 30 30	22:33:00	11:29:00	12.0
07/07/2016	West of 7th	Aqua Kontrol 30 30	21:06:00	22:03:00	12.0
07/07/2016	River Ridge	Aqua Kontrol 30 30	22:25:00	22:56:00	7.0
07/07/2016	North Shores	Aqua Kontrol 30 30	20:45:00	21:00:00	4.0
07/07/2016	Eastman Park	Aqua Kontrol 30 30	22:12:00	22:12:00	0.0
07/14/2016	West of 7th	Aqua Kontrol 30 30	12:20:00	01:11:00	12.0
07/14/2016	River West	Aqua Kontrol 30 30	01:23:00	01:40:00	3.0
07/14/2016	North Shores	Aqua Kontrol 30 30	22:03:00	22:21:00	4.0
07/14/2016	Lake Osterhout	Aqua Kontrol 30 30	22:32:00	23:01:00	6.0
07/14/2016	East of 7th	Aqua Kontrol 30 30	23:10:00	12:10:00	12.0
07/21/2016	West of 7th	Aqua Kontrol 30 30	23:48:00	12:36:00	11.0
07/21/2016	River West	Aqua Kontrol 30 30	12:45:00	01:14:00	7.0



Adulticide Data

Customer	Subdiv/Area	Material	Start Time	End Time	Miles
07/21/2016	North Shores	Aqua Kontrol 30 30	21:18:00	21:38:00	4.0
07/21/2016	Lee Lake	Aqua Kontrol 30 30	20:45:00	21:09:00	4.0
07/21/2016	Lake Osterhout	Aqua Kontrol 30 30	21:47:00	22:21:00	6.0
07/21/2016	East of 7th	Aqua Kontrol 30 30	22:28:00	23:36:00	12.0
07/28/2016	River Ridge	Aqua Kontrol 30 30	01:47:00	02:29:00	7.0
07/28/2016	Lake Osterhout	Aqua Kontrol 30 30	21:01:00	21:55:00	9.0
07/28/2016	Eastman Park	Aqua Kontrol 30 30	01:26:00	01:33:00	1.0
07/28/2016	East of 7th	Aqua Kontrol 30 30	22:08:00	23:37:00	13.0
07/28/2016	West of 7th	Aqua Kontrol 30 30	23:55:00	12:58:00	11.0
08/04/2016	River Ridge	Aqua Kontrol 30 30	12:15:00	12:32:00	3.0
08/04/2016	Lake Osterhout	Aqua Kontrol 30 30	23:13:00	12:09:00	13.0
08/04/2016	East of 7th	Aqua Kontrol 30 30	21:40:00	22:03:00	15.0
08/04/2016	West of 7th	Aqua Kontrol 30 30	20:34:00	21:39:00	11.0
08/11/2016	River West	Aqua Kontrol 30 30	20:37:00	21:00:00	4.0
08/11/2016	West of 7th	Aqua Kontrol 30 30	21:08:00	22:03:00	11.0
08/18/2016	River Ridge	Aqua Kontrol 30 30	21:30:00	21:50:00	4.0
Truck				Sum	356.0
				Avg	7.6
				Min	0.0
				Max	15.0
Grand Total					359.5