2008 Annual Report Larimer County Cooperative Mosquito Control Program City of Fort Collins



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Colorado Mosquito Control, Inc.

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On The Cover:

"Dragonfly Snack" – Mosquitoes are a food source for a wide variety of natural predators. Dragonflies, frogs, birds and bats eat many adult mosquitoes, while many species of fish and beneficial aquatic insects (including the nymph stage of dragonflies) feed on mosquito larvae in the water. However, in spite of having so many natural enemies, mosquitoes have evolved a very effective strategy to counter them; emergence in huge numbers. These mosquito population spikes effectively overwhelm the predators with more than they could ever possibly eat.

At Colorado Mosquito Control we value our partnership with these natural enemies, and therefore utilize control strategies and products that minimize affects on these non-target beneficials. CMC targets mosquito larvae by utilizing speciesspecific bacterial larvicides that do not harm dragonfly nymphs and other natural predators that may feed upon them.

Colorado Mosquito Control, Inc.

2008 ANNUAL REPORT

CITY OF FORT COLLINS MOSQUITO MANAGEMENT OPERATIONS

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CITY OF FORT COLLINS ENVIRONMENTAL MOSQUITO MANAGEMENT PROGRAM MISSION STATEMENT

The City of Fort Collins Environmental Mosquito Management Program completed its 5th year of cost effective biorational Integrated Mosquito Management operations in 2008. The need to protect the residents, recreational enthusiasts and visitors to the City of Fort Collins from the health risks and severe annoyance associated with biting mosquitoes is a chronic annual problem.

The primary objective of the City of Fort Collins Environmental Mosquito Management Program is to employ trained field biologists to suppress the development of larval mosquitoes in the aquatic habitats. CMC technicians utilize microbial larvicides, which enable reduction of mosquito larvae, without imposing negative impacts on the ecological community. Surveillance monitoring of the adult mosquito populations is an essential component of an Integrated Mosquito Management (IMM) program. Surveillance trapping performed in the City of Fort Collins provides the data used in assessment of WN Infection Rates in mosquitoes and the need for mosquito adulticiding based on the Infection Rates (IR). This focus enables a reduction in the overall mosquito populations, for both flying adults and those seeking new habitats to oviposit eggs. Data driven response with ULV technologies to reduce adult mosquito population reduces the threat of disease transmission and annoyances incurred by mosquitoes at the least possible cost, with the least possible impact on the people and natural environment.

In 2008, the City of Fort Collins renewed its annual contract with Colorado Mosquito Control, (CMC) Inc. to continue the City's Integrated Mosquito Management The City of Fort Collins Mosquito Management Program, under the Program. operation of CMC, has developed into one of the foremost environmentally sensitive and technologically advanced integrated mosquito management programs in the United States. Additionally, CMC has fostered cooperative efforts for mosquito control and epizootic response between surrounding municipalities, The Larimer County Department of Health and Environment (LCDHE), The Centers for Disease Control (CDC) Vector-Borne Disease unit in Fort Collins, The Colorado Division of Wildlife, Larimer County Open Space, and The Colorado Department of Health and Environment to respond to West Nile Virus (WNV) risk. CMC communicates the data obtained from surveillance monitoring of larval and adult mosquito populations to these entities to offset the risks associated with spikes in mosquito abundance. The value of this cooperative extension and its underlying data sharing in the interest of public health has enabled some of the strongest working levels of communication for mosquito control in the country.

CMC OBJECTIVES

Colorado Mosquito Control, Inc. (CMC) as the contractor for the City of Fort Collins Mosquito Management Program will use proven scientific Integrated Pest Management (IPM) methods of survey, inspection, diagnosis, biological/biochemical controls, natural predators and limited low-toxicity pesticide applications to professionally accomplish the service goals. CMC employs trained field and



surveillance technicians who observe constantly changing mosquito populations. This enables a quick response to variations in environmental factors. All of the methods and materials used have been reviewed and registered by the Environmental Protection Agency, Centers for Disease Control, the Colorado Department of Agriculture and the American Mosquito Control Association.

Colorado Mosquito Control (CMC), Inc. is a large-scale contractor specializing in complete Integrated Mosquito Management (IMM) services. Since its establishment in 1986, CMC has become the largest private company mosquito specializing in management operations in Colorado and is the only company in Colorado offering full scale IPM mosquito management services. CMC contracts services across the state of Colorado, performing mosquito management

operations to homeowners associations, incorporated cities and towns, mosquito control districts, Native American reservations, residential homeowners and surveillance monitoring for county health departments. Geographically, CMC reaches from the Ute Mountain Reservation in the southwest corner of the state to Fort Morgan in northeastern Colorado.

With 8 years of experience monitoring West Nile Virus, many individuals involved in the surveillance and management operations will stress the importance of reducing risk, by limiting exposure to mosquito bites. Reduction of mosquito bites can result from both educational programs and well developed mosquito management operations. Colorado Mosquito Control recognizes that *Culex tarsalis* mosquitoes are a component of our topography and land use practices. CMC will maintain its commitment to provide top quality service, via education outreach and data based management operations, in an effort to minimize West Nile Virus risk and reduce mosquito annoyances within our communities.

COOPERATIVE ENTITIES

As one of many Front Range communities dealing with West Nile Virus (WNV) on an annual basis, our understanding of WNV has grown significantly since it's detection in 2002. Our residents, native and migratory avian species, and local vector mosquitoes face the annual risk of becoming infected with West Nile Virus due to the variable weather patterns of the Colorado Front Range.

CMC works with multiple cities and counties along the Front Range to set the bar high. In doing so, we have stood on the frontline when developing best management practices with many local communities. The experience obtained by CMC, municipal officials, county health departments and operational divisions monitoring West Nile Virus have laid the foundation for emergency response plans. This knowledge base through cooperative data sharing has put in place the tools needed to manage future mosquito-borne disease outbreaks.



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2008 Season Perspective

Variations in temperature and precipitation throughout a season can alter the rate of larval development, the life span of adult mosquitoes and the abundance of mosquitoes. The 2008 mosquito season was no exception to the rule. This year presented changes in temperature, precipitation, irrigation and residential development to keep the demands of larviciding and surveillance monitoring on a



rollercoaster throughout the season.

Spring 2008 weather patterns did not coincide with past WNV outbreak years early on. Weather patterns during 2003 and 2007, the two most significant seasons for West Nile Virus human infection in Colorado, saw hot and wet early spring weather. This early season moisture is attributed to causing spikes in *Culex* mosquito activity and often leads to increased viral amplification for the remainder of a season.

CMC focused initial larviciding efforts on spring runoff and early season irrigation during May. Snow pack data reported by the Northern

http://sigmabiotech.com

Colorado Water Conservancy District for the South Platte Tributaries (including the Big Thompson and Poudre River basins) was 100% of the average in March 2008, 106% of

the average in April in 2008, and 97% of average in May 2008. These values were 125% in March 2007 versus 105% in March 2006, 102% in April 2007 versus 103% in April 2006, and 96% in May 2007 versus 67% in May 2006. Cooler spring temperatures and snowfall in mid March of 2008 pushed the peak spring runoff a few weeks later in 2008. This delay kept early season *Culex* mosquito data below

the data trends of epidemic seasons.

West Nile Virus testing of mosquito samples began on May 22nd with the Centers for Disease Control. The Colorado Department of Health and Environment began testing mosquito samples June 1st. State health officials confirmed the first two human cases of West Nile Virus for the season during June 2008. The cases were reported from Boulder and Logan counties.



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Initially mosquito surveillance trapping data for June 2008 appeared similar to the data for June 2004. Shortly into July 2008 the average mosquito per trap night data began to model the trends of July 2006. West Nile Virus activity typically spikes during July; therefore, it is no surprise that mosquito samples obtained from surveillance traps within Larimer County detected West Nile infected mosquitoes on July 15th. July trended 4.1°F above normal, and was also the driest month of the mosquito season. Weather patterns for temperature and precipitation data before July 2008 were below normal models and were following drought conditions based on ground water table levels.



Prior to rainfall during August 2008, the Front Range was looking at the driest conditions since 2002. Similar to August 2006, monsoonal rains during August 2008 made it the worst month for mosquito activity and West Nile Virus infection rates detected in mosquitoes.

Dip counts for larval mosquitoes slowed into late August. By the first days of September the species composition of *Culex* mosquitoes collected from trapping dropped to 1%-10% of total counts in most areas. Rainfall during the second week of September and a subsequent increase in daily median temperatures kept floodwater mosquito counts above normal throughout September. October brought fall conditions to a late mosquito season. The weather patterns of 2008 kept the infection rates and densities of *Culex* mosquitoes well below the levels monitored during 2007.

West Nile Virus 2008

Background

West Nile Virus was first identified in Uganda in 1937. Since that time, activity has been documented throughout Africa, Europe, West and Central Asia, and areas of the Middle East. The virus made its first appearance to North America in 1999 when it was documented in New York City. WNV comes from a family of viruses known as Flaviviridae and is closely related to other viruses which can have severe effects on both humans and animals, as is the case with Japanese Encephalitis and St. Louis encephalitis.

WNV has a wide range of symptoms which can range from mild flu like symptoms to death. Of humans affected, nearly 80% will show no symptoms at all. The majority of people who do show symptoms will usually suffer from flu like symptoms. However, approximately 1% of people will develop much more severe symptoms including meningitis (inflammation of the linings surrounding the brain and spinal cord), encephalitis (inflammation of the brain), or very rarely poliomyelitis which can cause paralysis in parts of the body.

Since the introduction of WNV to the United States in New York City in 1999, the virus has made a complete westward expansion to the West Coast. Starting in the Northeastern parts of the United States, the virus steadily progressed through the South, the Midwest, the Rocky Mountain region, and now the Western States. Although many states have shown decreased case counts since epidemic years, the Colorado Front Range presents the ideal habitat for *Culex tarsalis* mosquitoes to amplify West Nile Virus.

Past Years

Colorado first saw activity of the virus late in the summer of 2002. In 2003, Colorado was the hardest hit state compiling 2,947 human cases and 63 deaths most of which occurred along the Front Range. By 2004, the majority of the cases shifted to the Western Slope and the state totaled 291 cases with 4 deaths occurring in Mesa County. In 2004 and 2005, WNV activity was spread throughout the state of Colorado with no particular clustering in any one region. In 2006, early season hot and dry conditions kept initial adult mosquito populations low, but rainfall in early August caused resurgence in the Culex mosquito densities. WNV infection in mosquitoes presented the greatest risk in the months of August and September, as hundreds of positive mosquito pools resulted and over 269 human WNV cases were reported along the northern Front Range. Seven deaths occurred in 2006 across Colorado. Early season weather conditions in 2007 were perfect for the rapid development of *Culex tarsalis* mosquitoes and ramping of West Nile Virus during May and June. Also, early positive mosquito sample pool tests indicated trouble from the onset in 2007. The first three positive mosquito sample pools were obtained from Larimer County mosquito surveillance traps on June 19th. Weld County mosquito surveillance traps detected WNV positive sample pools on July 6th. Boulder County mosquito surveillance traps detected the first WNV mosquito sample pool on July 9th. The 2007 season was the second most active season for West Nile Virus cases following the 2003 epidemic year. Last year, Colorado reported 576 human cases

with 7 deaths. Of the total clinical diagnosis, 94 cases resulted in Larimer County, 98 cases from Weld County, and 95 cases were reported from Boulder County.

Colorado Perspective

The topography of the Northern Front Range causes much of the water that is diverted from the mountain regions to be used in flood irrigation of pastures and our own residential yards. Fluctuation in water levels above ½" typically results in floodwater mosquito larva in fields, cattail marshes, riparian areas and grasses. These sites typically do not drain quickly, dependent on levels of the ground water table, thereby causing multiple generations of *Culex* mosquito larva to result. Regardless of year, Larimer, Boulder and Weld counties report the greatest number of human West Nile Virus infections to other counties.

This trend is likely a combination of the topography for drainage, intermingled with the greatest proportion of the state's population residing along the Front Range. Exposure to *Culex tarsalis* mosquitoes along the Front Range becomes increased as residents enjoy summertime BBQ's and the numerous recreational activities our state has to offer. Given the amount of vector mosquitoes in our area and WNV risk, we all must apply mosquito repellents each time we step outdoors during the

Clinical Diagnosis of Human West Nile Virus Infections: Colorado, 2008										
Updated October 6, 2008 County of Residence New cases Fever Meningitis Encephalitis Total Total deaths										
County of Residence	New cases	Fever	Meningitis	Encephalitis	Total	Total deaths				
Adams		5			5					
Arapahoe		1	1		2					
Boulder		14	1	1	16					
Costilla		1			1					
Delta		1			1					
Denver	1.1	5	1		6	1.1				
Gunnison	1.1	1			1	1.1				
Jefferson		3		1	4					
Kiowa	1.1	1			1	1.1				
Larimer		9	2	1	12	1				
Logan		1			1					
Mesa		1			1					
Morgan		2			2	1.1				
Otero		3			3					
Phillips		1			1					
Pueblo	1.1	4			4	1.1				
Weld		17	5	2	24	1.1				
Yuma		1			1					
COLORADO										

mosquito season.

The CDC recommends the use of products containing active ingredients which have been registered by the U.S. Environmental Protection Agency (EPA) for use as repellents applied to skin and clothing. EPA registration of repellent active ingredients indicates the materials have been peer reviewed from scientific literature and approved for efficacy and human safety if applied according to the label.

CDC approved repellents for use on skin and clothing (updated May 8, 2008):

DEET Picaridin Oil of Lemon Eucalyptus or PMD (Not for children under 3 years of age) IR3535

In general, higher concentrations of active ingredient provide longer duration of protection, regardless of the active ingredient, although concentrations above \sim 50% do not offer a marked increase in protection time. Products with <10% active ingredient may offer only 1-2 hours of protection.

2008 West Nile Virus Activity in the United States (Reported to CDC as of October 7, 2008)





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2008 Field Activities

Since over 95% of CMC's operations are targeted toward larval mosquito control, that same percentage is applied in infrastructure to facilitate those operations. CMC's warehouse, material handling equipment, supply chain, data input, vehicle fleet, and application equipment are all designed to support our management services.

Every technician is assigned a CMC-owned fleet vehicle which is fully equipped with necessary larval surveillance equipment, larval control application equipment, and biological larvicide products. Each vehicle contains flyers and brochures about mosquito repellents and the Fight the Bite campaign for residential distribution. Technicians also have on hand reference sheets about larvicide control products and mission objectives for contracted



communities used in education outreach. Every vehicle contains Material Safety Data Sheets (MSDS) in accordance with Colorado Department of Agriculture requirements.



Hiring of seasonal technicians began in February and was completed by the first week of May. CMC management spent the winter months editing field notes, property ownership information, and production history for inspection priority in 2008. Early activities of the 2008 season also involved the review of GIS maps used during 2007. Sites often need updating or addition to the inspection program due to new development from construction within residential communities.

On April 1st, CMC field technicians began ground inspections for new sites within contracted areas. CMC inspection and larviciding (I&L) technicians also applied larvicides at known early season larval mosquito sites that are affected by snow melt and groundwater seepage from spring runoff.



2008 Annual Report City of Fort Collins Mosquito Management Operations - 10 - CMC's Annual Field Technician Classroom Training Day took place on May 19th with over 75 new and returning field technicians in attendance. Daily field training by CMC management and veteran employees was performed during the week of May 19th and routine field inspections were in full swing from May 26th through August 29th. The final day for larval inspections was September 12th, largely due to rainfall events and cool daily temperatures during this time, causing natural mortality in adult mosquitoes.

The 2008 City of Fort Collins Mosquito Management staff consisted of 17.5 Full-time Equivalent employees (FTE). Specifically, we had 1 Operations Manager, 1 Field Supervisor, 9 Field Technicians, 1 Fish Program Manager, 1 Urban Program Technician, 2 Adult Mosquito Control Applicators, 0.5 Surveillance Supervisor, 1 Surveillance Technician, 0.5 Maintenance Technician, and .5 Office Staff personnel.

The larval coverage area includes approximately 109 square miles of private and public lands, where permission is granted, within city limits of Fort Collins and a 1 mile buffer beyond city limits. Although many of the larval mosquito habitats are outside the city limits, all are well within the flight range of most mosquitoes. Larval control work outside the city will continue to remain a critical part of the overall operation of CMC. Studies have indicated that adult mosquitoes can travel several miles in search of a blood meal and new habitat for offspring. CMC's larval mosquito reduction across the control area greatly reduces the transient mosquito populations.

To date 1,264 larval mosquito habitats are included in the regular inspection and larviciding program for the City of Fort Collins Mosquito Management Program. There were 48 new larval sites added to the routine inspection program in 2008. In 2007 there were 1,221 active larval sites inspected by technicians as part of the regular inspection and larviciding program. A total of 43 new larval sites were found in 2007. In 2006 there were 1,196 active larval sites inspected by technicians as part of the regular inspection and larviciding program. A total of 85 new larval sites were found in 2007. In 2006 there were 1,196 active larval sites inspected by technicians as part of the regular inspection and larviciding program. A total of 85 new larval sites were found in 2006. In 2005, there were 1,057 active larval sites with 190 new larval sites located. In 2004, 867 active larval sites were inspected regularly for larval presence. The values listed do not include the Urban Mosquito Control Program. A total of 109 larval sites have been destroyed since the end of season in 2004. These sites were either physically demolished or the water source was removed.

Larval Mosquito Control

In 2008, the Northern Front Range did not receive heavy rains in May, June, or July; thereby, keeping floodwater mosquito species below normal in some areas. Exceptions to this occurred in areas that saw heavy flood irrigation or spring snow melt runoff along the river basins of the Big Thompson and Poudre River. Most of the significant mosquito populations early in the season were *Aedes species* resulting from river runoff and early season irrigation. Lab larval identification of mosquito samples collected during field inspections indicated an increase in *Culex tarsalis* mosquito larva during week 26 (late June) and another spike in the second week of July (week 28).

Over 95% of Colorado Mosquito Control operational efforts focus on larval control



Practical experience and research have shown that the most effective way to control mosquito populations is through an aggressive Integrated Pest Management (IPM) approach. This approach aims at using a variety of concepts, tools, and products to reduce a pest population to tolerable levels. Translating these ideas to mosquito control, CMC has found the most environmentally and economically sound approach is through targeting the aquatic larval stage of the mosquito. Targeting this stage prevents the emergence of the adult mosquito and thus, the inevitable result of disease and nuisance.

In 2008, 84% of the total sites inspected were wet upon inspection and 41% were producing mosquito larvae. In 2008, an estimated 6.46 million mosquito larvae were eliminated before emerging as biting adults. In 2007, 84% of the total site inspections consisted of wet sites with larval production at 51% of these sites. An estimated 6.43 million mosquito larvae were eliminated before emerging as biting adults in 2007. In 2006, 76% of the total site inspections consisted of wet sites with larval production at 41% of the total site. An estimated 7.78 million larvae were eliminated in 2006. In 2005, 84% of the total inspected sites were found wet, with larval production at 42% of the sites. An estimated 2.17 million larvae were eliminated in 2005. In 2004, 79% of the total inspected sites were found wet, with 33% larval production at these sites. An estimated 2.8 million larvae were eliminated in 2004. The percentages detailed include storm drains, backyard inspections, and sites within larval routes.



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Backyard Inspection Program

Culex pipiens is a known vector of WNV, are commonly found in artificial containers associated with residential settings. The Urban Mosquito Control Program expanded from 33 yards in 2004, to 71 in 2005, 95 in 2006, 91 in 2007, and 115 in 2008. There were 24 new larval backyard habitats plotted and added into ArcGIS for routine inspections this season.

Development of this program has resulted in a significant reduction of *Culex pipiens*, and numerous opportunities to educate residents about source reduction within their backyards. Since establishing the backyard inspection program in 2004, there have been 36 backyard sites destroyed/ removed from the inspection list, as resident action and compliance caused elimination. Resident compliance to correct the larval mosquito habitat has again provided support for the public relations and education that is associated with the Urban Backyard Inspection Program.

In 2008, there were 409 backyard site inspections (60.4% of the sites wet upon inspection) with application of larvicides at 214 (24.7%) of the sites. A total of .7 acres were treated to reduce an estimated 100,000 larvae. The larval control products used included 1.5 lbs of VectoBac (*Bti*), 17.5 lbs of Altosid, and 3.3 gallons of mineral oil.

Storm Drain Program

The storm drain program completed its 4th year in 2008. Priority for storm drain inspections were made in those areas of downtown Fort Collins. Most of the larval mosquito production in storm drains did not result until August rainfall, therefore *Culex pipiens* numbers remained below average prior to August. In 2008, 186 storm drains and catch basins were inspected for larval mosquito presence. Of these 85 (45.7%) drains were wet and 44 (4.2%) were producing mosquito larvae.

In June 2008, 68 storm drains were inspected and 0 drains were treated with larvicide controls. Priority drains were documented for re-inspection during rainfall events. In July 75 drains were inspected with larva found at only 9 drains. In August, 43 drains were inspected, with 35 drains producing mosquito larvae. An estimated 350,000 larvae were eliminated from applications of 2.99 lbs of Altosid and .8 gallons of mineral oil to storm drains and catch basins in 2008.

CMC communicates annually the locations of storm drains that historically produce mosquito larvae to the City of Fort Collins Strom Water Division. Storm Water personnel review this list for possible corrective action to problem drainage systems. The City of Fort Collins has been proactive in reducing standing water within these drains and catch basins when possible to limit larval mosquitoes.

Quality Control Inspections

The Quality Control Supervisor inspected a total of 252 sites within Larimer & Weld Counties during June, July, and August of 2008. Of these inspections, larval production was identified at 28 sites. The Quality Control Supervisor also covered inspections & a larviciding technician routes throughout the season, in the event a technician was sick, to review and maintain control efforts that had been performed prior to sick day (s). The percentage error between technician treatments and quality control review of inspections and applications was 11.1%. A total of 5.97 acres were retreated by the Quality Control Supervisor for sites selected at random, out of 3,970.6 acres treated for all accounts in these two counties.

The Quality Control Supervisor found that inaccuracies varied throughout the season. In the beginning of the season, the QC inspector identified deficiencies in sites that had not been inspected within the week. This finding is most likely a combination of a learning curve needed in locating sites, habitat development/ modification resulting from vegetative growth in prior years, and a surplus of work due to snow melt runoff during the early season. At the heat of the season some sites required twice a week inspections. This was the largest issue identified by the Quality Control Supervisor during July, which correlates with the spike in median daily temperatures during July. In August, many sites that had been dry, refilled with rainfall and caused floodwater hatches of mosquito larva at many sites. The fewest inaccuracies resulted in applications rates for larvicides applied. Review of larvicide applications through visual inspection and rate comparison did not reveal excessive applications of products. Deficiencies throughout the season were communicated by the Quality Control Supervisor to field technicians and the Operations Manager. This program is beneficial in improving expenses for larviciding products, efficiency in field inspections and applications, and compliance with label rates mandated on larvicide products.

Larval Control Agent Comparison

Larval mosquito control can be achieved in several ways including biological, biochemical, chemical, and mechanical means. Although there are a variety of methods for reducing larval populations, some options may have greater consequence than benefit. Mechanical or habitat modification is a technique which may be used, but the area to be modified and the extent to which the work will affect the surrounding area must be carefully assessed. Permanent ecological damage may occur if extensive habitat change has taken place. True biological controls may, too, have costs which outweigh the benefits or competency of their control capacity. The biological control, if not carefully selected may imbalance the natural ecological community.

CMC's favored method of larval mosquito control is through 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. Most Mosquito Abatement Districts have incorporated *Bti* applications into their management practices, given the specificity of these products on larval mosquitoes and the specific internal gut pH of the larva. The benefits of applications using *Bti* include its efficacy and lack of environmental impacts. When used properly, successful control without impact to 2008 Annual Report

aquatic invertebrates, birds, mammals, fish, amphibians, reptiles, or humans can be achieved. 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)*. In addition to all of the benefits of *Bti*, *Bs* is by definition a true biological control agent in that it remains in the system through multiple broods, or generations, of mosquitoes. Unfortunately, the residual benefit of the control comes at a cost in price at approximately three times that of *Bti*.



Other larval control products include a growth regulator (methoprene), a mineral oil, and an organophosphate (Abate). Methoprene is a synthetic copy of a juvenile growth hormone in larval mosquitoes. The hormone prevents normal development of the adult mosquito in the pupal stage eventually causing death. While a good control product, the cost is prohibitive to be the predominant product in a large scale program. The benefits of these products are the availability of 30 and 150 day formulations. Abate, the one chemical larval control product CMC uses, serves as an effective product, but label restrictions limit its use in many areas. CMC limits the use of chemical larvicides to areas with little biodiversity, such as gravel pits, or areas which chronically produce large amounts of mosquitoes, but only as a last resort when other solutions are not present. Mineral oil is the only product effective on the pupal stage and therefore is an essential tool when pupae are found.



All of the aforementioned methods and products represent the essential ingredients of Integrated Pest Management. Mosquitoes are very well adapted insects and can be found in many different habitat types from a cattail marsh to a cup littered on the side of the road. A variety of tools must be used to prevent resistance and ensure the best method will be available for any given situation.

Fathead Minnow Program

In 2005 Colorado Mosquito Control incorporated a fathead minnow giveaway program into the Integrated Mosquito Management services we provide. The intention of the giveaway is to provide residents of the community with a biological control option for *Culex pipiens* mosquitoes. Although many species of fish are consumers of mosquito larva; predatory fish, birds, and bats do not provide large scale control of mosquito populations to be used as the primary mechanism.

The Colorado Division of Wildlife (CDOW) has placed restrictions on the stocking of

certain species of fish. The CDOW prefers the stocking of fathead minnows on the eastern slope (*Pimephales promelas*), which is a native species to Colorado. Mosquito fish (*Gambusia affinis*), while an effective predator on mosquito larvae, are an introduced species,



and may have a larger impact on the native fish of Colorado waters. A very aggressive feeder and rapid reproducer, *Gambusia* often out-compete their native counterparts.

CMC's 4th annual fish give away was held on June 23^{rd,} at Ace Hardware locations in Fort Collins and Loveland. This giveaway enabled CMC to provide residents with approximately 1,500 fathead minnows for control within their own residential ponds. CMC also took requests from residents, for those not receiving fish, to independently stock residential ponds. Another 2,000 fathead minnows were distributed to residents by a CMC technician in the weeks following the giveaway event.

This season's giveaway will be the final one offered in a single day. Although the promotion of the giveaway has been a large success due to media coverage, the giveaway, which is intended for city and town residents, has drawn residents from unincorporated surrounding counties. When revisiting the addresses where fish were



stocked by residents or per resident request, many sites were found to be inadequate and did not justify the introduction of fish. CMC will continue to offer a fish stocking program; however, site stocking will be at CMC discretion on a bi-weekly basis in the month of June. Multiple stocking sessions will reduce the stress on fish during transportation and minimize their introduction to ponds and lakes. The goal of CMC is to maintain the purpose of this program, not create bait for other fish, or cause mass die-off of stocked minnows.

CMC Surveillance Laboratory

Data on mosquito abundance and species identity is critical in the operation of a successful mosquito management program. Over the past few years, identifying, packaging, and sending *Culex* mosquito pool samples to the CDPHE or CDC labs for West Nile Virus testing has also become critically important in the battle against



West Nile Virus and other mosquito-borne diseases. The Colorado Mosquito Control Surveillance Laboratory, managed by Dr. Michael "Doc" Weissmann, has become the largest single source of adult and larval mosquito surveillance data in the state of Colorado.

2008, Colorado Mosquito In Control monitored a statewide network with more 3,100 trap nights set, collecting than 416,000 adult mosquitoes that were counted and identified to species by the CMC Surveillance Laboratory. While individual provide only limited traps information, trap data is interpreted in the context of historical records for the same surveillance location, going back in time more than a decade in some locations. 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 Laboratory at Colorado Mosquito Control, Inc. are trained to provide accurate species identification of mosquito specimens for both adults and

larval mosquitoes. More than 50 mosquito species are believed to occur in Colorado and 20 of those were identified from samples processed during the 2008 season from across the state.

CMC employs two kinds of traps to monitor mosquito populations. The CDC light trap uses carbon-dioxide from dry ice as bait to attract female mosquitoes seeking a blood meal from a respiring animal. Once attracted by the CO_2 , the mosquitoes are lured by a small light to a fan that pulls them into a net for collection. The gravid trap



uses a tub of highly-organic water as bait to attract female mosquitoes that are

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Additionally, the CMC Surveillance Laboratory conducts an intensive larval identification program with over 10, 000 larval mosquito samples collected by I&L technicians. Collections are made prior to larvicide applications and identification of species information is retained in our database. This information is now invaluable in targeting mosquito control efforts as we gain a greater understanding of the habitat types preferred by mosquito species of Colorado 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 effectiveness 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.
- <u>Determining larval and adult mosquito species.</u> This helps to illustrate the threat of mosquito-borne disease amplification and transmission.
- Determining where adult control efforts were necessary. While mosquito eradication is impossible, significant population reduction is achievable. In places where larval control was insufficient, especially in neighborhoods where adult mosquitoes migrated in from larval sources outside of the control area, it may be necessary to use adulticide methods, such as ULV truck fogging or barrier sprays of nearby harborage areas. Trap counts that exceeded an acceptable threshold for an area would trigger adult control measures.
- <u>Surveillance for Mosquito-borne Disease</u>. 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.

CDC Surveillance Light Trap Data Comparison

In 2008, an average of 43 surveillance light trap locations (approximately 1 trap per square mile) monitored adult mosquito populations within the city limits of Fort Collins. CMC also collected data for the CDPHE/ LCDHE Sentinel Encephalitis Surveillance Program again in 2008. CDC battery-operated "light traps" were set weekly in each location to provide adult mosquito population data for seasonal comparison when weather conditions permitted viable data from trapping. Surveillance trapping began May 22nd and trapping was concluded on September 11th with rainfall and cooler temperatures during the first weeks of September.



In 2008, 633 surveillance light traps were set within the City of Fort Collins, which collected 95,372 total mosquitoes. The average number of mosquitoes collected per trap per night was 151 and the average number of *Culex* mosquitoes collected per trap per night was 17. The percent composition of mosquitoes collected in 2008 included 87.7% (83,615) *Aedes/Ochlerotatus spp.*, 11.1% (10,595) *Culex spp.*, 1.0% (971) *Culiseta spp.*, .01% (10) *Anopheles spp.*, and 189 (.19%) *Coquillettidia spp.* mosquitoes. These values include all Sentinel surveillance traps and traps set for private homeowner associations, paid for by homeowner associations, within city limits of Fort Collins. Please refer to the CDC Light Trap Details for Species Composition and Season Trends by individual surveillance trap location.



The Sentinel Encephalitis Surveillance Program was funded by the Colorado Department of Public Health and Environment (CDPHE), the City of Fort Collins and the City of Loveland for the second season. CMC maintained the sentinel system with five surveillance traps at permanent locations within a five mile radius (the center point at Fossil Ridge High School). The five surveillance trap locations were FC-04/Bighorn Drive, FC-14/Fort Collins Visitors Center, FC-53/Egret and Rookery, FC-67/Poudre River Trail at Mulberry and Lemay, and LV-095/Waterfront at Boyd Lake. All *Culex* mosquitoes were sent to the CDC for WN testing this season. The sentinel light traps were set once a week from June 1st to June 18th (week 25), set twice a week until August 6th (week 32) and then set once a week until September 12th (week 37).

There were 109 sentinel surveillance traps set in 2008 for the Larimer County Sentinel Encephalitis Surveillance Program, which collected a total of 25,205 mosquitoes. The average number of mosquitoes collected per trap per night in 2008 was 231 and the average *Culex* mosquitoes collected per trap per night was 49. In 2007, the average mosquitoes collected per trap per night was 275 and the average *Culex* mosquitoes was 54 for all sentinel traps. The sentinel trapping locations continue to provide the best composition of *Culex* mosquitoes on an annual basis, when compared to other surveillance locations regardless of season. Listed below is the Composite Report for all Sentinel Surveillance Locations in 2008.



CDC SURVEILLANCE GRAVID TRAP DATA COMPARISON

Last season, CMC established 5 permanent gravid trap locations generated from data obtained from surveillance gravid trapping history. Gravid traps were set at the 5 locations weekly to establish a permanent surveillance system for West Nile Virus transmission activity. Gravid traps primarily attract *Culex pipiens*, which prefer avian hosts when seeking a blood meal. Trapping and testing of *Culex pipiens* mosquitoes provides an indicator of viral amplification based on the infection rates and abundance of *Culex pipiens*.

There were 65 gravid traps set in 2008, which collected a total of 877 mosquitoes. The species breakdown of mosquitoes collected included; 103 (11.7%) *Aedes/Ochlerotatus spp.*, 764 (87.1%) *Culex pipiens*, and 10 (1.1%) *Culiseta spp.* mosquitoes. There were no WN+ mosquitoes detected from gravid mosquito traps in 2008. Please refer to 2008 Fort Collins Gravid Trap Composite Data Summary for season trends and gravid trapping species breakdown.

CDC/ CDPHE WN Virus Mosquito Confirmation Results

The Vector Index (VI) has been studied by the Centers for Disease Control and applied to the assessment of West Nile Virus risk for the 2004-2008 seasons to infection data from 2003. The objective for seasonal analysis of WN infection rates in mosquitoes has been to generate a tool that can evaluate the public health risk for transmission West Nile Virus in future years.

As defined on the CDPHE website, The Vector Index (VI) is a measure of infection rate adjusted for *Culex* mosquito population size within a given area. The value is an estimate of the number of West Nile Virus infected mosquitoes collected per trap per night. The data suggests that a vector index of .75 or above is an indicator of high risk for West Nile Virus transmission to human in the area.

(www.cdphe.state.co.us/dc/zoonosis/wnv/wnvsentinel.html)

This value is closely monitored by the Larimer County Department of Health and Environment and the CDPHE to evaluate the risk posed by the vector mosquito population.

In 2008, a total of 756 samples containing 11,366 *Culex* mosquitoes collected from City of Fort Collins mosquito surveillance traps were submitted to the Centers for Disease Control. There were 12 WN+ samples collected from mosquito surveillance traps in the City of Fort Collins. A total of 626 sample pools containing 7,435 *Culex* mosquitoes collected from City of Loveland mosquito surveillance traps were submitted to the Centers for Disease Control. There were 10 WN+ samples confirmed from surveillance traps in the City of Loveland.

There were 50 samples collected from surveillance traps within Unincorporated Larimer County, which contained 2,311 *Culex* mosquitoes, submitted to the Colorado Department of Health and Environment (CDPHE) for WN testing in 2008. There were 3 WN+ samples collected from unincorporated Larimer County surveillance traps.

Mosquito Sample Pool ID	Date	County	Trap Number	Trap Location	Sample Size	WNV Results	Species	Тгар Туре
C3645-CDC	07/15/2008 week 29	Larimer	FC-038	Lochside Lane	20	POSITIVE	Culex tarsalis	LIGHT
C3782-CDC	07/22/2008 week 30	Larimer	FC-067	Poudre River Trail	50	POSITIVE	Culex tarsalis	LIGHT
C3836-CDC	07/23/2008 week 30	Larimer	FC-033	Sage Creek	10	POSITIVE	Culex tarsalis	LIGHT
C3913-CDC	07/28/2008 week 31	Larimer	FC-014	FC Visitor's Center	46	POSITIVE	Culex tarsalis	LIGHT
P303733-CDPHE	07/28/2008 week 31	Larimer	LC-022	Town of Timnath- Golf Course	65	POSITIVE	Culex tarsalis	LIGHT
P303736-CDPHE	07/28/2008 week 31	Larimer	LC-010	Town of Timnath- 5th & Kern	50	POSITIVE	Culex tarsalis	LIGHT
C3939-CDC	07/29/2008 week 31	Larimer	FC-036	Hemlock	50	POSITIVE	Culex tarsalis	LIGHT
P303741-CDPHE	7/31/2008 week 31	Larimer	LC-017	Bonnell West HOA	53	POSITIVE	Culex tarsalis	LIGHT
C4047-CDC	8/4/2008 week 32	Larimer	FC-014	FC Visitor's Center	45	POSITIVE	Culex tarsalis	LIGHT
C4043-CDC	8/4/2008 week 32	Larimer	FC-067	Poudre River Trail	37	POSITIVE	Culex tarsalis	LIGHT
C4070-CDC	8/5/2008 week 32	Larimer	LV-069	Horseshoe Peninsula	17	POSITIVE	Culex tarsalis	LIGHT
C4109-CDC	8/6/2008 week 32	Larimer	FC-053	Egret & Rookery	50	POSITIVE	Culex tarsalis	LIGHT
C4105-CDC	8/6/2008 week 32	Larimer	LV-106	SW 12th & Garfield	40	POSITIVE	Culex tarsalis	LIGHT
C4181-CDC	8/12/2008 week 33	Larimer	FC-014	FC Visitor's Center	8	POSITIVE	Culex tarsalis	LIGHT
C4194-CDC	8/12/2008 week 33	Larimer	LV-069	Horseshoe Peninsula	50	POSITIVE	Culex tarsalis	LIGHT
C4179-CDC	8/12/2008 week 33	Larimer	FC-040	Redwood	20	POSITIVE	Culex tarsalis	LIGHT
C4244-CDC	8/13/2008 week 33	Larimer	LV-112	915 S Boise	24	POSITIVE	Culex tarsalis	LIGHT
C4227-CDC	8/13/2008 week 33	Larimer	FC-64	Kechter Farm@ WestChase	37	POSITIVE	Culex tarsalis	LIGHT
C4310-CDC	8/19/2008 week 34	Larimer	LV-004	29th & Madison	8	POSITIVE	Culex tarsalis	LIGHT
C4458-CDC	8/26/2008 week 35	Larimer	LV-080	Harding & Reagan	11	POSITIVE	Culex tarsalis	LIGHT
C4432-CDC	8/26/2008 week 35	Larimer	FC-066	Prospect Ponds	6	POSITIVE	Culex tarsalis	LIGHT
C4474-CDC	8/27/2008 week 35	Larimer	LV-104	CR 20C & 9E	2	POSITIVE	Culex tarsalis	LIGHT
C4493-CDC	8/27/2008 week 35	Larimer	LV-074	Jefferson & 11th	1	POSITIVE	Culex pipiens	LIGHT
C4462-CDC	8/27/2008 week 35	Larimer	LV-106	SW 12th & Garfield	10	POSITIVE	Culex tarsalis	LIGHT
C4541-CDC	8/29/2008 week 35	Larimer	LV-102	Glen Isle Ditch	14	POSITIVE	Culex pipiens	LIGHT

2008 CDC/ CDPHE WN Virus Mosquito Locations

In 2007, there were 134 mosquito samples confirmed WN+ in the City of Fort Collins. In 2007, there were 105 WN+ mosquito samples in the City of Loveland. There were 9 WN+ mosquito samples obtained from unincorporated areas of Larimer County in 2007. The City of Fort Collins surveillance traps detected 53 WN+ samples in 2006. The City of Loveland traps returned 49 WN+ mosquito sample pools in 2006. There were 10 mosquito samples found positive for WNV in Fort Collins 2005. There were 5 mosquito samples found positive for WNV in Loveland in 2005. In 2004, there were 2 mosquito sample pools obtained from surveillance traps in Fort Collins and no pools in Loveland. In 2003 both cities reported over 50 WNV positive mosquito sample pools, with variability in the number of surveillance traps set and scale of programs from 2003.

2008 Adult Control

The goal of Colorado Mosquito Control, Inc. is to provide all residents of the City of Fort Collins with the best options for safe, effective, modern mosquito management. The primary emphasis of the City of Fort Collins Mosquito Management Program is to control mosquitoes in the larval stage, using safe biological control products. This environmentally focused program maintains adulticiding applications as a final resort, *if*, vector mosquito populations surpass disease risk thresholds. Decisions for areas to be sprayed with adult mosquito control products are best determined from data driven results from mosquito surveillance monitoring operations. Adult mosquito surveillance efforts discussed in the previous section can help to pinpoint unidentified larval sites and target adult mosquito control spraying to specific sectors, thereby reducing the area and frequency a sector is sprayed.

Fort Collins City Council approved resolution 2008-062 to adopt a New West Nile Virus Policy on July 1, 2008. Reassessment of the resources, tools, and thresholds used in the management program was performed by a Technical Advisory Committee. The recommendations and conclusions were presented before City Council for approval. The Technical Advisory Committee and City Council deemed it necessary that in *some* years targeted ULV adult mosquito control may become needed in order to avert a public health emergency.



2008 Annual Report City of Fort Collins Mosquito Management Operations - 26 - Policy 2008-062 leaves the final decision for adult mosquito control applications with the city manager. Decisions for ULV spraying will assess the public health risk based off of numerous context variables. The final decision by the city manager will also consider recommendations from the Director of the Larimer County Department of Health and Environment and members of the Technical Advisory Committee. The variables used in the evaluation for public health risk and need for adult mosquito control will include; Vector Indices, vector population data, blood donor data from the State blood bank, human case counts, and historic data for epidemic and non epidemic years.

Although mosquitoes infected with West Nile Virus were detected from surveillance traps set in the City of Fort Collins, Vector Indices and Infection Rates did not warrant mosquito adulticide applications to be performed in the City of Fort Collins in 2008. It is important to note that CMC did adulticide on numerous occasions within the City of Fort Collins in 2008 at the request of several private homeowners' associations. It is also likely that adulticiding was done by other mosquito control contractors within city limits.



2008 Annual Report City of Fort Collins Mosquito Management Operations - 27 - Colorado Mosquito Control uses state of the art technology, correct application timing, and least-toxic products to minimize non-target impacts. All adult mosquito control is accomplished using calibrated Ultra Low Volume (ULV) equipment and performed after dusk. 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 activity is greatly reduced. Using this application technique, the overall goal of minimal environmental impact and effective adult control is achieved in the targeted area.

CMC continued use of the <u>water-based</u> product AquaLuer for ULV adult mosquito control in 2008. Its' active ingredient, permethrin, is highly effective against mosquitoes, while the water-base provides a much more environmentally sound solution to traditional petroleum oil-based adulticides. Results this year have again proven that this is the right choice for the adulticide portion of the Integrated Mosquito Management Program.

As we look towards the 2009 season, we will continue to evaluate treatment areas, and any new control products coming to the market, and as always listen to the goals and needs of our customers so that we will again have an effective program with the least amount of impact to the environment.

TECHNOLOGY

CMC has strived to incorporate advancements in technology with the sound principles of Integrated Pest Management and Integrated Mosquito Management programs. Continued program evolution framework into our along an environmentally oriented path must come from the implementation of new technologies and products as they emerge to enhance and improve traditional mosquito control activities. There are few new or novel larval and adult control products in development, and no "magic bullet" exists. CMC remains committed to improved environmentally sound mosquito control through the use technology as it emerges. CMC seeks to assist in mosquito research and technological advances that will improve the quality and efficiency of our mosquito control programs. CMC will strive to maintain working relationships with municipalities and industry professionals to respond to the technological needs and interests of the communities we serve.

In 2008, CMC participated in the following research programs:

- Centers for Disease Control West Nile Virus Study: Throughout the cities of Loveland and Fort Collins, CMC operated approximately 80 CO₂ baited light traps and identified adult mosquitoes weekly from May 22nd to September 12th. After genus and species identification was performed by CMC surveillance technicians, mosquito samples were sent to the Centers for Disease Control in Fort Collins for West Nile testing. CMC, the Larimer County Health Department, and the Colorado Department of Public Health and Environment used this information for immediate operational decisions. This information will also be used by the Centers of Disease Control to make mosquito control recommendations to communities across the country.
- 2) VectoMax Field Trial: Few new products are in development or coming to the market for mosquito control. Most new products that do make their way to shelves are generally new formulations of old ingredients. Many of these products still warrant a strong look to see if they may be viable or improved additions to the existing operations. One such product that CMC field tested in 2008 is VectoMax. CMC was approached by Valent BioSciences, the manufacturer of our microbial larvicide products containing *Bti* and *Bs*. VectoMax is a hybrid of the two bacterial species which combines to provide the excellent efficacy of *Bti* with the long term control action of *Bs*. While data analysis is still in progress, preliminary observations indicate that the product provided adequate control for multiple species of larvae during extended periods of time.

Comprehensive Mosquito Management System (CMMS)

CMC has saved valuable hours in manpower and costs in fuel resources through the implementation of our Comprehensive Mosquito Management System (CMMS). CMMS specifically addresses the needs for comprehensive data collection, storage, analysis, and reporting. Development of CMMS has enabled CMC to better monitor the larval production trends at specific sites both over the course of a season and on an annual basis. CMMS allows us to quickly analyze the history of individual sites to prioritize inspection visits and treatments at the sites that are known to produce mosquito larvae. The end result is a targeted listing of sites for field technicians to inspect which has been specifically chosen based on a complex algorithmic analysis of historical data. CMMS also stores all adult mosquito population data dating back to 1997, which can be accessed for species comparison by year. CMMS makes the analysis and dissemination of data to our customers on a daily, weekly or monthly basis just a click away.

Geographic Information Systems (GIS)

Geographic Information Systems (GIS) are an invaluable tool in many industries. CMC recognized the benefits of GIS systems to the application of mosquito surveillance and risk assessment operations during the mid-1990's. CMC maintains a large catalog of geospatial data detailing the locations of larval breeding sites, associated site information such as habitat type, water source, landowner information, and resident contact information. CMC corresponds with local municipalities to update roads, subdivisions, and parcel ownership files so that the



data is kept current for effective larval control operations and acquisition of residential property permission.

CMC also applies field data to GIS systems for the analysis and response to spikes in the vector and nuisance mosquito populations. CMC's ability to map both population data, in the form of dot density maps by surveillance location, and West Nile Virus positive mosquito sample locations, enables CMC to respond to outliers in the maps.

The maps used in CMC's ULV spray applications are derived from GIS mapping with specific paths for the applicators to follow and identification of call/ shutoff persons within a specific zone notated on the ULV spray zone map. When applicable to the service contract, which has incorporated ULV spraying into the IPM program, CMC posts a

map of ULV zones and spray dates for specific zones under the spray schedules on CMC's website.

Online Dashboard

The development of our online dashboard has proven to be a success in 2008! In many municipalities the link to CMC's dashboard from the contracted areas webpage has provided transparency of data for mosquito control operations directly to the residents. From the dashboard, data for specific mosquito traps, acres of larvicides applied, ULV miles sprayed and West Nile Virus positive mosquito locations can be accessed from the page options. Interactive reports on the dashboard are updated on a daily basis to contain all current data throughout the season. CMC encourages the distribution of this link to enable faster reporting about operations and answers to inquiries from the community.



2008 PUBLIC RELATIONS AND EDUCATION

Colorado Mosquito Control places a heavy emphasis on public relations, customer service, and community education as can be seen from our extensions in dissemination of data and cooperative focus across municipalities. With the continued interest in media coverage of West Nile Virus, residents have become increasingly more involved with mosquito management operations. In 2008, our staff focused on providing area residents and visitors with information on the program, what they can do to help, and offered solutions to localized problems such as mosquito breeding habitats, localized annoyance and protection from West Nile viral disease.

Residents are always encouraged to call the Mosquito Hotline or email the Operations Manager, Jessica Schurich at jschurich@comosquitocontrol.com, to report areas with high mosquito annoyance and potential standing water breeding habitats. A majority of phone calls received by CMC continue to be information requests regarding mosquito spraying, ways to reduce mosquito production, and details about the city's program. These calls compliment CDC light trap data, allow us to pinpoint problem areas, and ultimately provide another valuable resource for our control efforts.



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Our call notification database is updated throughout the year to ensure that the names, phone numbers, and addresses are correct before any spraying is planned for those residents on our call notification list.

In addition to the call notification system, CMC posts the evenings ULV spray schedules www.comosquitocontrol.com. at Zone posting occurs after mosquito surveillance traps are sorted and counted to determine adulticiding zones. This notification system works in conjunction with the call notification program for each account. The physical phone calls are made for residents who do not have access to a computer. Spray schedules are posted by 3pm daily. CMC has developed maps which detail the zones so that residents can cross reference which zones they reside in and if their zones is scheduled for spraying.



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Community Outreach and Education

In 2008, CMC further increased our community outreach programs to provide residents and visitors with a better understanding of the value and scope of their mosquito control program. Outreach has proven to have a very positive impact on the community. Throughout the summer, outreach events were attended at select city council meetings, television/ radio interviews, and fairs. The feedback we

received was extremely positive, not only from residents, but from local government attendees as well.

These outreach programs provided information and education on all areas of mosquito control and WNV risk. Individual program services were discussed, but an emphasis was also placed on what individuals can do to eliminate standing water on and around their property, how to reach us via phone and website, and even the proper



application of mosquito repellents. However, one of the most important messages conveyed was the importance and minimal environmental impact of larviciding. Many residents often see mosquito control as only a spray truck driving down the street. Residents are often pleased to learn that over 95% of their program composition involves larval control, and that there is no routine spraying in the City of Fort Collins. Because of the positive feedback of these educational outreach programs, we will continue these throughout the upcoming 2009 mosquito control season.


Figure 1. Fort Collins / Loveland Area Climate Comparison Data



Figure 2. Seasonal Comparison of Culex Mosquitoes per Trap per Night in the City of Fort Collins



Figure 3. Seasonal Comparison of Culex Mosquitoes per Trap per Night in the City of Loveland

















Other Culiseta Species Culex Species abundance: Aedes/Ochlerotatus Amopheles Number 10 57 0 0 Percent of Total 0.0 % 14.7 % 1.5 % 83.8 % 0.0 %

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Aug

Sep

38

D

Aedes-Oc Anopheles Culex Culiseta Other



Culex pipiens Culex tarsalis

Culiseta inornata Aedes vexans Aedes (Oc.) dorsalis Species collected: GPS: Location: Trap Type: Season:

Light/CO2

2008

FC-001: Magic Carpet

Total Mosquitoes —— Culex spp.





19

20

21 22 23

24 25 26

38

Total Mosquitoes — Culex spp.

Jun

Jul 27

Sep

Aedes-Oc Anopheles Culex Culiseta Other



Aedes-Oc Anopheles Culex Culiseta Other



Total Mosquitoes — Culex spp.

100 150

50

Week 17

Jun

Jul

Aug

Sep

Aedes-Oc Anopheles Culex Culiseta Other

18

19

38

Aedes-Oc Anopheles Culex Culiseta Other





Total Mosquitoes — Culex spp.

150

100

50

Week 17

Jun

Jul 27

Aug

Sep

Aedes-Oc Anopheles Culex Culiseta Other

18

24 25 26

38



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Aedes-Oc Anopheles Culex Culiseta

Culex pipiens Culex tarsalis Culiseta inornata Aedes (Oc.) melanimon Aedes (Oc.) trivitatus Trap Type: Location: Culex pipiens Culex tarsalis Other Culiseta Aedes (Oc.) melanimon Aedes vexans Species collected and abundance: Average Culex per trap/night: Average mosquitoes per trap/night: Total number of trap/nights set: GPS: Other Aedes (Oc.) increpitus Species collected: Average Culex per trap/night: Average mosquitoes per trap/night: GPS: Location: Season: Culex Genus Aedes (Oc.) dorsalis Total number of mosquitoes collected: Season: ©2008 Colorado Mosquito Control, Inc. Culex Species Species abundance: Aedes vexans Aedes (Oc.) dorsalis Total number of mosquitoes collected: Total number of trap/nights set: Trap Type: Genus Proportions: Culiseta Culiseta inornata Anopheles Aedes/Ochlerotatus Anopheles Aedes/Ochlerotatus N40° 35.939', W105° 0.426' Lockside Lane and Glenlock Drive Light/CO2 2008 N40° 36.008', W105° 4.771' Hemlock Street at Rivers Edge FCNA Light/CO2 2008 Number Number 3,244 86 21 170 3 2964 611 17 120 10 195 115 7 0 117 325 633 0 17 0 0 % Percent of Total Percent of Total 26.7 % 2.2 % 43.4 % 0.4 % 25.6 % 1.6 % 26.1 %0.0 %72.4 % 16.3 %83.3 % 0.0 % 1.8 %0.4 % 0.0~%0.0 % FC-038: Lockside Lane FC-036: Hemlock 16 3,894 243 40 16 449 28 7 600 100 200 400 800 80 20 40 60 Week 17 Week 17 18 18 19 19 20 21 20 21 Total Mosquitoes —— Culex spp. 22 22 Jun Jun 23 24 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 Total Mosquitoes —— Culex spp 25 Seasonality 26 Jul 27 Jul 28 29 30 31 Aug 32 33 34 35 36 37 Aug Aedes-Oc Anopheles Culex Culiseta Aedes-Oc Anopheles Culex Culiseta Other Sep Sep 38 38

Other

Juliseta Julex Species

2008 Colorado Mosquito Control, Inc.



Aug

Sep 37

38

Aedes-Oc Anopheles Culex Culiseta Other

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GPS:

Season:



Sep

38

36 37 Sep

38



Total Mosquitoes —— Culex spp.

Total Mosquitoes —— Culex spp.

25 26

38

Jul

Aug

Sep

Aedes-Oc Anopheles Culex Culiseta Other

Aedes-Oc Anopheles Culex Culiseta Other

38

Jul

Aug

Sep



Week 17

Jul

Aug

Sep

Aedes-Oc Anopheles Culex Culiseta Other

Total Mosquitoes

Culex spp.

Percent of Total Aedes-Oc Anopheles Culex Culiseta Other

69 971

Week 17

23 Jun

Jul

Aug

Sep

Total Mosquitoes — Culex spp.



Aug

Sep

38

Aedes-Oc Anopheles Culex Culiseta Other

Aug

Sep

38

Aedes-Oc Anopheles Culex Culiseta Other





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2000

<mark>iecies abundance:</mark> ecies Ni tes/Ochterotatus pheles lex	les (Oc.) dorsalis les (Oc.) increpitus les (Oc.) nelanimon les (Oc.) trivitatus les vexans les vexans puil ettidia perturbans ex pipiens
<u>ICE:</u> Number 19,778 10 295	691 26 1607 12 17442 17442 s 17442 10 187 187 15
<u>e:</u> Number Percent of Total 19,778 97.4 % 10 0.0 % 295 1.5 %	Cules tarsalis Culiseta inomata
	280 40
	Week 17 18 19 21 Jun 22 23 24 25 24 25 26 Jul 27 28 20 23 24 25 30 31 4 33 34 35 35 55 56 37 38
Aredes-Oc Arropheles Culix Culixeta Other	29 - 30 - 31 - 40g 32 - 33 - 34 - 35 - 36 - 56 - 37 - 38 -





Jun 22

Jul

Aedes-Oc Anopheles Culex Culiseta Other

33

38

Sep

Total Mosquitoes ----- Culex spp.

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Other

Other

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351 13 2 0.0 % 23.7 % 0.9 % 0.1 % Aedes-Oc Anopheles Culex Culiseta Other

Jun

Jul

Aug

Sep

24 25 26

38

Total Mosquitoes — Culex spp.



Adult Trap Data - Genus Summary

Trap #	Туре	County	Date		Ae/Oc	An	Сх	Cs	Other	ΤΟΤΑ
FC-001	LIGHT	Larimer	05/30/2008	Magic Carpet	0	0	0	0	0	
FC-001	LIGHT	Larimer	06/13/2008	Magic Carpet	0	0	0	0	0	
FC-001	LIGHT	Larimer	06/20/2008	Magic Carpet	30	0	0	0	0	3
FC-001	LIGHT	Larimer	06/27/2008	Magic Carpet	0	0	0	0	0	
FC-001	LIGHT	Larimer	07/03/2008	Magic Carpet	20	0	7	0	0	2
FC-001	LIGHT	Larimer	07/11/2008	Magic Carpet	49	0	10	1	0	6
FC-001	LIGHT	Larimer	07/18/2008	Magic Carpet	50	0	13	0	0	6
FC-001	LIGHT	Larimer	07/25/2008	Magic Carpet	18	0	22	0	0	4
FC-001	LIGHT	Larimer	08/01/2008	Magic Carpet	78	0	51	0	0	12
FC-001	LIGHT	Larimer	08/08/2008	Magic Carpet	8	0	13	0	0	2
FC-001	LIGHT	Larimer	08/15/2008	Magic Carpet	3	0	4	0	0	
FC-001	LIGHT	Larimer	08/22/2008	Magic Carpet	31	0	12	0	0	4
-C-001	LIGHT	Larimer	08/29/2008	Magic Carpet	11	0	3	1	0	1
FC-001	LIGHT	Larimer	09/05/2008	Magic Carpet	16	0	2	0	0	1
FC-002	LIGHT	Larimer	06/13/2008	3907 Benthaven	0	0	0	0	0	
FC-002	LIGHT	Larimer	06/20/2008	3907 Benthaven	0	0	0	0	0	
-C-002	LIGHT	Larimer	06/27/2008	3907 Benthaven	9	0	0	1	0	1
-C-002	LIGHT	Larimer	07/11/2008	3907 Benthaven	16	0	1	0	0	1
-C-002	LIGHT	Larimer	07/18/2008	3907 Benthaven	13	0	0	0	0	1
-C-002	LIGHT	Larimer	07/25/2008	3907 Benthaven	2	0	0	0	0	
-C-002	LIGHT	Larimer	08/01/2008	3907 Benthaven	1	0	5	0	0	
FC-002	LIGHT	Larimer	08/15/2008	3907 Benthaven	2	0	1	0	0	
-C-002	LIGHT	Larimer	08/22/2008	3907 Benthaven	7	0	1	0	0	
FC-002	LIGHT	Larimer	08/29/2008	3907 Benthaven	7	0	2	0	0	
-C-004	LIGHT	Larimer	06/02/2008	Bighorn Drive	0	0	0	0	0	
-C-004	LIGHT	Larimer	06/09/2008	Bighorn Drive	0	0	0	2	0	
-C-004	LIGHT	Larimer	06/16/2008	Bighorn Drive	39	0	1	0	0	4
-C-004	LIGHT	Larimer	06/23/2008	Bighorn Drive	271	0	3	0	0	27
-C-004	LIGHT	Larimer	06/24/2008	Bighorn Drive	167	0	1	0	0	16
-C-004	LIGHT	Larimer	06/30/2008	Bighorn Drive	135	0	6	0	0	14
-C-004	LIGHT	Larimer	07/01/2008	Bighorn Drive	36	0	6	1	0	4
-C-004	LIGHT	Larimer	07/07/2008	Bighorn Drive	57	0	14	0	0	7
-C-004	LIGHT	Larimer	07/08/2008	Bighorn Drive	20	0	5	0	0	2
-C-004	LIGHT	Larimer	07/14/2008	Bighorn Drive	27	0	47	0	0	7
-C-004	LIGHT	Larimer	07/15/2008	Bighorn Drive	16	0	27	1	0	4
-C-004	LIGHT	Larimer	07/21/2008	Bighorn Drive	20	0	38	0	0	5
-C-004	LIGHT	Larimer	07/22/2008	Bighorn Drive	9	0	49	0	0	5
-C-004	LIGHT	Larimer	07/28/2008	Bighorn Drive	30	0	94	1	0	12
-C-004	LIGHT	Larimer	07/29/2008	Bighorn Drive	10	0	46	0	0	Ę
-C-004	LIGHT	Larimer	08/04/2008	Bighorn Drive	9	0	60	0	0	(
-C-004	LIGHT	Larimer	08/05/2008	Bighorn Drive	22	0	85	0	0	10
FC-004	LIGHT	Larimer	08/12/2008	Bighorn Drive	15	0	37	0	0	5

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Trap #	Туре	County	Date		Ae/Oc	An	Сх	Cs	Other	ΤΟΤΑ
FC-004	LIGHT	Larimer	08/19/2008	Bighorn Drive	6	0	6	0	0	1:
FC-004	LIGHT	Larimer	08/26/2008	Bighorn Drive	5	0	8	0	0	1
FC-004	LIGHT	Larimer	09/04/2008	Bighorn Drive	23	0	2	0	0	2
FC-004	LIGHT	Larimer	09/10/2008	Bighorn Drive	5	0	1	0	0	
FC-006	LIGHT	Larimer	06/03/2008	North Linden	12	0	2	1	0	1
FC-006	LIGHT	Larimer	06/10/2008	North Linden	16	0	2	1	0	1
FC-006	LIGHT	Larimer	06/17/2008	North Linden	80	0	2	0	0	8
FC-006	LIGHT	Larimer	06/24/2008	North Linden	194	0	8	0	0	20
FC-006	LIGHT	Larimer	07/01/2008	North Linden	236	0	25	0	0	26
FC-006	LIGHT	Larimer	07/08/2008	North Linden	105	0	9	1	0	11
FC-006	LIGHT	Larimer	07/15/2008	North Linden	295	0	17	0	0	31
FC-006	LIGHT	Larimer	07/22/2008	North Linden	336	0	21	0	0	35
FC-006	LIGHT	Larimer	07/29/2008	North Linden	20	0	0	0	0	2
FC-006	LIGHT	Larimer	08/05/2008	North Linden	531	0	77	3	0	61
-006	LIGHT	Larimer	08/12/2008	North Linden	67	0	45	0	0	11
-006	LIGHT	Larimer	08/19/2008	North Linden	161	0	19	0	0	18
-006	LIGHT	Larimer	08/26/2008	North Linden	53	0	4	2	0	Ę
-C-011	LIGHT	Larimer	05/30/2008	Golden Current	0	0	0	1	0	
-C-011	LIGHT	Larimer	06/14/2008	Golden Current	9	0	0	0	0	
-C-011	LIGHT	Larimer	06/19/2008	Golden Current	52	0	0	1	0	ę
-C-011	LIGHT	Larimer	06/26/2008	Golden Current	128	0	1	4	0	13
-C-011	LIGHT	Larimer	07/03/2008	Golden Current	80	0	8	3	0	ç
FC-011	LIGHT	Larimer	07/10/2008	Golden Current	189	0	13	4	0	20
-C-011	LIGHT	Larimer	07/17/2008	Golden Current	248	0	13	2	0	26
FC-011	LIGHT	Larimer	07/24/2008	Golden Current	63	0	6	5	0	7
-C-011	LIGHT	Larimer	07/31/2008	Golden Current	594	0	15	0	0	60
-C-011	LIGHT	Larimer	08/08/2008	Golden Current	111	0	114	0	0	22
-C-011	LIGHT	Larimer	08/14/2008	Golden Current	41	0	11	0	0	ę
-C-011	LIGHT	Larimer	08/21/2008	Golden Current	152	0	39	2	0	19
-C-011	LIGHT	Larimer	08/28/2008	Golden Current	65	0	21	2	0	ε
-C-011	LIGHT	Larimer	09/05/2008	Golden Current	85	0	7	0	0	ç
-C-011	LIGHT	Larimer	09/11/2008	Golden Current	43	0	3	0	0	4
-C-014	LIGHT	Larimer	06/02/2008	Fort Collins Vistors Ctr	1	0	1	0	0	
-C-014	LIGHT	Larimer	06/09/2008	Fort Collins Vistors Ctr	0	0	1	0	0	
-C-014	LIGHT	Larimer	06/16/2008	Fort Collins Vistors Ctr	40	0	7	0	0	4
-C-014	LIGHT	Larimer	06/23/2008	Fort Collins Vistors Ctr	79	0	2	0	0	8
-C-014	LIGHT	Larimer	06/24/2008	Fort Collins Vistors Ctr	220	0	14	1	0	23
-C-014	LIGHT	Larimer	06/30/2008	Fort Collins Vistors Ctr	125	0	10	1	0	13
-C-014	LIGHT	Larimer	07/02/2008	Fort Collins Vistors Ctr	91	0	1	0	0	9
-C-014	LIGHT	Larimer	07/07/2008	Fort Collins Vistors Ctr	260	0	11	6	0	27
FC-014	LIGHT	Larimer	07/08/2008	Fort Collins Vistors Ctr	167	0	7	3	0	17
FC-014	LIGHT	Larimer	07/14/2008	Fort Collins Vistors Ctr	254	0	44	2	0	30

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FC-014	LIGHT	Larimer	07/15/2008	Fort Collins Vistors Ctr	332	0	29	12	0	373
FC-014	LIGHT	Larimer	07/21/2008	Fort Collins Vistors Ctr	98	0	56	1	0	155
FC-014	LIGHT	Larimer	07/22/2008	Fort Collins Vistors Ctr	56	0	10	1	0	67
FC-014	LIGHT	Larimer	07/28/2008	Fort Collins Vistors Ctr	80	0	46	2	0	128
FC-014	LIGHT	Larimer	07/29/2008	Fort Collins Vistors Ctr	27	0	25	2	0	54
FC-014	LIGHT	Larimer	08/04/2008	Fort Collins Vistors Ctr	43	0	45	0	0	88
FC-014	LIGHT	Larimer	08/05/2008	Fort Collins Vistors Ctr	50	0	38	1	0	89
FC-014	LIGHT	Larimer	08/12/2008	Fort Collins Vistors Ctr	23	0	8	0	0	31
FC-014	LIGHT	Larimer	08/19/2008	Fort Collins Vistors Ctr	110	0	8	0	0	118
FC-014	LIGHT	Larimer	08/26/2008	Fort Collins Vistors Ctr	38	0	21	1	0	60
FC-014	LIGHT	Larimer	09/03/2008	Fort Collins Vistors Ctr	48	0	0	0	0	48
FC-015	LIGHT	Larimer	06/14/2008	Stuart and Dorset	7	0	0	5	0	12
FC-015	LIGHT	Larimer	06/19/2008	Stuart and Dorset	111	0	1	0	0	112
FC-015	LIGHT	Larimer	06/26/2008	Stuart and Dorset	118	0	0	1	0	119
FC-015	LIGHT	Larimer	07/03/2008	Stuart and Dorset	24	0	1	0	0	25
FC-015	LIGHT	Larimer	07/10/2008	Stuart and Dorset	70	0	0	2	0	72
FC-015	LIGHT	Larimer	07/17/2008	Stuart and Dorset	13	0	13	0	0	26
FC-015	LIGHT	Larimer	07/24/2008	Stuart and Dorset	11	0	1	0	0	12
FC-015	LIGHT	Larimer	07/31/2008	Stuart and Dorset	15	0	1	0	0	16
FC-015	LIGHT	Larimer	08/14/2008	Stuart and Dorset	94	0	15	1	0	110
FC-015	LIGHT	Larimer	08/21/2008	Stuart and Dorset	21	0	1	0	0	22
FC-015	LIGHT	Larimer	08/28/2008	Stuart and Dorset	16	0	4	0	0	20
FC-015	LIGHT	Larimer	09/05/2008	Stuart and Dorset	9	0	0	0	0	9
FC-019	LIGHT	Larimer	06/03/2008	Edora Park	1	0	0	0	0	1
FC-019	LIGHT	Larimer	06/10/2008	Edora Park	0	0	0	2	0	2
FC-019	LIGHT	Larimer	06/17/2008	Edora Park	0	0	0	0	0	0
FC-019	LIGHT	Larimer	06/24/2008	Edora Park	369	0	4	0	0	373
FC-019	LIGHT	Larimer	07/01/2008	Edora Park	201	0	6	3	0	210
FC-019	LIGHT	Larimer	07/08/2008	Edora Park	85	0	6	3	0	94
FC-019	LIGHT	Larimer	07/15/2008	Edora Park	236	0	9	3	0	248
FC-019	LIGHT	Larimer	07/22/2008	Edora Park	191	0	24	2	0	217
FC-019	LIGHT	Larimer	07/29/2008	Edora Park	9	0	13	0	0	22
FC-019	LIGHT	Larimer	08/05/2008	Edora Park	36	0	30	0	0	66
FC-019	LIGHT	Larimer	08/12/2008	Edora Park	47	0	7	0	0	54
FC-019	LIGHT	Larimer	08/19/2008	Edora Park	23	0	5	0	0	28
FC-019	LIGHT	Larimer	08/26/2008	Edora Park	1	0	0	0	0	1
FC-019	LIGHT	Larimer	09/03/2008	Edora Park	52	0	12	0	0	64
FC-023	LIGHT	Larimer	05/30/2008	Boltz	0	0	0	2	0	2
FC-023	LIGHT	Larimer	06/04/2008	Boltz	2	0	3	3	0	8
FC-023	LIGHT	Larimer	06/11/2008	Boltz	0	0	0	0	0	0
FC-023	LIGHT	Larimer	06/18/2008	Boltz	66	0	5	0	0	71
FC-023	LIGHT	Larimer	06/25/2008	Boltz	36	0	0	0	0	36

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FC-023	LIGHT	Larimer	07/02/2008	Boltz	105	0	11	84	0	20
FC-023	LIGHT	Larimer	07/09/2008	Boltz	28	0	0	0	0	2
FC-023	LIGHT	Larimer	07/16/2008	Boltz	103	0	27	9	0	13
FC-023	LIGHT	Larimer	07/23/2008	Boltz	25	0	13	0	0	3
FC-023	LIGHT	Larimer	07/30/2008	Boltz	12	0	37	0	0	4
FC-023	LIGHT	Larimer	08/06/2008	Boltz	18	0	0	0	0	1
FC-023	LIGHT	Larimer	08/13/2008	Boltz	18	0	0	1	0	1
FC-023	LIGHT	Larimer	08/20/2008	Boltz	19	0	11	0	0	3
-C-023	LIGHT	Larimer	08/27/2008	Boltz	7	0	9	0	0	1
FC-023	LIGHT	Larimer	09/04/2008	Boltz	0	0	0	0	0	
-C-023	LIGHT	Larimer	09/11/2008	Boltz	23	0	1	0	0	2
FC-027	LIGHT	Larimer	05/30/2008	San Luis	1	0	0	0	0	
-C-027	LIGHT	Larimer	06/04/2008	San Luis	0	0	4	0	0	
-C-027	LIGHT	Larimer	06/11/2008	San Luis	15	0	4	0	0	1
-C-027	LIGHT	Larimer	06/18/2008	San Luis	748	0	0	0	0	74
-C-027	LIGHT	Larimer	06/25/2008	San Luis	660	0	10	0	0	67
-C-027	LIGHT	Larimer	07/02/2008	San Luis	191	0	0	0	0	19
-C-027	LIGHT	Larimer	07/09/2008	San Luis	194	0	18	0	0	21
-C-027	LIGHT	Larimer	07/16/2008	San Luis	105	0	46	1	0	15
-C-027	LIGHT	Larimer	07/23/2008	San Luis	18	0	11	0	0	2
-C-027	LIGHT	Larimer	07/30/2008	San Luis	56	0	73	0	0	12
-C-027	LIGHT	Larimer	08/06/2008	San Luis	212	0	31	0	0	24
-C-027	LIGHT	Larimer	08/13/2008	San Luis	105	0	22	0	0	12
-C-027	LIGHT	Larimer	08/20/2008	San Luis	33	0	2	0	0	3
-C-027	LIGHT	Larimer	08/27/2008	San Luis	60	0	13	0	0	7
C-027	LIGHT	Larimer	09/04/2008	San Luis	78	0	3	1	0	8
-C-027	LIGHT	Larimer	09/11/2008	San Luis	55	0	0	1	0	:
C-029	LIGHT	Larimer	05/30/2008	Bens Park	1	0	0	0	0	
C-029	LIGHT	Larimer	06/13/2008	Bens Park	3	0	0	0	0	
C-029	LIGHT	Larimer	06/20/2008	Bens Park	27	0	0	0	0	2
C-029	LIGHT	Larimer	06/27/2008	Bens Park	28	0	0	0	0	2
C-029	LIGHT	Larimer	07/03/2008	Bens Park	44	0	2	0	0	-
C-029	LIGHT	Larimer	07/11/2008	Bens Park	26	0	3	1	0	3
-C-029	LIGHT	Larimer	07/18/2008	Bens Park	8	0	0	1	0	
C-029	LIGHT	Larimer	07/25/2008	Bens Park	1	0	9	1	0	
C-029	LIGHT	Larimer	08/01/2008	Bens Park	7	0	16	0	0	:
C-029	LIGHT	Larimer	08/15/2008	Bens Park	1	0	1	0	0	4
C-029	LIGHT	Larimer	08/22/2008	Bens Park	14	0	3	0	0	
C-029	LIGHT						0			
		Larimer	08/29/2008	Bens Park Bens Park	0	0		0	0	
C-029	LIGHT	Larimer	09/05/2008		28	0	0	0	0	2
-C-030 -C-030	LIGHT LIGHT	Larimer Larimer	05/29/2008 06/04/2008	Cambridge Cambridge	5 29	0 0	0 6	5 1	0 0	1

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Trap #	Туре	County	Date		Ae/Oc	An	Сх	Cs	Other	ΤΟΤΑ
FC-030	LIGHT	Larimer	06/11/2008	Cambridge	0	0	0	0	0	(
FC-030	LIGHT	Larimer	06/18/2008	Cambridge	0	0	0	0	0	(
FC-030	LIGHT	Larimer	06/19/2008	Cambridge	6	0	1	0	0	7
FC-030	LIGHT	Larimer	06/25/2008	Cambridge	118	0	0	1	0	119
FC-030	LIGHT	Larimer	07/02/2008	Cambridge	3	0	0	0	0	:
FC-030	LIGHT	Larimer	07/09/2008	Cambridge	70	0	14	2	0	86
FC-030	LIGHT	Larimer	07/16/2008	Cambridge	0	0	1	0	0	
FC-030	LIGHT	Larimer	07/23/2008	Cambridge	8	0	4	0	0	1:
FC-030	LIGHT	Larimer	07/30/2008	Cambridge	21	0	23	1	0	4
FC-030	LIGHT	Larimer	08/06/2008	Cambridge	7	0	21	0	0	2
FC-030	LIGHT	Larimer	08/13/2008	Cambridge	9	0	2	0	0	1
FC-030	LIGHT	Larimer	08/20/2008	Cambridge	10	0	5	0	0	1
FC-030	LIGHT	Larimer	08/27/2008	Cambridge	10	0	2	0	0	1
FC-030	LIGHT	Larimer	09/04/2008	Cambridge	37	0	1	0	0	3
FC-031	LIGHT	Larimer	05/30/2008	Willow Spings	0	0	0	0	0	
FC-031	LIGHT	Larimer	06/04/2008	Willow Spings	0	0	0	0	0	
-C-031	LIGHT	Larimer	06/11/2008	Willow Spings	2	0	0	1	0	
-C-031	LIGHT	Larimer	06/18/2008	Willow Spings	0	0	0	0	0	
-C-031	LIGHT	Larimer	06/19/2008	Willow Spings	0	0	0	0	0	
-C-031	LIGHT	Larimer	06/25/2008	Willow Spings	81	0	0	0	0	8
FC-031	LIGHT	Larimer	07/02/2008	Willow Spings	0	0	0	0	0	
-C-031	LIGHT	Larimer	07/03/2008	Willow Spings	83	0	1	2	0	8
-C-031	LIGHT	Larimer	07/09/2008	Willow Spings	148	0	45	6	0	19
-C-031	LIGHT	Larimer	07/16/2008	Willow Spings	11	0	4	0	0	1
-C-031	LIGHT	Larimer	07/23/2008	Willow Spings	28	0	24	0	0	5
-C-031	LIGHT	Larimer	07/30/2008	Willow Spings	64	0	42	1	0	10
-C-031	LIGHT	Larimer	08/06/2008	Willow Spings	13	0	15	0	0	2
-C-031	LIGHT	Larimer	08/13/2008	Willow Spings	34	0	29	1	0	6
-C-031	LIGHT	Larimer	08/20/2008	Willow Spings	8	0	32	0	0	4
-C-031	LIGHT	Larimer	08/27/2008	Willow Spings	11	0	11	1	0	2
-C-031	LIGHT	Larimer	09/04/2008	Willow Spings	32	0	2	1	0	3
-C-031	LIGHT	Larimer	09/10/2008	Willow Spings	0	0	0	0	0	
-C-033	LIGHT	Larimer	05/29/2008	Sage Creek	1	0	0	2	0	
-C-033	LIGHT	Larimer	06/04/2008	Sage Creek	1	0	1	7	0	
-C-033	LIGHT	Larimer	06/11/2008	Sage Creek	19	0	1	5	0	2
- C-033	LIGHT	Larimer	06/18/2008	Sage Creek	187	0	5	3	0	19
-C-033	LIGHT	Larimer	06/25/2008	Sage Creek	95	0	4	2	0	10
-C-033	LIGHT	Larimer	07/02/2008	Sage Creek	87	0	1	0	0	8
C-033	LIGHT	Larimer	07/09/2008	Sage Creek	23	0	48	0	0	7
-C-033	LIGHT	Larimer	07/16/2008	Sage Creek	14	0	6	0	0	2
-C-033	LIGHT	Larimer	07/23/2008	Sage Creek	6	0	10	0	0	1
-C-033	LIGHT	Larimer	07/30/2008	Sage Creek	3	0	0	0	0	-

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FC-033	LIGHT	Larimer	08/06/2008	Sage Creek	6	0	35	0	0	4
FC-033	LIGHT	Larimer	08/13/2008	Sage Creek	25	0	12	0	0	3
FC-033	LIGHT	Larimer	08/20/2008	Sage Creek	29	0	26	1	0	5
FC-033	LIGHT	Larimer	08/27/2008	Sage Creek	0	0	0	0	0	
FC-033	LIGHT	Larimer	09/04/2008	Sage Creek	34	0	5	0	0	3
FC-033	LIGHT	Larimer	09/10/2008	Sage Creek	49	0	0	0	0	4
FC-034	LIGHT	Larimer	05/29/2008	Country Club	0	0	0	0	0	
FC-034	LIGHT	Larimer	06/03/2008	Country Club	30	0	0	0	0	3
FC-034	LIGHT	Larimer	06/10/2008	Country Club	0	0	0	0	0	
FC-034	LIGHT	Larimer	06/17/2008	Country Club	111	0	0	0	0	11
FC-034	LIGHT	Larimer	06/24/2008	Country Club	196	0	2	0	0	19
FC-034	LIGHT	Larimer	07/01/2008	Country Club	303	0	2	0	0	30
-C-034	LIGHT	Larimer	07/08/2008	Country Club	600	0	18	4	0	62
-C-034	LIGHT	Larimer	07/15/2008	Country Club	1362	0	89	11	0	1,46
-C-034	LIGHT	Larimer	07/22/2008	Country Club	4380	0	79	0	0	4,45
-C-034	LIGHT	Larimer	07/29/2008	Country Club	2296	0	9	0	0	2,30
-C-034	LIGHT	Larimer	08/05/2008	Country Club	906	0	69	0	0	97
-C-034	LIGHT	Larimer	08/12/2008	Country Club	315	0	32	3	0	35
-C-034	LIGHT	Larimer	08/19/2008	Country Club	104	0	42	0	0	14
-C-034	LIGHT	Larimer	08/26/2008	Country Club	64	0	15	4	0	8
-C-034	LIGHT	Larimer	09/03/2008	Country Club	91	0	1	1	0	ç
-C-034	LIGHT	Larimer	09/10/2008	Country Club	198	0	1	5	0	20
-C-036	LIGHT	Larimer	05/29/2008	Hemlock	2	0	1	1	0	
-C-036	LIGHT	Larimer	06/03/2008	Hemlock	12	0	4	1	0	1
-C-036	LIGHT	Larimer	06/10/2008	Hemlock	8	0	1	0	0	
-C-036	LIGHT	Larimer	06/17/2008	Hemlock	296	0	24	2	0	32
-C-036	LIGHT	Larimer	06/24/2008	Hemlock	381	0	37	0	0	41
-C-036	LIGHT	Larimer	07/01/2008	Hemlock	346	0	15	2	0	36
C-036	LIGHT	Larimer	07/08/2008	Hemlock	322	0	46	4	0	37
C-036	LIGHT	Larimer	07/15/2008	Hemlock	392	0	99	0	0	49
-C-036	LIGHT	Larimer	07/22/2008	Hemlock	167	0	105	0	0	27
-C-036	LIGHT	Larimer	07/29/2008	Hemlock	304	0	89	1	0	39
-C-036	LIGHT	Larimer	08/05/2008	Hemlock	489	0	140	2	0	63
-C-036	LIGHT	Larimer	08/12/2008	Hemlock	152	0	41	2	0	19
-C-036	LIGHT	Larimer	08/19/2008	Hemlock	144	0	16	0	0	16
-C-036	LIGHT	Larimer	08/26/2008	Hemlock	20	0	8	0	0	2
C-036	LIGHT	Larimer	09/03/2008	Hemlock	72	0	2	1	0	7
C-036	LIGHT	Larimer	09/10/2008	Hemlock	137	0	5	1	0	14
C-030	LIGHT	Larimer	06/13/2008	Chelsea Ridge	0	0	0	0	0	
C-037	LIGHT	Larimer	06/20/2008	Chelsea Ridge	16	0	0	0	0	1
C-037	LIGHT	Larimer	06/27/2008	Chelsea Ridge	2	0	0	0	0	
-C-037 -C-037	LIGHT	Larimer	06/27/2008	Chelsea Ridge	8	0	0	0	0	

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FC-037	LIGHT	Larimer	07/11/2008	Chelsea Ridge	17	0	2	1	0	20
FC-037	LIGHT	Larimer	07/18/2008	Chelsea Ridge	20	0	6	0	0	26
FC-037	LIGHT	Larimer	07/25/2008	Chelsea Ridge	10	0	6	0	0	16
FC-037	LIGHT	Larimer	08/01/2008	Chelsea Ridge	18	0	17	0	0	35
FC-037	LIGHT	Larimer	08/15/2008	Chelsea Ridge	7	0	4	0	0	11
FC-037	LIGHT	Larimer	08/22/2008	Chelsea Ridge	9	0	1	0	0	10
FC-037	LIGHT	Larimer	08/29/2008	Chelsea Ridge	8	0	6	0	0	14
FC-037	LIGHT	Larimer	09/05/2008	Chelsea Ridge	9	0	0	1	0	10
FC-038	LIGHT	Larimer	05/29/2008	Lockside Lane	0	0	0	0	0	C
FC-038	LIGHT	Larimer	06/03/2008	Lockside Lane	0	0	0	1	0	1
FC-038	LIGHT	Larimer	06/10/2008	Lockside Lane	0	0	0	0	0	C
FC-038	LIGHT	Larimer	06/13/2008	Lockside Lane	1	0	0	0	0	1
FC-038	LIGHT	Larimer	06/17/2008	Lockside Lane	23	0	1	0	0	24
FC-038	LIGHT	Larimer	06/24/2008	Lockside Lane	76	0	1	0	0	77
FC-038	LIGHT	Larimer	07/01/2008	Lockside Lane	9	0	2	0	0	11
FC-038	LIGHT	Larimer	07/08/2008	Lockside Lane	3	0	1	0	0	4
FC-038	LIGHT	Larimer	07/15/2008	Lockside Lane	33	0	20	1	0	54
FC-038	LIGHT	Larimer	07/22/2008	Lockside Lane	2	0	13	1	0	16
FC-038	LIGHT	Larimer	07/29/2008	Lockside Lane	12	0	17	0	0	29
FC-038	LIGHT	Larimer	07/29/2008	Lockside Lane	12	0	17	0	0	29
FC-038	LIGHT	Larimer	08/05/2008	Lockside Lane	33	0	22	3	0	58
FC-038	LIGHT	Larimer	08/12/2008	Lockside Lane	9	0	11	1	0	21
FC-038	LIGHT	Larimer	08/26/2008	Lockside Lane	27	0	4	0	0	31
FC-038	LIGHT	Larimer	09/03/2008	Lockside Lane	81	0	8	0	0	89
FC-038	LIGHT	Larimer	09/10/2008	Lockside Lane	4	0	0	0	0	4
FC-039	LIGHT	Larimer	05/22/2008	Fossil Creek S (Greenston	0	0	0	0	0	C
FC-039	LIGHT	Larimer	05/29/2008	Fossil Creek S (Greenston	2	0	0	4	0	6
FC-039	LIGHT	Larimer	06/04/2008	Fossil Creek S (Greenston	1	0	1	8	0	10
FC-039	LIGHT	Larimer	06/11/2008	Fossil Creek S (Greenston	0	0	0	0	0	C
FC-039	LIGHT	Larimer	06/18/2008	Fossil Creek S (Greenston	49	0	8	3	0	60
FC-039	LIGHT	Larimer	06/25/2008	Fossil Creek S (Greenston	85	0	4	6	0	95
FC-039	LIGHT	Larimer	07/02/2008	Fossil Creek S (Greenston	244	0	4	21	0	269
FC-039	LIGHT	Larimer	07/09/2008	Fossil Creek S (Greenston	13	0	18	0	0	31
FC-039	LIGHT	Larimer	07/16/2008	Fossil Creek S (Greenston	112	0	30	2	0	144
FC-039	LIGHT	Larimer	07/23/2008	Fossil Creek S (Greenston	70	0	18	0	0	88
FC-039	LIGHT	Larimer	07/30/2008	Fossil Creek S (Greenston	14	0	21	0	0	35
FC-039	LIGHT	Larimer	08/06/2008	Fossil Creek S (Greenston	8	0	41	0	0	49
FC-039	LIGHT	Larimer	08/13/2008	Fossil Creek S (Greenston	5	0	8	0	0	13
FC-039	LIGHT	Larimer	08/20/2008	Fossil Creek S (Greenston	41	0	11	1	0	53
FC-039	LIGHT	Larimer	08/27/2008	Fossil Creek S (Greenston	78	0	6	0	0	84
FC-039	LIGHT	Larimer	09/04/2008	Fossil Creek S (Greenston	38	0	0	2	0	40
FC-039	LIGHT	Larimer	09/10/2008	Fossil Creek S (Greenston	83	0	1	1	0	85

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Trap #	Туре	County	Date		Ae/Oc	An	Сх	Cs	Other	ΤΟΤΑ
FC-040	LIGHT	Larimer	05/29/2008	Redwood	5	0	0	2	0	
FC-040	LIGHT	Larimer	06/03/2008	Redwood	8	0	1	0	0	
FC-040	LIGHT	Larimer	06/10/2008	Redwood	16	0	2	2	0	2
FC-040	LIGHT	Larimer	06/17/2008	Redwood	149	0	9	1	0	15
FC-040	LIGHT	Larimer	06/24/2008	Redwood	192	0	2	0	0	19
FC-040	LIGHT	Larimer	07/01/2008	Redwood	461	0	21	11	0	49
FC-040	LIGHT	Larimer	07/08/2008	Redwood	223	0	21	0	0	24
-C-040	LIGHT	Larimer	07/15/2008	Redwood	415	0	67	10	0	49
-C-040	LIGHT	Larimer	07/22/2008	Redwood	208	0	118	4	0	33
-C-040	LIGHT	Larimer	07/29/2008	Redwood	126	0	42	3	0	17
-C-040	LIGHT	Larimer	08/05/2008	Redwood	188	0	39	1	0	22
FC-040	LIGHT	Larimer	08/12/2008	Redwood	53	0	30	3	0	8
FC-040	LIGHT	Larimer	08/19/2008	Redwood	18	0	24	2	0	4
FC-040	LIGHT	Larimer	08/26/2008	Redwood	27	0	4	0	0	3
-C-040	LIGHT	Larimer	09/03/2008	Redwood	58	0	5	3	0	6
-C-040	LIGHT	Larimer	09/10/2008	Redwood	14	0	1	1	0	
-C-041	LIGHT	Larimer	05/30/2008	Fishback	0	0	0	0	0	
-C-041	LIGHT	Larimer	06/14/2008	Fishback	11	0	0	0	0	
-C-041	LIGHT	Larimer	06/19/2008	Fishback	84	0	2	0	0	1
-C-041	LIGHT	Larimer	06/26/2008	Fishback	122	0	0	0	0	1:
-C-041	LIGHT	Larimer	07/03/2008	Fishback	1	0	0	0	0	
-C-041	LIGHT	Larimer	07/10/2008	Fishback	84	0	1	2	0	1
-C-041	LIGHT	Larimer	07/17/2008	Fishback	213	0	47	0	0	20
-C-041	LIGHT	Larimer	07/24/2008	Fishback	51	0	22	1	0	7
-C-041	LIGHT	Larimer	07/31/2008	Fishback	45	0	38	4	0	8
-C-041	LIGHT	Larimer	08/08/2008	Fishback	29	0	61	0	0	9
-C-041	LIGHT	Larimer	08/14/2008	Fishback	39	0	39	0	0	7
-C-041	LIGHT	Larimer	08/21/2008	Fishback	2	0	2	0	0	
-C-041	LIGHT	Larimer	08/28/2008	Fishback	42	0	11	0	0	:
-C-041	LIGHT	Larimer	09/05/2008	Fishback	39	0	4	0	0	4
-C-041	LIGHT	Larimer	09/11/2008	Fishback	23	0	2	0	0	2
-C-046	LIGHT	Larimer	06/04/2008	725 Westshore Court	0	0	0	0	0	
-C-046	LIGHT	Larimer	06/11/2008	725 Westshore Court	0	0	0	0	0	
-C-046	LIGHT	Larimer	06/18/2008	725 Westshore Court	61	0	1	0	0	(
-C-046	LIGHT	Larimer	06/25/2008	725 Westshore Court	523	0	2	0	0	52
-C-046	LIGHT	Larimer	07/02/2008	725 Westshore Court	15	0	1	0	0	
-C-046	LIGHT	Larimer	07/09/2008	725 Westshore Court	25	0	3	1	0	:
-C-046	LIGHT	Larimer	07/16/2008	725 Westshore Court	9	0	2	0	0	
-C-046	LIGHT	Larimer	07/23/2008	725 Westshore Court	0	0	1	0	0	
-C-046	LIGHT	Larimer	07/30/2008	725 Westshore Court	6	0	18	2	0	:
-C-046	LIGHT	Larimer	08/06/2008	725 Westshore Court	1	0	4	0	0	
-C-046	LIGHT	Larimer	08/13/2008	725 Westshore Court	7	0	11	0	0	

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Trap #	Туре	County	Date		Ae/Oc	An	Сх	Cs	Other	ΤΟΤΑΙ
FC-046	LIGHT	Larimer	08/20/2008	725 Westshore Court	14	0	7	0	0	21
FC-046	LIGHT	Larimer	08/27/2008	725 Westshore Court	5	0	1	0	0	6
FC-046	LIGHT	Larimer	09/04/2008	725 Westshore Court	0	0	0	0	0	(
FC-047	LIGHT	Larimer	06/04/2008	Keenland & Twin Oak	0	0	0	0	0	C
FC-047	LIGHT	Larimer	06/11/2008	Keenland & Twin Oak	3	0	0	0	0	3
FC-047	LIGHT	Larimer	06/18/2008	Keenland & Twin Oak	0	0	0	0	0	0
FC-047	LIGHT	Larimer	06/25/2008	Keenland & Twin Oak	33	0	1	0	0	34
FC-047	LIGHT	Larimer	07/02/2008	Keenland & Twin Oak	10	0	0	0	0	10
FC-047	LIGHT	Larimer	07/09/2008	Keenland & Twin Oak	15	0	2	0	0	17
FC-047	LIGHT	Larimer	07/16/2008	Keenland & Twin Oak	7	0	0	0	0	7
FC-047	LIGHT	Larimer	07/23/2008	Keenland & Twin Oak	4	0	4	0	0	8
FC-047	LIGHT	Larimer	07/30/2008	Keenland & Twin Oak	4	0	0	0	0	4
FC-047	LIGHT	Larimer	08/06/2008	Keenland & Twin Oak	4	0	4	0	0	8
FC-047	LIGHT	Larimer	08/13/2008	Keenland & Twin Oak	6	0	5	0	0	11
FC-047	LIGHT	Larimer	08/20/2008	Keenland & Twin Oak	13	0	2	0	0	15
FC-047	LIGHT	Larimer	08/27/2008	Keenland & Twin Oak	3	0	0	0	0	3
FC-047	LIGHT	Larimer	09/04/2008	Keenland & Twin Oak	19	0	0	0	0	19
FC-049	LIGHT	Larimer	06/14/2008	Casa Grande and Downin	0	0	0	0	0	(
FC-049	LIGHT	Larimer	06/19/2008	Casa Grande and Downin	27	0	0	1	0	28
FC-049	LIGHT	Larimer	06/26/2008	Casa Grande and Downin	17	0	0	0	0	17
FC-049	LIGHT	Larimer	07/10/2008	Casa Grande and Downin	13	0	1	0	0	14
FC-049	LIGHT	Larimer	07/17/2008	Casa Grande and Downin	15	0	10	2	0	27
FC-049	LIGHT	Larimer	07/24/2008	Casa Grande and Downin	1	0	4	0	0	Ę
FC-049	LIGHT	Larimer	07/31/2008	Casa Grande and Downin	6	0	11	1	0	18
FC-049	LIGHT	Larimer	08/08/2008	Casa Grande and Downin	6	0	4	0	0	10
FC-049	LIGHT	Larimer	08/14/2008	Casa Grande and Downin	5	0	1	0	0	e
FC-049	LIGHT	Larimer	08/21/2008	Casa Grande and Downin	4	0	1	0	0	5
FC-049	LIGHT	Larimer	08/28/2008	Casa Grande and Downin	2	0	0	0	0	2
FC-050	LIGHT	Larimer	06/04/2008	Golden Meadows Ditch	0	0	0	0	0	(
FC-050	LIGHT	Larimer	06/11/2008	Golden Meadows Ditch	0	0	0	0	0	0
FC-050	LIGHT	Larimer	06/18/2008	Golden Meadows Ditch	56	0	0	0	0	56
FC-050	LIGHT	Larimer	06/25/2008	Golden Meadows Ditch	47	0	0	0	0	47
FC-050	LIGHT	Larimer	07/02/2008	Golden Meadows Ditch	15	0	4	0	0	19
FC-050	LIGHT	Larimer	07/09/2008	Golden Meadows Ditch	15	0	2	0	0	17
FC-050	LIGHT	Larimer	07/16/2008	Golden Meadows Ditch	3	0	3	0	0	e
FC-050	LIGHT	Larimer	07/23/2008	Golden Meadows Ditch	4	0	8	0	0	12
FC-050	LIGHT	Larimer	07/30/2008	Golden Meadows Ditch	0	0	11	0	0	11
FC-050	LIGHT	Larimer	08/06/2008	Golden Meadows Ditch	1	0	7	0	0	E
FC-050	LIGHT	Larimer	08/14/2008	Golden Meadows Ditch	7	0	4	0	0	11
FC-050	LIGHT	Larimer	08/20/2008	Golden Meadows Ditch	10	0	5	0	0	15
FC-050	LIGHT	Larimer	08/27/2008	Golden Meadows Ditch	6	0	1	0	0	7
FC-050	LIGHT	Larimer	09/04/2008	Golden Meadows Ditch	17	0	1	0	0	18

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ΤΟΤΑ	Other	Cs	Сх	An	Ae/Oc		Date	County	Туре	Trap #
	0	0	0	0	0	603 Gilgalad Way	05/30/2008	Larimer	LIGHT	FC-052
3	0	0	0	0	37	603 Gilgalad Way	06/14/2008	Larimer	LIGHT	FC-052
8	0	2	1	0	82	603 Gilgalad Way	06/19/2008	Larimer	LIGHT	FC-052
14	0	0	0	0	141	603 Gilgalad Way	06/26/2008	Larimer	LIGHT	FC-052
9	0	12	0	0	78	603 Gilgalad Way	07/03/2008	Larimer	LIGHT	FC-052
1	0	6	4	0	9	603 Gilgalad Way	07/10/2008	Larimer	LIGHT	FC-052
4	0	9	5	0	35	603 Gilgalad Way	07/17/2008	Larimer	LIGHT	FC-052
7	0	7	4	0	62	603 Gilgalad Way	07/24/2008	Larimer	LIGHT	FC-052
	0	0	3	0	4	603 Gilgalad Way	07/31/2008	Larimer	LIGHT	FC-052
	0	0	8	0	0	603 Gilgalad Way	08/08/2008	Larimer	LIGHT	FC-052
1	0	4	1	0	10	603 Gilgalad Way	08/14/2008	Larimer	LIGHT	FC-052
1	0	0	2	0	17	603 Gilgalad Way	08/21/2008	Larimer	LIGHT	FC-052
2	0	0	3	0	23	603 Gilgalad Way	08/28/2008	Larimer	LIGHT	FC-052
2	0	0	1	0	22	603 Gilgalad Way	09/05/2008	Larimer	LIGHT	FC-052
	0	0	1	0	5	603 Gilgalad Way	09/11/2008	Larimer	LIGHT	FC-052
1	0	5	10	0	1	Egret and Rookery	06/02/2008	Larimer	LIGHT	FC-053
	0	0	2	0	0	Egret and Rookery	06/10/2008	Larimer	LIGHT	FC-053
4	0	0	24	0	21	Egret and Rookery	06/16/2008	Larimer	LIGHT	FC-053
39	0	8	167	0	220	Egret and Rookery	06/23/2008	Larimer	LIGHT	FC-053
34	0	6	82	0	260	Egret and Rookery	06/24/2008	Larimer	LIGHT	FC-053
46	0	12	40	0	415	Egret and Rookery	06/30/2008	Larimer	LIGHT	FC-053
71	0	12	98	0	606	Egret and Rookery	07/01/2008	Larimer	LIGHT	FC-053
90	0	20	173	0	710	Egret and Rookery	07/07/2008	Larimer	LIGHT	FC-053
90	0	11	136	0	762	Egret and Rookery	07/08/2008	Larimer	LIGHT	FC-053
53	0	9	195	0	330	Egret and Rookery	07/14/2008	Larimer	LIGHT	FC-053
1,36	0	56	337	0	976	Egret and Rookery	07/15/2008	Larimer	LIGHT	FC-053
38	0	2	163	0	218	Egret and Rookery	07/21/2008	Larimer	LIGHT	FC-053
23	0	0	91	0	140	Egret and Rookery	07/22/2008	Larimer	LIGHT	FC-053
43	0	2	133	0	300	Egret and Rookery	07/28/2008	Larimer	LIGHT	FC-053
15	0	2	78	0	74	Egret and Rookery	07/29/2008	Larimer	LIGHT	FC-053
22	0	3	145	0	76	Egret and Rookery	08/05/2008	Larimer	LIGHT	FC-053
24	0	0	147	0	96	Egret and Rookery	08/06/2008	Larimer	LIGHT	FC-053
10	0	0	62	0	40	Egret and Rookery	08/12/2008	Larimer	LIGHT	FC-053
20	0	4	59	0	146	Egret and Rookery	08/19/2008	Larimer	LIGHT	FC-053
	0	0	0	0	0	Egret and Rookery	08/26/2008	Larimer	LIGHT	FC-053
5	0	0	4	0	47	Egret and Rookery	09/04/2008	Larimer	LIGHT	FC-053
9	0	0	8	0	86	Egret and Rookery	09/10/2008	Larimer	LIGHT	FC-053
	0	0	0	0	0	737 Parilment Court	05/30/2008	Larimer	LIGHT	FC-054
1	0	0	0	0	16	737 Parilment Court	06/13/2008	Larimer	LIGHT	FC-054
6	0	0	2	0	60	737 Parilment Court	06/20/2008	Larimer	LIGHT	FC-054
1	0	0	1	0	8	737 Parilment Court	06/27/2008	Larimer	LIGHT	FC-054
12	0	0	1	0	122	737 Parilment Court	07/03/2008	Larimer	LIGHT	FC-054

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Trap #	Туре	County	Date		Ae/Oc	An	Сх	Cs	Other	TOTAL
FC-054	LIGHT	Larimer	07/11/2008	737 Parilment Court	72	0	21	6	0	99
FC-054	LIGHT	Larimer	07/18/2008	737 Parilment Court	48	0	4	2	0	54
FC-054	LIGHT	Larimer	07/25/2008	737 Parilment Court	6	0	1	0	0	7
FC-054	LIGHT	Larimer	08/01/2008	737 Parilment Court	46	0	24	1	0	71
FC-054	LIGHT	Larimer	08/08/2008	737 Parilment Court	15	0	4	0	0	19
FC-054	LIGHT	Larimer	08/15/2008	737 Parilment Court	12	0	0	0	0	12
FC-054	LIGHT	Larimer	08/22/2008	737 Parilment Court	83	0	12	1	0	96
FC-054	LIGHT	Larimer	08/29/2008	737 Parilment Court	37	0	3	2	0	42
FC-054	LIGHT	Larimer	09/05/2008	737 Parilment Court	144	0	0	2	0	146
FC-057	LIGHT	Larimer	05/30/2008	Registry Ridge- End of Ra	18	0	0	1	0	19
FC-057	LIGHT	Larimer	06/13/2008	Registry Ridge- End of Ra	1	0	0	0	0	1
FC-057	LIGHT	Larimer	06/20/2008	Registry Ridge- End of Ra	109	0	2	0	0	111
FC-057	LIGHT	Larimer	06/27/2008	Registry Ridge- End of Ra	14	0	0	0	0	14
FC-057	LIGHT	Larimer	07/03/2008	Registry Ridge- End of Ra	0	0	0	0	0	0
FC-057	LIGHT	Larimer	07/11/2008	Registry Ridge- End of Ra	4	0	0	1	0	5
FC-057	LIGHT	Larimer	07/18/2008	Registry Ridge- End of Ra	1	0	1	0	0	2
FC-057	LIGHT	Larimer	07/25/2008	Registry Ridge- End of Ra	4	0	2	0	0	6
FC-057	LIGHT	Larimer	08/01/2008	Registry Ridge- End of Ra	7	0	6	0	0	13
FC-057	LIGHT	Larimer	08/15/2008	Registry Ridge- End of Ra	0	0	0	0	0	0
FC-057	LIGHT	Larimer	08/22/2008	Registry Ridge- End of Ra	0	0	0	0	0	0
FC-057	LIGHT	Larimer	08/29/2008	Registry Ridge- End of Ra	39	0	4	0	0	43
FC-058	LIGHT	Larimer	06/14/2008	Spring Creek Trail @ Mich	47	0	0	2	0	49
FC-058	LIGHT	Larimer	06/19/2008	Spring Creek Trail @ Mich	243	0	2	3	0	248
FC-058	LIGHT	Larimer	06/26/2008	Spring Creek Trail @ Mich	478	0	1	4	0	483
FC-058	LIGHT	Larimer	07/03/2008	Spring Creek Trail @ Mich	149	0	0	0	0	149
FC-058	LIGHT	Larimer	07/10/2008	Spring Creek Trail @ Mich	201	0	3	4	0	208
FC-058	LIGHT	Larimer	07/17/2008	Spring Creek Trail @ Mich	327	0	2	0	0	329
FC-058	LIGHT	Larimer	07/24/2008	Spring Creek Trail @ Mich	41	0	2	0	0	43
FC-058	LIGHT	Larimer	07/31/2008	Spring Creek Trail @ Mich	17	0	9	2	0	28
FC-058	LIGHT	Larimer	08/08/2008	Spring Creek Trail @ Mich	65	0	3	0	0	68
FC-058	LIGHT	Larimer	08/14/2008	Spring Creek Trail @ Mich	54	0	6	0	0	60
FC-058	LIGHT	Larimer	08/21/2008	Spring Creek Trail @ Mich	42	0	1	0	0	43
FC-058	LIGHT	Larimer	08/28/2008	Spring Creek Trail @ Mich	39	0	2	0	0	41
FC-058	LIGHT	Larimer	09/05/2008	Spring Creek Trail @ Mich	37	0	1	0	0	38
FC-059	LIGHT	Larimer	06/04/2008	Springwood and Lockwoo	1	0	0	1	0	2
FC-059	LIGHT	Larimer	06/11/2008	Springwood and Lockwoo	2	0	0	2	0	4
FC-059	LIGHT	Larimer	06/18/2008	Springwood and Lockwoo	76	0	0	0	0	76
FC-059	LIGHT	Larimer	06/25/2008	Springwood and Lockwoo	179	0	3	0	0	182
FC-059	LIGHT	Larimer	07/02/2008	Springwood and Lockwoo	16	0	0	0	0	16
FC-059	LIGHT	Larimer	07/09/2008	Springwood and Lockwoo	145	0	10	5	0	160
FC-059	LIGHT	Larimer	07/16/2008	Springwood and Lockwoo	198	0	16	0	0	214
FC-059	LIGHT	Larimer	07/23/2008	Springwood and Lockwoo	18	0	0	0	0	18

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Trap #	Туре	County	Date		Ae/Oc	An	Сх	Cs	Other	TOTAL
FC-059	LIGHT	Larimer	07/30/2008	Springwood and Lockwoo	28	0	30	0	0	58
FC-059	LIGHT	Larimer	08/06/2008	Springwood and Lockwoo	63	0	24	2	0	89
FC-059	LIGHT	Larimer	08/13/2008	Springwood and Lockwoo	32	0	29	0	0	61
FC-059	LIGHT	Larimer	08/20/2008	Springwood and Lockwoo	17	0	2	0	0	19
FC-059	LIGHT	Larimer	08/27/2008	Springwood and Lockwoo	25	0	14	2	0	41
FC-059	LIGHT	Larimer	09/04/2008	Springwood and Lockwoo	30	0	1	0	0	31
FC-060	LIGHT	Larimer	06/14/2008	808 Pondersosa	2	0	0	0	0	2
FC-060	LIGHT	Larimer	06/19/2008	808 Pondersosa	24	0	0	0	0	24
FC-060	LIGHT	Larimer	06/26/2008	808 Pondersosa	12	0	0	0	0	12
FC-060	LIGHT	Larimer	07/10/2008	808 Pondersosa	8	0	0	0	0	8
FC-060	LIGHT	Larimer	07/17/2008	808 Pondersosa	11	0	10	0	0	21
FC-060	LIGHT	Larimer	07/24/2008	808 Pondersosa	2	0	3	0	0	5
FC-060	LIGHT	Larimer	07/31/2008	808 Pondersosa	3	0	7	0	0	10
FC-060	LIGHT	Larimer	08/14/2008	808 Pondersosa	6	0	0	0	0	6
FC-060	LIGHT	Larimer	08/21/2008	808 Pondersosa	5	0	0	0	0	5
FC-060	LIGHT	Larimer	08/28/2008	808 Pondersosa	11	0	3	1	0	15
FC-061	LIGHT	Larimer	06/14/2008	Holley Environ. Plant Res	29	0	0	0	0	29
FC-061	LIGHT	Larimer	06/19/2008	Holley Environ. Plant Res	309	0	2	0	0	311
FC-061	LIGHT	Larimer	06/26/2008	Holley Environ. Plant Res	265	0	2	0	0	267
FC-061	LIGHT	Larimer	07/01/2008	Holley Environ. Plant Res	488	0	10	20	0	518
FC-061	LIGHT	Larimer	07/10/2008	Holley Environ. Plant Res	146	0	12	1	0	159
FC-061	LIGHT	Larimer	07/17/2008	Holley Environ. Plant Res	475	0	22	2	0	499
FC-061	LIGHT	Larimer	07/25/2008	Holley Environ. Plant Res	78	0	7	0	0	85
FC-061	LIGHT	Larimer	07/31/2008	Holley Environ. Plant Res	50	0	79	1	0	130
FC-061	LIGHT	Larimer	08/08/2008	Holley Environ. Plant Res	84	0	42	0	0	126
FC-061	LIGHT	Larimer	08/14/2008	Holley Environ. Plant Res	49	0	29	1	0	79
FC-061	LIGHT	Larimer	08/21/2008	Holley Environ. Plant Res	16	0	11	0	0	27
FC-061	LIGHT	Larimer	08/28/2008	Holley Environ. Plant Res	37	0	14	1	0	52
FC-061	LIGHT	Larimer	09/03/2008	Holley Environ. Plant Res	65	0	11	0	0	76
FC-062	LIGHT	Larimer	06/13/2008	Waters Edge at Blue Mes	0	0	0	0	0	0
FC-062	LIGHT	Larimer	06/20/2008	Waters Edge at Blue Mes	192	0	2	0	0	194
FC-062	LIGHT	Larimer	06/27/2008	Waters Edge at Blue Mes	72	0	0	0	0	72
FC-062	LIGHT	Larimer	07/11/2008	Waters Edge at Blue Mes	345	0	0	0	0	345
FC-062	LIGHT	Larimer	07/18/2008	Waters Edge at Blue Mes	191	0	2	0	0	193
FC-062	LIGHT	Larimer	07/25/2008	Waters Edge at Blue Mes	22	0	6	0	0	28
FC-062	LIGHT	Larimer	08/01/2008	Waters Edge at Blue Mes	43	0	2	1	0	46
FC-062	LIGHT	Larimer	08/15/2008	Waters Edge at Blue Mes	41	0	5	0	0	46
FC-062	LIGHT	Larimer	08/22/2008	Waters Edge at Blue Mes	30	0	4	0	0	34
FC-062	LIGHT	Larimer	08/29/2008	Waters Edge at Blue Mes	24	0	5	2	0	31
FC-062	LIGHT	Larimer	09/05/2008	Waters Edge at Blue Mes	76		0	3	0	79
FC-063	LIGHT	Larimer	05/30/2008	Red Fox Meadows FCNA	0	0	0	1	0	1
FC-063	LIGHT	Larimer	06/14/2008	Red Fox Meadows FCNA	7	0	0	0	0	7

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ΤΟΤΑΙ	Other	Cs	Сх	An	Ae/Oc		Date	County	Туре	Trap #
77	0	0	1	0	76	Red Fox Meadows FCNA	06/19/2008	Larimer	LIGHT	FC-063
88	0	0	0	0	88	Red Fox Meadows FCNA	06/26/2008	Larimer	LIGHT	FC-063
32	0	4	2	0	26	Red Fox Meadows FCNA	07/03/2008	Larimer	LIGHT	FC-063
34	0	0	0	0	34	Red Fox Meadows FCNA	07/11/2008	Larimer	LIGHT	FC-063
104	0	2	7	0	95	Red Fox Meadows FCNA	07/17/2008	Larimer	LIGHT	FC-063
19	0	0	1	0	18	Red Fox Meadows FCNA	07/24/2008	Larimer	LIGHT	FC-063
26	0	0	3	0	23	Red Fox Meadows FCNA	07/31/2008	Larimer	LIGHT	FC-063
26	0	0	5	0	21	Red Fox Meadows FCNA	08/14/2008	Larimer	LIGHT	FC-063
24	0	0	0	0	24	Red Fox Meadows FCNA	08/21/2008	Larimer	LIGHT	FC-063
17	0	0	2	0	15	Red Fox Meadows FCNA	08/28/2008	Larimer	LIGHT	FC-063
37	0	0	0	0	37	Red Fox Meadows FCNA	09/11/2008	Larimer	LIGHT	FC-063
4	0	1	0	0	3	West Chase @ Kechter F	05/22/2008	Larimer	LIGHT	FC-064
4	0	2	0	0	2	West Chase @ Kechter F	05/29/2008	Larimer	LIGHT	FC-064
5	0	0	3	0	2	West Chase @ Kechter F	06/04/2008	Larimer	LIGHT	FC-064
5	0	1	2	0	2	West Chase @ Kechter F	06/11/2008	Larimer	LIGHT	FC-064
1	0	0	0	0	1	West Chase @ Kechter F	06/18/2008	Larimer	LIGHT	FC-064
103	0	0	11	0	92	West Chase @ Kechter F	06/25/2008	Larimer	LIGHT	FC-064
310	0	2	94	0	214	West Chase @ Kechter F	07/02/2008	Larimer	LIGHT	FC-064
444	0	18	210	0	216	West Chase @ Kechter F	07/09/2008	Larimer	LIGHT	FC-064
160	0	1	95	0	64	West Chase @ Kechter F	07/16/2008	Larimer	LIGHT	FC-064
36	0	0	34	0	2	West Chase @ Kechter F	07/23/2008	Larimer	LIGHT	FC-064
78	0	0	43	0	35	West Chase @ Kechter F	07/30/2008	Larimer	LIGHT	FC-064
55	0	0	40	0	15	West Chase @ Kechter F	08/06/2008	Larimer	LIGHT	FC-064
80	0	2	38	0	40	West Chase @ Kechter F	08/13/2008	Larimer	LIGHT	FC-064
83	0	0	48	0	35	West Chase @ Kechter F	08/20/2008	Larimer	LIGHT	FC-064
57	0	1	15	0	41	West Chase @ Kechter F	08/27/2008	Larimer	LIGHT	FC-064
35	0	1	1	0	33	West Chase @ Kechter F	09/04/2008	Larimer	LIGHT	FC-064
29	0	0	4	0	25	West Chase @ Kechter F	09/10/2008	Larimer	LIGHT	FC-064
13	0	3	1	0	9	Prospect Ponds @ Drake	05/29/2008	Larimer	LIGHT	FC-066
0	0	0	0	0	0	Prospect Ponds @ Drake	06/03/2008	Larimer	LIGHT	FC-066
30	0	3	14	0	13	Prospect Ponds @ Drake	06/10/2008	Larimer	LIGHT	FC-066
1,379	0	1	6	0	1372	Prospect Ponds @ Drake	06/17/2008	Larimer	LIGHT	FC-066
3,464	0	0	2	0	3462	Prospect Ponds @ Drake	06/24/2008	Larimer	LIGHT	FC-066
2,088	40	16	8	0	2024	Prospect Ponds @ Drake	07/01/2008	Larimer	LIGHT	FC-066
1,339	18	0	19	0	1302	Prospect Ponds @ Drake	07/08/2008	Larimer	LIGHT	FC-066
4,052	72	0	52	0	3928	Prospect Ponds @ Drake	07/15/2008	Larimer	LIGHT	FC-066
2,426	37	0	23	0	2366	Prospect Ponds @ Drake	07/22/2008	Larimer	LIGHT	FC-066
571	11	0	29	0	531	Prospect Ponds @ Drake	07/29/2008	Larimer	LIGHT	FC-066
2,199	8	16	86	1	2088	Prospect Ponds @ Drake	08/05/2008	Larimer	LIGHT	FC-066
766	0	0	8	8	750	Prospect Ponds @ Drake	08/12/2008	Larimer	LIGHT	FC-066
476	0	0	31	1	444	Prospect Ponds @ Drake	08/19/2008	Larimer	LIGHT	FC-066
250	1	1	12	0	236	Prospect Ponds @ Drake	08/26/2008	Larimer	LIGHT	FC-066

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Trap #	Туре	County	Date		Ae/Oc	An	Сх	Cs	Other	TOTAL
FC-066	LIGHT	Larimer	09/03/2008	Prospect Ponds @ Drake	93	0	0	0	0	93
FC-066	LIGHT	Larimer	09/10/2008	Prospect Ponds @ Drake	1160	0	4	0	0	1,164
FC-067	LIGHT	Larimer	06/02/2008	Poudre River Drive at bike	153	0	11	8	0	172
FC-067	LIGHT	Larimer	06/09/2008	Poudre River Drive at bike	628	0	8	3	0	639
FC-067	LIGHT	Larimer	06/16/2008	Poudre River Drive at bike	288	0	18	0	0	306
FC-067	LIGHT	Larimer	06/23/2008	Poudre River Drive at bike	740	0	47	4	0	791
FC-067	LIGHT	Larimer	06/24/2008	Poudre River Drive at bike	1158	0	50	12	0	1,220
FC-067	LIGHT	Larimer	06/30/2008	Poudre River Drive at bike	290	0	65	10	0	365
FC-067	LIGHT	Larimer	07/01/2008	Poudre River Drive at bike	218	0	55	11	0	284
FC-067	LIGHT	Larimer	07/07/2008	Poudre River Drive at bike	774	0	84	66	0	924
FC-067	LIGHT	Larimer	07/08/2008	Poudre River Drive at bike	252	0	44	16	0	312
FC-067	LIGHT	Larimer	07/14/2008	Poudre River Drive at bike	851	0	129	11	0	991
FC-067	LIGHT	Larimer	07/15/2008	Poudre River Drive at bike	312	0	102	12	0	426
FC-067	LIGHT	Larimer	07/21/2008	Poudre River Drive at bike	394	0	185	6	0	585
FC-067	LIGHT	Larimer	07/22/2008	Poudre River Drive at bike	470	0	132	10	0	612
FC-067	LIGHT	Larimer	07/28/2008	Poudre River Drive at bike	510	0	99	3	0	612
FC-067	LIGHT	Larimer	07/29/2008	Poudre River Drive at bike	744	0	123	3	0	870
FC-067	LIGHT	Larimer	08/04/2008	Poudre River Drive at bike	288	0	72	0	0	360
FC-067	LIGHT	Larimer	08/05/2008	Poudre River Drive at bike	556	0	196	4	0	756
FC-067	LIGHT	Larimer	08/12/2008	Poudre River Drive at bike	604	0	58	1	0	663
FC-067	LIGHT	Larimer	08/19/2008	Poudre River Drive at bike	136	0	41	1	0	178
FC-067	LIGHT	Larimer	08/26/2008	Poudre River Drive at bike	110	0	36	0	0	146
FC-067	LIGHT	Larimer	09/03/2008	Poudre River Drive at bike	416	0	18	0	0	434
FC-067	LIGHT	Larimer	09/11/2008	Poudre River Drive at bike	676	0	0	1	0	677
FC-068	LIGHT	Larimer	05/30/2008	502 Crest Drive	1	0	0	2	0	3
FC-068	LIGHT	Larimer	06/13/2008	502 Crest Drive	0	0	0	1	0	1
FC-068	LIGHT	Larimer	06/20/2008	502 Crest Drive	40	0	0	0	0	40
FC-068	LIGHT	Larimer	06/27/2008	502 Crest Drive	27	0	1	2	0	30
FC-068	LIGHT	Larimer	07/11/2008	502 Crest Drive	18	0	5	0	0	23
FC-068	LIGHT	Larimer	07/18/2008	502 Crest Drive	16	0	0	0	0	16
FC-068	LIGHT	Larimer	07/25/2008	502 Crest Drive	24	0	0	0	0	24
FC-068	LIGHT	Larimer	08/01/2008	502 Crest Drive	71	0	25	0	0	96
FC-068	LIGHT	Larimer	08/08/2008	502 Crest Drive	4	0	1	0	0	5
FC-068	LIGHT	Larimer	08/15/2008	502 Crest Drive	7	0	0	0	0	7
FC-068	LIGHT	Larimer	08/22/2008	502 Crest Drive	22	0	0	1	0	23
FC-068	LIGHT	Larimer	08/29/2008	502 Crest Drive	14	0	0	1	0	15
FC-069	LIGHT	Larimer	05/29/2008	Lindenwood HOA	0	0	1	3	0	4
FC-069	LIGHT	Larimer	06/03/2008	Lindenwood HOA	6	0	0	0	0	6
FC-069	LIGHT	Larimer	06/10/2008	Lindenwood HOA	31	0	0	4	0	35
FC-069	LIGHT	Larimer	06/17/2008	Lindenwood HOA	75	0	2	0	0	77
FC-069	LIGHT	Larimer	06/24/2008	Lindenwood HOA	143	0	1	0	0	144
FC-069	LIGHT	Larimer	07/01/2008	Lindenwood HOA	380	0	7	4	0	391

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FC-069	LIGHT	Larimer	07/08/2008	Lindenwood HOA	294	0	5	0	0	299
FC-069	LIGHT	Larimer	07/15/2008	Lindenwood HOA	840	0	42	4	0	886
FC-069	LIGHT	Larimer	07/22/2008	Lindenwood HOA	912	0	36	0	0	948
FC-069	LIGHT	Larimer	07/29/2008	Lindenwood HOA	568	0	30	0	0	598
FC-069	LIGHT	Larimer	08/05/2008	Lindenwood HOA	395	0	25	0	0	420
FC-069	LIGHT	Larimer	08/12/2008	Lindenwood HOA	43	0	10	0	0	53
FC-069	LIGHT	Larimer	08/19/2008	Lindenwood HOA	7	0	5	2	0	14
FC-069	LIGHT	Larimer	08/26/2008	Lindenwood HOA	37	0	0	0	0	3
FC-069	LIGHT	Larimer	09/03/2008	Lindenwood HOA	136	0	1	0	0	13
FC-069	LIGHT	Larimer	09/10/2008	Lindenwood HOA	61	0	2	0	0	6
FC-071	LIGHT	Larimer	06/13/2008	Silvergate Road	0	0	0	0	0	(
FC-071	LIGHT	Larimer	06/20/2008	Silvergate Road	20	0	0	0	0	2
FC-071	LIGHT	Larimer	06/27/2008	Silvergate Road	7	0	0	0	0	-
FC-071	LIGHT	Larimer	07/03/2008	Silvergate Road	6	0	0	0	0	(
FC-071	LIGHT	Larimer	07/11/2008	Silvergate Road	1	0	0	0	0	
FC-071	LIGHT	Larimer	07/18/2008	Silvergate Road	6	0	5	0	0	1
FC-071	LIGHT	Larimer	07/25/2008	Silvergate Road	6	0	2	0	0	
FC-071	LIGHT	Larimer	08/01/2008	Silvergate Road	2	0	0	0	0	
FC-071	LIGHT	Larimer	08/15/2008	Silvergate Road	4	0	3	0	0	
FC-071	LIGHT	Larimer	08/22/2008	Silvergate Road	59	0	6	0	0	6
FC-071	LIGHT	Larimer	08/29/2008	Silvergate Road	10	0	6	0	0	1
FC-071	LIGHT	Larimer	09/05/2008	Silvergate Road	21	0	1	0	0	2
FC-072	LIGHT	Larimer	06/03/2008	422 Lake Drive Alley	2	0	1	0	0	:
FC-072	LIGHT	Larimer	06/10/2008	422 Lake Drive Alley	1	0	1	0	0	:
FC-072	LIGHT	Larimer	06/17/2008	422 Lake Drive Alley	48	0	0	0	0	4
FC-072	LIGHT	Larimer	06/24/2008	422 Lake Drive Alley	124	0	2	1	0	12
FC-072	LIGHT	Larimer	07/01/2008	422 Lake Drive Alley	85	0	1	1	0	8
FC-072	LIGHT	Larimer	07/08/2008	422 Lake Drive Alley	28	0	0	1	0	2
FC-072	LIGHT	Larimer	07/15/2008	422 Lake Drive Alley	59	0	13	1	0	7
FC-072	LIGHT	Larimer	07/22/2008	422 Lake Drive Alley	79	0	20	0	0	9
-C-072	LIGHT	Larimer	07/29/2008	422 Lake Drive Alley	4	0	4	0	0	
-C-072	LIGHT	Larimer	08/05/2008	422 Lake Drive Alley	17	0	57	0	0	7
-C-072	LIGHT	Larimer	08/12/2008	422 Lake Drive Alley	30	0	20	0	0	5
FC-072	LIGHT	Larimer	08/19/2008	422 Lake Drive Alley	8	0	16	0	0	2
FC-072	LIGHT	Larimer	08/26/2008	422 Lake Drive Alley	24	0	13	0	0	3
-C-072	LIGHT	Larimer	09/03/2008	422 Lake Drive Alley	33	0	8	1	0	4
=C-073	LIGHT	Larimer	06/03/2008	118 Grant	0	0	1	2	0	
FC-073	LIGHT	Larimer	06/10/2008	118 Grant	2	0	1	0	0	
-C-073	LIGHT	Larimer	06/17/2008	118 Grant	35	0	0	0	0	3
=C-073	LIGHT	Larimer	06/24/2008	118 Grant	169	0	0	0	0	16
FC-073	LIGHT	Larimer	07/01/2008	118 Grant	108	0	1	0	0	10
FC-073	LIGHT	Larimer	07/08/2008	118 Grant	40	0	8	3	0	5

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Trap #	Туре	County	Date		Ae/Oc	An	Сх	Cs	Other	TOTAL
FC-073	LIGHT	Larimer	07/15/2008	118 Grant	279	0	24	0	0	303
FC-073	LIGHT	Larimer	07/22/2008	118 Grant	248	0	88	4	2	342
FC-073	LIGHT	Larimer	07/29/2008	118 Grant	57	0	36	2	0	95
FC-073	LIGHT	Larimer	08/05/2008	118 Grant	85	0	70	2	0	157
FC-073	LIGHT	Larimer	08/12/2008	118 Grant	53	0	67	0	0	120
FC-073	LIGHT	Larimer	08/19/2008	118 Grant	9	0	23	0	0	32
FC-073	LIGHT	Larimer	08/26/2008	118 Grant	10	0	11	0	0	21
FC-073	LIGHT	Larimer	09/03/2008	118 Grant	23	0	21	0	0	44
FC-FLOAT	LIGHT	Larimer	06/25/2008	Fort Collins Floater	34	0	0	0	0	34
					83,607	1	0,595		189	
						10		970		95,371















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Trap #	Туре	County	Date		Ae/Oc	An	Сх	Cs	Other	ΤΟΤΑ
FC-029gr	GRAVID	Larimer	06/13/2008	Bens Park	0	0	0	0	0	
FC-029gr	GRAVID	Larimer	06/20/2008	Bens Park	0	0	3	0	0	;
FC-029gr	GRAVID	Larimer	06/27/2008	Bens Park	4	0	1	0	0	
FC-029gr	GRAVID	Larimer	07/03/2008	Bens Park	0	0	38	0	0	3
FC-029gr	GRAVID	Larimer	07/11/2008	Bens Park	0	0	31	0	0	3
FC-029gr	GRAVID	Larimer	07/18/2008	Bens Park	0	0	19	0	0	1
FC-029gr	GRAVID	Larimer	07/25/2008	Bens Park	0	0	12	0	0	1
FC-029gr	GRAVID	Larimer	08/01/2008	Bens Park	0	0	146	0	0	14
FC-029gr	GRAVID	Larimer	08/08/2008	Bens Park	0	0	64	0	0	6
FC-029gr	GRAVID	Larimer	08/15/2008	Bens Park	0	0	2	0	0	
-C-029gr	GRAVID	Larimer	08/22/2008	Bens Park	0	0	145	0	0	14
FC-029gr	GRAVID	Larimer	08/29/2008	Bens Park	0	0	22	0	0	2
-C-029gr	GRAVID	Larimer	09/05/2008	Bens Park	0	0	14	0	0	1
-C-033gr	GRAVID	Larimer	06/04/2008	Sage Creek Gravid	0	0	0	0	0	
-C-033gr	GRAVID	Larimer	06/11/2008	Sage Creek Gravid	0	0	0	0	0	
-C-033gr	GRAVID	Larimer	06/18/2008	Sage Creek Gravid	1	0	0	0	0	
-C-033gr	GRAVID	Larimer	06/25/2008	Sage Creek Gravid	3	0	0	0	0	
	GRAVID	Larimer	07/02/2008	Sage Creek Gravid	0	0	0	0	0	
C-033gr	GRAVID	Larimer	07/09/2008	Sage Creek Gravid	4	0	0	0	0	
- C-033gr	GRAVID	Larimer	07/16/2008	Sage Creek Gravid	0	0	3	0	0	
	GRAVID	Larimer	07/23/2008	Sage Creek Gravid	0	0	8	0	0	
- 	GRAVID	Larimer	07/30/2008	Sage Creek Gravid	0	0	0	0	0	
-C-033gr	GRAVID	Larimer	08/06/2008	Sage Creek Gravid	0	0	3	0	0	
-C-033gr	GRAVID	Larimer	08/13/2008	Sage Creek Gravid	0	0	4	0	0	
-C-033gr	GRAVID	Larimer	08/20/2008	Sage Creek Gravid	0	0	3	0	0	
C-033gr	GRAVID	Larimer	08/27/2008	Sage Creek Gravid	0	0	1	0	0	
C-040gr	GRAVID	Larimer	06/03/2008	Redwood	0	0	0	0	0	
C-040gr	GRAVID	Larimer	06/10/2008	Redwood	1	0	0	5	0	
C-040gr	GRAVID	Larimer	06/17/2008	Redwood	0	0	3	0	0	
C-040gr	GRAVID	Larimer	06/24/2008	Redwood	1	0	0	1	0	
C-040gr	GRAVID	Larimer	07/01/2008	Redwood	16	0	3	4	0	:
C-040gr	GRAVID	Larimer	07/08/2008	Redwood	6	0	8	0	0	-
C-040gr	GRAVID	Larimer	07/15/2008	Redwood	0	0	16	0	0	
C-040gr	GRAVID	Larimer	07/22/2008	Redwood	0	0	4	0	0	
C-040gr	GRAVID	Larimer	07/29/2008	Redwood	0	0	5	0	0	
C-040gr	GRAVID	Larimer	08/05/2008	Redwood	0	0	13	0	0	
C-040gr	GRAVID	Larimer	08/12/2008	Redwood	0	0	50	0	0	!
C-040gr	GRAVID	Larimer	08/19/2008	Redwood	0	0	37	0	0	
C-040gr	GRAVID	Larimer	08/26/2008	Redwood	0	0	9	0	0	
C-040gr	GRAVID	Larimer	09/03/2008	Redwood	0	0	5	0	0	
-040gr -C-063gr	GRAVID	Larimer	06/14/2008	Red Fox Meadows FCNA	0	0	0	0	0	
-C-063gr -C-063gr	GRAVID	Larimer	06/19/2008	Red Fox Meadows FCNA	2	0	0	0	0	

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Trap #	Туре	County	Date		Ae/Oc	An	Сх	Cs	Other	TOTAL
FC-063gr	GRAVID	Larimer	06/26/2008	Red Fox Meadows FCNA	0	0	0	0	0	0
FC-063gr	GRAVID	Larimer	07/03/2008	Red Fox Meadows FCNA	0	0	0	0	0	0
FC-063gr	GRAVID	Larimer	07/10/2008	Red Fox Meadows FCNA	9	0	0	0	0	9
FC-063gr	GRAVID	Larimer	07/17/2008	Red Fox Meadows FCNA	0	0	0	0	0	0
FC-063gr	GRAVID	Larimer	07/24/2008	Red Fox Meadows FCNA	3	0	0	0	0	3
FC-063gr	GRAVID	Larimer	07/31/2008	Red Fox Meadows FCNA	0	0	8	0	0	8
FC-063gr	GRAVID	Larimer	08/14/2008	Red Fox Meadows FCNA	0	0	8	0	0	8
FC-063gr	GRAVID	Larimer	08/21/2008	Red Fox Meadows FCNA	1	0	18	0	0	19
FC-063gr	GRAVID	Larimer	08/28/2008	Red Fox Meadows FCNA	0	0	0	0	0	0
FC-066gr	GRAVID	Larimer	06/03/2008	Prospect Ponds @ Drake	0	0	1	0	0	1
FC-066gr	GRAVID	Larimer	06/10/2008	Prospect Ponds @ Drake	1	0	0	0	0	1
FC-066gr	GRAVID	Larimer	06/17/2008	Prospect Ponds @ Drake	0	0	0	0	0	0
FC-066gr	GRAVID	Larimer	06/24/2008	Prospect Ponds @ Drake	2	0	0	0	0	2
FC-066gr	GRAVID	Larimer	07/01/2008	Prospect Ponds @ Drake	0	0	0	0	0	0
FC-066gr	GRAVID	Larimer	07/08/2008	Prospect Ponds @ Drake	0	0	1	0	0	1
FC-066gr	GRAVID	Larimer	07/15/2008	Prospect Ponds @ Drake	19	0	0	0	0	19
FC-066gr	GRAVID	Larimer	07/22/2008	Prospect Ponds @ Drake	26	0	28	0	0	54
FC-066gr	GRAVID	Larimer	07/29/2008	Prospect Ponds @ Drake	2	0	0	0	0	2
FC-066gr	GRAVID	Larimer	08/05/2008	Prospect Ponds @ Drake	0	0	15	0	0	15
FC-066gr	GRAVID	Larimer	08/12/2008	Prospect Ponds @ Drake	0	0	6	0	0	6
FC-066gr	GRAVID	Larimer	08/19/2008	Prospect Ponds @ Drake	2	0	6	0	0	8
FC-066gr	GRAVID	Larimer	08/26/2008	Prospect Ponds @ Drake	0	0	0	0	0	0
FC-066gr	GRAVID	Larimer	09/03/2008	Prospect Ponds @ Drake	0	0	1	0	0	1
					103		764		0	



	TOTAL	%
Aedes-Oc	103	12 %
Anopheles	0	0 %
Culex	764	87 %
🔲 Culiseta	10	1 %
Other	0	0 %

0

10

877





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Aedes-Oc Anopheles Culex Culiseta Other

FC-004: Bighorn Drive

Seasonality

Season: Trap Type: Location: GPS: Light/CO2 along side fence of 2201 Bighorn Drive N40° 32.103', W105° 2.252' 2008

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

•	,	
Species collected and abundance:	abun	dance:
Aedes (Oc.) dorsalis	83	5.7 %
Aedes (Oc.) increpitus	1	0.1 %
Aedes (Oc.) melanimon	124	8.5 %
Aedes (Oc.) trivitatus	2	0.1 %
Aedes vexans	712	48.7 %
	,	

Species collected and abundance: Acdes (Oc.) increating 83 5.7 % Acdes (Oc.) inclusion 1 0.1 % Acdes (Oc.) inclusion 124 8.5 %	i d abun 83 124 713	1dance: 5.7 % 0.1 % 0.1 % 0.1 %
Aedes (Oc.) dorsalis Aedes (Oc.) increpitus Aedes (Oc.) melanimon Aedes (Oc.) trivitatus	83 124 2	0.1 % 0.1 %
Aedes (Oc.) trivitatus Aedes vexans	2 712	0.1 % 48.7 %
Culex pipiens Culex tarsalis	16 520	1.1 % 35.5 %
Culiseta inornata	S	0.3 %



Genus Proportions:	ons:	
Genus	Number	Number Percent of Total
Aedes/Ochlerotatus	922	63.0 %
Anopheles	0	0.0 %
Culex	536	36.6 %
Culiseta	5	0.3 %
Other	0	0.0 %

FC-014: Fort Collins Vistors Ctr

Trap Type: Location:

Light/CO2 2008

Season:

GPS:



Aedes (Oc.) trivitatus Aedes vexans Culex pipiens Culex tarsalis

Aedes (Oc.) nigromaculis Aedes (Oc.) melanimon Aedes (Oc.) dorsalis

Culiseta inornata

Culex pipiens Culex spp Culex tarsalis Trap Type: Location: Aedes (Oc.) melanimon Aedes vexans Average Culex per trap/night: Average mosquitoes per trap/night: GPS: Culiseta inornato Aedes (Oc.) dorsalis Species collected and abundance: Total number of mosquitoes collected: Total number of trap/nights set: Season: N40° 29.878', W105° 0.694' 3480 Egret Lane Light/CO2 2008 206 292 5026 2145 152 × 2.6 % 3.7 % 64.2 % 0.1 % 27.4 % 1.9 %

Other Culiseta Culex

2,154 5,524

152 0 0

Inopheles edes/Ochle rotatus Genus

Number

Genus Proportions:

Percent of Total 27.5 % 1.9 % 70.5 % 0.0 %0.0 % Aedes-Oc Anopheles Culex Culiseta

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Other Culiseta Culex

384 0

15.0 % 1.3 % 0.0 %83.7 %

0.0 %

Amopheles Aedes/Ochlerotatus

0

Genus

Genus Proportions:



Season: Trap Type: Location: Average mosquitoes per trap/night: Average Culex per trap/night: Total number of mosquitoes collected: Total number of trap/nights set: Light/CO2 Boyd Lake Intet at Clearwater Drive N40° 26.635', W105° 1.319' 2008 LV-095: Waterfront at Boyd Lake 22 1,030 47 30 200 250 150 Total Mosquitoes ---- Culex spp. Seasonality

GPS:

Aedes (Oc.) dorsalis	43	4.2 %
Aedes (Oc.) increpitus	3	0.3 %
Aedes (Oc.) melanimon	10	1.0 %
Aedes vexans	251	24.4 %
Culex pipiens	~	0.8 %
Culex tarsalis	662	64.3 %
Culiseta inornata	53	5.1 %



