

# CACHE MOSQUITO ABATEMENT DISTRICT

## 2014 ANNUAL REPORT

The 2014 mosquito season proved to be challenging. Weather had a big impact on our fogging operations. Our foggers were not able to operate on many nights during August and September due to windy or wet conditions. The season ran a couple of weeks longer than it usually does due to the extended warm weather through September.

The pasture mosquito made a reappearance in our surveillance traps. The last outbreak of this species in the District was in 2006. This species bites during the day but is only active for a short period after sundown. It's a difficult control problem because we do not fog during the day to avoid harming beneficial insects such as honeybees and native pollinators. The eggs are laid on grass stems and will hatch into larva when exposed to water such as occurs with flood irrigation. The eggs can remain dormant for years. With the extended growing season, warm temperatures, and abundant water, the pasture mosquito was widespread in the District in August and September.

Surveillance guides our abatement efforts. Traps are set out across the District each week to catch the mosquitoes active at night (this is when the *Culex* mosquitoes fly; they're the ones that carry WNV). They are collected the next day then we count the number of mosquitoes caught in each trap and identify what species they are. Larviciding is done during the day. Fogging (when justified by the number of mosquitoes trapped) is done at night when the target mosquitoes are flying and beneficial pollinators (honeybees, native bees) are in their hives and protected.

Larvicide continues to be our abatement method of choice. Several of the chemicals used target mosquito larvae only. The employees doing larvicide (inspecting for mosquito larva then treating the standing water) have handheld data units that allow them to record GPS coordinates, larvae found, area treated, and what chemical was applied. The choice of chemical depends on whether other aquatic organisms are present and what type (fish, insects, etc.) as well as the length of time the water may be standing. For instance, water in a pond or marsh will be around longer than the water in a wheel rut.

The District uses Kontrol 30-30, a non-organophosphate pesticide, for fogging. Kontrol 30-30 kills mosquitoes quicker than Malathion (the one we used previously) and has no odor. We also invested in variable flow/GPS modules for the fogging units. Once the unit is calibrated, this module regulates the amount of pesticide depending on the speed of the pickup anywhere within a range of 10 – 20 mph. When speed drops below 10 mph (such as when approaching or stopping at an intersection), the module shuts off the flow of pesticide. The GPS unit tracks the amount of pesticide being discharged as well as the route taken by the employee, allowing us to verify treatment areas and times. With the GPS, we are able to program the coordinates for addresses where people have requested no fogging so the flow shuts off in those areas. Our workers carry handheld units to measure temperature, wind speed and humidity since these data are used to determine when environmental conditions permit fogging.

Numerous interviews and outreach were given by District employees and trustees. The CMAD website continues to see an increase in number of visits to find out information such as the fogging schedule or meeting minutes.

Table 1 contains information on our abatement program while Table 2 is the breakdown of employee hours.

**Table 1.** Abatement program statistics for 2014

	<b>2013</b>	<b>2014</b>
Mosquitoes trapped and counted	16,411	13,670
Total inspections	2,007	1,451
Total treatments	1,244	1,558
Abate (lbs)	12,000	4,800
Natular (lbs)	1,200	1,160
Altosid briquettes	2,634	4,200
BVA oil (gallons)	506	214
FourStar MBG (lbs)		360
FourStar SBG (lbs)		6,400
Kontrol oil (gallons)	147	5.5
Kontrol 30-30 including diluent (gallons)	880	697
Truck miles	32,057	37,635
ATV miles	3,387	3,483

Kontrol 30-30 is the fogging pesticide; the others listed are larvicide pesticides

**Table 2.** Employee hours for 2014

	<b>2013</b>	<b>2014</b>
Administration: payroll, district clerk, public liaison, state & federal reports, etc.	311	349
Field Operations management: supervisor, abatement & surveillance program, etc.	174	224
Training: pesticide application, safety, vehicle & equipment operation, mosquito identification	91	109
Speciation/surveillance: trapping & counting adult mosquitoes	271	273
Fogging: mix up pesticide, fill tanks, use truck-mounted foggers	813	1180
Larvicide	1,746	1988
Maintenance: vehicle and equipment maintenance	331	384

All employees are part-time or seasonal

For more information on District policies or mosquito abatement, please visit the website at [www.cachemosquito.com](http://www.cachemosquito.com) or call (435) 764-6839. Financial records are available on the Accountability website (<http://auditor.utah.gov/accountability/financial-reports-of-local-governments/>). Select “Local and special service district” then Cache Mosquito Abatement District.