

The Cache Mosquito Abatement District 2009

In 2004 the Cache Mosquito Abatement District was approved by the voters of most of the communities in Cache Valley. Five years later CMAD serves all of Cache Valley except for those areas with their own abatement districts and Logan, Paradise and River Heights.

This district utilizes an integrated pest management program that consists of three main areas: Abatement, Surveillance, and Education. All the members on the board of trustees have been provided with a DVD that has recordings for media use of testimonials by West Nile survivors. The district also has a website at cachemosquito.com that has links to various bits of information ranging from a mosquito's life-cycle to our fogging schedule. The district is constantly striving to get the public's help in controlling mosquito populations. The most effective resource in mosquito surveillance is the people in Cache Valley.

Right now the surveillance efforts consist of 14 traps placed in strategic areas around the valley. The data received, either through phone calls or mosquito traps, determines the level of work done in an area. Instead of haphazardly treating all areas equally, only the areas that need it are treated. In the past the district has had sentinel chicken flocks, but due to the loss of CDC funding that wasn't possible this year. Sentinel flocks will always be a staple of any mosquito abatement surveillance program and this cessation should be temporary.

Surveillance also helps track the spread of mosquito borne diseases. CMAD is able to test mosquito populations for the West Nile Virus using a RAMP system that gives same day results. Mosquitoes are also sent to the Utah State Health Department lab to be tested for Western Equine Encephalitis and St. Louis Encephalitis. This year the district has had inconsistent positive tests for the West Nile virus, meaning that the virus this year never reached epidemic levels. This does not mean the virus is not present, just that its presence is lower compared to previous years.

The biggest and most visible part of CMAD is its abatement program which is divided into two parts: Larvaciding and Adulticiding. Larvaciding is the true work-horse of a mosquito abatement program. Mosquitoes breed in large numbers but in relatively small areas. This year CMAD has four larvaciders working full-time. Each is equipped with a variety of gear to treat most any area.

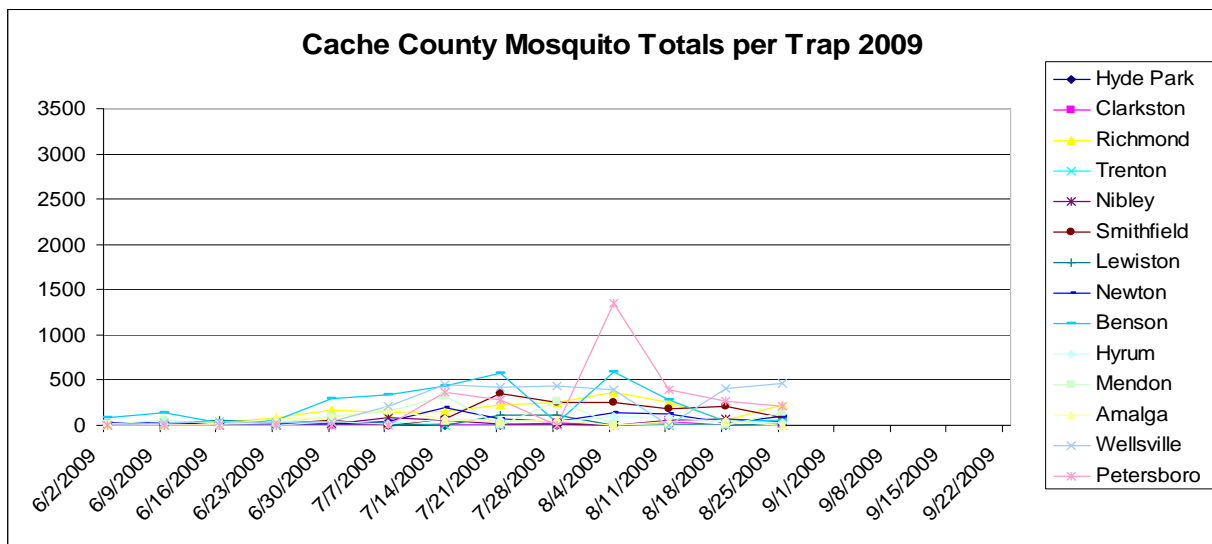
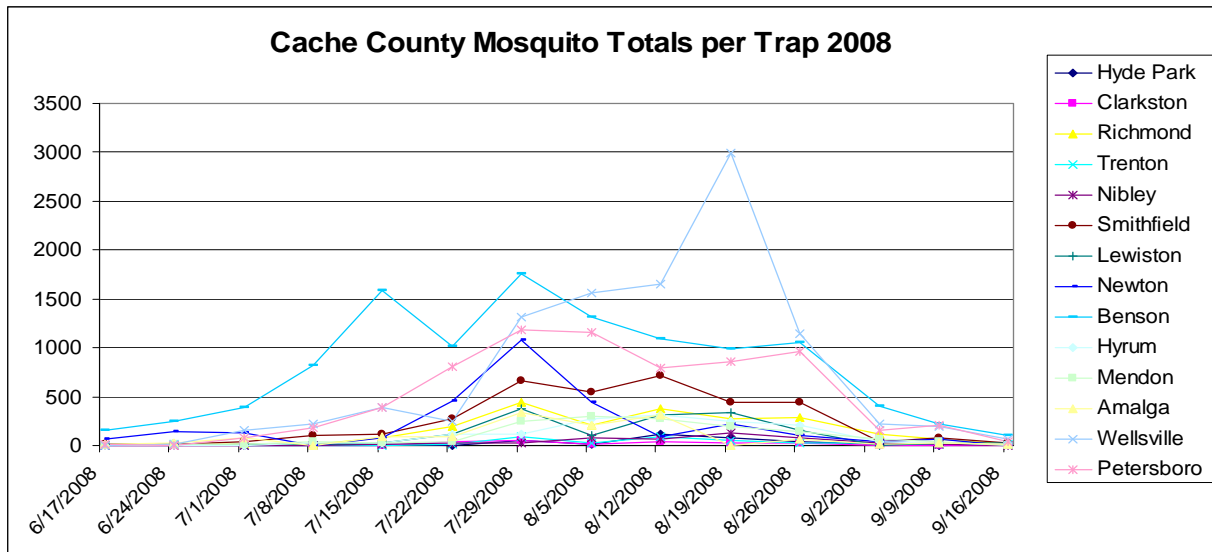
Adulticiding is the most visible part of any mosquito abatement program. This year, to meet budget goals, the adulticiding program was reduced by cutting one fog machine out of the regular schedule. The extra fogger was used only as a back up machine for when extra fogging needed to be done. This year, due to an increase of repairs being attributed to the wear and tear of being on trailers, the foggers were moved to sit in truck beds making them much more maneuverable.

The weather greatly affects the district's ability to adulticide. Wind is needed to carry the fog, but too much wind will dilute it into nothingness. No fogging can be done when there is rain or fog. The most effective weather includes a low radiation inversion which keeps the fog close to the ground. Some districts have employed the use of weather towers in recording data the night their foggers go out. Being able to predict and record these weather conditions would help in determining the best times and areas for fogging.

State of the District report presented at August meeting

Currently the pesticides CMAD uses consist primarily of organophosphates. These are effective and cheap. The down side is that this much exposure to one type of pesticide speeds up the resistance process of mosquitoes. Right now a 5 year rotation would be adequate in preventing resistant mosquitoes. There have been no conclusive studies done that show mosquitoes will lose their tolerance of a pesticide over time. By switching pesticides as soon as possible the district will be enhancing future abatement efforts.

From the 14 traps used in Cache Valley for surveillance CMAD has seen an improvement over last year's numbers. With one fogger not being used and a stronger focus on larvaciding it can be concluded that which we have known all along: Larvaciding is more effective than adultciding at controlling mosquitoes.



The district seems to have reached a point of equilibrium in its abatement efforts. CMAD has the right number of fogging machines and the right number of larvaciders. The work areas are just right for each larvacider to cover an optimum amount of area in a week.

The larvacide program is effective because of the district's range and use of equipment. Currently, CMAD makes use of four-wheelers that are equipped with spreaders mounted on customized racks and sprayers with oversized pumps and extended hoses. With only four people the district is able to larvacide the entire valley in one week.



The downfall of using this equipment every day all summer is that it inevitably breaks down. Much time has been spent and lost in finding parts and making repairs. A schedule for the replacement of vehicles or parts to reduce the need for repairs is something CMAD should adopt in the future.

Another reason for the success of larvaciding has been the district's excellent personnel. Three of the four larvaciders were veteran abatement workers that not only knew their areas well, but also knew the residents of these areas. Public awareness of our larvaciding program is growing along with a familiarity to abatement workers on four-wheelers. It would be to the district's benefit to make sure that these people are kept as long as possible. Supporting these abatement workers by replenishing their supplies in the field, fixing the equipment, and even building us a shed to keep supplies in has been Eric Jones. A good maintenance technician is invaluable in keeping a mosquito abatement program working properly. Also of note is Terrie Wierenga, the district's clerk. She not only keeps up to date on legislative issues and keeps the board in line with the law, but maintains the district's financial records, maintains CMAD's website, fields compliments and complaints, and is the district's Public Information Officer.

As was just mentioned, a shed was built just for the larvaciders. This has helped the district tremendously. All of CMAD's larvaciding materials are now kept in one place that is easily accessible to the abatement workers. This has been a nice look at how things will be when the district is able to be run completely out of one location. The district still has all its adulticides stored off site at a storage facility and used in yet another location at the health department's Bailey building.



CMAD has been contracting with the Bear River Health Department to manage the abatement program. Because mosquitoes are vectors for diseases the health department sees mosquito abatement as a necessary part of community health and is more than willing to continue to partner with the Cache Mosquito Abatement District.

In short, the district still has some growing to do, but has managed to become fully operational in a relatively short period of time. CMAD has been charged with reducing and controlling the mosquito populations in its service area, and that is exactly what it has accomplished.

Chris Nelson
8/27/2009