CACHE MOSQUITO ABATEMENT DISTRICT
PO BOX 466
HYDE PARK, UT 84318
(435) 764-6839

WWW.CACHEMOSQUITO.COM

February 2, 2009

Dear Mayor and Council Members:

Enclosed is the Cache MAD's annual report for 2008. Although the season was about two weeks shorter this year because of the colder weather in early June and late September, we still saw very high numbers of mosquitoes. Most of the mosquitoes trapped in the District were the *Culex* species, which are the ones that carry West Nile Virus in our area. Tests on the mosquitoes trapped showed a fairly high number of WNV positive pools (the second highest rate in the state).

A grant from the Utah Department of Agriculture and Food helped the District purchase equipment so we may run our own tests for WNV in mosquitoes. This allows us to respond quicker to areas showing an increase in disease-carrying mosquitoes. Currently, sending the mosquito pools to the state for analysis involves at least a week before finding out the results.

The District has adopted a policy requiring people to submit a written request for no fogging of pesticide at their property. When possible, the District will honor the properly submitted requests. However, we are charged by law to abate mosquitoes and may have to suspend such courtesy observances due to increased mosquito or disease activity.

Sincerely,

Cache MAD
Board of Trustees

CACHE MOSQUITO ABATEMENT DISTRICT
2008 ANNUAL REPORT

Although the 2008 mosquito season was shortened by two weeks due to the cooler than normal temperatures, mosquito numbers were still high compared to previous years. Larvacide and adulticide (fogging) treatments were done weekly with larvacide being the preferred control method for mosquitoes. Surveillance, using sentinel chicken flocks and CO_2 traps placed throughout the district, helped the District plan treatments and identify areas where West Nile Virus (WNV) was active. The District received a grant from the Utah Department of Agriculture and Food (UDAF) to purchase equipment that would allow us to locally test mosquito pools for WNV.

Administration

The District continues to contract with Bear River Health Department to provide abatement and surveillance services as well as storage for chemicals and equipment. We are slowly building a capital improvements fund to eventually purchase land and construct buildings for the District. In the meantime, meetings are held monthly in the Bear River Environmental Health Department conference room at 85 East 1800 North, North Logan.

A written fogging policy for the District was adopted at the November meeting to address concerns expressed by trustees and citizens. It summarizes the responsibilities of the District under Utah law and describes the process for adulticide (fogging) treatment decisions by the District. When possible, the District will allow courtesy no-spray requests, but the requests must be submitted on the courtesy no-spray request form. The form is available at the District website (http://www.cachemosquito/com/pdf/spray_policy.pdf) as well as local libraries and city offices, and must be submitted each year by April 15. This allows the District to plan the routes and accommodate (as often as possible) the requested no-fogging areas.

The UDAF grant of $6907 was used to help purchase a RAMP analytical system that allows us to rapidly test mosquito pools for the presence of WNV. In past years, the Centers for Disease Control (CDC) provided federal funds to states to analyze blood and mosquito pools for WNV. However, those funds were reduced for 2008 and may be eliminated in 2009. Being able to test for WNV locally also gives us a quicker response time when WNV is found in the District. The RAMP test takes about two hours while having the state analyze samples can take at least a week for results to be reported. More larvacide and adulticide efforts can be directed to those "hot spots" to reduce mosquito populations sooner.

The District website (http://www.cachemosquito.com) was extensively revised this year and includes more information on mosquito abatement, what citizens can do, and District public records. The clerk/PIO (public information officer) and trustees attended several training sessions throughout the year that reported *Utah Code* changes as well as new treatments and equipment for mosquito abatement and surveillance.

The property tax rate remained unchanged although revenue increased somewhat due to new growth and the revaluation of many properties in the county. The District remains committed to operating on a lean budget while providing effective mosquito abatement.

Surveillance

By the end of the 2008 season, Cache County had the dubious honor of leading the state in the percentage of mosquito pools testing positive for WNV. These were found throughout the District. In addition, two human cases, both of the more serious neuro-invasive disease, were confirmed. One horse also tested positive for WNV.

Wellsville, Benson, Petersboro, and Nibley had higher mosquito numbers overall than most other areas. One night, we trapped over 3200 mosquitoes in a single location in Wellsville! See the appendix for the actual mosquito numbers throughout the season.

Abatement

This is the first year where the area we treated remained the same as the year before. We increased the hours spent larvaciding while the hours spent fogging were down from 2007. The decrease in fogging was largely due to the shorter season (two weeks less) and the cooler night temperatures. Since mosquito activity basically stops when temperatures drop below 50F, our field workers stopped fogging when that temperature was reached.

	2005	2006	2007	2008
Labor				
Larvaciding		1775	1867	2107
Adulticiding		570	810	658
Total	1502	2345	2677	2765
Chemicals				
Bti (lbs)	2112	3890	167	21
Abate (lbs)	1210	3921	7908	7927
BVA2			847	538
GB-1111	131	279		
Altosid	175	1033	2602	1578
Malathion	969	1203	1709	1542

We use an integrated pest management approach to mosquito abatement. Our program was reviewed by several outside experts (pesticide management specialist, integrated pest management specialist, environmental toxicologist, veterinary toxicology pathologist, and a public health doctor) for compliance with this philosophy in addition to suggestions for improvement. All agreed the plan was sound. The trustees continue to review abatement chemicals and treatments as well as track mosquito numbers for any indication of pesticide resistance.

Summary

The District continues to evaluate current abatement policies and learn new approaches to mosquito abatement. Education and public outreach are priorities and the website can be a valuable tool for these efforts. We continue to work closely and coordinate abatement efforts with other mosquito abatement entities.

APPENDIX

The following table gives the number of mosquitoes trapped in each area. Traps are run overnight; the trapped mosquitoes are collected in the morning and taken back to the lab. Each trap is emptied and the mosquitoes are separated into species and counted. For 2008, 98% of the mosquitoes trapped were *Culex* species which carry the WNV in our area. The *C. tarsalis* mosquito prefers natural bodies of water for breeding and harborage, such as swamps, ponds, and marshes. This year, 91% of the mosquitoes trapped were the *tarsalis* species. Seven percent of the mosquitoes were *C. pipiens* mosquitoes. These mosquitoes prefer man-made (artificial) water reservoirs such as those found where irrigation runoff pools or water is trapped in tires, gutters, or play equipment in residential areas.

	Mendon	Benson	Nibley	Hyde Park	Hyrum	Petersboro	Wellsville	Amalga	Newton	Clarkston	Lewiston	Smithfield	Trenton	Richmond	TOTAL
17-Jun	4	162	0	10	2	16	3	17	66	2	9	15	4	8	**318**
24-Jun	7	252	1	7	4	0	11	21	137	1	2	8	12	7	**470**
1-Jul	14	393	3	4	3	82	157	82	130	4	8	39	3	13	**935**
8-Jul	38	814	3	9	23	178	220	0	0	5	9	98	1	19	**1417**
15-Jul	27	1591	10	9	22	395	396	94	75	3	24	120	2	76	**2844**
22-Jul	40	1010	22	6	118	807	251	94	455	40	118	267	16	198	**3442**
29-Jul	247	1756	29	46	113	1179	1319	343	1074	49	376	660	87	441	**7719**
5-Aug	300	1311	78	16	272	1160	1558	208	440	12	106	541	23	208	**6233**
12-Aug	272	1091	67	123	312	791	1653	315	94	34	307	713	85	381	**6238**
19-Aug	190	983	129	74	248	860	2996	4	226	24	344	445	47	270	**6840**
26-Aug	147	1056	76	40	204	963	1145	69	101	22	162	436	26	283	**4730**
3-Sep	63	409	20	14	45	160	223	12	38	1	0	41	23	118	**1167**
9-Sep	39	225	11	6	27	202	198	22	59	6	28	75	18	60	**976**
16-Sep	4	107	0	7	7	33	60	14	2	0	26	20	14	16	**310**

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Trustees are appointed by each municipal entity within the District for terms of four years. Leslie Erickson, Richmond, served on the board from 2005 through 2008.

Contact & Meeting Information:
Terrie Wierenga, clerk/PIO (public information officer), carries the District cell phone; the number is 435-764-6839. The email address is cachemosquito@cachemosquito.com

The CMAD website is http://www.cachemosquito.com

The mailing address is:
Cache MAD
PO Box 466
Hyde Park, UT 84318

Meetings are held the 4th Thursday of every month January through October and the 2nd Tuesday in November and December. They start at 7:00 pm and are held at the offices of the Bear River Environmental Health Department, 85 E 1800 N, North Logan.