

# CHESAPEAKE MOSQUITO CONTROL COMMISSION

## ANNUAL REPORT 2008



**Gene R. Payne, Director**

Annual Report information compiled and edited by  
Kirby R. Foley, Sr.  
Revised by Gene R. Payne

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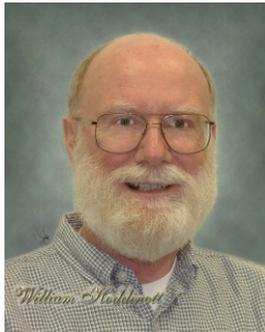
## COMMISSIONERS



**Nancy Welch, MD, Chairperson**



**Joe E. Davis**



**William Hoddinott**



**Robert L. Mann**



**Janie Tompkins**



**James Sawyer**



**Herb Poindexter \* Deceased**



**Gene R. Payne, Director**

**SPECIAL NOTE:**

Gene Payne, our Director, was the President of the American Mosquito Control Association in 2007- 08. An honor bestowed upon him by being elected by the national membership of the Association. He has been a Board Member for the last four years and will serve the rest of this year as Past President.

**CENTRAL OFFICE STAFF**

<b>Amy Pippin, Administrative Assistant</b>	<b>Louis DeMarco, Operations Director</b>
<b>Janet Haley, Human Resource Specialist</b>	<b>Jason Pevear, G.I.S. Analyst</b>
<b>Christina Coup, Payroll Technician</b>	<b>Susan Freeman, Office Specialist</b>
<b>Deborah Vines, Office Specialist</b>	<b>Roger Burnham, Custodian</b>

**BIOLOGY DEPARTMENT**

<b>Kirby Foley, Biologist</b>	<b>Jason Williams, Biologist</b>
<b>Joe Simmons, Biologist</b>	<b>Connie Gregg, Biology Technician</b>
<b>Tanya Hodges, Biology Intern</b>	<b>Jessica Wood, Biology Intern</b>

**Special Note:**

**Kirby, Jason, Joe, and Connie all participate in elementary education classes, recertification classes, and peer group presentations. More details in the Public Education section on Page 13.**

## **DISTRICT OFFICES**

### **Deep Creek District**

**Allen Peoples, District Supervisor**

**Zollie Russell, Field Supervisor II  
Ronald Wells, Field Supervisor I  
Alice Ramsey, Applicator II  
Chris Shearin, Applicator I  
Patricia Scott, Applicator II  
Michale Powell, Sm.Eng.Mechanic  
Jason Wagner, Field Technician II  
Claudia Holly, Field Technician I  
Russell Eley, ULV Driver/PT**

**Derrick Adams, Field Supervisor II  
Martell White, Field Supervisor I  
Shamsiddeend Ali, Applicator I  
John Trotter, Mechanical Technician  
Joseph Cato, Applicator II  
William Trotter, Field Technician II  
Dennis Washington, Field Technician I  
Charles Darden, Applicator I**

### **Greenbrier District**

**Jim Lemnios, District Supervisor**

**Winfred Cooper, Field Supervisor II  
Mark Leary, Field Supervisor I  
Jack Akers, Jr., Field Technician II  
Allen Cutchin, Applicator II  
Kris Hendricks, Applicator II  
Jacqueline Snowden, Applicator II  
Erik Hockensmith, Field Technician II**

**Steve Lemnios, Field Supervisor II  
Scott Stevens, Field Supervisor I  
John Cole, Applicator I  
Gary Harmon, Applicator II  
Tameka Smith, Applicator II  
George Wilson, Field Technician II**

### **Southern Chesapeake District**

**Leroy Bohn, District Supervisor**

**Steve McPherson, Field Supervisor II  
Ronald Johnson, Field Supervisor I  
Darin Brown, Applicator III  
Thomas Cole, Applicator I  
Jerry George, Applicator III  
Chad Piver, Applicator I  
Pat Solomon, Field Technician II  
Chris Hendricks, Field Technician II**

**Robert Whitaker, Field Supervisor II  
Richard Jones, Field Supervisor I  
Cheryl Claeys, Applicator II  
Chris Gautier, Applicator I  
George Lamb, Applicator II  
David Williams, Applicator I  
Eddie Perry, Field Technician II  
Dexter Kendrick, Field Tech. II**

### **Mechanics**

**John Tyndell, Mechanic II**

**Jack Akers, Sr., Mechanic I**

## **INTRODUCTION**

The purpose of the Chesapeake Mosquito Control Commission is to conduct mosquito control activities in the city, as directed by the Director who is appointed by the Board of Commissioners.

Six of the Board members are volunteer residents appointed by the Chesapeake City Council; the seventh is a designee of the Virginia State Health Commissioner and serves as Commission Chair.

The goal of the Chesapeake Mosquito Control Commission is to reduce and control the mosquito populations using the safest and most effective means available. We use an integrated pest management (IPM) approach which is an ecologically based strategy that relies heavily on natural mortality factors and seeks out control tactics that are compatible with or disrupts the environment as little as possible. We use adulticides during periods of mosquito-borne disease transmission or when source reduction and larval control have failed or are not feasible. All control activities and decisions are based on surveillance.

The Commission is made up of three service districts: Deep Creek, Greenbrier, and Southern Chesapeake.

## **BIT OF HISTORY**

The Chesapeake Mosquito Control Commission came into existence through the consolidation of the five separate Mosquito Control Commissions in 2003. The five prior individual commissions were Deep Creek, Great Bridge, South Norfolk, Washington Borough, and Western Branch Mosquito Control Commissions. Deep Creek Commission was formed in 1948, Washington Borough Commission in 1952, and Western Branch Commission became official in January 1955. These three Commissions were started by the Norfolk County Board of Supervisors. Norfolk County became the City of Chesapeake in 1963. The Great Bridge and the South Norfolk Mosquito Control Commissions were formed in the 1960s by the Chesapeake City Council.

## **MOSQUITO BIOLOGY**

Mosquitoes are a part of the aquatic and the terrestrial food chains but are known more for their significance to man as pests and especially as vectors of human and animal diseases.

A mosquito undergoes a complete metamorphosis by passing through four successive stages in its development: egg, larva, pupa and adult. Complete development can take as little as five days but normally takes ten to fourteen days depending on the species and environmental conditions. With the exception of the adult, all stages require water to complete development.

After breeding, the adult female requires a blood meal for the development of viable eggs. The male mosquitoes feed on plant nectar and do not take blood meals. The adult female of some species lay their eggs in masses or rafts on the water's surface. The other scenario involves mosquitoes that lay their eggs on moist soil or other substrates in

areas that will be flooded with water later. After two days, these eggs are ready to hatch, but if not flooded, can withstand drying for months. Heavy rains and flooding can produce extremely huge mosquito populations in a short period of time.

The adult female of *Anopheles* and some *Culex* pass the winter in hibernation in protected places, whereas others over-winter in the egg or larval stage.

The flight habits of mosquitoes vary greatly with the different species. Some stay near their aquatic habitats, while others may wander a half, one, five or up to fifty miles.

### **IMPORTANCE OF MOSQUITO CONTROL**

There are two major reasons why mosquito management is important. Many mosquitoes can transmit disease causing pathogens to man and animals, and mosquitoes are an annoyance.

Mosquito-borne diseases are among the world's leading causes of illness and death today. It is estimated by the World Health Organization that more than 300 million clinical cases each year are attributable to mosquito-borne illnesses. Malaria, dengue, encephalitis, yellow fever, filariasis, and heartworm are mosquito-borne diseases and are having devastating effects throughout the world. Most of these diseases have been endemic and/or caused epidemics in the United States in the past. Today, only the arboviral encephalitides occur annually and dengue occurs periodically in the U.S.. The major types of viral encephalitis in the United States include St. Louis, LaCrosse, Eastern equine, Western equine, and West Nile virus. These viruses are normally infections of birds or small mammals. During these infections, the level of the virus may increase in these infected animals facilitating transmission to humans by mosquitoes. Human cases of encephalitis may be mild to very severe illnesses and a few cases can be fatal. Dengue is a viral disease transmitted from person to person by mosquitoes. Most infections will cause mild illness but some can be severe and even cause death. Dengue is endemic in the Caribbean, Central and South America. Recently, dengue has occurred with increasing frequency in Texas. Other pathogens transmitted by mosquitoes include a protozoan parasite which causes malaria, and *Dirofilaria immitis*, a parasitic roundworm and that causes dog heartworm.

Mosquito-borne diseases also affect both wild and domestic animals. Unvaccinated horses and emus are highly susceptible to Eastern Equine Encephalitis: death rates may reach 90% once encephalitis is contracted. Horses, a few small mammals, and some birds are very susceptible to West Nile Virus. Dog Heartworm, mention above, kills many domestic dogs each year. Dog Heartworm is both preventable and treatable.

The presence of mosquitoes can cause reductions in labor efficiency and depreciation of real estate values. They can also interfere with outdoor activities and recreation.

The Chesapeake Mosquito Control Commission practices integrated pest management principals by employing the following techniques: source reduction, public education, surveillance, biological controls, larviciding, and adulticiding. The proper philosophy of mosquito control is based on the fact that the greatest impact on mosquito populations will occur when they are concentrated, immobile and accessible. This emphasis focuses on habitat management and controlling the immature stages before the

mosquitoes emerge as adults. This policy or practices reduces the need for adulticiding applications.

### **SOURCE REDUCTION**

Effective mosquito control must include efforts to eliminate or reduce sources of mosquito breeding. We eliminate, empty, or treat artificial containers that can become mosquito habitats. Mosquitoes reproduce in impounded and standing water; therefore maintenance of drainage ditches is one of the commission's primary concerns.

The following source reduction activities were completed in 2008:

Bush (weed-eater)	83 acres	6,909 hours
Cleaning	83 miles	10,544 hours
Grading	20,410 cu.ft.	117 hours
Refuse removed	71.8 tons	1,116 hours
Chipper	0.7 tons	11 hours
Miscellaneous		1,453 hours
<b>Total</b>		<b>20,150 hours</b>



## **SURVEILLANCE**

Although surveillance is a primary concern of the Biology Department, it is conducted by a combined effort of the larviciding crews, field supervisors and the biology personnel.

During the breeding season, surveillance programs are conducted so that control activities can be concentrated in those areas with the most serious problems. Surveillance is also done to determine if any virus activity is present in the mosquito population and the sentinel chickens.

The surveillance techniques used are: larval dipping surveys, trapping with CO<sub>2</sub> baited traps, BG-sentinel traps, gravid traps, rotary traps, testing of mosquitoes, testing sentinel chicken serum, and service request from the public.

## **2008 SERVICE REQUEST:**

Mosquitoes	1,657
Drainage	220
Property Release	16
Special fogging	277
Other	41
<b>Total:</b>	<b>2,211</b>

In 2005 we had 268 less service calls than we had in 2004.

In 2006 we had 756 more service calls than we had in 2005.

In 2007 we had 1,422 less service calls than we had in 2006...due to near drought conditions.

In 2008 we had 788 more service calls than we had in 2007

## **CDC, GRAVID, ROTARY, and BG-SENTINEL TRAPS 2008:**

The Biology Department uses CDC, BG – Sentinel, Gravid and Rotary Traps to survey the adult mosquito population in Chesapeake.

The carbon dioxide (CO<sub>2</sub>) baited CDC light trap is the primary method used to capture adult mosquitoes. They are set for over-night collections of mosquitoes, which are then separated and speciated into pools for arboviral testing. We set at least forty of these traps each week throughout Chesapeake. CDC light traps utilize a battery powered light source to attract mosquitoes and are baited with CO<sub>2</sub>, as an additional attractant. CMCC uses pressurized tanks, which emit regulated low levels of CO<sub>2</sub>.

The BG-Sentinel is designed to use a special lure that contains lactic acid, ammonia and fatty acids like the human skin. We also use carbon dioxide as an attractant with the lure. We received and started using two BG – Sentinel traps in mid August of 2006. We have set the BG-Sentinel and CDC Light Traps side by side over the last three years to determine which is the better trap. The BG-Sentinel Trap collected 309% more mosquitoes in '06, 932% more in '07 and 578% more in '08. For the three year period the BG-sentinel Trap collected 485 percent more mosquitoes than the CDC Light Trap. We purchased two more BG Traps for the 2007 season. The BG Trap is extremely more efficient than any other type trap for collecting adult mosquitoes. In fact they are too efficient. If we used BG Traps for all our trapping, we would have to triple our man hours just to identify and pool the samples.

The Gravid Trap is used to attract and capture gravid adult mosquitoes. The attractant used is an infusion of hay, grass clippings, chicken feces, yeast, and water that has been allowed to ferment. The primary target species are *Culex* and *Aedes albopictus*.

We set the Gravid Traps in areas that have the older sewage systems and have high numbers of the above species.

The Rotary Trap is used to survey the adult mosquitoes and their periods of activity. It allows us to trap eight 2 hour periods for a total of sixteen hours each night. We separate and speciate each two hour period to determine which species were active and what hours they were active. This information can be used to indicate the most effective hours to adulticide. The Rotary Trap also uses a light source and CO<sub>2</sub> as attractants for the mosquitoes.

The presence of CO<sub>2</sub> widens the array of mosquitoes that are attracted and allows these traps to be effectively set to collect mosquitoes that are active during both daylight and evening hours.

The mosquitoes are collected alive in the CDC, BG-Sentinel and Gravid traps by containing them in a net instead of a killing jar. Collecting the mosquitoes alive is necessary for viral detection.

Our biology personnel set 940 baited traps including 132 that were set in the Great Dismal Swamp National Wildlife Refuge. A total of 112,370 mosquitoes were captured at ninety-six trap sites, and the species known to be capable of transmitting Eastern Equine Encephalitis (EEE) and West Nile Virus (WNV) were tested at the Norfolk Health Department Lab.

CMCC is a member of the Tidewater Regional Arboviral Surveillance Team (TRAST), a cooperative effort of the regional mosquito control agencies and the Norfolk Health Department laboratory for the arboviral testing program.

Our 2008 season was a below average year for mosquito populations, trapped mosquitoes, and tested pools. The thirteen disease incidents we had would have to be considered way below the average season. Once again, we did not have any confirmed human or horse disease cases in Chesapeake.



CO<sub>2</sub> baited CDC Trap



BG-Sentinel Trap



Gravid Trap

## MOSQUITOES TRAPPED IN CHESAPEAKE BY DISTRICT – 2008

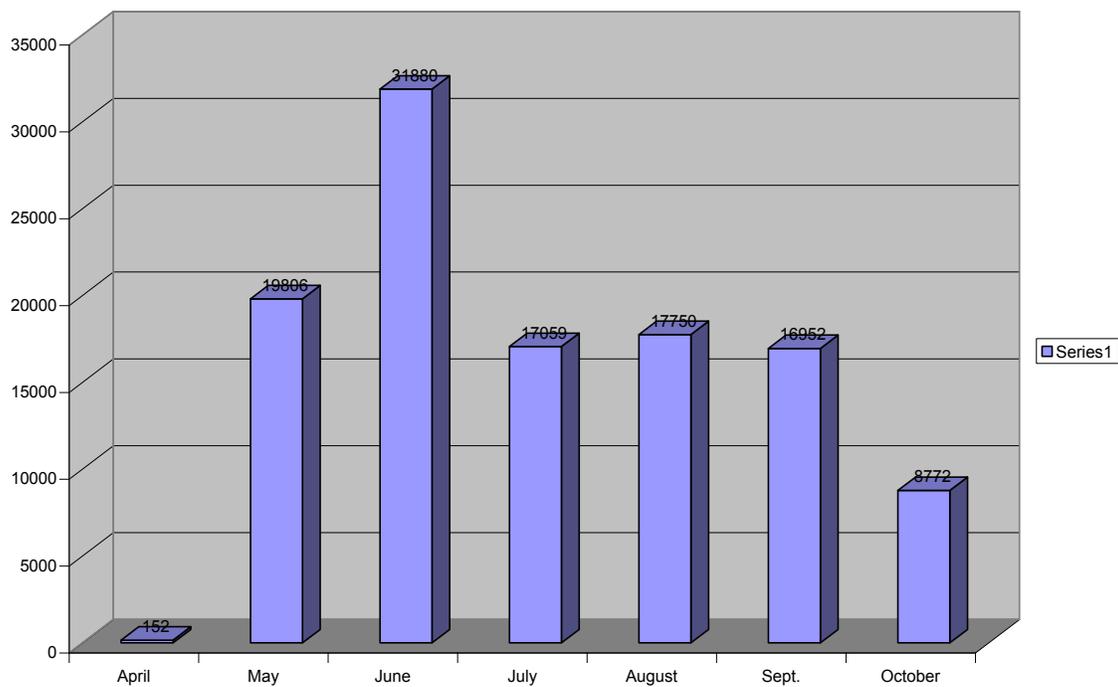
	Deep Creek	Greenbrier	GDS Refuge	Southern	City-Wide	Percent
<b>Number of Traps</b>	<b>329</b>	<b>208</b>	<b>132</b>	<b>271</b>	<b>940</b>	
<b>% of Traps:</b>						
Males	778	779	300	1150	<b>3007</b>	2.68%
<i>Ae. albopictus</i>	1624	1705	3	33	<b>3365</b>	2.99%
<i>Ae. vexans</i>	1710	1840	1861	2088	<b>7499</b>	6.67%
<i>An. crucian</i>	718	3571	197	11023	<b>15509</b>	13.80%
<i>An. punctipennis</i>	67	41	20	246	<b>374</b>	0.33%
<i>An. quadrimaculatus</i>	91	76	8	426	<b>601</b>	0.53%
<i>Cq. perturbans</i>	483	20	1112	75	<b>1690</b>	1.50%
<i>Cs. inornata</i>					<b>0</b>	0.00%
<i>Cs. melanura</i>	5375	1026	12055	5118	<b>23574</b>	20.98%
<i>Cx. erraticus</i>	1106	618	296	2085	<b>4105</b>	3.65%
<i>Cx. pipiens</i>	102	326	1	57	<b>486</b>	0.43%
<i>Cx. restuans</i>	737	392	172	262	<b>1563</b>	1.39%
<i>Cx. salinarius</i>	6435	12921	2042	7037	<b>28435</b>	25.30%
<i>Cx. territans</i>	8	14	10	40	<b>72</b>	0.06%
<i>Oc atlanticus</i>	439	217	196	311	<b>1163</b>	1.03%
<i>Oc canadensis</i>	1338	836	6225	505	<b>8904</b>	7.92%
<i>Oc hendersoni</i>	7		11	4	<b>22</b>	0.02%
<i>Oc infirmatus</i>	167	1261	60	2846	<b>4334</b>	3.86%
<i>Oc mitchellea</i>		2		3	<b>5</b>	0.00%
<i>Oc sollicitans</i>	27	21	1		<b>49</b>	0.04%
<i>Oc. taeniorhynchus</i>	658	1142	1	15	<b>1816</b>	1.62%
<i>Oc. triseriatus</i>	43	9	42	57	<b>151</b>	0.13%
<i>Or signifera</i>	6	2	4	9	<b>21</b>	0.02%
<i>Ps. ciliate</i>	11	12	2	7	<b>32</b>	0.03%
<i>Ps. columbiae</i>	146	67	23	761	<b>997</b>	0.89%
<i>Ps. ferox</i>	786	135	179	2267	<b>3367</b>	2.99%
<i>Ps howardii</i>	10	174		118	<b>302</b>	0.26%
<i>Ur. Sapphirina</i>	46	18	199	202	<b>465</b>	0.41%
MUTILATED	<b>126</b>	<b>94</b>	<b>137</b>	<b>162</b>	<b>519</b>	0.46%
TOTAL FEMALES	<b>21836</b>	<b>26420</b>	<b>24807</b>	<b>35781</b>	<b>108844</b>	96.86%
TOTAL MOSQUITOES	<b>22740</b>	<b>27293</b>	<b>25244</b>	<b>37093</b>	<b>112370</b>	100%
% of TOTAL MOSQUITOES	<b>20%</b>	<b>24%</b>	<b>22%</b>	<b>33%</b>	<b>100%</b>	

# CHESAPEAKE WEATHER 2008

Jan.-March - 3.62 rain averaged 3.6° warmer

MONTH	Normal Rainfall	2008 Rainfall	+ or -- Difference	Normal Average Temp.	2008 Season Temp.	+ or -- Difference
April	3.38	6.37	2.99	57.40°	59.0°	1.60°
May	3.74	2.88	0.86	66.30°	65.20°	1.10°
June	3.77	1.93	1.84	74.50°	79.20°	4.70°
July	5.17	5.19	0.02	79.10°	79.0°	0.10°
August	4.79	0.67	4.12	77.40°	77.70°	0.30°
Sept.	4.06	9.41	5.35	72.10°	73.80°	1.70°
October	3.47	1.47	2.00	61.10°	60.20°	0.90°
Totals:	28.38	27.92	0.46	69.70°	70.58°	0.88°

Mosquitoes Trapped Each Month During 2008 Season



## **SENTINEL CHICKENS**

The purpose of the Sentinel Chicken Program is to get an early warning of an active presence of the West Nile virus and/or Eastern Equine Encephalitis virus.

Ten flocks of four chickens each were strategically placed throughout the city. The Biology personnel drew blood samples from each chicken every two weeks. This serum was tested for EEE and WNV by the Norfolk Health Department Lab. There were five conversions (10%) for EEE and none for WNV. Four of the coop locations had at least one positive ...40%. The chickens have proven to be very effective and true sentinels for us during the past ten years.



**Taking Serum Sample from Chicken**



**The Interns at one of the Chicken Coops**

## **PUBLIC EDUCATION**

Extensive efforts are made to inform and educate the public about potential diseases related to mosquitoes and methods of mosquito control. Resident education is very important in controlling mosquito populations. A well-informed and alert resident can be as effective as a weekly property inspection by mosquito control personnel.

Public Service Announcements and ads are placed on radio and in news papers. Some informative interviews with Commission personnel are conducted by News Departments of local television stations.

We have started a new program that is led by Joe Simmons from the Biology Department. Joe applied for and received an Environmental Protection Agency grant for the purpose of educating the public to eliminate mosquito breeding sights around and near their home resulting in less pesticide use. Joe and Connie Gregg made presentations in eighteen elementary schools for 2,642 third grade students and six civic groups to achieve the above goal in 2008. Leroy Bohn and the Biology Department personnel made presentations at six other elementary schools (1,785 students ) for Career Days. That is a total of 4,427 students reached by our educational program. Joe is scheduled to make presentations in all twenty elementary schools that have third grade level classes during 2009.

Upon invitation, presentations are made to schools, clubs, or civic groups and are routinely made at the state and regional conferences. Our Biologists help with the annual

state recertification classes each year. Our Biologists made three presentations at the annual Virginia Mosquito Control Association meeting in Williamsburg last year. They are scheduled for three more at the up coming VMCA and three at the Mid Atlantic Mosquito Control Association 2009 meetings. Jason Williams, one of the Biologist will be making a presentation at the American Mosquito Control Association meeting in April. The Commission is listed on the City’s public speakers list. Commission personnel are also very active in local, state, and regional training activities.



**Joe working one of the schools and a civic group**

**LARVICIDING**

Larviciding is the act of controlling mosquito larvae and pupae in the water by the application of *Bti*, fish, or some chemical that will kill them. Larviciding is one of the most important activities of the Commission personnel during the breeding season.

Inspections performed throughout the city identify those areas where breeding occurs and when found an appropriate larvicide technique is employed according to the area and/or stage of breeding found.

We treated 10,780 acres by an aerial liquid larvicide application during April 2008. We treated an additional 5,947 acres by an aerial granular larvicide drop in May.

We larvicided 4,068 acres by hand, ATVs, and Roadside Jeeps.

**TOTAL COMBINED LARVICIDING FOR CHESAPEAKE .....20,795 acres**  
**TOTAL MAN HOURS .....32,255**



by Backpack



by ATV



by Roadside Jeep

## ADULTICIDING

During mosquito control season, it is impossible to find and larvicide all breeding sites. In addition, mosquitoes migrate into control areas from adjacent non-controlled areas. The Commission performs adulticiding on an as needed basis.

Adulticiding is the act of operating a machine to uniformly disperse small amounts of pesticide over a target area to control adult mosquitoes. This is accomplished utilizing various forms of ULV ( ultra-low-volume ) spraying equipment.

The City, less the Great Dismal Swamp Wildlife Refuge, is divided into some thirty truck routes and fifteen ATV routes. Additional adulticiding, special fog request and individual yards are treated by ULV backpack or hand-held sprayers on an as needed basis.

The 2008 season was very similar to the 2007 season in that long periods were near drought conditions, due to the lack of rain, and the result was smaller mosquito populations. In September we had a Nor'easter storm and nine inches of rain that caused a big increase of mosquitoes and the need to adulticide. We adulticided 486,605 acres by hand held, ATV, or truck equipment. A total of 2,853 man hours were used in this effort. We did no aerial adulticiding

**Total Adulticiding in Chesapeake During 2008 .....486,605 acres**  
**Total Man Hours ..... 2,853**



by Backpack



Hand held



by ATV



by Truck



by Aircraft

### **BIOLOGICAL REVIEW 2008**

We started the year by completing the Annual Report, refurbishing and/or replacing equipment and organizing for the season.

We conducted larval surveys during February, March and early April to determine when we should do an aerial larvicide application. During April 3 - 18, 2008, our contractor applied liquid *Bti* larvicide to 10,780 acres with good results. Our contractor applied a granular *Bti* to 5,947 acres during May 6 – 9, 2008. We had to use a granular formulation because the trees and leaves were too developed to use liquid.

No aerial adulticide application was needed or conducted in 2008. We did test two new adulticides for two different companies with satisfactory results. We tested Etofenprox for Central Life Sciences and Duet for Clarke Mosquito Control Products.

We averaged setting forty traps each week during the season. We set CDC, Gravid, Rotary, and BG-Sentinel traps in the three Operational Districts and the Great Dismal Swamp National Wildlife Refuge. The CDC and Rotary traps used both light source and CO<sub>2</sub> as attractants to lure the mosquitoes. The Gravid traps were baited with an infusion of hay, grass clippings, water, and yeast that had been fermented. The BG-Sentinel trap uses human skin odors and CO<sub>2</sub> to attract or lure the mosquitoes. The BG-Sentinel trap is more effective than the others and especially for *Aedes albopictus* species.

We trapped and identified 112,370 mosquitoes during the season. We pooled 1,256 pools that were tested by the Norfolk Health Department Lab for Eastern Equine Encephalitis and West Nile Virus. We had 6 pools positive for EEE and only 1 pool positive for WNV.

Twenty blood serum samples were drawn each week from the sentinel chickens and delivered to the NHD Lab for testing. Six of our chickens tested positive for EEE and none for WNV. Forty percent of our ten chicken locations were positive for EEE.

The weather for the season averaged about one degree warmer and we had four inches less of rainfall than normal for January through October.

We had a less than average year due to the drought. We had a total of thirteen positives, but we had no positive horses or any confirmed human cases.

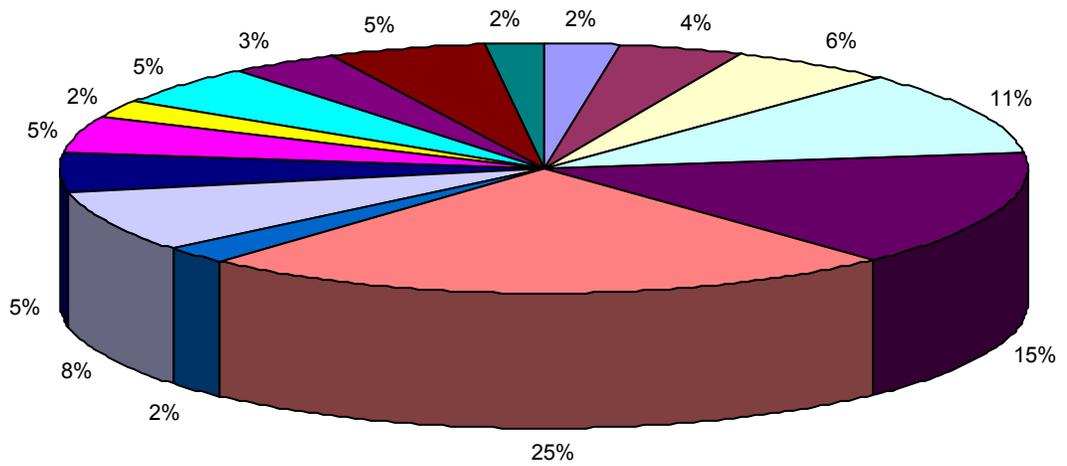


**Mosquito Identification and pooling**

**PERSONNEL HOURS 2008**

ADMINISTRATIVE	3,357
SUPERVISION	5,499
FIELD SUPERVISION	14,680
TOTAL FIELD HOURS	50,898
OFFICE	10,745
BUILDING & GROUNDS	7,002
BIOLOGY	7,836
MECHANIC	6,208
TRAINING & EDUCATION	3,236
VACATION	7,171
SICK	4,733
JURY	144
FUNERAL	477
OVERTIME LEAVE	362
FAMILY MEDICAL	40
FMLA	155
COMPENSATORY	329
HOLIDAY	7,392
UNPAID LEAVE	726
<b>TOTAL HOURS</b>	<b>130,990</b>

## PERSONNEL HOURS 2008



Administrative	Supervision	Biography Department	Field Supervision	Drainage
Larviciding	Adulticiding	Office	Building & Grounds	Mechanic
Training & Education	Vacation	Sick Leave	Holiday	Others

<b>FINANCIAL STATEMENT 2008</b>	
<b>CHESAPEAKE MOSQUITO CONTROL COMMISSION</b>	
A Component Unit of the City of Chesapeake, Virginia	
Statement of Revenue, Expenditures, and Changes in Fund Balance	
Fiscal Year Ended June 30, 2008	
<b>REVENUES</b>	
Property taxes	\$ 6,374,365
Investment income	189,855
Other (Rebates & Recoveries)	1,021
Total operating revenues	\$ 6,565,241
<b>OPERATING EXPENSES</b>	
Other salaries and wages	2,086,185
Other fringe benefits	868,461
Capital outlay	218,696
Chemicals	291,842
Insurance	265,800
Repairs and maintenance	35,001
Supplies	186,769
Gas and oil	87,800
Other	113,277
Total operating expenditures	\$ 4,606,038
Excess of revenues over expenditures	1,959,203
<b>NON-OPERATING REVENUE</b>	
Gain on sale of equipment	12,145
<b>Fund balance - beginning</b>	5,013,445
<b>Fund balance - ending</b>	\$ 6,984,793
<b>DESIGNATED RESERVES</b>	
Operational Expenses	1,500,000
Future Capital Improvements	\$ 1,190,821
Total designated reserves	\$ 2,690,821
<b>Notes to Financial Statement:</b>	
Real Estate and Personal Property Taxes	
<p>The City levies annual real estate and personal property taxes on behalf of the Commission on all property within its boundaries, except that exempted by statute. All responsibility for collection of taxes lies with the City. On the date the taxes are due, the Commission's assessment is transferred from the City's General Fund to the Commission.</p>	
Governmental Activities	
<p>The City's total revenue from property taxes experienced a 5% increase over the prior year, largely due to the 12% increase in the City's assessed real property tax base. This was a smaller increase than the increase between 2006 and 2007. The real estate tax rate for 2007-2008 was \$1.04 per \$100 of assessed value with an additional \$.02 for the Mosquito Control Commission, which was a reduction from the 2006-2007 general rate of \$1.09. The City Council voted to reduce the Mosquito Control Commission rate from \$.02 to \$.01 per \$100 <i>effective July 1, 2008</i>. The 12% growth in the City's tax base from 2007 to 2008, and the resultant effect on the Chesapeake homeowner, was partially offset by the reduction of Mosquito Control Commission's Fund real estate tax rate from \$.02 to \$.01, <i>effective July 1, 2008</i>. The effects of worsening national, state and local economic conditions, evidenced locally by reduced real estate transactions, home values, construction permits and vehicle registrations, prompted a focus on core service delivery for the next three to five years. The City's real estate tax base increased 3% for 2009 versus 12% for 2008.</p>	
Reserves (Fund Balance)	
Excess funds held not used in Commission operations are transferred back to the reserve balance.	