

**COLUSA MOSQUITO ABATEMENT DISTRICT**  
**713 D. Street/East Webster**  
**P.O. BOX 208**  
**COLUSA, CALIFORNIA. 95932**

Trustees  
William B. Ash, President  
Vic Townzen, Vice President  
Daryl Brown  
Tom Critchfield  
Mike Griffith

David B. Whitesell, Manager.  
Phone (530) 458-4966  
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**February 21, 2013**

State Water Resource Control Board  
NPDES Wastewater Unit  
Division of Water Quality  
Attention: Phil Isorena, Chief  
P.O. Box 100  
Sacramento, CA. 95812- 0100

**Re: Required NPDES Permit Annual Report, 2012**

State Water Resource Control Board,

The following information is intended to satisfy the annual reporting requirement for the Statewide General NPDES Permit for the Discharge of Aquatic Pesticides to Surface Waters of the United States for Vector Control.

**Enrollee # 5A06AP0001**  
**Order # 2011 – 0002 – DWQ**  
**NPDES # 990004**

Respectfully,

*David B. Whitesell*

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David B. Whitesell, Manager.  
Colusa Mosquito Abatement District

cc: California Regional Water Quality Control Board  
Central Valley Region  
11020 Sun Center Dr. #200  
Rancho Cordova, CA. 95670-6114

## **1. Annual Report**

### **a. Executive Summary**

Colusa Mosquito Abatement District (District) complied with the applicable, components of the General NPDES Permit for Biological and Residual Pesticide Discharges from Vector Control Applications (General Permit). Beginning in April and thru the first week of November applications were applied. All application, Dates, Amounts used and Material used are all recorded and split up by zone in this packet under attachment B. and the Map under Attachment C. The District performed visual Monitoring of >10% of individual application sites identified as “Waters of the US” until July 13, 2012. The visual monitoring completed by the District in the first half of the year found that there is no observable change in water quality between the background, event, and post event time periods – see monitoring log sheets attachment A. The SWRCB notified the permit holders in a letter to MVCAC dated July 13, 2012 that because the visual monitoring requirements were “interfering with the need for maximal efficient application to adequately protect human health from vector-borne diseases like West Nile virus,” that the visual monitoring was no longer required by individual Districts. The District is 95% Adulticide due to the large amounts of Rice Acreage and Wetlands. Also the cost to control large areas by larvicides is a major reason the District uses Adulticide.

### **b. Summary of Monitoring**

The District started the year by complying with visual monitoring requirements of the permit. See footnote 1 of tables C-1 and C-2 in Amended Water Quality Control Order No. 2011-0002 DWQ, General Permit No. 990004. These requirements required a tremendous amount of time including a number of revisits to specific sites to gather the necessary information. Most critical, time spent revisiting old sites caused delay getting to new sites. Given the short life cycle of the mosquito, this greatly exacerbated the task of looking for and treating mosquito breeding sites early in their life cycle when treatment is more concentrated and effective. Recognizing the need of mosquito control districts to quickly find and treat mosquito breeding sites to prevent the spread of disease, such as West Nile virus, the SWRCB issued a letter to MVCAC dated July 13, 2012 that indicated the visual monitoring requirement would no longer be required of individual Districts. For the reasons stated above, the District will no longer be collecting visual monitoring data.

**c. BMP identification**

The District's BMP's are outlined in the PAP and a hard copy is gone over with all District personnel yearly before the season starts. Also these BMP's are on the District's website.

**d. Violation Discussion**

No violations of the General Permit were observed

**e. Map of Applications**

See Attachment C.

**f. Log of Application Made to Waters of the US**

See Attachment B.

**g. General Information on Application**

See Attachment B

**Monitoring Attachment A**

Monitoring was done until July 13<sup>th</sup> until suspended.

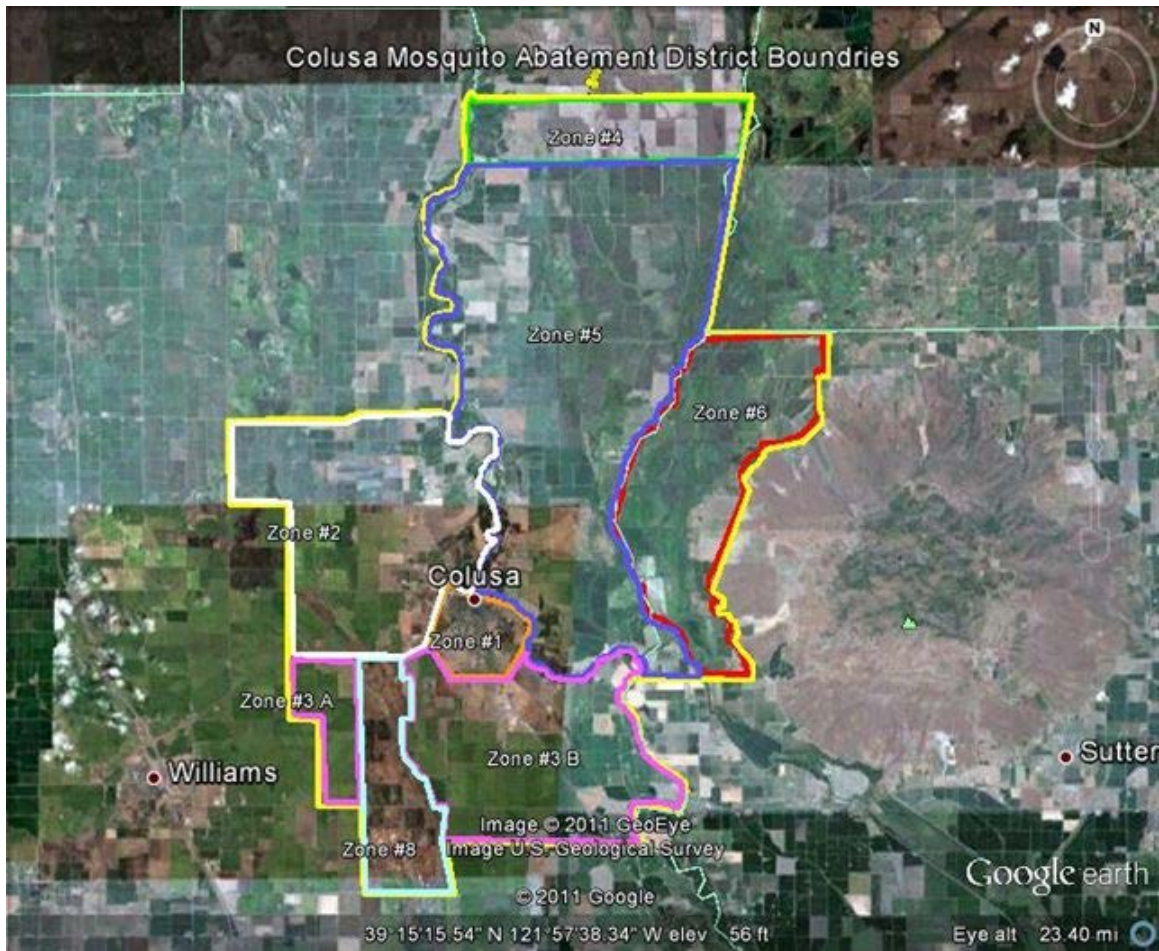
**Pesticide Application Log Attachment B**

Date of Application, Amount Used by Zone, Type of Pesticide and how they where Applied are all in attachment B.

**District Map by Zones Attachment C.**

Map of Zones 1, 2, 3, 4, 5, 6, 8

# Attachment C



Date of Application	Applicator	Location	Name of Water Body	Type of Water Body	Description	Type of pesticide	Product Name	Time of monitoring	MONITORING INFORMATION			Weather Conditions		
									Monitoring Date	Time	Name(s) of personnel	Overhead Conditions	Precipitation	Wind
5/30/12	Dan Kley	39-1640.97°N-121.5528.98°W	Butte Creek	Channel	Channel	Adulcicide	Anvil 10-10	Background	5/29/12	2:28pm	Dan Kley	Clear/sunny	None	Calm
5/30/12	Dan Kley	39-1640.97°N-121.5528.98°W	Butte Creek	Channel	Channel	Adulcicide	Anvil 10-10	Event	5/30/12	3:00pm	Dan Kley	Clear/sunny	None	Calm
5/30/12	Dan Kley	39-1640.97°N-121.5528.98°W	Butte Creek	Channel	Channel	Adulcicide	Anvil 10-10	Post-Event	5/30/12	3:00pm	Dan Kley	Clear/sunny	None	Calm
6/15/12	Doug Correa	39 1120.69°N 121.5840.55°W	Sacramento River	Channel	Channel	Adulcicide	Pernathin 31-66 (6-1)	Background	6/14/12	9:05am	Doug Correa	Clear/sunny	None	Light breeze
6/15/12	Doug Correa	39 1120.69°N 121.5840.55°W	Sacramento River	Channel	Channel	Adulcicide	Pernathin 31-66 (6-1)	Event	6/15/12	6:00pm	Doug Correa	Clear/sunny	None	Light breeze
6/15/12	Doug Correa	39 1120.69°N 121.5840.55°W	Sacramento River	Channel	Channel	Adulcicide	Pernathin 31-66 (6-1)	Post-Event	6/15/12	6:00pm	Doug Correa	Clear/sunny	None	Light breeze
6/25/12	Dan Kley	39 1640.97°N-121.5528.98°W	Butte Creek	Channel	Channel	Adulcicide	Pernathin 31-66 (6-1)	Background	6/25/12	10:00am	Dan Kley	Clear/sunny	None	Calm
6/25/12	Dan Kley	39 1640.97°N-121.5528.98°W	Butte Creek	Channel	Channel	Adulcicide	Pernathin 31-66 (6-1)	Event	6/25/12	7:00pm	Dan Kley	Clear/sunny	None	Calm
6/25/12	Dan Kley	39 1640.97°N-121.5528.98°W	Butte Creek	Channel	Channel	Adulcicide	Pernathin 31-66 (6-1)	Post-Event	6/25/12	7:00pm	Dan Kley	Clear/sunny	None	Calm
7/5/12	David Whitesell	44.9W/39d 13Feet 65.64 N	Sacramento River	Open waterway	Open waterway	Adulcicide	Pernathin	Background	7/4/12	2:00 PM	David Whitesell	Clear/sunny	None	Light breeze
7/5/12	David Whitesell	44.9W/39d 13Feet 65.64 N	Sacramento River	Open waterway	Open waterway	Adulcicide	Pernathin	Event	7/5/12	7:30 PM	David Whitesell	Clear/sunny	None	Light breeze
7/5/12	David Whitesell	44.9W/39d 13Feet 65.64 N	Sacramento River	Open waterway	Open waterway	Adulcicide	Pernathin	Post-Event	7/5/12	7:30 PM	David Whitesell	Clear/sunny	None	Light breeze
7/5/12	David Whitesell	121.55 feet 22.73 W 39° 16ft 23.56 N	Butte Creek	Channel	Channel	Adulcicide	Pernathin	Background	7/4/12	3:00PM	David Whitesell	Clear/sunny	None	Light breeze
7/5/12	David Whitesell	121.55 feet 22.73 W 39° 16ft 23.56 N	Butte Creek	Channel	Channel	Adulcicide	Pernathin	Event	7/5/12	7:00PM	David Whitesell	Clear/sunny	None	Light breeze
7/5/12	David Whitesell	121.55 feet 22.73 W 39° 16ft 23.56 N	Butte Creek	Channel	Channel	Adulcicide	Pernathin	Post-Event	7/5/12	7:00PM	David Whitesell	Clear/sunny	None	Light breeze
7/3/12	Dan Kley	39 1300.57°N-122.00' 11.08°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pyrethrin 25-5	Background	7/2/12	11:00am	Dan Kley	Clear/sunny	None	Calm
7/3/12	Dan Kley	39 1300.57°N-122.00' 11.08°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pyrethrin 25-5	Event	7/3/12	2:00pm	Dan Kley	Clear/sunny	None	Calm
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7/3/12	Dan Kley	39 1250.44°N 122.00' 05.77°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pernathin 31-66 (6-1)	Background	7/2/12	11:30am	Dan Kley	Clear/sunny	None	Calm
7/3/12	Dan Kley	39 1250.44°N 122.00' 05.77°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pernathin 31-66 (6-1)	Event	7/3/12	2:30pm	Dan Kley	Clear/sunny	None	Calm
7/3/12	Dan Kley	39 1250.44°N 122.00' 05.77°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pernathin 31-66 (6-1)	Post-Event	7/3/12	2:30pm	Dan Kley	Clear/sunny	None	Calm
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07/05/2012	D Correa	39 1119.89°N 121.5847.26°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pyrethrin	Background	07/03/2012	9:00 a.m.	D Correa	Clear/sunny	None	Calm
07/05/2012	D Correa	39 1119.89°N 121.5847.26°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pyrethrin	Event	07/05/2012	8:40 p.m.	D Correa	Clear/sunny	None	Calm
07/05/2012	D Correa	39 1119.89°N 121.5847.26°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pyrethrin	Post-Event	07/05/2012	8:40 p.m.	D Correa	Clear/sunny	None	Calm
07/03/2012	Bo Salazar	39 1515.53°N 122.00'53.64°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pyrethrin	Background	07/03/2012	10:15 p.m.	D Correa	Clear/sunny	None	Light breeze
07/03/2012	Bo Salazar	39 1515.53°N 122.00'53.64°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pyrethrin	Event	07/03/2012	8:20 p.m.	Bo Salazar	Clear/sunny	None	Light breeze
07/03/2012	Bo Salazar	39 1515.53°N 122.00'53.64°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pyrethrin	Post-Event	07/03/2012	8:20 p.m.	Bo Salazar	Clear/sunny	None	Light breeze
07/05/2012	Bud Williams	39 10' 01.04°N 122.02' 41.37°W	2047 Canal	Channel	Channel	Adulcicide	Pyrethrin	Background	07/03/2012	10:00 a.m.	D Correa	Clear/sunny	None	Calm
07/05/2012	Bud Williams	39 10' 01.04°N 122.02' 41.37°W	2047 Canal	Channel	Channel	Adulcicide	Pyrethrin	Event	07/05/2012	8:30 p.m.	Bud Williams	Clear/sunny	None	Calm
07/05/2012	Bud Williams	39 10' 01.04°N 122.02' 41.37°W	2047 Canal	Channel	Channel	Adulcicide	Pyrethrin	Post-Event	07/05/2012	8:30 p.m.	Bud Williams	Clear/sunny	None	Calm
07/11/2012	Bud Williams	39 10' 01.04°N 122.02' 41.37°W	2047 Canal	Channel	Channel	Adulcicide	Pyrethrin	Background	07/10/2012	9:45 a.m.	D Correa	Clear/sunny	None	Light breeze
07/11/2012	Bud Williams	39 10' 01.04°N 122.02' 41.37°W	2047 Canal	Channel	Channel	Adulcicide	Pyrethrin	Event	07/11/2012	8:45 p.m.	Bud Williams	Clear/sunny	None	Light breeze
07/11/2012	Bud Williams	39 10' 01.04°N 122.02' 41.37°W	2047 Canal	Channel	Channel	Adulcicide	Pyrethrin	Post-Event	07/11/2012	8:45 p.m.	Bud Williams	Clear/sunny	None	Light breeze
07/12/2012	Bo Salazar	39 1553.53°N 122.00'58.64°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pyrethrin	Background	07/11/2012	10:15 a.m.	D Correa	Clear/sunny	None	Calm
07/12/2012	Bo Salazar	39 1553.53°N 122.00'58.64°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pyrethrin	Event	07/12/2012	8:30 p.m.	Bo Salazar	Clear/sunny	None	Calm
07/12/2012	Bo Salazar	39 1553.53°N 122.00'58.64°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pyrethrin	Post-Event	07/12/2012	8:30 p.m.	Bo Salazar	Clear/sunny	None	Calm
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07/12/2012	Dan Kley	39 1250.34°N 122.00'04.60°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pernathin	Background	07/11/2012	11:45p.m.	D Correa	Clear/sunny	None	Calm
07/12/2012	Dan Kley	39 1250.34°N 122.00'04.60°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pernathin	Event	07/12/2012	11:45p.m.	Dan Kley	Clear/sunny	None	Calm
07/12/2012	Dan Kley	39 1250.34°N 122.00'04.60°W	Sacramento River	Open waterway	Open waterway	Adulcicide	Pernathin	Post-Event	07/12/2012	11:45p.m.	Dan Kley	Clear/sunny	None	Calm
7/12/2012	David Whitesell	39° 14' 14.99 inchesN 121° 59' 42.77° W	Sacramento River	Channel	Channel	Adulcicide	Pernathin	Background	7/11/12	10:00 am	David Whitesell	Clear/sunny	None	Calm
7/12/2012	David Whitesell	39° 14' 14.99 inchesN 121° 59' 42.77° W	Sacramento River	Channel	Channel	Adulcicide	Pernathin	Event	7/12/12	8:00 pm	David Whitesell	Clear/sunny	None	Light breeze
7/12/2012	David Whitesell	39° 14' 14.99 inchesN 121° 59' 42.77° W	Sacramento River	Channel	Channel	Adulcicide	Pernathin	Post-Event	7/12/12	8:00 pm	David Whitesell	Clear/sunny	None	Light breeze

		Visual Observation						
Air Temperature	Water Color	Water Clarity	Floating/Suspended Matter	Bottom Deposits	Aquatic Life	Water Surface Oils	Fungal Slimes or objectionable growths	Potential Nuisance Conditions
Warm/mild	Brown	Murky	Not Observed	Not Observed	Not Observed	None	Not Observed	None
Warm/mild	Brown	Murky	Not Observed	Not Observed	Not Observed	None	Not Observed	None
Hot	Green	Clear	Not Observed	Not Observed	Not Observed	None	Not Observed	None
Hot	Green	Clear	Not Observed	Not Observed	Not Observed	None	Not Observed	None
Warm/mild	Brown	Murky	Not Observed	Not Observed	Not Observed	None	Not Observed	None
Hot	Green	Cloudy	Not Observed	Not Observed	Not Observed	None	Not Observed	None
Hot	Green	Cloudy	Not Observed	Not Observed	Not Observed	None	Not Observed	None
Hot	Brown	Murky	Not Observed	Not Observed	Not Observed	None	Not Observed	None
Hot	Brown	Murky	Not Observed	Not Observed	Not Observed	None	Not Observed	None
Hot	Green	Cloudy	Not Observed	Not Observed	Not Observed	None	Not Observed	None
Warm/mild	Green	Cloudy	Not Observed	Not Observed	Not Observed	None	Not Observed	None
Hot	Green	Cloudy	Not Observed	Not Observed	Not Observed	None	Not Observed	None
Hot	Green	Cloudy	Not Observed	Not Observed	Not Observed	None	Not Observed	None
Hot	Green	Cloudy	Not Observed	Not Observed	Not Observed	None	Not Observed	None
Warm/mild	Green	Cloudy	Not Observed	Not Observed	Not Observed	None	Not Observed	None
Hot	Green	Clear	Not Observed	Not Observed	Not Observed	Slick	Not Observed	None
Hot	Green	Clear	Not Observed	Not Observed	Not Observed	Slick	Not Observed	None
Hot	Green	Clear	Not Observed	Not Observed	Not Observed	Slick	Not Observed	None
Hot	Green	Clear	Not Observed	Not Observed	Not Observed	Slick	Not Observed	None
Hot	Colorless	Clear	Not Observed	Not Observed	Not Observed	none	Not Observed	None
Hot	Colorless	Clear	Not Observed	Not Observed	Not Observed	none	Not Observed	None
Hot	Colorless	Clear	Not Observed	Not Observed	Not Observed	none	Not Observed	None
Hot	Colorless	Clear	Not Observed	Not Observed	Not Observed	none	Not Observed	None
Hot	Green	Clear	Not Observed	Not Observed	Not Observed	Slick	Not Observed	None
Hot	Green	Clear	Not Observed	Not Observed	Not Observed	Slick	Not Observed	None
Hot	Green	Clear	Not Observed	Not Observed	Not Observed	Slick	Not Observed	None
Hot	Green	Clear	Not Observed	Not Observed	Not Observed	Slick	Not Observed	None
Hot	Green	Clear	Not Observed	Not Observed	Not Observed	Slick	Not Observed	None
Warm/mild	Green	Murky	Not Observed	Not Observed	Not Observed	none	Not Observed	None
Warm/mild	Green	Murky	Not Observed	Not Observed	Not Observed	none	Not Observed	None

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**2012**

**GROUND CONTROL**  
**ZONE 1 LARVACIDE**

<b>Date</b>	<b>Amount Used</b>	<b>Material</b>
<b>5/10/12</b>	<b>31.8 lbs.</b>	<b>Altosid XR</b>

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**GROUND CONTROL**  
**ZONE 1 ADULTICIDE**

<b>Date</b>	<b>Gallons</b>	<b>Material</b>
7/3/12	11.45	Permanone
7/5/12	14.6	Permanone
7/12/12	18.8	Permanone
7/19/12	14.9	Permanone
7/26/12	12.5	Permanone
8/2/12	17.6	Permanone
8/6/12	15.1	Permanone
8/9/12	15.1	Permanone
8/13/12	16	Permanone
8/16/12	19	Permanone
8/20/12	17.1	Permanone
8/23/12	17.1	Permanone
8/27/12	17	Permanone
8/30/12	18	Permanone
9/3/12	15.5	Permanone
9/6/12	15.5	Permanone



<b>Date</b>	<b>Gallons</b>	<b>Material</b>
<b>9/13/12</b>	<b>14.1</b>	<b>Permanone</b>
<b>9/17/12</b>	<b>18.1</b>	<b>Permanone</b>
<b>9/20/12</b>	<b>17.3</b>	<b>Permanone</b>
<b>9/24/12</b>	<b>16.7</b>	<b>Permanone</b>
<b>9/27/12</b>	<b>21.4</b>	<b>Permanone</b>
<b>10/1/12</b>	<b>21</b>	<b>Permanone</b>
<b>10/4/12</b>	<b>23</b>	<b>Permanone</b>
<b>10/8/12</b>	<b>21.8</b>	<b>Permanone</b>
<b>10/11/12</b>	<b>16.1</b>	<b>Permanone</b>
<b>10/15/12</b>	<b>23.5</b>	<b>Permanone</b>
<b>10/18/12</b>	<b>17.9</b>	<b>Permanone</b>
<b>10/25/12</b>	<b>17.5</b>	<b>Permanone</b>
<b>10/29/12</b>	<b>16.3</b>	<b>Permanone</b>
<b>11/1/12</b>	<b>16.1</b>	<b>Permanone</b>
<b>Total Gallons Used.....</b>	<b>516.05</b>	

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**2012**

**Ground Control**

**ZONE 2 ADULTICIDE**

<b>Date</b>	<b>Gallons</b>	<b>Material</b>
4/23/12	1.4	Anvil
4/23/12	1	Permanone
4/26/12	1	Anvil
4/26/12	5.1	Permanone
4/30/12	1.4	Aqua Reslin
4/30/12	5	Permanone
6/15/12	0.9	Permanone
7/3/12	11.4	Permanone
7/3/12	13.8	Permanone
7/5/12	14.6	Permanone
7/5/12	10.4	Pyrethrin
7/12/12	18.8	Permanone
7/12/12	10.7	Pyrethrin
7/19/12	14.9	Permanone
7/26/12	17.5	Anvil
7/26/12	12.5	Permanone

<b>Date</b>	<b>Gallons</b>	<b>Material</b>
8/2/12	12.0	Anvil
8/2/12	17.6	Permanone
8/6/12	13.9	Anvil
8/6/12	15.1	Permanone
8/9/12	16.9	Malathion
8/9/12	15.1	Permanone
8/13/12	19.6	Malathion
8/13/12	16.0	Permanone
8/16/12	13	Malathion
8/16/12	19	Permanone
8/20/12	18.8	Malathion
8/20/12	17.1	Permanone
8/23/12	14.4	Malathion
8/23/12	17.1	Permanone
8/27/12	14.4	Malathion
8/27/12	16.6	Permanone
8/30/12	11.5	Malathion
8/30/12	18.0	Permanone
9/6/12	18.5	Malathion
9/6/12	15.5	Permanone
9/10/12	17.3	Malathion
9/10/12	16.6	Permanone
<b>Date</b>	<b>Gallons</b>	<b>Material</b>

9/13/12	14.5	Malathion
9/13/12	14.1	Permanone
9/17/12	12.8	Malathion
9/17/12	18.1	Permanone
9/20/12	7.3	Anvil
9/20/12	1.5	Malathion
9/20/12	17.2	Permanone
9/24/12	10.2	Anvil
9/24/12	1.9	Malathion
9/24/12	16.7	Permanone
9/27/12	11.7	Anvil
9/27/12	21.4	Permanone
10/1/12	10.0	Anvil
10/1/12	21.1	Permanone
10/4/12	7.4	Anvil
10/4/12	23.0	Permanone
10/8/12	9.0	Anvil
10/8/12	21.8	Permanone
10/11/12	12.2	Anvil
10/11/12	16.1	Permanone
10/15/12	10.7	Anvil
10/15/12	23.5	Permanone
Date	Gallons	Material

<b>10/18/12</b>	<b>9.2</b>	<b>Anvil</b>
<b>10/18/12</b>	<b>17.9</b>	<b>Permanone</b>
<b>10/23/12</b>	<b>18.9</b>	<b>Permanone</b>
<b>10/25/12</b>	<b>17.5</b>	<b>Permanone</b>
<b>10/29/12</b>	<b>13.6</b>	<b>Anvil</b>
<b>10/29/12</b>	<b>16.3</b>	<b>Permanone</b>
<b>11/1/12</b>	<b>16.1</b>	<b>Permanone</b>

**Total Gallons Anvil.... 147.1**

**Total Gallons Malathion.... 275.1**

**Total Gallons Permanone.... 661.4**

**Total Gallons Aqua Reslin.... 1.4**

**Total Gallons Pyrethrin..... 21.1**

**Total Adulticide Zone 2..... 1106.1 Gallons**

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**GROUND CONTROL**  
**ZONE 2 LARVACIDE**

<b>Date</b>	<b>Gallons</b>	<b>Material</b>
<b>8/27/12</b>	<b>2.4</b>	<b>BVA LARVACIDE</b>

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**GROUND CONTROL**  
**ZONE 3 ADULTICIDE**

<b>Date</b>	<b>Gallons</b>	<b>Material</b>
6/5/12	1	Permanone
6/7/12	1	Permanone
7/3/12	13.8	Pyrethrin
7/5/12	10.4	Pyrethrin
7/12/12	10.7	Pyrethrin
7/19/12	12.0	Anvil
8/13/12	19.6	Malathion
8/14/12	29.0	Malathion
8/21/12	28.6	Malathion
8/28/12	31.7	Malathion
9/4/12	26.5	Malathion
9/13/12	9.5	Malathion
9/24/12	10.2	Anvil
9/25/12	19.1	Anvil
9/27/12	11.7	Anvil
10/1/12	10.0	Anvil

<b>Date</b>	<b>Gallons</b>	<b>Material</b>
<b>10/4/12</b>	<b>7.4</b>	<b>Anvil</b>
<b>10/8/12</b>	<b>9.0</b>	<b>Anvil</b>
<b>10/9/12</b>	<b>10.1</b>	<b>Anvil</b>
<b>10/11/12</b>	<b>12.2</b>	<b>Anvil</b>
<b>10/15/12</b>	<b>10.7</b>	<b>Anvil</b>
<b>10/18/12</b>	<b>9.2</b>	<b>Anvil</b>
<b>10/29/12</b>	<b>13.6</b>	<b>Anvil</b>
<b>10/30/12</b>	<b>18.0</b>	<b>Anvil</b>
<b>Total Gallons Anvil...153.2</b>		
<b>Total Gallons Permanone...2.0</b>		
<b>Total Gallons Pyrethrin...34.9</b>		
<b>Total Gallons Malathion...144.9</b>		
<b>Total Adulticide .....335 Gallons</b>		



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**GROUND CONTROL**  
**ZONE 4 ADULTICIDE**

<b>Date</b>	<b>Gallons</b>	<b>Material</b>
7/3/12	1	Permanone
7/5/12	.75	Permanone
7/12/12	1	Permanone
7/19/12	.75	Permanone
7/26/12	1	Permanone
8/2/12	1.5	Permanone
8/6/12	.5	Permanone
8/9/12	.64	Permanone
8/13/12	1	Permanone
8/16/12	1	Permanone
8/20/12	1	Permanone
8/23/12	.5	Permanone
8/27/12	.7	Permanone
8/30/12	1	Permanone
9/3/12	.6	Permanone
9/6/12	1	Permanone

<b>Date</b>	<b>Gallons</b>	<b>Material</b>
<b>9/10/12</b>	<b>1</b>	<b>Permanone</b>
<b>9/13/12</b>	<b>1</b>	<b>Permanone</b>
<b>9/17/12</b>	<b>.5</b>	<b>Permanone</b>
<b>9/20/12</b>	<b>.8</b>	<b>Permanone</b>
<b>9/24/12</b>	<b>.5</b>	<b>Permanone</b>
<b>9/27/12</b>	<b>1</b>	<b>Permanone</b>
<b>10/1/12</b>	<b>1</b>	<b>Permanone</b>
<b>10/4/12</b>	<b>.5</b>	<b>Permanone</b>
<b>10/8/12</b>	<b>.5</b>	<b>Permanone</b>
<b>10/11/12</b>	<b>.6</b>	<b>Permanone</b>
<b>10/15/12</b>	<b>.5</b>	<b>Permanone</b>
<b>10/18/12</b>	<b>1</b>	<b>Permanone</b>
<b>10/25/12</b>	<b>.7</b>	<b>Permanone</b>
<b>10/29/12</b>	<b>.5</b>	<b>Permanone</b>
<b>11/1/12</b>	<b>.6</b>	<b>Permanone</b>
<b>Total Gallons Used...24.64</b>		



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**2012**

**GROUND CONTROL**  
**ZONE 5 LARVACIDE**

<b>Date</b>	<b>Amount Used</b>	<b>Material</b>
5/21/12	.64 lbs. (8 ingots)	Altosid XR

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**GROUND CONTROL**  
**ZONE 5 ADULTICIDE**

<b>Date</b>	<b>Gallons</b>	<b>Material</b>
4/30/12	5	Permanone
6/19/12	3.7	Permanone
6/27/12	1.3	Permanone
7/3/12	11.4	Permanone
7/3/12	13.8	Pyrethrin
7/5/12	14.6	Permanone
7/5/12	10.4	Pyrethrin
7/10/12	.9	Permanone
7/12/12	18.8	Permanone
7/12/12	10.7	Pyrethrin
7/17/12	1.1	Permanone
7/19/12	12.0	Anvil
7/19/12	14.9	Permanone
7/19/12	3.0	Pyrethrin
7/24/12	1.7	Permanone
7/26/12	17.5	Anvil

<b>Date</b>	<b>Gallons</b>	<b>Material</b>
<b>7/26/12</b>	<b>12.5</b>	<b>Permanone</b>
<b>7/31/12</b>	<b>.8</b>	<b>Permanone</b>
<b>8/2/12</b>	<b>12</b>	<b>Anvil</b>
<b>8/2/12</b>	<b>17.5</b>	<b>Permanone</b>
<b>8/6/12</b>	<b>13.9</b>	<b>Anvil</b>
<b>8/6/12</b>	<b>15.1</b>	<b>Permanone</b>
<b>8/7/12</b>	<b>16.0</b>	<b>Malathion</b>
<b>8/9/12</b>	<b>16.9</b>	<b>Malathion</b>
<b>8/9/12</b>	<b>15.1</b>	<b>Permanone</b>
<b>8/13/12</b>	<b>19.6</b>	<b>Malathion</b>
<b>8/13/12</b>	<b>16.0</b>	<b>Permanone</b>
<b>8/14/12</b>	<b>29.0</b>	<b>Malathion</b>
<b>8/16/12</b>	<b>13.0</b>	<b>Malathion</b>
<b>8/16/12</b>	<b>19.0</b>	<b>Permanone</b>
<b>8/20/12</b>	<b>18.8</b>	<b>Malathion</b>
<b>8/20/12</b>	<b>17.1</b>	<b>Permanone</b>
<b>8/21/12</b>	<b>28.6</b>	<b>Malathion</b>
<b>8/23/12</b>	<b>14.4</b>	<b>Malathion</b>
<b>8/23/12</b>	<b>17.1</b>	<b>Permanone</b>
<b>8/27/12</b>	<b>14.4</b>	<b>Malathion</b>
<b>8/27/12</b>	<b>16.6</b>	<b>Permanone</b>
<b>8/28/12</b>	<b>31.7</b>	<b>Malathion</b>

<b>Date</b>	<b>Gallons</b>	<b>Material</b>
<b>8/30/12</b>	<b>11.5</b>	<b>Malathion</b>
<b>8/30/12</b>	<b>18.0</b>	<b>Permanone</b>
<b>9/3/12</b>	<b>20.0</b>	<b>Malathion</b>
<b>9/3/12</b>	<b>15.5</b>	<b>Permanone</b>
<b>9/4/12</b>	<b>26.5</b>	<b>Malathion</b>
<b>9/6/12</b>	<b>18.5</b>	<b>Malathion</b>
<b>9/6/12</b>	<b>15.5</b>	<b>Permanone</b>
<b>9/9/12</b>	<b>1.0</b>	<b>Permanone</b>
<b>9/10/12</b>	<b>17.3</b>	<b>Malathion</b>
<b>9/10/12</b>	<b>16.6</b>	<b>Permanone</b>
<b>9/11/12</b>	<b>24.2</b>	<b>Malathion</b>
<b>9/13/12</b>	<b>14.5</b>	<b>Malathion</b>
<b>9/13/12</b>	<b>14.1</b>	<b>Permanone</b>
<b>9/17/12</b>	<b>2.5</b>	<b>Anvil</b>
<b>9/17/12</b>	<b>12.8</b>	<b>Malathion</b>
<b>9/17/12</b>	<b>18.1</b>	<b>Permanone</b>
<b>9/18/12</b>	<b>9.8</b>	<b>Anvil</b>
<b>9/18/12</b>	<b>2.0</b>	<b>Malathion</b>
<b>9/18/12</b>	<b>.2</b>	<b>Permanone</b>
<b>9/20/12</b>	<b>7.3</b>	<b>Anvil</b>
<b>9/20/12</b>	<b>17.2</b>	<b>Permanone</b>
<b>9/24/12</b>	<b>10.2</b>	<b>Anvil</b>

<b>Date</b>	<b>Gallons</b>	<b>Material</b>
9/24/12	16.7	Permanone
9/25/12	19.1	Anvil
9/25/12	3.5	Permanone
9/27/12	11.7	Anvil
9/27/12	21.4	Permanone
10/1/12	10.0	Anvil
10/1/12	21.1	Permanone
10/4/12	7.4	Anvil
10/4/12	23.0	Permanone
10/8/12	9	Anvil
10/8/12	21.8	Permanone
10/9/12	16.1	Anvil
10/9/12	3.4	Permanone
10/11/12	12.2	Anvil
10/11/12	16.1	Permanone
10/15/12	10.7	Anvil
10/15/12	23.5	Permanone
10/18/12	9.2	Anvil
10/18/12	17.9	Permanone
10/23/12	1.5	Anvil
10/23/12	18.9	Permanone
10/25/12	1.4	Anvil



<b>Date</b>	<b>Gallons</b>	<b>Material</b>
<b>10/25/12</b>	<b>17.5</b>	<b>Permanone</b>
<b>10/29/12</b>	<b>13.6</b>	<b>Anvil</b>
<b>10/29/12</b>	<b>16.3</b>	<b>Permanone</b>
<b>10/30/12</b>	<b>18.0</b>	<b>Anvil</b>
<b>11/1/12</b>	<b>5</b>	<b>Anvil</b>
<b>11/1/12</b>	<b>16.1</b>	<b>Permanone</b>
<b>Total Gallons Anvil....230.1</b>		
<b>Total Gallons Malathion....330.1</b>		
<b>Total Gallons Permanone....573.6</b>		
<b>Total Gallons Pyrethrin....37.9</b>		
<b>Total Adulticide.....1,171.7 Gallons</b>		



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**AIRCRAFT**  
**ZONE 6**

<b>Date</b>	<b>Gallons</b>	<b>Material</b>
<b>8/30/12</b>	<b>5</b>	<b>Trumpet</b>
<b>9/3/12</b>	<b>30</b>	<b>Trumpet</b>
<b>9/8/12</b>	<b>11.2</b>	<b>Trumpet</b>
<b>9/10/12</b>	<b>45</b>	<b>Trumpet</b>
<b>9/13/12</b>	<b>20</b>	<b>Trumpet</b>
<b>9/20/12</b>	<b>14</b>	<b>Trumpet</b>
<b>9/25/12</b>	<b>58</b>	<b>Trumpet</b>
<b>10/4/12</b>	<b>15.5</b>	<b>Trumpet</b>
<b>10/10/12</b>	<b>10</b>	<b>Trumpet</b>
<b>10/17-18/12</b>	<b>10.3</b>	<b>Trumpet</b>
<b>Total Gallons Used...219</b>		



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**GROUND CONTROL**  
**ZONE 8 ADULTICIDE**

<b>Date</b>	<b>Gallons</b>	<b>Material</b>
7/5/12	1.4	Pyrethrin
7/11/12	1.25	Pyrethrin
8/1/12	2.5	Pyrethrin
8/8/12	2.3	Pyrethrin
8/15/12	3.5	Pyrethrin
8/22/12	3.5	Pyrethrin
8/29/12	3	Pyrethrin
9/5/12	3.5	Pyrethrin
9/12/12	3.5	Pyrethrin
9/19/12	4	Pyrethrin
9/26/12	4	Pyrethrin
10/3/12	5.5	Pyrethrin
10/10/12	6	Pyrethrin
10/17/12	5.9	Pyrethrin
10/24/12	2.3	Pyrethrin

**Total Amount Used...52.15 GALLONS**

