

Orange County Vector Control District

“A Study in Little Known Services”

SUMMARY

The Orange County Vector Control District (OCVCD) is an independent special district chartered to provide taxpayer-supported services to eradicate and control mosquitoes, rats, and fire ants, all carriers of infectious diseases. This one of two special districts in Orange County that provides countywide services. Although the agency provides valuable services, little is known about it by the general public.

A vector is defined as “an insect that carries and transmits a disease-causing organism.”¹ The dictionary further defines “vectors” as

“...any insect or anthropoid, rodent or other animal of public health significance capable of harboring or transmitting the causative agents of human disease, or capable of causing human discomfort or injury.”²

While other diseases can be transmitted by these species, typhus and malaria are the most prevalent.

The district was created in 1947 when Orange County was predominantly an agricultural community with vast tracts of orchards, row crops, and uncontrolled waterways. It was formed to identify and control areas with standing water that became breeding grounds for disease carrying mosquitoes. The OCVCD receives funding through apportionment of the 1% property tax and two special assessments.

The taxpaying public is not generally aware of the mission and the abilities of this special district. Citizens become aware of services when an unmanageable mosquito or rat problem occurs in their home or neighborhood. When a resident is identified as having typhus or malaria, the canvasses the neighborhood to educate residents about the disease and attempts to limit the spread of the disease.

The Vector Control District’s name and logo do not lend themselves to recognition by the public. The public generally does not relate the Vector Control District to mosquito abatement and rat eradication. (“Bug Man” or “A&B Pest Control” are easily recognizable as pest control companies.)

¹ Random House Webster’s College Dictionary; Random House; New York, NY; 1990.

² Orange County Vector Control Website; September 21, 2011

The services provided by the laboratory are not uniformly shared with other local county agencies monitoring disease carriers. Collaboration with the Orange County Health Care Agency Laboratory and the Agricultural Commissioner's Laboratory could enhance the sharing of health hazards, threats and related scientific expertise. The services provided by the laboratory could reasonably be shared by integrating's laboratory functions with other health agencies' laboratories. All together they could monitor infectious diseases by quickly identifying their arrival and control.

REASON FOR THE STUDY

The purpose of this study is to inform the public about the Orange County Vector Control District. The study highlights their services, management, funding, and provides recommendations to improve the visibility and efficiency of the districts' services.

METHOD OF THE STUDY

This study includes a review of District reports and records, a review of previous Orange County Grand Jury reports, and interviews with District personnel, site visits to the headquarters, ride-alongs, and public surveys. This study included the following tasks:

- Review previous Orange County Grand Jury reports;
- Review statutes governing ;
- Review performance reports;
- Interview Management and Board Members;
- Conduct Surveys of the general public;
- Interview and ride-along with field staff;
- Compare functions of other agencies with related services.

BACKGROUND AND FACTS

Vector control districts in California date back to 1904. In that year the University of California addressed the mosquito problem in the salt marshes of San Francisco Bay. The University of California caused the mosquito abatement districts (now commonly called "vector control districts") to fund and manage the abatement of vectors. Today 67 vector control districts exist in California.

OCVCD was formed in 1947 as the Orange County Mosquito Abatement District. At the time of its formation the population of Orange County was 216,000 and the land was 90% farmland and orchards. The county has since grown to over three million with 80% of the available land now urbanized. The remainder is farmland and national forest.

An Orange County Grand Jury reports highlight the management of OCVCD and the handling of its budget.³ The 2005-2006 Grand Jury study gave the district poor marks in operations management, governance, and fiscal management. The recommendation of that Grand Jury was to integrate into other county agencies. The report was critical of the OCVCD's use of taxpayer funds and the management of the district. Other reports by outside agencies have reported the possibility of merging the district with other agencies. "Rats" The Orange County Grand Jury's study of the Vector Control District in 2001-2002⁴, addressed the rat control services of the district.

OCVCD Governance

A Board of Trustees consisting of 35 officials governs OCVCD. They represent all the cities in Orange County, and the Orange County Board of Supervisors. Board members normally serve a two-year or four year term and are either elected or appointed by the cities they represent. A District Manager manages all operations and reports to the Board of Trustees.

In 1975, the Orange County Board of Supervisors conducted a study concluding that the OCVCD could solely assume the responsibility for comprehensive vector control. Consequently rat control was transferred from the Orange County Health Department to the newly renamed Orange County Vector Control District.

OCVCD and the California Health and Safety Code

The California Health and Safety Code Sections 2060-2067 have granted OCVCD certain powers. OCVCD has the right to enter private property that is suspected of being a breeding ground for vector borne diseases. They have the right to abate all forms of vector-borne diseases on private property. OCVCD has the expressed right to issue citations and levy civil fines for non-compliance in maintaining property free of vector borne disease.⁵ OCVCD has not exercised its power to issue citations and fines because they may deter the public from reporting problems.

Currently Provided Services

- Surveillance programs for vector-borne diseases;
- Eradication of mosquito's, fireants, and control of rats;
- Integrated Pest Management (IPM) technologies;
- Educational programs;
- Information on local household pests;
- Insect identification services to the public.

³ Orange County Grand Jury; "Out of Control" 2005-2006.

⁴ Ibid.; RATS!; June, 2002

⁵ California Health and Safety Code, Sections 2060-2067.

OCVCD distributes to the public printed material that describes what citizens can do to keep their homes and property free of rats, flies, mosquitoes, and pests that may be found around the yard and inside the homes. The OCVCD website can be found at www.ocvcd.org.

OCVCD Organization

The Orange County Vector Control District consists of the following four departments:

- Administrative Services Department
- Operations Department
- Communications Department
- Scientific Technical Services Department

The staff of 55 employees is supplemented annually by 50 seasonal employees from April through October, in addition to 12 year round part-time employees.

Administrative Services manages finance, human resources, and risk management. Four full-time employees staff the department. The Finance section monitors and reports on a monthly basis to the Board of Trustees for final approval of all expended funds. Administrative Services contracts with an outside auditor annually to produce financial audits.

Operations consist of field inspectors and maintenance personnel. This department is staffed with 35 employees and 50 seasonal employees (April-October). Field operations include 28 inspectors who are assigned geographic areas within the county to monitor and treat susceptible areas. Computer programs are used to ensure that inspectors have visited all their sites and have logged chemicals used and actions taken. Inspectors are state certified and experienced. They have up-to-date treatment equipment and transportation to accomplish their work. They are allocated time to maintain their continuing education that is required for state certification as a condition of employment.

Communications provides public information, hardware and software technology and legislation monitoring. This department is staffed with six employees. The information technology personnel maintain an internet website with data on the latest reports of disease outbreaks, information about OCVCD, and educational materials. The website also has contact information for reporting problems related to mosquitoes and other vectors.

Scientific Technical Services provides laboratory analysis, as well as research on mosquitoes and fire ants. The laboratory is staffed with eight lab scientists and 8 seasonal lab workers. All lab scientists have a Master's degree or higher. The laboratory also has three professional part-time employees who do research work. They are retired professors with advanced degrees in vector sciences. The lab tests and tracks Typhus, West Nile Virus, Hantavirus, Malaria, and fleas

that carry diseases. The laboratory complies with the California Environmental Quality Act (CEQA) in the application of chemicals. This requires documenting the amounts, date, time, weather, and location of use in a computer database. In the future, California Fish and Game and/or OCVCD will be required to start testing chemical levels in local streams.

Financial Issues of

The budget approved by the Board of Trustees supports OCVCD's activities.

OCVCD's budget for 2011-2012 has anticipated revenue of \$10.6 million and expenditures of \$10.1 million.⁶ Expenditures are 74% personnel, 25% operations, and 1% capital outlays. Sources of revenue are property tax (.000114 portion of 1%); benefit assessments of \$6.94 per real estate parcel. Contracted services bring the revenue fund total to \$10.2 million.

The 2010 Financial Audit showed:

- Taxes and assessments of \$9,969,000
- Fees, interest and other revenue of \$317,000
- Total assets of \$15,526,000
- Unrestricted reserves of \$10,474,000

The 1996 benefit assessment is \$1.92 per parcel, and the 2004 benefit assessment is \$5.02 per parcel. Although not specifically listed in the current revenue, they are listed in the Five year Fiscal Plan and updated annually.

All unrestricted reserves (\$10.5 million) are in the Local Area Investment Fund Pool (LAIF). LAIF is a fund managed by the Orange County Treasurers Office. During the preparation of this study OCVCD spent 3.5 million dollars of its unrestricted reserves at the direction of the Board of Trustees to acquire real estate adjacent to its location. This currently leaves 7 million in unrestricted reserves.

The OCVCD has contracted to provide services to five government agencies and institutions to generate revenue:

- California State Commissioner – Bolsa Chica Wetlands - \$22,700
- Irvine Ranch Water District - \$1,000
- Orange County Sanitation District \$1,300
- University of Irvine Campus, Irvine CA - \$45,000
- Seal Beach U.S.Naval Weapons Station – Marsh \$10,000
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⁶ OCVCD 2011-2012 Budget

PUBLIC SURVEYS

A survey was conducted by this 2011-2012 Grand Jury. Out of 851 individuals, 17% had at that time called OCVCD while 83 % had not. Seventy five percent of the respondents who contacted were satisfied while 25% were not.⁷ In 2009 OCVCD, sent a customer satisfaction survey to 1,362 former customers. Results indicated that of 42 % of the cards returned, indicated that 94 % were satisfied.

Figure 1, Public Survey August 2011

Vector Control Survey Distribution	Residence		Have you had bees,ants,etc.?		Who solved?		If exter-minator		Have you had rats,mice, etc.?		If exter-minator		Ever called O.C.V.C.?		Satisfied with O.C.V.C.?	
	Rent	Own	Yes	No	I did	Exter-minator	Cnty	Priv	Yes	No	Cnty	Priv	Yes	No	Yes	No
Age 20-29	87	38	78	53	55	26	4	26	47	78	1	14	2	125	68	4
30-39	69	69	71	59	50	29	4	31	56	75	3	30	15	119	9	5
40-49	45	146	103	82	61	61	6	64	112	72	10	45	26	161	19	15
50-59	45	182	126	92	82	74	7	82	145	72	25	45	53	167	40	17
60-69	13	116	80	45	42	50	9	47	83	36	22	27	34	86	27	11
70+	7	23	16	14	10	9	0	9	21	8	6	6	7	21	5	2
Not indicated	3	8	6	5	4	5	2	3	5	5	2	3	3	7	1	1
Total Counts	269	582	480	350	304	254	32	262	469	346	69	170	140	686	169	55
Percentages	32%	68%	58%	42%	54%	46%	11%	89%	58%	42%	29%	71%	17%	83%	75%	25%

GRAND JURY RIDE-ALONGS

Members of the 2011-2012 Grand Jury rode with inspectors on their daily rounds.⁸ They observed how the inspectors prepare for work at the OCVCD yard, and how they organize their daily tasks. Riders traveling with inspectors observed their treatment of open drains, storm channels, standing water, ponds, and unattended swimming pools. Such pools can be treated every three months for up to three years. Inspectors were typically welcomed by the residents.

Where rats have been reported the inspectors checked property and homes for signs of infestation. Inspectors go through the property with the occupant, pointing out possible entry areas and food sources. They also educate residents on how to alleviate problems. In some cases the inspectors leave traps with detailed instructions for their use.

Inspectors are assigned wide geographical areas. They perform their work with diligence and dedication. Ride-along observers indicated that inspectors are well-trained and more than willing to show and explain their services to residents.

The ride-alongs also gave insight into the difficulty inspector’s encounter in recording information. Tasks that have proven cumbersome are separate computer programs used for documenting work orders, unattended pools, mosquito treatment, and rat infestation. These are

⁷ Figure 1, August 2011 Public Survey

⁸ Ride-along interviews; October 20, 26, & 27, 2011

all maintained in stand-alone programs. Every inspector must download information from multiple programs to arrange his daily work schedule. At the end of the day the inspector must manually enter all actions taken into these various programs.

INSPECTION OF OTHER ORANGE COUNTY LABORATORIES

The 2011-2012 Orange County Grand Jury conducted visits and discussions with officials of the Agricultural Commissioners Laboratory and the Orange County Health Care Laboratory to determine similarities and to understand the relationship between them.

Orange County Health Care Laboratory

The Orange County Health Care Laboratory is an infectious disease laboratory that is staffed by 39 professionals. Twenty-eight persons are Certified Microbiologists with a minimum education of Master's degree. Eleven are laboratory technicians with Bachelor degrees in Biology (most are working on their Masters degrees). The laboratory is connected to the Center for Disease Control and The Food and Drug Administration for real time reporting of information by way of the Infectious Disease Data Sharing Network. It actively participates in emergency response networks involved with infectious diseases. The laboratory has the capacity to do mapping of infectious disease cases by area, much the same as OCVCD maps vectors. Test results in the lab are entered into a database system in order to share the information with the Center for Disease Control, The Food and Drug Administration, Orange County Health Care Agency, and local hospitals in a timely manner. The laboratory also maintains a "Water Laboratory" in the southern portion of the county, the purpose of which is to test water at the beaches for the County and the State Coastal Commission.

Agricultural Commissions Laboratory

The Agricultural Commissioner's laboratory is staffed by two scientists and two Systematic Entomologists. They identify insects that live on plants or insects that grow in soil or roots in the county of imported. When identifying a harmful insect, the laboratory issues a citation for the crop or load of plants to be returned to its origin or destroyed. The laboratory also oversees the destruction of these plants, if necessary.

FINDINGS/CONCLUSIONS

"In accordance with *California Penal Code* Sections §933 and §933.05, the 2011-2012 Grand Jury requires responses from each agency affected by the **Findings/Conclusions** presented in this section. The responses are to be submitted to the Presiding Judge of the Superior Court".

Based on the research of the Orange County Vector Control District the Orange County Grand Jury puts forth the following **Findings/Conclusions**.

F1. The field staff of OCVCD has to deal with older technology in dispatching, reporting and coordinating their activities. This requires extra time dedicated to formalizing reports. Acquiring

current technology that links databases would lessen the time spent in the office and allow more time in the field, better serving the community. (R1)

F2. The laboratories of the Agricultural Commissioner, Health Care Agency, and Vector Control have little inter-relationship with respect to their functions and specialized equipment. Little or no communication exists among the labs for sharing of disease information impacting the public. (R2)

F3. The OCVCD does not exercise all of its abatement rights under the California Health and Safety Code sections 2060-2067. It fails to issue citations and levy fines for violations of the codes against property owners, including banks, who own foreclosed property. Issuing fines could lead to recouping costs of remediating unattended property and lower assessments to all other taxpayers. (R3)

F4. The OCVCD maintains a database of over 3000 abandoned swimming pools throughout Orange County that are basically unattended breeding grounds for mosquitoes. Considerable time is devoted to treating and following up on the condition of these pools. (R3)

F5. The OCVCD has the largest Board of Trustees of any independent special district in Orange County. Thirty-five members represent all the cities and the County Board of Supervisors. Meeting for an hour monthly to discuss and vote on district business presented to them by the staff does not appear to provide adequate oversight. Thirty-five Trustees is an overly large amount for the task of efficient, cost effective governance of this district. (R4)

F6. The OCVCD's Communication Department is striving to provide better service to the public and improve its public outreach. Communication and public outreach needs to continue improving. The OCVCD website has no ability to place threat warnings on cities websites. (R5)

F7. Currently the overwhelming majority of the citizens of Orange County have little or no knowledge of the OCVCD. In most cases they do not know what the vector control mission entails or how it serves the community. (R6)

F8. Based on a survey conducted by OCVCD in 2009, the district earned a 94 % approval rating from citizens who had used their services. The 2011-2012 Grand Jury surveyed prospective jury members in August 2011. Only 17% of the respondents surveyed have ever contacted OCVCD. Of those that had used OCVCD, 75% were satisfied with the response. (R6)

F9. The OCVCD Inspectors are State certified, dedicated and knowledgeable. They perform their services well. The OCVCD is a well-run and well-resourced operation fulfilling its core mission. OCVCD conducts effective and efficient day-to-day operations.

RECOMMENDATIONS

In accordance with *California Penal Code* Sections 933 and 933.05, the 2011-2012 Grand Jury requires responses from each agency affected by the **Recommendations** presented in this section. The responses are to be submitted to the Presiding Judge of the Superior Court.

Based on the research of the Orange County Vector Control District the 2011-2012 Orange County Grand Jury puts forth the following recommendations:

R1. OCVCD's Director of Communication should develop and acquire hardware and software to eliminate the time consuming data acquisition and report writing input that is currently required.

R2. OCVCD should take the lead in forming a coalition with the Agricultural Commissioners Agency and the Health Care Agency to explore sharing information.

R3. OCVCD should start exercising the authority granted to it in the Health and Safety Code and issue citations to individuals, real estate agencies and banks that refuse to maintain swimming pools under their control.

R4. The Board of Trustees should explore downsizing itself to a manageable group of appointed citizens, not elected officials. The Board should consider membership along the lines of the Supervisorial Districts with an appointed representative from each district. Furthermore, the appointees should have some background in biology or related health careers.

R5. OCVCD should explore teaming with the Webmasters and the County CEO Information Technology, to ensure immediate posting on city websites of vital public health conditions.

R6. OCVCD should engage the services of a public relations firm to develop ways to make the name and services more recognizable to the general public.

REQUIRED RESPONSES

"In accordance with *California Penal Code* Sections 933 and 933.05, the 2011-2012 Grand Jury requires responses from each agency affected by the **Findings** and **Recommendations** presented in this section. The responses are to be submitted to the Presiding Judge of the Superior Court.

"Not later than 90 days after the grand jury submits a final report on the operations of any public agency subject to its reviewing authority, the governing body of the public agency shall comment to the presiding judge of the superior court on the findings and recommendations pertaining to matters under the control of the governing body, and every elected county officer or agency head for which the grand jury has responsibility pursuant to Section §914.1 shall comment within 60 days to the presiding judge of the superior court, with an information copy sent to the board of supervisors, on the findings and recommendations pertaining to matters under the control of that county officer or agency head and any agency or agencies which that

officer or agency head supervises or controls. In any city and county, the mayor shall also comment on the findings and recommendations...”

Comments to the Presiding Judge of the Superior Court in compliance with the Penal code Section 933.05 are requested or required as shown below:

Responses Required to Findings/Conclusions and Recommendations are required from the **OCVCD Board of Trustees** and requested from the **Health Care Agency**, which is a department of the County, and the **Agricultural Commissioner**.

Findings	OCVCD	HCA	Ag Com
F1	X		
F2	X	X	X
F3	X		
F4	X		
F5	X		
F6	X		
F7	X		
F8	X		
F9	X		
Recommendations			
R1	X		
R2	X	X	X
R3	X		
R4	X		
R5	X		
R6	X		

OCVCD = Orange County Vector Control District)

(HCA= Health Care Agency)

(Ag Comm. = Agricultural Commissioner)