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Annual Report

Vector: any insect or other arthropod, rodent or other animal of public health significance capable of causing human discomfort, injury, or capable of harboring or transmitting the causative agents of human diseases



C o n t r a C o s t a

M o s q u i t o & V e c t o r

C o n t r o l D i s t r i c t

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Foreword



As expected, West Nile virus (WNV) was detected in California in 2003. Mosquito & Vector Control Districts (MVCD's) throughout southern California reported finding the virus in the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and San Diego. The virus was first detected in mosquitoes collected by MVCD's and in the sentinel chicken flocks they maintain for surveillance. The virus was also detected in subsequent months through the dead bird surveillance system run by the California Department of Health Services, Vector-Borne Disease Section. In addition, locally acquired human cases were reported nationwide; all but four states (WA, OR, AK, HI) reported WNV activity (avian, animal,

human, or mosquito) in 2003. There were thousands of reported human cases and numerous deaths. The states hardest hit were Colorado, Nebraska, and South Dakota.

The District was well prepared for the arrival of WNV. These preparations included cooperative planning with numerous public agencies in the county, with the California State Health Department, and with the University of California. Extraordinary assistance from Contra Costa Health Services was especially appreciated.

Operational preparations were in force with the doubling of the mosquito control field work force; educational presentations to public agencies and various groups; the production of a WNV newspaper insert that was distributed to every residence in the county; a WNV video that was produced by Contra Costa Television and aired repeatedly through the year on public TV; and a joint code enforcement enhancement project with the cities to battle backyard mosquito sources.

On a statewide basis, Assemblyman Joe Canciamilla carried legislative bill AB 1454, The West Nile Virus Protection and Control Act of 2003. Although it was not acted upon, it will be revisited in 2004. The goal is to provide effective public health protection from West Nile virus throughout the state.

Regarding other vectors, the District made a concerted effort to enhance efforts in the control of rats in the county. District personnel vastly increased their group presentations. Public education in terms of eliminating food and harborage for rat survival and propagation was emphasized.

The District continued to operate its effective programs while staying within its budget. While concerns over state raids on local property taxes remain, the district will continue its due diligence in providing outstanding protection against vector-borne diseases.

Respectfully,

Craig Downs

General Manager

Principles

Vision

To be the lead agency in Contra Costa County for the detection and suppression of threats to public health from disease transmitting pests, and non disease transmitting pests (vectors) which disrupt public activities.

Mission

To protect public health and welfare through area-wide, responsive services and programs by:

■ *Community Value*

Providing essential District services to detect and suppress public health pests, and to reduce the chance of disease transmission and discomfort to the people who live, work, or enjoy outdoor activities within Contra Costa County

■ *Service Area*

Providing field services and administrative programs throughout the county, including all incorporated cities and unincorporated communities

■ *Public Confidence*

Delivering accessible, accountable, efficient and cost effective services to the public in all communities within the county

■ *Community Awareness*

Informing community leaders and public “customers” regularly about programs and services; linking educational programs to schools, public agencies, nonprofit organizations and private industry

■ *Environmental Commitment*

Complying with, by meeting or exceeding, federal, state, and local environmental standards that affect service programs

■ *Research*

Developing and/or testing new materials, methods and technologies to ensure quality control oversight on all services and programs, while anticipating resurgent and/or new introduced vectors, or vector-borne diseases

■ *Support Programs*

Integrating District programs and services with other related regional, state and federal public health agencies to ensure cooperative, cohesive program delivery

District Profile

In 1926, residents rallied together to form the Contra Costa Mosquito & Vector Control District to control mosquitoes responsible for epidemics of encephalitis and malaria, and to relieve severe outbreaks of saltwater marsh mosquitoes. During peak mosquito season, waterfront areas and schools were closed, recreational areas were abandoned, and realtors had difficulty selling homes. Some areas in the county were declared uninhabitable.

For over 75 years, the District has steadfastly surveyed and treated thousands upon thousands of

mosquito breeding sources throughout the county, while considering, maintaining, and even enhancing the environment.

Today, our county is not only habitable, but encompasses a rich diversity of economic, agricultural, and recreational amenities. West Nile virus calls upon us to remain diligent in our efforts to control mosquitoes, steadfast in our resolve to protect our residents, and reminds us that mosquito control is as important today as it has ever been.



2003 Board of Trustees

Standing: Jeannette Mahoney, Richmond; Ronald Tervelt, Clayton; Myrto Petreas, Moraga; Dick Vesperman, San Ramon; Tim McDonough, Pinole; David Jameson, Danville; Jon Elam, Brentwood; Richard Means, Pleasant Hill; Nancy Brownfield, Walnut Creek; Diane Wolcott, Orinda; **Sitting:** Russ Belleci, Contra Costa County; Richard Head, Oakley; John Hall, Antioch; H. Richard Mank, El Cerrito

Not pictured: Heather Gibson, Contra Costa County; Earl Mortenson, Concord; ; Daniel Pellegrini, Martinez; Jim Pinckney, Contra Costa County; Johnny Poon, Hercules

2003 Administrative Staff

Standing: Eric Ghilarducci, Laboratory Assistant; Michael Yeater, Technology Technician; Gale Jirik, Operations Manager; Ray Waletzko, Administrative & Finance Manager; Chris Miller, Biologist; Craig Downs, General Manager; Karl Malamud-Roam, Ph.D., Environmental Projects Manager

Seated: Nancy Fontaine, Administrative Secretary; Tina Cox, Accounting & Benefits Specialist; Ann Donohue, Vector Ecologist; Deborah Bass, Public Affairs Manager *Not Pictured: Tom Fishe, Mechanic; Steve Schutz, Ph.D., Scientific Programs Manager*



Field Personnel

Gale Jirik, Operations Manager

In 2003, the district employed fourteen vector control technicians and inspectors (VCT's/VCI's) and two lead vector control inspectors. Nine of the VCT's /VCI's were assigned to the mosquito program, one to the rabies reduction program, and four to the rodent program.

This year, the District's primary focus was preparing for the arrival of West Nile virus. Experts predict that California will be the epicenter for the disease in 2004. The District doubled its mosquito technician staff to meet this new challenge, hiring 10 seasonal employees to help with control and surveillance; six more than in typical years. A seasonal employee was assigned to each of the District's eight mosquito zones, one was assigned to the rodent control program, and one assigned to the yellowjacket control program. One seasonal employee was promoted to a permanent vector control technician. With the added work force, the District was able to greatly increase the number of inspections and treatments of mosquito breeding sources for the year.

Working closely with city and county agencies, the District has made an extraordinary effort to collaborate with code enforcement personnel and other city and county officials to ensure a healthy environment for residents. Vector control technicians continue to make contact and work closely with key city and county officials, organizing and maintaining programs to best handle vectors in a variety of habitats.

Significant mosquito problems located during routine surveillance on some irrigated pastures prompted the District to utilize our abatement powers in order to provide relief for local residents. Ultimately, landowners complied and relief was found. The District received excellent cooperation from duck clubs in Contra Costa County in 2003.



Vector Control Technicians & Inspectors

Left to right, back row:
 Carlos Sanabria, Lead Vector Control Inspector; Lawrence Brown; Steve Fisher; Scott Harrison; Steve Perkins; Felipe Carrillo; Dave Obrochta; Kirk Thill, Lead Vector Control Inspector; John Chase; and Damien Clausen

Left to right, front row:
 John Croff; Nancy Harden; Patrick Vicencio; Joe Cleope; Fred Walls; and Reed Black

Not Pictured: David Wexler and Sheila Currier

Mosquito Control

Steve Schutz, Ph.D., Scientific Programs Manager

Gale Jirik, Operations Manager

Mosquito/ encephalitis virus surveillance:

During 2003, West Nile virus completed its rapid spread across North America, with nearly 10,000 human cases and 264 deaths in 45 states and the District of Columbia and the first conclusive evidence of local transmission in California. Two human cases were reported, in Riverside and San Bernardino Counties. In addition, 70 positive sentinel chickens, 32 positive mosquito samples, and over 95 positive dead birds (primarily crows) were reported in Los Angeles, Orange, San Bernardino, Riverside and San Diego counties. In response to the arrival of West Nile virus, we further expanded our surveillance program with additional mosquito trap locations, increased numbers of larval samples (more than double last year's total) and a record number of mosquito samples submitted for virus testing. We also added in-house testing of dead birds for rapid detection of virus transmission. Trap counts of the Western encephalitis mosquito, *Culex tarsalis*, were well above average in waterfront areas during the summer months, but below average elsewhere in the County. Increased surveillance in response to these high trap counts led to the identification of several previously unknown larval sources in industrial areas of the Martinez waterfront. Despite the increased level of surveillance no virus activity was detected in the District (or anywhere in northern California) during 2003.

In the Laboratory:

- Operated 21 New Jersey light traps nightly, countywide
- Set 18 CO2 traps weekly, at locations in east county, west county and waterfront areas
- Identified 3,961 larval mosquito samples
- Submitted 17,650 adult mosquitoes for virus testing
- Submitted 520 chicken blood samples from four sentinel flocks for antibody testing
- Collected 85 dead birds for West Nile virus testing (of which 65 were tested in-house)
- Provided weekly West Nile virus risk assessments based on the California West Nile virus Response Plan
- Handled 137 pest identification inquiries by the public (excluding ticks). Miscellaneous insects and rodent mites were the most commonly submitted pests

Mosquito Control Continued

Special Projects:

During 2003, we worked on redesigning our carbon dioxide mosquito traps to improve reliability. Upgrades will include improved battery holders and switches, and a change from incandescent light bulbs to light-emitting diodes to extend battery life.

With the assistance of the technology technician, we upgraded our adult mosquito surveillance database so we are now able to track population levels of all mosquito species and compare them with historical averages. We have almost completed the process of upgrading our larval surveillance database so we can link it with our source location data tables. This will enable us to streamline the data entry process and query the database to map larval source locations by species, source type, date, etc.

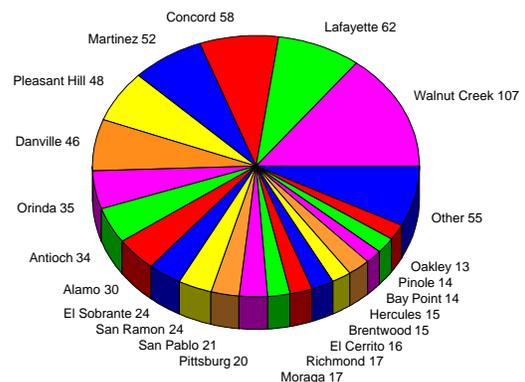
The District web site (ccmvcd.dst.ca.us) was redesigned and expanded, with the addition of a West Nile virus Information Center, downloadable information pamphlets, and frequently updated news items.

In the Field:

In the field, vector control technicians responded to 765 mosquito service requests, compared to 539 service requests the year before. The increase in service requests were attributed to the WNV newspaper insert, District advertising, and the media's WNV reports. With the assistance of additional seasonal employees, mosquito control personnel were able to improve mosquito control efforts in their zones, as well as broaden their search for additional mosquito breeding sites. District personnel conducted mosquito control assaults on Bethel Island, Jersey Island, PG& E Marsh near Pittsburg, the Naval Weapons Station, the Martinez waterfront, and Chevron property in Richmond. These assaults included multiple personnel, all-terrain vehicles, and in some cases aerial treatments. Two tree-hole mosquito assaults were conducted throughout the coastal mountain range for the control of the *Ochlerotatus sierrensis* species.

This year, six communities gave the District the ability to issue administrative citations for public nuisances involving mosquitoes and back yard water sources (pools, ponds, etc.). The District has the ability to abate nuisances on properties as well.

2003 Mosquito Service Requests



municipalities not listed are < 10 requests

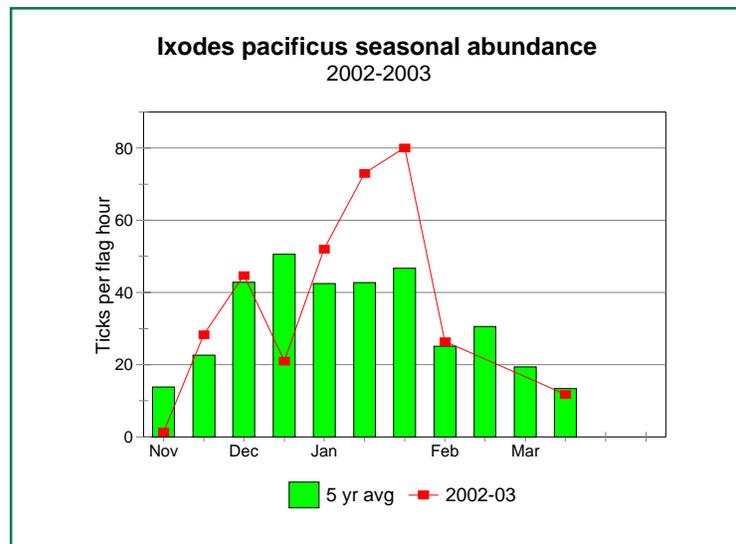
Ticks and Lyme Disease

Ann Donohue
Vector Ecologist

During the 2002-03 season, adult *Ixodes pacificus* ticks were collected from eleven locations within Contra Costa County. The tick population was monitored at three locations and ticks collected from all eleven sites were tested for the presence of the Lyme disease spirochete, *Borrelia burgdorferi*. This data was used to determine the seasonal abundance of adult *I. pacificus* and the average *B. burgdorferi* infection rate within Contra Costa County.

Adult Tick Population

The adult *I. pacificus* population was at or near average for most of the season. The exception to this occurred during the second half of December when the population was half of normal and the month of January when numbers were quite a bit above average with a peak of 113 ticks per flag hour collected from the Springhill Rd., Lafayette site. Data shown in the graph below are the average of ticks collected at three standard locations which have been monitored for the last ten seasons and include Bollinger Canyon Rd., San Ramon; Springhill Rd., Lafayette; and the Bear Creek area of Briones Regional Park.

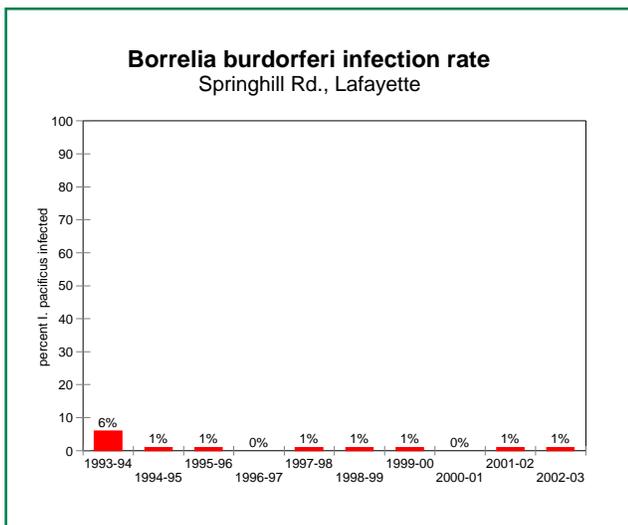
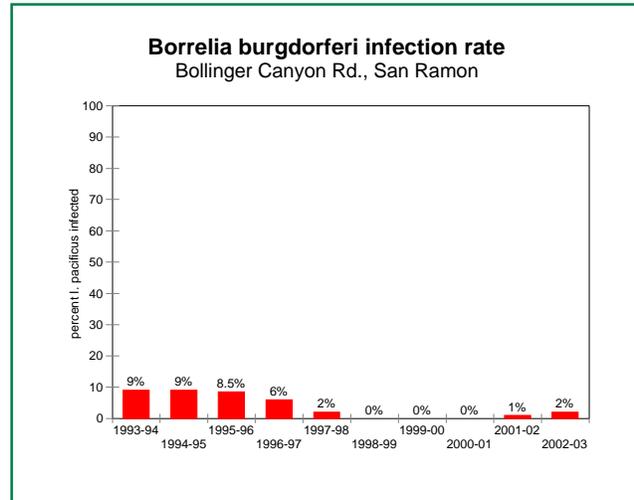


IFA Testing Results

This season ticks were collected and tested from the three standard locations used for population surveillance and three new locations in Lafayette, Orinda and Walnut Creek. Also this season we collected ticks from five additional sites on and around Springhill Rd., in Lafayette in order to better understand what seems to be an unusually high infection rate in that area.

Ticks and Lyme Disease Continued

A total of 500 adult I. pacificus were collected from the Bollinger Canyon Rd. site this season. One hundred individuals were tested (39 females, 61 males) for the presence of B. burgdorferi and two were found to be positive. This is the tenth season for which ticks have been tested from this site and the average infection rate over that ten year period is 3.75%.



Four hundred twenty I. pacificus adults were collected from the Springhill Rd. site during the 2002-03 season. One hundred individuals were tested (37 females, 63 males) and a single tick was found positive for B. burgdorferi. This is also the tenth season for which ticks were tested from this location and the average infection rate over the ten year period is 1.3%.

Bear Creek Area, Briones Regional Park

There were 106 ticks collected from the Bear Creek area of Briones Regional Park this season. Seventy two of these were tested and none were found positive. This was a little surprising given that during the 2001-02 season the infection rate was five percent. It has been noticed in the past however, that infection rates are not necessarily stable. For instance, the infection rate at the Bollinger Canyon site has ranged from 0-9% over a ten year period.

Springhill Rd, Lafayette Sites

During the 2001-02 season a second location was found on Springhill Rd. where infected *I. pacificus* were present. This season we returned to Springhill Rd. and collected ticks from five locations including the original one where 13 percent of the ticks collected previously were positive for *B. burgdorferi*. Infected ticks were found at all sites except for one and the infection rate ranged from 0-14 percent. The specific results are summarized along with all others in the table below.

Other Locations

There were no positives found at any of the new areas surveyed this season. Of special interest is a Lafayette residence. This location was brought to our attention by the resident who had sent in a tick to be identified and tested. The specimen was an *I. pacificus* nymph which was feeding on the homeowner and when tested (by IgeneX) turned out to be positive. The homeowner also has a dog which had just been diagnosed and treated for Lyme disease. Given the history of this property, it was thought that positive ticks would certainly be found, but out of 96 tested there were no positives. It is worth pointing out however, that the positive tick was a nymph and it has been shown that nymphs on average in California seem to have a higher infection rate than the adult ticks do. It is not known which developmental stage infected the homeowner’s dog.

Summary Table - Below is a summary table which includes specific results on all sites for the season and the average for Contra Costa County.

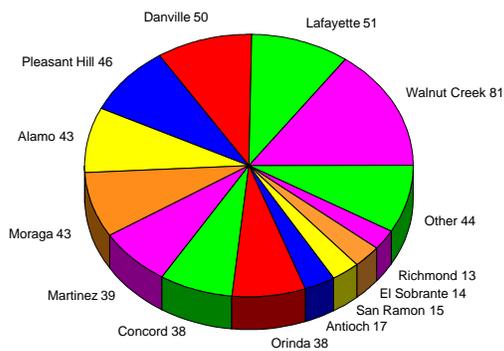
CCMVCD Adult *Ixodes pacificus* Surveillance Summary

Location	Collection Date	# tested	# positive	Infection Rate
Bollinger Cyn. Rd, San Ramon	11/02-3/03	100	2	2%
Briones RP, Bear Creek Staging	11/02-3/03	76	0	0%
Springhill Rd (End), Lafayette	11/02-3/03	100	1	1%
Springhill Rd (middle), Lafayette	02/14/03	46	4	9%
Springhill Rd (middle), Lafayette	02/14/03	7	1	14%
Springhill Ln, Lafayette	02/04/03	70	8	11%
Leslyn Ln, Lafayette	02/04/03	28	1	4%
Brown Rd, Lafayette	02/11/03	17	0	0%
Shire Oaks Ct., Lafayette	01/06/03	96	0	0%
Joseph Dr., Orinda	01/06/03	56	0	0%
Grover Ln., Walnut Creek	01/06/03	54	0	0%
Contra Costa County	2002-03 season	650	17	3%

Yellowjackets

Vector control technicians and one vector control aide responded to 634 yellow jacket service requests compared to 690 service requests the year before. The District continued to use a seasonal employee during the summer months to control yellow jackets so that vector control technicians could better manage their zones for the control of mosquitoes.

2003 Yellowjacket Service Requests

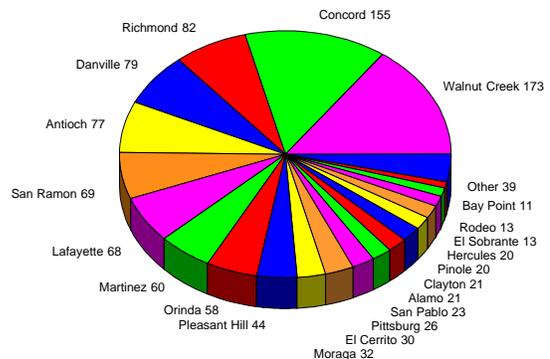


municipalities not listed are < 10 requests

Rats & Mice

In 2003, vector control technicians responded to 1,113 service requests, compared to 690 service requests the year before. The District attributed the increase in service requests to advertising, features in Gary Bogues' pets and wildlife column in the Contra Costa Times, and an apparent increase in rodent populations. The District conducted two sewer pulse baiting projects that proved very effective in controlling rats in sewer systems, and baited public areas throughout the county for the control of roof and Norway rats. The District assisted city code enforcement in several communities to enforce nuisance codes and to abate nuisances. Six communities gave the District the ability to issue administrative citations for public nuisances involving rodents and rodent harborage.

2003 Rats & Mice Service Requests

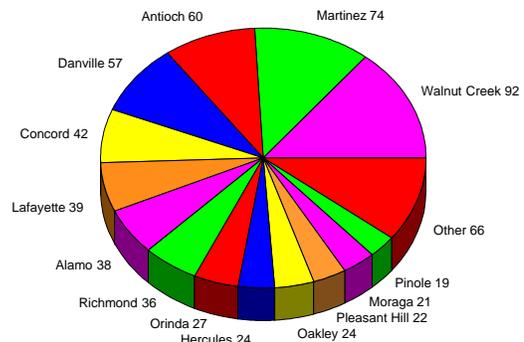


municipalities not listed are < 10 requests

Skunks

Vector control technicians and vector control aids responded to 641 skunk service requests, compared to 989 service requests the year before. The District attributes the decrease to exclusion work done by property owners as a result of District inspections and potentially a decrease in the overall population of skunks in the county. The District conducts an inspection at every new service request and requires property owners to make improvements to the property to discourage future skunk activity.

2003 Skunk Service Requests



municipalities not listed are < 10 requests

Wetlands and Environmental Program

*Karl Malamud-Roam, Ph.D.,
Environmental Projects Manager*

The District’s Wetlands and Environmental program is responsible for long-term control of mosquitoes and other vectors, and for ensuring the District’s compliance with environmental laws and regulations. During 2003, this program focused on improving water flow in marsh areas of the county, ensuring that storm water basins and other new wetlands throughout the Bay Area minimize mosquito and rat production, and collaborating with regulators on measures to prevent pesticide pollution of natural waters.

Contra Costa County has thousands of acres of coastal marshlands and other wetlands which can produce copious mosquitoes when the water stays still, but which are relatively free of mosquitoes while the water moves. Thus, improving water circulation in stagnant sites is a major priority, and in 2003 the District conducted eight “source reduction” projects based on channel maintenance. These included marshlands in Pinole, Martinez, Richmond, Avon, Pittsburg, and in the Concord Naval Weapons Station. The tidal circulation channels that are used are recognized habitat enhancements for many desirable species as well as effective tools to reduce vectors.



*Poor Maintenance Produces Mosquitoes:
An Overgrown Tide Marsh Channel*

In addition to existing wetlands, new areas are being periodically flooded throughout the Bay Area for a variety of reasons – to restore and enhance habitats for birds and other desired creatures, to store flood waters, to trap contaminated sediments from storm water, to provide open space or aesthetics, and to mitigate for wetlands

or creeks damaged during construction activities – and in all cases there is the potential for producing mosquitoes or other vectors. A major emphasis of the District’s Wetlands program is working with wetlands proponents, designers, and managers to ensure that their plans do not pose a threat to public health and comfort. For example, District personnel were key players in negotiations over the County’s new storm-water permit with the Regional Water Quality Control Board, ensuring that facilities built for storm water clean-up are designed to minimize mosquitoes and rats, that District staff is notified of new facilities and their managers, that we are guaranteed access for vector inspections and treatment, and that maintenance is conducted regularly.



*Poor Design Produces Mosquitoes: An
Undrained Stormwater Detention Basin*

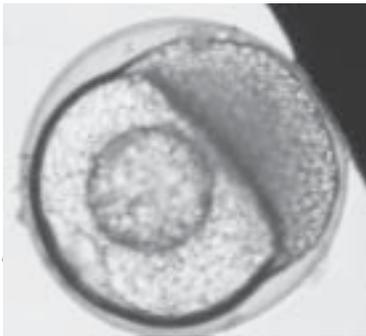
Balancing the needs of water quality regulators and mosquito control staff continued to be a major concern in 2003, with District staff representing the Mosquito & Vector Control Association of California on the state’s Aquatic Pesticide Monitoring Program. Although the District in 2002 received one of the first Clean Water Act permits issued for aquatic pesticide use, following negotiations to ensure that monitoring costs would not be onerous, that permit left unanswered the question of how best to ensure that aquatic pesticides do not accumulate or harm aquatic ecosystems in the long run. This year, the District collated laboratory studies from around the world and participated in scientific trials measuring the persistence of larvicides following applications on the Point Edith Marsh, to help keep permit compliance costs reasonable.

Fisheries Program

Chris Miller
Biologist

While continuing high-level production (>70,000 stocked in 2003) of the tried and true mosquitofish (*Gambusia affinis*) the District also continues to conduct research on Sacramento perch (*Archoplites interruptus*) as an alternative biological control agent of mosquito larvae for some settings. Continuing research on perch have focused on three areas: 1) Refinement of aquarium spawning protocol, 2) Larval fish grow-out, 3) Brood stock development which includes developing brackish water (10 parts per thousand) brood fish.

Aquarium spawning experiments have gone well, providing information that has not been documented before in the scientific literature. Twenty gallon aquariums were stocked with pairs of Sacramento perch ranging in length from 150mm to 168mm (SL). Three pairs of perch spawned a total of 30 times over a 176 days.



Sacramento perch egg 3 hours post fertilization

will be implanted with a passive integrated transponder tag for identification. These perch will add to the genetic diversity of our brood fish colony. We are also rearing a group of perch in brackish water with a salinity 10 ppt. Offspring from this group will be used for research in brackish waters of the county.

Research in mesocosm tanks was not conducted as planned due to problems with irregular mosquito larvae production. Technical problems with mesocosm tanks were overcome and research comparing the efficacy of Sacramento perch to mosquitofish will start mid June 2004.



Sacramento perch spawning in an aquarium.

The larvae were counted for twenty-two of the spawns. A total of 331,901 swim-up larvae were produced. Now that larval perch production methods are consistently successful, larval grow-out through feed training is the next major challenge. Survival for larval production in 2003 was typically ten percent. Cannibalism is the major reason for the reduced survival. Improvements can be made by stocking perch in the field at a smaller size (1/2 inch) before cannibalism becomes a problem. Future experiments will be designed to evaluate the best size of Sacramento perch to stock in the field.

Nine adult Sacramento perch were obtained from the Steinhart Aquarium in December. Each fish



Sacramento Perch attached to spawning material

Public Affairs & Community Education

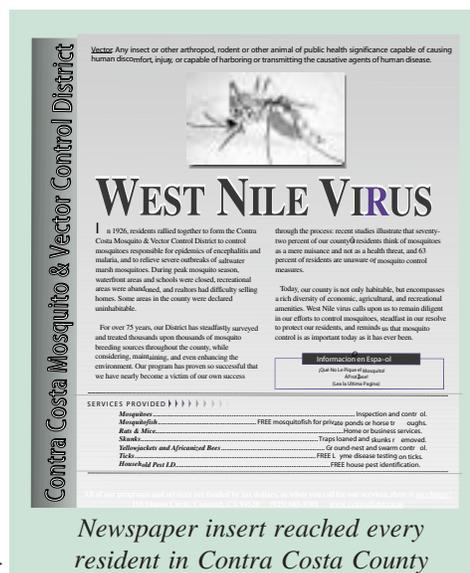
Deborah Bass
Public Affairs Manager

The expected arrival of West Nile virus into California served as an opportunity to enlighten Contra Costa County residents about mosquito borne diseases and the importance of mosquito control. Our message was twofold: illustrate the preparedness of the District to respond to the disease and educate residents and business owners about the crucial role they play in reducing their risk for contracting this disease.

To reach our county-wide audience, we created a *West Nile Virus* newspaper insert that was delivered in the Contra Costa Times newspaper for subscribers, and for nonsubscribers, the insert was placed in residents' mail boxes, thus reaching every resident in the county. Due to the publication, requests for mosquito services increased a whopping 234.2 percent over a five-year average. This full color four-page tabloid-style insert earned the District a Gold Spotlight Award from the League of American Communication Professionals and served as a template for many mosquito control districts throughout California. In an effort to educate all city and county agency personnel about West Nile virus, we held four workshops throughout the county. City and county agencies are often the first point of contact with residents and business owners and our hopes were to educate personnel who greet the public on a daily basis to impart mosquito control information and redirection to us, as well as to enlighten the personnel themselves about our District's programs and services.

We collaborated with various city and county agencies to ensure a prompt and efficient response to the virus when it makes it debut into Northern California. Most notably, we collaborated with the Contra Costa Health Services department to create constituents, as well as other county Nile Virus Task Force. One of our *Nile Virus: Are We Prepared?* video airs over 40 times per month garnered the District an Honorary League of American Communication Professionals. The video is also given to any group who Nile virus, such as city or county associations, rotary clubs, etc helped the District meet the huge virus presentations.

Our efforts to further educate residents included six paid West Nile virus newspaper advertisements; a local cable television presentation; a local Spanish television presentation to a variety of audiences; and scores of personal pre-groups. The media played a major role in helping to educate and inform our constituents as well, publishing and / or broadcasting West Nile virus articles and information prompted by our or other mosquito control agency's media releases.



seamless communication to our agencies in a collective West Nile video for broadcast. This on local cable channels and Spotlight Award from the League of American Communication Professionals. The video wishes to learn about West Nile virus, local homeowner associations, and the demand for personal West Nile

presentations; a local Spanish television presentation to a variety of audiences; and scores of personal pre-groups. The media played a major role in helping to educate and inform our constituents as well, publishing and / or broadcasting West Nile virus articles and information prompted by our or other mosquito control agency's media releases.

In addition to our West Nile virus outreach, we continued our Rodent Public Relations Campaign. One vector control technician is responsible for providing our Rats and Mice Presentations, designed to educate residents and business owners about rat and mice control and exclusion. We take the show on the road, meeting county-wide with a variety of audiences, including code enforcement personnel and homeowner associations.

Financial Statement

Revenues		
Account	2001/2002	2002/2003
Property Taxes	\$2,217,089	\$2,447,180
Contracts / Other	30,742	40,442
Interest Income	58,806	41,924
Service Charge / Benefit Assessment	1,443,154	1,465,225
Miscellaneous	17,198	4,500
Total Revenues	3,766,989	3,999,271
Expenditures		
Salaries and Wages	\$1,897,257	\$2,394,014
Operations	800,265	976,782
Capital	505,432	487,297
Total Expenditures	3,202,954	3,858,093

THE DISTRICT IS "SPECIAL"

The Contra Costa Mosquito and Vector Control District is a "special district".

How Independent Special Districts Work They are:

- * Formed by local residents to provide local services
- * Sanctioned by the State of California Government Codes
- * Entities often formed as the most economical means of providing public service
- * Independent, self-governed agencies governed by a board of directors
- * Operated as non-profit organizations
- * Responsible directly to the people:
 - ✓ Accountable
 - ✓ Accessible
 - ✓ Efficient