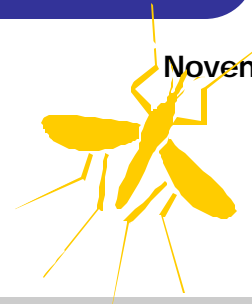


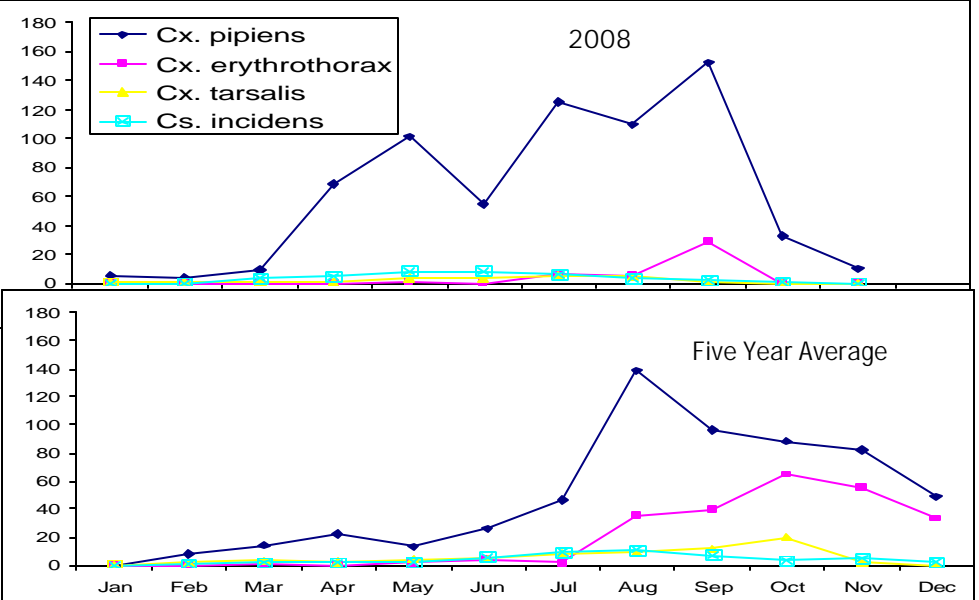


Entomology Report



Adult Mosquito Populations in CO2 Traps

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Mosquito Control Operations

In November, Mosquito Control Technicians were rotated to new zones. Technicians continued to monitor permanent sources of standing water, such as backyard fishponds. In addition, they have been inspecting low areas that will begin to impound water following seasonal rains. Limited areas of water with mosquitoes were treated in several cities, both along the bay and on the coast. With the cold weather, mosquito development has slowed and the species present have changed. *Culex pipiens* (northern house mosquito) populations decline during the winter, although larvae

continue to appear in sewage treatment plants in all cities and in water under buildings in San Mateo and South San Francisco.

The table at the right shows the number and types of sources treated, with acreage shown for marshes and impounds. Acreage treated for marshes and impounds declined sharply this month due to the cessation of seasonal helicopter treatment for tulle mosquitoes. This

Number of Sources Treated Per month by Source Type			
Source type	This month (Nov)	Last month (Oct)	Monthly Avg
Fishponds & Fountains	1,438	886	1,066
Containers	331	176	497
Ditches & Drainlines	84	127	120
Creek	21	23	40
Catch basins	451	22,826	24,712
Utility Vaults	40	62	102
Marshes & Impounds	168 (19.6 acres)	112 (143 acres)	187 (21 acres)
Neglected Swimming Pools	68	57	73
Water under Buildings	18	18	17

(Continued on page 2)



Mosquito Control Operations (continued)

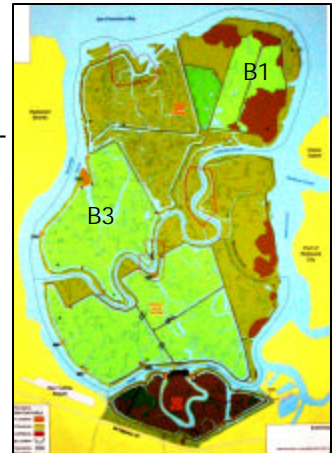
number will increase again with the onset on winter salt marsh mosquito development in pickleweed marshes along the Bay.

Bair Island continues to be inspected every 3 weeks. Technicians inspected all sections by foot and applied pellets to control *Aedes dorsalis* mosquito larvae in the B1 pond on outer Bair. The remainder of the ponds on Bair Island have not yet filled with rainwater and are not supporting mosquito larvae at this time. At the peak of the season, almost 3,000 acres of this site will produce mosquitoes and require treatment to prevent a fly-off.



Casey Stevenson samples for mosquito larvae.

Ducks Unlimited began the first phase of restoration work for the USFW this month by breaching the dikes surrounding pond B3 on Outer Bair. Control of invasive cordgrass surrounding this pond by district staff was instrumental in allowing the dikes to be breached this year. These breaches will allow tidal flow into this area and should substantially decrease the area needing treatment for mosquito production in the future. Pond B3 contained 325 acres of mosquito habitat before the dikes were breached.



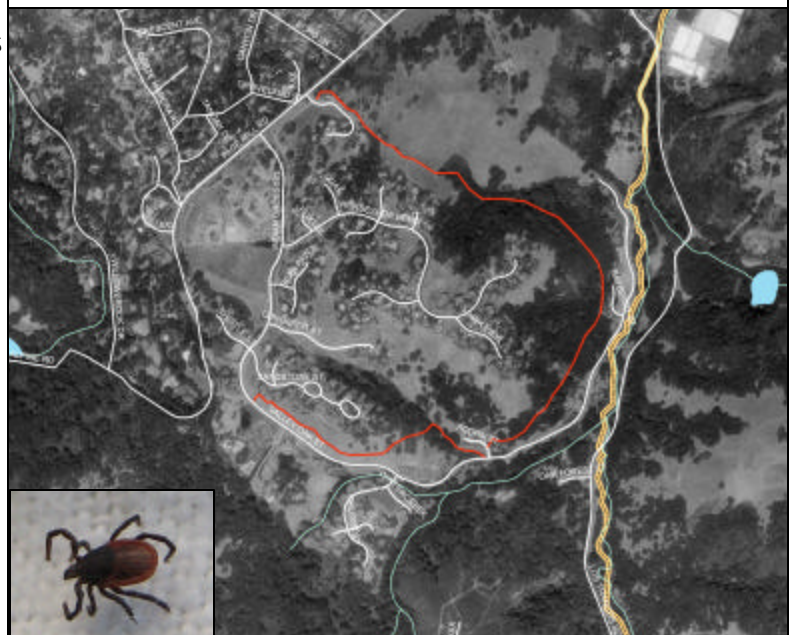
Map of Bair Island showing location of ponds B1 and B3

Ticks and Lyme Disease

In November, district staff began annual surveillance activities for Lyme disease bacteria in ticks. This year, the program will focus on surveying sites of potential risk that have not been thoroughly evaluated in the past. Tick surveys were conducted this month in Portola Valley Ranch and on a previously unsurveyed trail in Laurelwood Park (San Mateo). The western black-legged tick is the primary vector of the Lyme disease spirochete in California. Adults of this tick begin appearing on trails in November, reach peak abundance in January-February and persist into early May. The immature stage (nymph) reaches peak abundance in April-May and is found in dense hardwood forest. Nymphs present a higher risk for transmitting Lyme disease to people because they are harder to see and a high proportion may be infected.

In San Mateo County, Lyme disease spirochetes have been found in 1-3% of both adult and nymphal western black-legged ticks. However, nymphal ticks are more difficult to collect than adult ticks and have only been evaluated from four sites. The lab will be working to expand collection and testing of nymphs this spring in a greater number of locations.

Location of trails surveyed for ticks in November at Portola Valley Ranch; adult female of the western black-legged tick (inset).





Shadow Tracker

Catch basin treatment during a 10-day period in October as shown from Shadow Tracker logs.



Shadow Tracker is a wireless device that tracks the movement of vehicles by GPS (Geographic Positioning System) and saves a log of their position throughout the day. The district began using the system to track trucks that treat catch basins this year. This winter, district staff have been working on integrating the electronic logs from units on catch basin trucks with the computerized mapping program ArcView. In this way, we will be able to track catch basin treatments in space and time and overlay this information with the results of CO₂ trap collections.

Redwood City Site Update

Construction is in progress at the new district auxiliary site in Redwood City. This 3,676 square-foot facility will host five bays for storage of vehicles and operations equipment, an ADA-compliant restroom and shower area, and an 867 square-foot storage area for district laboratory and public education projects. Work on this site is scheduled for completion in early 2009.



Photos:

(top) Exterior view of building and site from Barron Avenue.

(far left) Interior view of garage area (10-vehicle capacity)

(left) Interior view of laboratory storage area. Roll-up door will provide access for loading large displays.

Meetings and Conferences

November 4—Pacifica Rotary Club. The district's vector ecologist (Dr. Chindi Peavey) gave a presentation to the Rotary Club of Pacifica at the Sharp Park Golf Course clubhouse. The talk covered district services and a discussion of mosquito control at the golf course.

November 6 —BVA Oil test in brackish marshes. District staff continued evaluation of this oil, testing its efficacy in brackish marsh impounds in San Mateo and East Menlo Park. The treatment resulted in 100% control in these areas

November 18—Staff Training. Laboratory staff reviewed safe handling practices for the pesticides currently in use by district personnel. This training is conducted on an annual basis.

November 20—South Bay Salt Ponds Stakeholder Forum. The district's vector ecologist (Dr. Chindi Peavey) attended a presentation on the current status of restoration work in the South Bay Salt Ponds. Work will begin soon on the parcel just south of University Ave near the approach to the Dumbarton Bridge.



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SAN MATEO COUNTY
 MOSQUITO AND VECTOR CONTROL

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The San Mateo County Mosquito and Vector Control District is an independent, Special District funded by a property tax voted in by individual cities. Our mission is to safeguard the health and comfort of our citizens through a planned program to reduce mosquitoes and other vectors in an environmentally responsible manner.

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Robert B. Gay, Manager_____	12
Chindi A. Peavey, Vector Ecologist_____	32
Angie Nakano, Assistant Vector Ecologist_____	31
Tina Sebay, Assistant Vector Ecologist_____	38
Theresa Shelton, Assistant Vector Ecologist_____	44
James Counts, Supervisor_____	16
Karen Williams, Finance Administrator_____	11

"A VECTOR is any animal that can transmit disease to animals or people."

Monarch Migration

During the colder months of November through February, you can spot monarch butterflies (*Danaus plexippus*) throughout San Mateo County. The monarchs migrate from colder, northern areas west of the Rocky Mountains and arrive in coastal areas in California. They nest in the tops of tall trees, such as Eucalyptus, where they remain until the temperature rises again in the spring. In the spring, they will migrate back to the north, laying eggs along the way on milkweed plants. Milkweed, the only food source of monarch caterpillars, contains a toxin that makes the insects unpalatable to predators.



A monarch caterpillar crawls up a butterfly weed leaf.

You may see these orange and black butterflies clustered in the tree tops in natural areas of the county, or feeding on flowers on a warm winter day. You can lure the adults to visit your yard by planting flowers that are attractive to monarchs looking for nectar, such as groundcover manzanita, horse mint and various milkweeds.



Monarch butterfly adults feed on the nectar of a variety of flowers.

http://images.nbi.gov/ESellers/D_thumbnail/IMG_0142.jpg