

Vector Management Plan Shadow Run Ranch, Pauma Valley

TM 5223 RPL

1.0 INTRODUCTION

1.1 Purpose of the Report

This vector control plan is intended to satisfy vector control constructs for mosquito breeding as might be related to an existing uncovered water reservoir. In summary, a successful control of mosquitoes would have objectives that include the following:

- Maintain good public relations.
- Minimize nuisance.
- Prevent disease.

1.2 Project Description

The location is in Pauma Valley (northwest of the intersection of Highway 76 and the westerly exit of Adams Drive). Approximately half the total 248.26 acres is proposed as minimum 2 acre residential lots and a few are on the order of 2 ½ acres (net). An irrigation reservoir (surface area of approximately three acres) is located northeast of the residential lots. It is securely fenced with a locked gate and it is surrounded by a citrus grove. The imported water is treated.

1.3 Environmental Setting (Existing Conditions)

The contiguous area is rural with mixed avocado, citrus groves and horticulture activities. The locale also has native trees, shrubs, chaparral and sage. Non-native trees exist in random areas such as the residential portions of properties. A twenty lot mobile home park and 100 lot recreational vehicle park are located south of the subdivision (fronting the south side of Highway 76).

Figure 1



2.0 VECTOR MANAGEMENT

2.1 Management Practices

The operation of this facility will utilize best management practices and ongoing efforts to maintain the absence and/or control of mosquitoes. These practices are necessary for the public interest. They are also based on science and practical findings such as how water quality affects the productivity of a potential mosquito breeding site. Typically, greater numbers of mosquitoes are produced in ponds and reservoirs with poor circulation, higher temperature related to stagnant conditions and high organic content). It is also important to have rapid flux in water levels as mosquito breeding can survive if water levels slowly increase or recede.

2.2 Education and Methods

The owner is aware of good management practices and regularly raises and lowers the reservoir surface water level by routine irrigation schedules. The reservoir has steep sloping sides with good wave action. The latter has particular importance as it inhibits egg laying and larval survival. Emergent vegetation is not a factor as is typical with ephemeral ponds and wetlands since it rarely gets established in the reservoir and it is removed when such occurs.

The owner is informed about the San Diego County website for vectors and is aware of resources and information (including the dangers of mosquito breeding in relation to *West Nile* virus infection and *Equine Encephalomyelitis*).

Proactive defense against mosquito bites will include the use of a repellent with an effective active ingredient such as DEET, Picaridin or Oil of Lemon Eucalyptus (in accordance with “label directions”).

2.3 Mosquito Control

The following operations and actions will be carried out during day to day operations so as to deny conditions conducive to mosquito breeding:

1. A daily reconnaissance of the site so as to confirm the operation of the water level flux .
2. Continued removal of invasive vegetation growth that provides protection and quiescent conditions for mosquito larvae.
3. Reporting any discovery of dead birds (especially crows, magpies, ravens and blue jays) to the *San Diego County* “Vector Control Program” at (858) 694-2888 ; this alerts the County for local assessments and adds to the data base of potential bird related vector incidents.
4. Chemical controls are not part of this plan unless recommended by the *Department of Environmental Health* (DEH) due to an unusual event where species have been identified with a potential risk of disease . It is expected the day to day control of vectors would disallow any such event.

3.0 Long Term Maintenance

As a condition of approval of the Subdivision, the following paragraph can be stipulated:

In order to provide continued control of vector mosquitoes with potential breeding in the irrigation pond, the owners of the pond will continue daily, monthly and annual vector control practices as described in the “Vector Control Plan”. This will include improvements from time to time as new technology and methods warrant.

4.0 Summary of Mitigation Measures to Minimize Vectors

This will include, but not be limited to the practices described in this report and as follows:

- Daily survey and assessment of the premises for standing water with potential to support mosquito breeding.
- Weekly removal of wet basin emergent vegetation.
- Use of mosquito fish (*Gambusia affinis*) where habitat is suitable and sustainable for survival. This would be in consult with DEH because the purpose of the reservoir is for storage and availability of large amounts of water during irrigation cycles. These fill and withdrawals do not allow a predictable ecology for a natural food source. The use of imported water with treatment is also a factor as chlorine residual will vary with contact residence time, exposure to sunlight and volumes of discharge.

Figure 2



5.0 References and Sources of Information

- 1.. County of San Diego Guidelines for “*Determining Significance and Report Format and Content Requirements*”, Vectors, July 30, 2007 (Modified January 15, 2009).

2. County of San Diego “*Report Format and Content Requirements*”, Vectors, July 30, 2007.
3. <http://www.sdcounty.ca.gov/deh/pests/vector.html>
4. Personal recollections from experience and academic studies as a microbiologist and a California Registered Environmental Health Specialist.
5. Personal file information for studies related to certification by the State of California *Department of Health Services* for competency in application of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), handling of pesticides, control of mosquitoes and invertebrate vectors.

6.0 Agreement and Signatures to Validate the Shadow Run Ranch Vector Control Plan

“The measures identified herein are considered part of the proposed project design and will be carried out as part of project implementation. I understand the breeding of mosquitoes is unlawful under the State of California **HEALTH AND SAFETY CODE SECTION 2060-2067**. I will permit the *County of San Diego, Vector Control Program* to place adult mosquito monitors and to enforce this document as needed.”

Property Owner/Applicant

Date _____

Approved by the County of San Diego: _____

Name: _____

Date: _____

