

Decrease Rodent Numbers by Reducing Habitat

Ground squirrels and other rodents that burrow in and around rockery walls are the host for fleas that can transmit plague bacteria to humans. While human cases of the disease in Washoe County have been a relatively rare occurrence, surveillance work completed by the VBDP staff shows a continued, strong presence of plague in California ground squirrels and marmots in this area. This disease thus remains a potential threat to local residents.

The plan review process includes requirements to limit habitation by rodents in rockery walls thus reducing the potential risk of human disease from plague. Filling, chinking, and sealing the spaces around the boulders that make up the construction of rockery walls can accomplish this goal. Developers are also encouraged when possible to consider other options to maintain the integrity of embankments such as landscaping with plants that use a drip system.



Rockery walls can be chinked and sealed to prevent the entry and burrowing of rodents.



In summary:

Methods of source reduction are an effective and sensible approach to vector species control as local governments struggle with tight budgets. Source reduction offers the opportunity for preventive—rather than reactive—controls thus decreasing the tax dollars needed for abatement.

The VBDP staff available to provide consultation for source reduction to homeowners, builders, and developers in Washoe County. The staff are willing to consider creative ideas and suggestions regarding designs that eliminate potential habitat for vector species. Working in cooperation with local residents, government agencies, and the business community to achieve optimal public health is the VBDP's goal in accord with the vision outlined in the Regional Plan.

Please call 775-785-4599 for consultation and assistance in designing projects and plans to maximize source reduction for vector species.



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Prevent Disease

by reducing the source



Washoe County District Health Department
Vector-Borne Diseases Program

“The region will boast . . . caring, safe, and healthy communities.” —Truckee Meadows Regional Plan Vision Statement

The beautiful, natural environment that our region offers residents and visitors also provides excellent habitat for a variety of insects and animals of public health concern. Mosquitoes that spread encephalitis viruses such as West Nile and rodents that carry plague-infected fleas are common in Washoe County. **Vector species** such as these spread disease from animals to humans and have been responsible for causing human illness in the Truckee Meadows.

As part of an integrated, comprehensive focus on disease prevention, the Vector-Borne Diseases Program (VBDP) endeavors to reduce favorable habitat for disease vectors such as mosquitoes. This process is known as “source reduction” and is a critical component of the operational success of the Program.

Control Insects Through Project Design

Mosquitoes and midge (non-biting gnats that can be a serious nuisance) are seasonally prevalent in certain parts of the Truckee



Rock-lined channels keep water moving and reduce overhanging vegetation that harbors mosquitoes.

Meadows. Both insects exploit new breeding habitats in water features that are part of development like: flood control structures, detention and retention basins, ornamental ponds and lakes, drainage channels, and newly created wetlands.

To meet the public health challenge related to new water sources, the “District Board of Health Regulations Governing the Prevention of Vector-Borne Diseases” were created in 2003. These regulations require that all plans for new construction projects undergo a review process to ensure that certain design criteria to prevent the proliferation of vector species are observed.

During plan review the VBDP staff provide input for engineering design changes to decrease the insect breeding potential associated with these water features. The following are a few examples of the changes that may be required:

- create a **low flow** channel within flood control channels, detention and retention basins*, (See photo below)



Construction of a low flow channel prevents spreading, stagnant water that breeds mosquitoes.



The steep, rock-lined edge of this pond prevents mosquitoes from breeding easily.

- line the edges of channels, basins, ponds and lakes with rip rap (rocks)*,
- construct a steep slope margin on the sides of ponds, detention basins, etc., and
- install aerators in ornamental ponds and lakes.



Aerators improve water quality by reducing noxious odors and algal growth that feeds larval mosquitoes.

Each of these examples is designed to eliminate the standing water and vegetation that provide the protective habitat that adult mosquitoes and midge need in order to breed. Both operation and maintenance criteria are included in the plan review process.

* “Structural Controls Design Manual,” Truckee Meadows Regional Storm Water Quality Management Program