



*Example of Large Woody Debris.*

### Fallen Tree or Large Woody Debris?

Many creeks and rivers throughout Santa Clara County are lined with large trees. These trees may die, break, or fall over due to erosion or storms and enter the stream channel. Some trees may be removed and some become large woody debris. Large woody debris (LWD) can be an entire tree, a stump or just a large branch that has fallen into the creek. But how big must a branch or tree be to be considered large woody debris? At Valley Water, the Stream Maintenance Program (SMP) classifies LWD as a piece of woody material with a diameter of 12 inches or more and a minimum length of 6 feet. This classification applies to fallen trees located in streams that support sensitive fish species including many major streams and tributaries in Santa Clara County. This definition was adapted from the California Salmonid Stream Restoration Manual created by the California Department of Fish and Wildlife. Woody material that size or larger generally has the most effect (ecologically and hydraulically) on rivers and creeks.



*LWD during storm event.*

### How is Large Woody Debris Beneficial?

LWD promotes a complex and diverse aquatic habitat within creeks in the following ways:

- Provides escape cover for juvenile and adult fish from predators and high winter flows.
- Traps organic material providing food areas for insects to reproduce, which in turn provides food for fish and other aquatic organisms.
- Traps gravels, providing areas for fish and insects to reproduce and feed.
- Maintains and creates complex channel features like pools, riffles and runs through energy dissipation and scour.

All of these are essential natural components created by LWD, which provide habitat for sensitive species such as Steelhead trout, California Red Legged Frog, and Western Pond Turtle.





*Los Gatos Creek LWD.*

## Large Woody Debris and Valley Water

Although a common inclination would be to remove the fallen tree from the stream, Valley Water strives to promote a balance between flood protection and environmental protection. Whenever possible, LWD is left and maintained in place. However, LWD can cause harm such as unwanted erosion of flood protection infrastructure or debris jams in vulnerable areas. When LWD is identified, qualified staff, including engineers and biologists, assess the wood for its habitat value. If there is potential to cause harm, Valley Water attempts to modify the LWD by removing branches or repositioning the wood in the channel. If modification cannot alleviate the threat, then complete removal may be necessary. Under the SMP, removal of LWD requires mitigation to offset the loss of habitat provided by the LWD. Mitigation comprises the replacement of the LWD in kind within the same watershed. Removal is generally the last approach taken due to the loss of habitat on site.

When possible, Valley Water incorporates LWD in bank stabilization projects. Several projects throughout the county have included the installation of LWD structures to replenish woody debris and to increase habitat complexity in areas that will provide the most ecological benefit.

## Valley Water's right-of-way defined

This sheet provides information about Valley Water's treatment of LWD on Valley Water's property and easements. Valley Water's right-of-way includes:

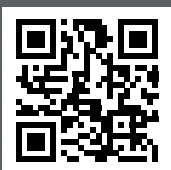
- Property owned by Valley Water in fee title which is managed with available resources consistent with federal, state and local laws and ordinances;
- Property where Valley Water has an exclusionary easement, meaning that the underlying fee property owner is effectively excluded from actively using the property; and
- Property where Valley Water has an easement for flood protection, storm drainage or water conservation purposes.



*Installed Large Woody Debris.*

## CONTACT US

To find out the latest information on Valley Water projects or to submit questions or comments, email **Joe Chavez** at **(408) 630-2276** or use our **Access Valley Water** customer request system at <https://deliver.com/2yukx>.



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