AFTER THE FIRE:
VINEYARD EROSION CONTROL

Many grapegrowers in the Sonoma. Mendocino and Napa Counties have had fire move through or around their vineyards. Most growers have experience installing erosion control measures and a good sense of what to do to protect their vineyards.

There are 6 goals of post fire erosion control:

1. Protect soil in the vineyard from erosion
2. Protect the vineyard from erosion on adjacent wildlands
3. Improve the quality of the runoff coming from your property into waterways
4. Maintain road drainage facilities
5. Address burned trees and buildings
6. Documenting your erosion control efforts

1. Protect soil in the vineyard from erosion

- ❑ All vineyards, even if the vines are burned, should undergo winterization and installation of erosion control practices.
- ❑ Spread straw and cover crop seed over the vineyard floor even if you have a flat vineyard. Runoff following fires will be greater and erosion can occur where you haven't seen it previously. If your equipment burned you can still hand broadcast seed.
- ❑ Install water bars, v-ditches and straw wattles along vineyard roads and other sloped areas to reduce rilling. It is advisable to install these practices on all sloped roads to assure the increased runoff will not erode soil.

2. Protect the vineyard from erosion on adjacent lands

- ❑ Many vineyards are surrounded by wildlands. If burned over these wildlands can produce sheet wash with sediment and ash or larger erosion events such as debris flows.
- ❑ Limit disturbance of the surface of the soil with equipment or numerous people walking across the slope. Small disturbances can become rills and gullies.
- ❑ Inspect the ground on any surrounding grassland for seed; if seeds are numerous then natural reseeding will occur. If there are few seeds you can hand spread rice or weed-free straw and native grass seed over grassland areas.
- ❑ Do not distribute seed underneath forest; native growth is preferable and additional grass can increase fire hazard next year.

- ❑ Inspect hillside ephemeral creeks and swales. Install a series of straw wattles across the creek bed to slow flows and reduce gully formation.
- ❑ Install barriers along the edge of the vineyard. If there are high intensity rainstorms these barriers can reduce the movement of sediment and ash into the vineyard. Barriers should be straw wattles (2 high) and installed correctly. Check the barriers after every storm; install again if needed. These barriers can restrict sediment carried in sheet runoff, but no temporary barrier can hold back debris flows.

3. Improve the quality of runoff coming from your property into streams

- ❑ Review your vineyard drainage system. If the plastic inlets have melted, clear away the debris so storm water can reach the underground pipe. Install a straw wattle around each inlet to filter out sediment and ash.
- ❑ Install straw wattles across ditches, grassed waterways and, if possible, swales that have burned. The wattle should cross the entire flow area and be spaced to slow down flows and reduce erosion.
- ❑ Review the streams on the site. Place straw wattles along the top of the bank if vegetation is burned to filter runoff before it reaches the creek. If there are numerous creeks on the site place barriers where steep slopes border the creek, where all vegetation has burned, or where salmonids are known to spawn or rear.
- ❑ Evaluate your reservoir and install barriers to limit runoff into the pond if needed.

4. Maintain roads

- ❑ Melted plastic pipes are at the main concern along roads. Walk the road and inspect all plastic pipes.
- ❑ Remove melted plastic from the pipe inlet and outlet and determine if the pipe underneath the roads in still intact. If intact the pipe should function well enough until it can be replaced. Stake or flag the site for springtime replacement.
- ❑ If the entire pipe is burned and collapsing either try to replace it now, or if it is a ditch relief culvert close off the inlet.
- ❑ If it is a stream crossing culvert create a rock ford through the road crossing. This is done by digging out the upper 6-8 inches of road fill for a 12-24 inch width at the lowest point in the road fill. Fill the excavated area with 3 inch angular gravel and compact it. Place larger rock on the downstream side of the new ford. This should conduct water over the road temporarily. Stake or flag the site for culvert replacement.

5. Trees and buildings

- ❑ If you have burned trees that could fall and injure workers either prune or remove them. In general conifers (except redwood) that have burned through the crown will not recover. Other natives, especially oaks, may look dead but often recover. Do not cut oaks; wait until spring to see if they leaf out. Do not clear large areas of trees without a permit.
- ❑ If you have buildings, vehicles, pumps or other facilities that burned, seek guidance from your County or CalFire on cleanup and disposal methods. Don't do the cleanup yourself. There are many hazardous materials and you should not inhale them. Install straw wattle barriers around all burned buildings and vehicles to avoid movement of ash into vineyards and waterways.

6. Document your actions

- ❑ Take pictures of all of the erosion control practices you have installed. The world is watching the after effects of the fires and you can prove you did the right thing if you take pictures.

Further assistance

- ❑ If your site is certified in the Fish Friendly Farming Program give us a call and we can provide erosion control assistance. Call (707) 253-1226 or email info@fishfriendlyfarming.org
- ❑ Find your local Natural Resource Conservation Service (NRCS) at https://www.nrcs.usda.gov/wps/portal/nrcs/main/ca/newsroom/features/. This agency may have funding available for erosion control practices and assistance.