



ESTABLISHED 1890

FREI BROTHERS.

2014 Earth Day Report

Six Ways to Turn (Less) Water Into Wine





When it comes to making wine, water is the most crucial element second only to grapes. Water is becoming an increasingly precious resource and one that cannot be taken for granted, especially by wineries.

In the heart of Sonoma County, a team of experts at Frei Brothers Reserve, a sustainable vineyard and winery, has challenged themselves to ask the question: *How can we do more, to use less water?*

With a mix of state-of-the-art technology and a commitment to preserving the surrounding delicate

ecosystems, the winery is pushing itself to reduce its water use while creating award-winning wines and preserving resources for generations to come. In 2013, Frei Brothers Reserve:

- **Preserved** 838 acres of surrounding land for wildlife habitat including 25 acres of wetland restoration
- **Conserved** 1.5 million gallons of water in the bottling process, roughly the amount of water in two Olympic-sized swimming pools
- **Donated** \$10,000 toward salmon habitat and rehabilitation in the Russian River Valley



ONE

Fight Frost with Wind, Not Water

Frost can turn spring's "budbreak" into heartbreak. Time was, vintners sprayed hundreds of gallons of water on vines to produce sheaths of ice, trapping just enough heat inside to protect the buds until morning. Today, wineries like Frei Brothers Reserve turn to turbines. Now wind, not water, fights frost by circulating warm air.

Two

Modernize Systems and Equipment

Through a series of retrofits and efficiencies in the bottling process, Frei Brothers Reserve has reduced the amount of water usage in the bottling process by 97.25% since 2010. In 2013 alone, 1.5 million gallons of water were saved, roughly the amount of water in two Olympic-sized swimming pools.





THREE

Use New Technologies to Solve Old Problems

Being smart about where and when to irrigate vineyards makes a difference. Frei Ranch uses overhead satellite imagery, soil electrical conductivity maps and soil moisture probes to accurately measure how the vines are growing and absorbing water. The technology helps vine managers precisely irrigate to the individual vine.

FOUR

Protect Where the Water Comes From in the First Place ...

In recent years, Frei Brothers Reserve has preserved 838 acres surrounding its vineyards, including 25 acres of seasonal wetland and upland bird habitat in Sonoma's Russian River Valley. These wetlands prevent soil erosion and support natural wildlife which in turn support the winery with natural forms of pest control.





FIVE

... and Preserve Where it Flows

Frei Brothers Reserve works with the California Fish and Wildlife Department and the Sonoma County Water Agency to restore salmon habitat within the Russian River Watershed. It has donated \$10,000 to install large woody debris structures to protect fish from predators. It also releases hatchery-raised Coho smolt in creeks on the property.



SIX

Conserve Water as a Community, Not as Competitors

Cooperation has always been part of the California wine culture and it is evident today in sustainability efforts. Frei Brothers Reserve shares water conservation best practices with other wine growers, including attendees of the International Food and Beverage Environmental Conference and members of the Sonoma County agricultural and vintner community.



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