

Water and Wine

Partners in Wine Country
Stewardship



Wine Creek, Quivira Vineyards



Quivira Vineyards worked with TU to restore sections of Wine Creek. That work in Dry Creek Valley also became a demonstration project, sparking other landowners to join in watershed restoration. We helped enhance a 2,500 foot reach of Wine Creek at Michel-Schlumberger Wine Estate. There, we improved habitat for salmon and steelhead with in-stream structures (rocks and logs) to restore the riparian corridor and create pools for fish. Newly planted willows will enhance the riparian canopy and stabilize erosion prone streambanks. To top it off, we helped remove fish barriers at Koch Road along Wine Creek.

Restoration project on Wine Creek
Photos courtesy of Rob Dickerson

California's North Coast

The California Coast is home to legendary redwood forests, world-class wineries, and some of the nation's most endangered salmon and steelhead. Since 1998, Trout Unlimited has been working in this region with the timber and wine industries as well as other private landowners to restore and protect our great rivers. Through our North Coast Coho Project, TU developed strong partnerships and made great strides in restoring the physical habitat of North Coast streams. In the past decade, the project raised and invested about \$8 million in public and private monies for our restoration partnerships. We assessed and restored degraded land in ten coastal river systems across hundreds of thousands of acres.

But nobody understands land stewardship better than grape growers. Trout Unlimited has worked with a number of growers and wineries to restore salmon and steelhead habitat in the heart of wine country. In Dry Creek Valley, Knights Valley, and other areas we have helped repair fish passage barriers, plant streamside vegetation, and restore stream channels.

The next chapter in our effort will go beyond habitat restoration to ensure that North Coast streams have adequate water levels to support salmon and steelhead. Water and Wine is a new regional Trout Unlimited partnership to satisfy agricultural water demands and conserve natural resources in wine country.

With Water and Wine, TU and its partners will do three things. We will ramp up stream restoration projects with grape growers and wine makers. At the same time, we will partner with willing landowners to develop water supply solutions to improve stream flows and meet their irrigation needs. Finally, we will promote public awareness of good practices, educating consumers on the benefits of enjoying good salmon—and good wine—for generations to come.

Mark Twain supposedly said that “whiskey is for drinking, and water’s for fighting over.” That’s a good quote, but it doesn’t have to be that way.

Trout Unlimited has a vision: bring back healthy populations of salmon and steelhead to California rivers within a generation. By working together as partners, we can get it done.



*TU's Trout in the Classroom Program:
Students from Healdsburg release steelhead in Wine
Creek, Michel-Schlumberger Wine Estate
Photo courtesy of Brian Hines*



Partners in Habitat Restoration

Trout Unlimited is proud to have a long record of cooperative efforts with the wine and timber industries along the North Coast. Our North Coast Coho Project is a partnership of unprecedented scale and scope. Working with major landowners, Trout Unlimited has rehabilitated lands crisscrossed by logging roads and repaired faulty culverts and other barriers to fish passage. Our partners have restored thousands of acres in the Mad, Eel, Ten Mile, Noyo, Big, Garcia, Navarro, Gualala and Russian Rivers, plus Cottoneva and Pudding Creeks.

We began with companies such as Mendocino Redwood Company (MRC) and Hawthorne Timber/Campbell Timberland Group. TU worked on the South Fork of the Garcia with MRC, government agencies and others. The partners prevented 70% of the predicted road-related future sediment load from reaching the river, which is an amount equivalent to 3,000 dump trucks worth of dirt. To date, TU has improved or eliminated 410 miles of logging roads, removed three major fish migration barriers, reconnected 11.1 miles of stream habitat, and installed 195 instream structures to improve coho salmon and steelhead habitat.

Campbell Timberland Group is engaging in a similar effort on several streams in California. These projects include road upgrades and sediment removal on Pudding Creek, one of the most important coho streams. Together with TU, the two companies are changing the face of several hundred thousand acres of forest land in Northern California.



Before and After: Little Waldron Creek Fish Passage Barrier Replacement in Mendocino County.

The restoration project is part of on-going work with the Mendocino Redwood Company, an original and leading partner with TU's North Coast Coho Project.

Photos courtesy of Mendocino Redwood Company



In recent years, we have extended our habitat restoration efforts into Wine Country, and our successful partnerships there convince us that we can do even more.



Partners in Habitat Restoration: Wine Industry Leadership



STEELHEAD QUIVIRA VINEYARDS

WINE CREEK RESTORATION

Wine Creek, which bisects the Quivira estate on its way to Dry Creek, provides important habitat for steelhead and coho salmon. Quivira Vineyards worked with TU and the California Department of Fish and Game to restore sections of Wine Creek. Previously, agricultural development, gravel mining and other factors negatively impacted this habitat. By building a series of nine weirs, we've created deep pools of calm water where fish can rest on their long journey upstream to spawn. Above the weirs, gravel collects, creating ideal spawning conditions. Willow trees have also been planted on the banks to reinforce the sides of the creek.

The project led to a unique partnership between Trout Unlimited, Quivira Vineyards, and Steelhead Wines. The result? Steelhead, the first wine dedicated to fisheries conservation. Steelhead Wines honor the trout that return to Wine and Dry Creeks and contribute to their health and survival. Proceeds from every bottle of Steelhead sold fund TU's work and restoration projects.

Quivira's Wine Creek Restoration Project sparked similar projects across Wine Country. TU helped improve the riparian corridor, create pools for fish, and stabilize erosion prone stream banks on a 2,500 foot reach of Wine Creek at Michel-Schlumberger Wine Estate. In Knights Valley, TU partnered with Beringer Knights Valley Vineyard to restore 3,500 feet of Redwood Creek. Wine industry leaders and TU have demonstrated that they make great partners in Wine Country stewardship.



Steelhead Wines is proud to introduce their 2006 Dry Creek Valley Zinfandel and Sauvignon Blanc. Both wines proudly display the Trout Unlimited logo on the bottle.

*For additional information on these fine wines from Steelhead, please visit them online:
www.steelheadwine.com.*



Improving Stream Flows

Collaborative Solutions to Tough Problems

To conserve and restore trout and salmon runs, we must also address water. Restoration projects to improve downstream lands and riparian corridors are a good start, but fish also need cold, clean water. Without it, young coho salmon and steelhead will not be able to survive in fresh water for at least a year before migrating to the sea, or to make the long journey home to spawn again.

Unfortunately, California's legal framework for balancing conservation and growing water demands has long been dysfunctional. The State Water Board has a backlog of about 400 pending applications for water rights in and along the North Coast. The vast majority of these pending applications are for water diversions that have already been built. Many of the applications have been pending for 10 or more years. The numbers tell only part of the story. The system is unfair to all water users. It is especially threatening to senior water right holders and to conscientious landowners who have attempted to obtain permits before diverting water.

Needless to say, the system is also bad for rivers. With the North Coast experiencing rapid growth and agricultural development, we have to do better. Improved water delivery systems and recovered fisheries will benefit us all.

In 2004, Governor Schwarzenegger signed "A.B. 2121," which directs the State Board to adopt a policy for maintaining stream flows in North Coast streams. Two thirds of the pending water right applications in the entire state are within the geographic scope of the statute, which runs from San Francisco Bay to the Mattole River in Humboldt County. The policy will affect about 5,900 stream miles in 3.1 million watershed acres – an area the size of Connecticut, Delaware, New Hampshire, New Jersey, and Rhode Island.

Trout Unlimited has been working with representatives from the wine industry and other stakeholders to propose common sense solutions to these problems. Water and Wine grew out of TU's discussions with representatives for the wine industry, and it will move beyond the confines of the traditional water right system. By working collaboratively with water users, we can achieve a new water future for California.



Photo courtesy of JK Hall visionsunltd.com



Improving Stream Flows: Wet Streams and Wild Fish

Salmon and steelhead need cold, clean water and adequate flows

Steelhead and coho are born in freshwater stream gravel. They emerge and grow in freshwater, migrate out to the ocean, and return to their natal streams to spawn.



- The journey upriver typically begins with the early rains. Fish will migrate from the ocean to streams (often small tributaries) on the flows from winter storms. The trip can take several weeks, and some fish migrating in the Russian River watershed can travel up to 100 miles. Barriers to migration can be a major problem.
- The fish will then make their nests (redds) in small, clean, loosely compacted gravel. The right kind of gravel is crucial: high levels of dissolved oxygen and intergravel flow are required for the eggs to survive.
- After about a month, the fertilized eggs hatch into alevin. Alevin remain in the gravel until they have absorbed their yolk sacs, and then emerge from the gravel as fry. These juvenile fish will rear (develop and grow) in freshwater from 1-4 years, and they depend on good habitat--cool pools with good cover--for survival.
- In early spring, the fish (now called smolts) emigrate downstream to the ocean, where they will spend several years maturing and preparing for their upstream migration to spawn in freshwater.
- After spawning, chinook and coho salmon die, but steelhead may continue the cycle, returning to the sea and then migrating upstream to spawn again the next year.



Photo courtesy of JK Hall visionsunltd.com

Source: Steiner Environmental Consulting. 1996. A History of the Salmonid Decline in the Russian River.



Smart Partnerships

Combining Restoration Experience and Water Law Expertise to Meet Irrigation Needs and Protect Streams

With smart partnerships come good ideas. TU and the wine industry share a common interest in promoting the storage of rainy season water in off-stream ponds. It makes sense from a conservation standpoint because of our local climate. Runoff during winter storms is much more plentiful than stream flows during the irrigation season. Switching to off-stream, winter storage can increase stream flow, enhance tributary habitat and improve fish survival.

For a grape grower, using water stored in a pond is probably more reliable than relying on diverting water directly from a stream, especially when diverting during dry summer months. Unfortunately, it can be difficult for a landowner to switch to small, off-stream storage reservoirs. Even if cost were not an issue, many old water rights (and also “riparian” water rights, which attach to land adjacent to a stream) allow direct diversions for irrigation, but do not provide for the right to store rainy season water. As the state has been consistently unable to process applications for either new or changed water rights, landowners that might otherwise switch from harmful summer pumping to off-stream winter storage ponds have been hesitant to try to do it.

With Water and Wine, Trout Unlimited and leaders in the wine industry will work together to promote off-stream winter storage ponds. With this aspect of the program, we will begin by:

- Quantifying financial and physical constraints (e.g. the cost of off-stream storage ponds and number of available sites)
- Identifying funding sources to help offset project costs
- Developing tools to expedite project permitting

The State Water Board and other agencies, especially the Department of Fish and Game and the National Marine Fisheries Service, are supportive of our effort. TU will work with individual winemakers and grape growers to design and secure permits for off-stream storage ponds. TU is also prepared to help monitor the results of the changes, document the increased stream flows and the ecological results, and publicize the partnership.



Smart Partnerships: The Importance of Tributaries

Healthy and Accessible Tributary Habitat Essential for Salmon and Steelhead Survival

Juvenile steelhead and coho need small, shaded, cool streams for spawning and summer rearing. Therefore, water diversions and small dams on tributaries can be especially problematic for fish. Dams may trap sediment, limit available spawning gravel, and block the upstream migration of salmonids. Dams and water diversions may reduce flow and increase water temperatures.

It is not uncommon for fish to wait out the dry months in small, disconnected pools high in the tributaries as downstream reaches run dry.



The loss of tributary habitat has limited the recovery of salmon and trout.

With Water and Wine, we're focusing on tributary health to restore and sustain thriving fish populations.

Tributary Facts:

- Available stream channel habitat in the Russian River mainstem: 109.5 miles
- Available stream channel habitat in the Russian River tributaries: 572.5 miles
- Over 75% of the total miles of stream channel habitat used by steelhead in the Russian River watershed is in the tributaries

Sources: Steiner Environmental Consulting, 1996. A History of the Salmonid Decline in the Russian River. U.S. Army Corps of Engineers. 1982. Northern California Streams Investigation: Russian River Basin Study (Final Report).



Streamflow Stewardship

Innovative Water Solutions for the Golden State

California water law actively discourages innovative efforts to restore and protect stream flows. Given the chance, a group of landowners on a particular stream can organize to coordinate diversions, or implement rotation schedules or other physical solutions to meet designated instream flow schedules. Current water right permits, however, neither promote this sort of coordination nor ensure that actual stream conditions are satisfactory.

Our ongoing dialog with representatives from the wine industry fostered ideas for a better, more ambitious approach. With Water and Wine, we will develop pilot programs with willing landowners to develop and test this new model on a handful of streams.

The goal is to step outside the logjam over water right administration and turn our attention to on-the-ground solutions that work for everyone. To do it, we need to take advantage of opportunities and cost sharing not available in the traditional regulatory arena.



Photos courtesy of Rob Dickerson

We're moving forward with our first set of Water and Wine pilot projects in Sonoma County. Join us in building innovative, cooperative, and durable solutions for water users and watersheds in California's Wine Country.

For example, the new approach could establish benchmarks based on stream characteristics and habitat needs, install instruments to track actual conditions, and then cooperatively manage diversions to achieve better (and more cost effective) results than any water user could achieve alone.

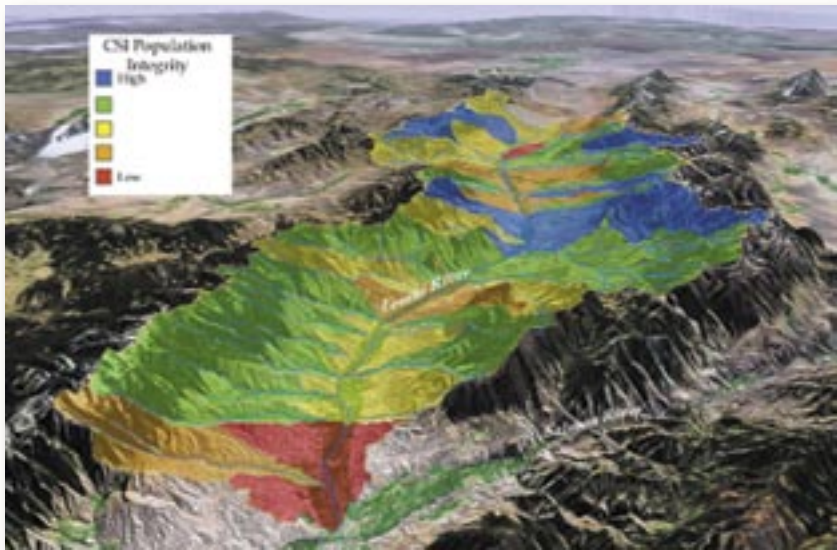
Working together, grapegrowers gain the flexibility they need to irrigate their crops in the most efficient manner, and streams benefit because water diversions would be managed to meet biologically-based stream functions.



Streamflow Stewardship: Better Science for Conservation

Better Science = Better Opportunities for Restoration

Like other TU initiatives, Water and Wine will rely on good science. Through Streamflow Stewardship, we'll assist water users in developing and implementing scientifically sound watershed management plans that will accomplish watershed goals and achieve specific performance objectives.



We are working with the State of California and other partners to use our Conservation Success Index (CSI) to identify and prioritize activities that protect watersheds, reconnect rivers and streams, restore habitat and streamflow, and sustain trout and salmon populations. The CSI will enable resource managers and landowners to identify critical locations for coho salmon recovery, and to track progress. For the first time, our partners will be able to hone and adapt conservation practices in response to the results of ongoing efforts.

For more information about CSI, see <http://tucsi.spatialdynamics.com>.



Vote with Your Fork

Californians know that good food and good wine are natural companions. Trout Unlimited recently published a new booklet with leading chefs and restaurateurs to promote the idea that good stewardship also complements any good meal or glass of wine. "Have Your Salmon & Eat It Too" combines wild salmon recipes from some of California's most celebrated food experts with ingredients and recipes for successful stewardship of our salmon and steelhead resources.

Consumers have a right to expect wild salmon in their local waters or markets, but that right comes with the responsibility of stewardship. That relationship forms the foundation of TU's Salmon Consumer's Bill of Rights and Responsibilities (see www.whywild.org). Consumers who value wild salmon and the businesses that serve them have a responsibility to advocate for the management and habitat conditions that will allow wild fisheries to thrive, or in other words, the goals that Trout Unlimited works for every day.

Visit www.whywild.org to join the community of consumers and businesses working together to protect our right to wild Pacific salmon and steelhead.



Winemakers understand the link between good stewardship and good business better than anyone. With Water and Wine, TU will work with leaders to educate consumers on the benefits of enjoying good salmon and good wine.

have your salmon and eat it too

Who knew conservation could be so delicious?

Eating wild salmon to save wild salmon? Are we crazy?

Choosing wild-caught salmon at your local store or restaurant **sends a strong message** to business and industry that **wild salmon matter** to you; that you won't settle for substitutes or shortcuts. It's an **investment** in the **cold, clean rivers** that wild salmon and steelhead require. It's a vote for free passage for fish to and from **healthy spawning and rearing habitat**. It says **you demand** that we work to recover and **restore the salmon runs** that are in trouble, and to **manage the stronger runs** sustainably throughout their Pacific range.



Savor: **have your salmon and eat it too** recipes

Grilled Wild King Salmon with Cherry Tomato-Basil Relish

Courtesy of Paul Johnson, Monterey Fish Market

King Salmon in Fig Leaves

Courtesy of Mary Sue Milliken and Susan Feniger, Border Grill and Ciudad, Los Angeles

Salmon and Cucumber Skewers with Jalapeño Cilantro Marinade

Courtesy of Michael Ellis, Chef de Cuisine, Charlie Palmer's Dry Creek Kitchen, Sonoma

Miso-Crusted King Salmon

Courtesy of Chef John Ash, Sonoma

Grilled Wild Salmon with a Roasted Beet & Arugula Salad

Courtesy of Chef Alice Waters, Berkeley

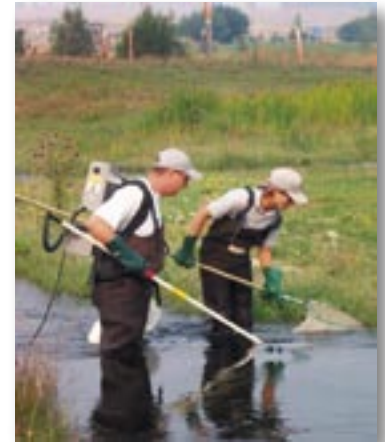
Download these recipes at: www.whywild.org/haveyoursalmon_ca



The Blackfoot Experience

Trout Unlimited has worked with landowners to improve stream flow and fish habitat throughout the West

TU's stream flow restoration work in Montana's Blackfoot River basin is an example of community-based restoration at its best. Our presence and personal relationships with landowners in the basin stretch back nearly 20 years. Over the years, TU's Big Blackfoot Chapter and its partners have done over 500 restoration projects with hundreds of landowners. TU regularly assists with project permitting and funding. TU's strong working partnerships with fisheries and hydrology professionals span three states and two federal agencies. The Blackfoot team has raised about \$7 million to fund the program and continue its success.



Photos courtesy of Ryen Aasheim and the Blackfoot Challenge

These ingredients have combined to make the Blackfoot River a place where the Montana Water Project has been able to carry out a sustained and successful water leasing program with real on the ground results. TU leases in the Blackfoot River watershed have enhanced fisheries and benefited irrigators by contributing over 50 cfs of water to critical spawning and rearing streams, by meeting irrigators' water needs, and by providing landowners with more efficient and labor-saving technologies. TU's Blackfoot experience has demonstrated how common needs can be addressed through cooperative solutions. We will draw on that experience to make Water and Wine a success.



Photo courtesy of Ruth Moorhead, Pocatello, ID



Healdsburg Wild Steelhead Festival

Come join us for the Annual Healdsburg Wild Steelhead Festival!

The Wild Steelhead Festival brings public awareness to this threatened species. The Russian River once hosted the 3rd-largest steelhead run in California, attracting anglers from around the world. The Sonoma County Board of Supervisors declared February "Steelhead Month" and established a commitment to restore a run of 50,000 wild steelhead in the Russian River.

We invite you to celebrate the annual return of the wild steelhead with us and to learn about the benefits they bring to our community and the efforts being made to enhance their natural habitat.

The festival will celebrate the annual return of our wild steelhead with wine and food tasting, a gala dinner and auction, fishing demos, a trout pond for the young anglers, arts and crafts, all the latest fishing gear and canoes, info from a variety of organizations, and more!

See the schedule of events, book your accommodations, and find more info about the Healdsburg Wild Steelhead Festival at - www.healdsburgsteelheadfest.org.



Come and experience the beauty of the Russian River first hand.



Photo courtesy of Scott Hess



Photos courtesy of Don McEnhill, Scott Hess, and Kent MacIntosh

Cooking Demonstrations

Food & Wine Tasting

Dinner & Auction

Steelhead Viewing

Fishing & Crafts

Local Tours

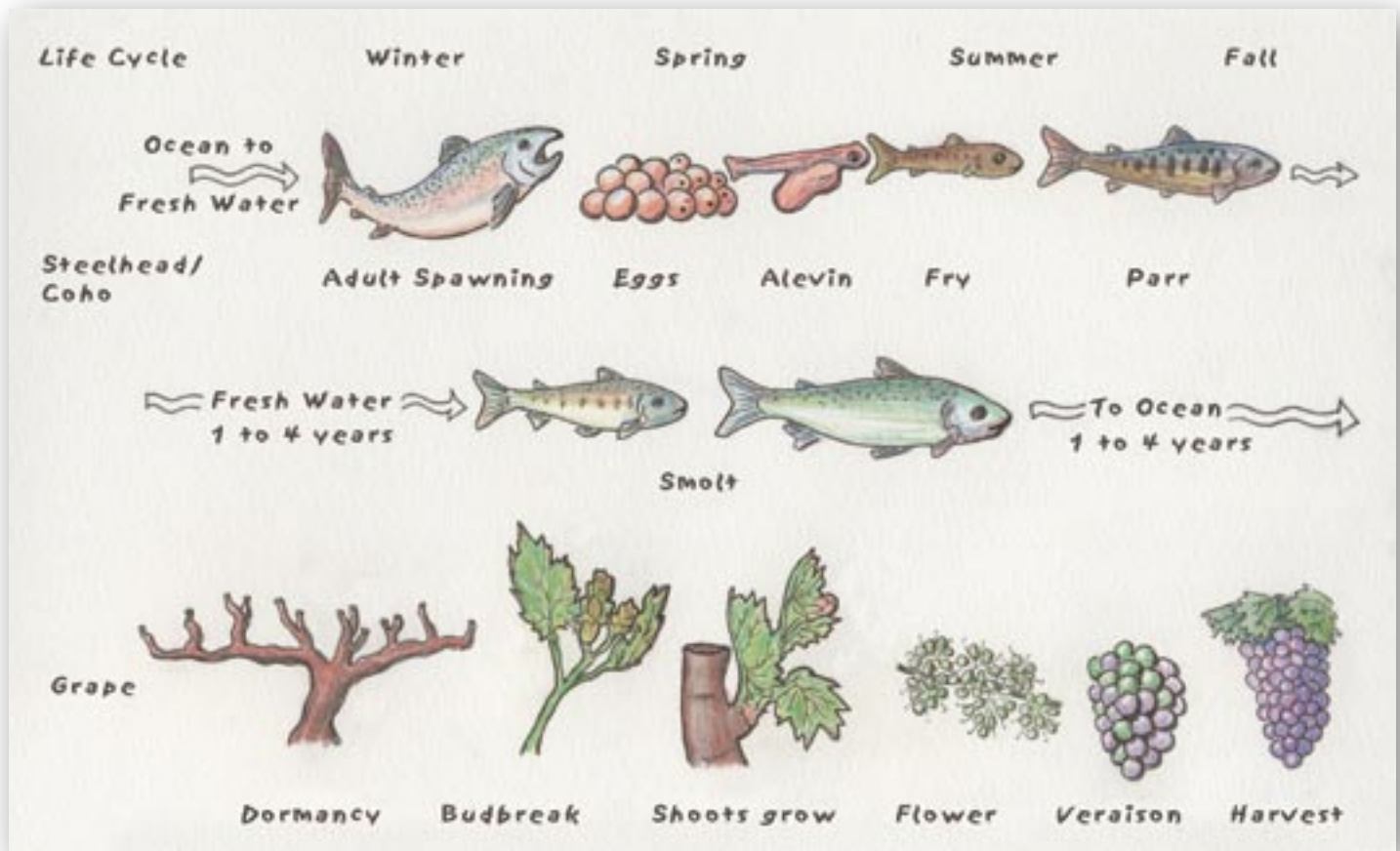


Wine Country Life Cycles

California's Wine Country is distinguished by its streams and vines.

It is water that links the life cycles of fish and grapes.

The quality of the harvest and the health of fish populations require a healthy environment. Fish and grapes depend upon us to be stewards of the land and water, and, in turn, they enrich our region and our lives.



“Over the years, TU has established itself as a reliable partner for landowners interested in stream restoration and forward thinking land and water stewardship. Our partnership with TU for habitat restoration on Wine Creek and “Steelhead in the Classroom” is a perfect fit for our commitment to managing Michel-Schlumberger as a cutting edge, eco-conscious wine farm.”
 - Mike Brunson, Winemaker & Vineyard Manager, Michel-Schlumberger Wine Estate

Trout Unlimited invites grapegrowers and winemakers to join us in conserving, protecting, and restoring California's Wine Country. Contact us to learn more about participating in Water and Wine.

For more information contact:

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Photo courtesy of Don McEnhill

“Wine is Sunlight, Held Together By Water” Galileo Galilei



Photo courtesy of JK Hall visionsunltd.com

Brochure design by Visions Unlimited visionsunltd.com

