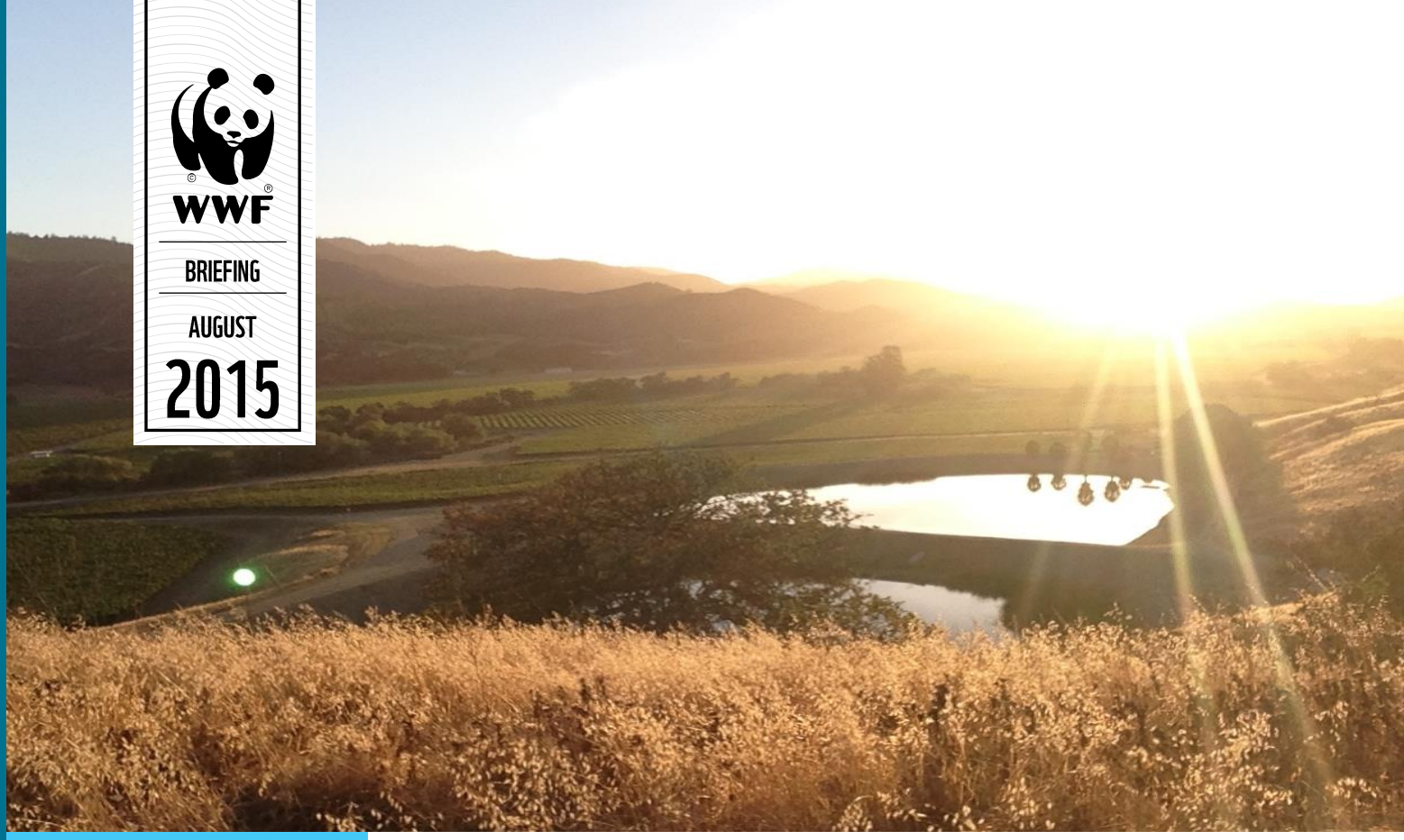

WWF

BRIEFING

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Case Study

WATER STEWARDSHIP IN CALIFORNIA'S CENTRAL VALLEY

Coping with drought in agricultural supply chains

Fertile soil, mild weather, and long growing season allow California to produce nearly half of the United States' vegetables, fruits and nuts, and approximately 80% of the world's almonds. The state's agriculture industry is an economic powerhouse, valued at $46.4 billion and generating at least $100 billion in related economic activity. Underpinning all of these successes is one precious ingredient: water.

California is now in the midst of a multi-year drought—the worst in 1200 years —and according to climate scientists, this is just the beginning. The lack of water is devastating the state's agricultural industry. More than 500,000 acres of crops were lost last year alone, with crippling impacts on both farmers and the businesses that source their commodities.

Hardest hit is Central Valley, a large, flat region that is home to some of the country's most productive agricultural areas. Here, the Alliance for Water Stewardship is emerging as a way to help water users earn recognition for existing water improvements, identify gaps and risks, and connect with others who use shared freshwater resources.

The Alliance for Water Stewardship

The AWS Standard defines how to support good water governance, sustain water balances, achieve good water quality, and maintain those water areas of critical importance to species and communities.

For more information visit:
www.allianceforwaterstewardship.org

Diageo Chateau & Estate Wines: *Creating & Empowering Water Advocates*

"We've been impacted by the drought and really needed to change our ways of working. AWS helped us take steps to a new level of water conservation and water management."
- Julie Collins, Risk Manager, Diageo Chateau & Estate Wines

California is one of the world's largest wine-producing regions, and Central Valley hosts many major producers and contributes nearly 75% of all California wine grapes. Diageo, a global leader in beverage alcohol, is one such producer, with Blossom Hill winery nestled in the heart of the Valley.

As part of broader sustainability efforts across Diageo, in 2006 Blossom Hill began closely tracking water use and implementing measures to reduce water use. The onset of the drought pushed them to look even further for ways to save water, and working with the AWS Standard allowed the site to advance their water stewardship to the next level.

Piloting components of the AWS standard helped Blossom Hill better articulate what they were already doing with water and to identify how they could do more. Importantly, AWS helped Blossom Hill leverage a largely untapped resource: their own employees. The AWS project led to the establishment of an internal "Blue Team," a group of employees from various departments that meet regularly to discuss water. This team began identifying ways to save water—from simple changes, such as adopting smaller hoses, to more complex ones, like improving the insulation on refrigerators to reduce energy use that requires water. They also developed a better understanding of their watershed and how water is shared with nearby vineyards, other businesses and farms, and local communities. Armed with this knowledge, they are spreading awareness of water throughout the watershed.

Olam Spices & Ingredients: *Building a Foundation for Better Water Decisions*

"Our involvement with WWF and the Alliance for Water Stewardship has helped us become very organized in the way we think about what we can do with this finite resource. So it's been a very good partnership for us."
- Dave Watkins, SVP of Agricultural Operations, Olam

Olam employees remind visitors that they may not see the Olam brand in grocery stores, but Olam products—including dehydrated onions from their facility in Firebaugh—are in almost everything that tastes good. Olam provides spices and ingredients to some of the world's largest food brands.

Olam has long sought to be as water efficient as possible in all of their sites, including Firebaugh. However, when Firebaugh decided to pilot the AWS standard, a new level of understanding entered their decision-making processes. AWS helped Olam understand the interconnectivity of water and led them to investigate how water was being used in their watershed—and how that might impact them in the future. Suddenly existing strategies to conserve water took on more meaning, from treating wastewater by irrigating over 100 acres of nitrogen-fixing Sudan grass to employing a cascading system to clean the onions, reusing as much water as possible throughout the process.

Furthermore, the AWS work led to more research and informed decision-making throughout their supply chain. One challenge their farmers faced regularly was switching the beds from onions to tomatoes each year to promote healthy soil and higher yields. Standard equipment designed for tomatoes is a different size than equipment designed for onions, forcing farmers to destroy and rebuild their beds annually—including expensive irrigation equipment. Through some creative engineering, Olam was able to design equipment that allows farmers to use the same beds for both crops, therefore encouraging investment in water-saving irrigation technologies like drip. This was a time-consuming and expensive bet for Olam, but the research required for AWS helped prove the investment was worthwhile.

Olam and Diageo are both multinational companies with bold commitments on water. In California, where their sites face water challenges daily, AWS helped turn global goals into action on-the-ground. Building upon existing sustainability agendas, AWS underscored that water is a shared resource and guided both sites towards connecting with employees, neighbors, communities and beyond. Only by working together and beyond traditional fence-lines can water be secured for all.

To learn more about AWS and its application in California and beyond, visit worldwildlife.org/aws
or contact Lindsay.Bass@wwfus.org or Nicole.Tanner@wwfus.org