

# UC Berkeley

## Recent Work

### Title

Where did all the Water Go?

### Permalink

<https://escholarship.org/uc/item/69m6f6pw>

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### Supplemental Material

<https://escholarship.org/uc/item/69m6f6pw#supplemental>

## **A full description of your project (1000 words max)**

Wells have been running dry at an alarming rate. In 2021, we saw a [951% increase from the previous year](#) and now in 2022, there's no end in sight. My thesis "*Where did all the Water Go?*" is a multimedia website that dives into California's climate-change fueled drought and who it impacts the most. This explainer style website explores California's non-reciprocal relationship with water scarcity and farming.

### **Section #1 – Food and Farms – What is the Cost of California's Food Production?**

Wells are running dry across California's Central Valley but at the same time, about 25% of U.S. domestic food production happens here. To make this food, farmers use [80% of](#) all the water consumed in California. To put it into perspective – to have a steak dinner with a side of rice, salad and a glass of wine uses 1000 gallons that's the same amount of water for a family of 4 for a week. And now with 100% of California under a drought, can California keep producing the nation's food?

In this segment we'll meet Karl, a Kings County resident whose life revolves around water. He has a water hauling business where he trucks in water anywhere there's no running water – construction sites, forest fires, and now in the recent drought, to homes who have no running water. He also has a small family farm that used to grow alfalfa, an extremely water intensive crop that's used to feed cattle. But Karl recently stopped growing alfalfa and switched to pistachios, a crop that demands less water but is still considered a water intensive crop. Karl does everything he can to lessen the water burden on the land and his neighbors and at the same time have income as a small business owner, but in the end, the issue is bigger than one farmer can solve.

Karl's story will be put into context with our big hat interviews – water expert Felicia Marcus who helped write some of California's groundwater policy. She calls California's agricultural industry "too much of a good thing" and that the current drought is a catalyst to where we need to go anyway – less farming in California. So transitioning to water intensive crops is just a step towards shutting down some farmland for good.

### **Section #2 – Domestic Well Owners are Running out of Water Fast**

Esther is one of 1000 California residents whose wells have gone dry in 2021. Residents who rely on domestic wells for water are usually rural and outside of central water systems. Esther is economically disadvantaged and a monolingual Spanish

speaker who live near farms. Domestic wells like Esther's rely on rainfall that seeps into the ground but if there is a prolonged drought like there is right now, the water could run out. In Esther's case, drought may be the culprit but it could also be the agricultural wells surrounding her house that are drilled deep into the ground. It's like a bathtub – the water just gets drained out from under them.

When Esther's well went dry in 2021, she called on Self Help Enterprises, one of the few non-profits in California that help connect water-strapped residents to resources. Since then she's been receiving water tank deliveries from Karl, our water hauler from the previous video. Esther is currently advocating for her and her family in front of local city council and the state water board. She can't afford to move and can't afford a new well. Esther thinks her well may be permanently dry if her farming neighbors continue to pump groundwater at alarming rates. Esther hopes government regulation can curb groundwater consumption so her and her family can have enough.

### **Section #3 – Future Solutions – How can we fix California's water crisis?**

This segment will look at short and long-term solutions to California's water crisis. We will hear from Angela Islas, a community development specialist with Self Help Enterprises. She advocates from residents like Esther to be connected to central water systems instead of relying on domestic wells. Though central water systems are still vulnerable to the droughts, the cost of fixing water issue fall on local and state governments instead of individual residents like Esther.

We will revisit Karl and see how he has implemented drip irrigation systems to water his crops instead of some of his neighbors that flood the crops which causes a lot of water to vaporize and not be used.

Felicia Marcus, our water expert, will come back and talk about small and big scale water solutions. For most people, reducing red meat consumption and limiting water usage for ornamental purposes are the best bet to having a smaller water footprint. Larger scale, long term solutions, Marcus discusses capturing rain water, retiring farmland, desalination plants, and even reusing treated sewer to grow food.

## Source List

### Interviewed Sources

Name	Title
Esther Espinoza	Resident with a dry well
Angela Islas	Self Help community advocate.
Vickie Ortiz	Resident with a dry well
Karl Trahan	Central Valley Farmer
Tony Azevedo	Central Valley Farmer
Felicia Marcus	Water Expert
David Sedlak	Water Expert
Susana De Anda	Water Expert and advocate
Mark Arax	Water Journalist
Lois Henry	Water Journalist
Abrahm Lustgarten	Climate Journalist
Douglas E. Beeman	Water Expert
Corey McLaughlin	Water administrator

A list of other stories that have been done on your topic

<https://calmatters.org/california-drought-monitor/>

<https://sjvwater.org/gov-s-proposed-40-million-for-farmland-retirement-is-welcome-but-more-needed/>

<https://www.fresnobee.com/fresnoland/article252180538.html>

