Public Workshop Regarding Immediate Drought Response Options
California State Water Resources Control Board
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My grandfather, Art, is 82 years old. I'd say he's been farming pretty much since the day he was born. He's supposedly "retired" now, but he's still out in the field every day with my dad during planting and harvest season on our corn and soybean farm in Nebraska.

When you farm for more than 80 years, you see a lot. When Art was just a little boy, he watched his family's crops wither up and die, blowing away into the Dust Bowl. Although the drought during the Great Depression is the most infamous dry period in American history, it wasn't the last lean time for Art and the rest my family. The 1950s, 1980s, and most recently, 2012, challenged my family's dedication to farming, and, let's be honest, probably their sanity.

Like my family, California farmers are all too familiar with drought. California farmers are on the front lines when the skies seal up, and they are important partners in the path toward drought resiliency.

Five years ago, the Water Conservation Act asked our farmers to lead us down that path. The Act, sometimes referred to by its bill number, SB x7-7, asks large irrigation districts to 1) Plan for their future water needs, 2) Measure deliveries to their customers, and 3) Charge their customers based on the volume of water delivered. NRDC partnered with the Pacific Institute last fall to interview districts about how those changes were being implemented after reviewing their plans. That effort turned out to be more challenging than we anticipated.

At the time, just 30% of districts had turned in a plan, even though plans were months overdue. Even now, more than a year past due, just half of districts have completed their management plans. If we are serious about improving agricultural water management in California, we must do better. And we can do better.

Right now, eligibility for State grants and loans is the only compliance mechanism for ag districts, yet the Department of Water Resources awarded nearly $5 million to plan-less districts this summer. This severely weakens the incentives districts have to complete their plans. Instead, state agencies should reward the districts that take the time to consider their water future by placing them at the front of the line for funding.

As a State, we also need to invest in modern water delivery systems. According to the USDA, over half of the acres in California still use gravity-based systems to irrigate their crops. In other heavily-irrigated, ag-centric states, such as Nebraska

and Texas, fewer than 20% of acres use gravity irrigation. In Kansas, just 7% of acres rely on gravity systems. Why is California, the tech capital of the world, lagging so far behind?

Part of the reason is that, although on-farm irrigation technology has significantly advanced in recent years, our delivery systems that bring water to the fields haven't kept pace. These aging systems can't deliver the low volume water that farmers with efficient systems need. It's not only holding farmers back, it's hurting irrigation districts. When NRDC and the Pacific Institute talked to irrigation districts for our report last fall, several districts mentioned the challenge of losing customers to groundwater because they weren't able to provide water in a way that worked with modern irrigation technologies.

Modernizing our water delivery systems will also allow farmers to schedule their irrigation for when crops most need water. Right now, 4,700 California farms still receive their water on a rotational basis, not based on when crops actually need water. That's more than any other state in the nation, and it's a huge missed opportunity. Irrigation scheduling reduced water by about 30 percent without impacting yield in a University of Nebraska demonstration project, and a Driscoll's berry supplier, Reiter Berry Farms, also was able to reduce water use by 30 percent right here in California by scheduling irrigation based on soil moisture readings.

By 2025, 100% of our delivery systems should support low-volume irrigation and irrigation scheduling. That's an ambitious goal, and the State should work with districts, offering cost-shares and low-interest financing, to meet it.

Modernizing our delivery systems will undoubtedly take time and significant investments by the State. But even farmers who don't have access to modern delivery systems right away do have an important tool for drought resilience right beneath their boots—their soil. Soil conservation is about the oldest drought resilience trick in the book. As the USDA's Natural Resources Conservation Service points out, healthy soil holds more water, making farms more resilient to dry weather. Each 1% increase in Soil Organic Matter can hold an additional 20,000 gallons of water in the soil profile. You might call it a "dry day fund!"

Soil conservation is a relatively inexpensive, yet high reward, investment that we can make as a State. Immediate drought relief efforts should be directed toward soil conservation—cover cropping, residue management and conservation tillage are examples of soil building practices that the State can encourage with drought relief funds.

Farming ain't easy. But the farmers we have here in California are tough. Despite the challenges they face, California's farmers still manage to produce half of the fruits and vegetables we eat in this country, and they've doubled the revenue generated per acre-foot of water over the last four decades. Although we don't know how long this current drought will last, we can be pretty sure it's not the last

dry period our farmers will face. Droughts will never be fun. But by utilizing the tools in the Water Conservation Act, modernizing our water delivery system, and investing in our soils, we can take steps to make the next dry period a little less painful.