

**Testimony for the Hearing Record of Jason Phillips, Chief Executive Officer
Friant Water Authority**

**Before the
House of Representatives Committee on Natural Resources
Subcommittee on Oversight and Investigations**

**Hearing on the Status of the Reclamation Fund and the Bureau of Reclamation's
Future Infrastructure Funding Needs**

July 24, 2019

My name is Jason Phillips, and I am the Chief Executive Officer of the Friant Water Authority in California. The Friant Water Authority (Authority or Friant) is a public agency formed under California law to operate and maintain the Friant-Kern Canal, a component of the Central Valley Project (CVP) owned by the Bureau of Reclamation (Reclamation).

Thank you for the opportunity to share Friant's views on the status and outlook for Reclamation's future infrastructure funding needs. Friant is particularly well positioned to comment on the topic of this hearing, given: (1) our role as the local operator and responsible agency for the Friant-Kern Canal, and (2) the significant water-related challenges Friant and others face in the San Joaquin Valley (Valley) and elsewhere in California. For those facing an uncertain future of water supply, meeting the current and ongoing needs of our customers and communities will require a coordinated effort at the local, state, and federal levels.

My testimony will discuss our experiences maintaining the Friant-Kern Canal and how it is related to the Valley's water imbalance, and the need for steps at the federal level to expand access to funding and financing for infrastructure repair.

Background on the Friant Division

The 152-mile-long Friant-Kern Canal and the 36-mile-long Madera Canal, together with Friant Dam and Millerton Lake on the San Joaquin River, form the Friant Division of the Central Valley Project. On average, the Division delivers 1.2 million acre-feet of irrigation water annually to more than 15,000 farms on over million acres of the most productive farmland in the world. Friant Division deliveries also are vital to meeting the domestic water needs of many small communities in the San Joaquin Valley, as well as larger metropolitan areas, including the City of Fresno – California's fifth-largest city.

Built between 1945 and 1951, the Friant-Kern Canal (Canal) carries water south from Millerton Lake along the foothills of the Sierra Nevada Mountains on the eastern edge of the San Joaquin Valley to its terminus at the Kern River, four miles west of Bakersfield. The canal is lined by concrete for most of its length and has an initial capacity of 5,300 cubic feet per second (cfs) at the San Joaquin River that

gradually decreases to 2,500 cfs at the Kern River; although, as I will later explain, much of this capacity has been lost. The width of the Canal ranges from 128 feet where it starts to 64 feet at its lower end.

The 32-mile Madera Canal carries water north from Millerton Lake on the San Joaquin River to the Chowchilla River. Completed in 1945, the Madera Canal has an initial capacity of 1,275 cfs that decreases to 750 cfs at its terminus.

The Friant Division was designed and is operated as a conjunctive use project to convey surface water for direct beneficial uses, such as irrigation and municipal supplies, and to recharge groundwater basins in the southern San Joaquin Valley. Relative to the amount of water runoff into Millerton Reservoir, which is about 1.8 million acre-feet per year, the operational surface storage capacity of Friant Dam is minimal – only about 385,000 acre-feet. The ability to move significant water through the canals in wetter years to store in groundwater recharge basins is critically important for the project to work as intended. The system delivers two classes of water: Class 1, which is the first 800,000 acre-feet of “firm” supply; and Class 2, which is up to an additional 1.4 million acre-feet of supply available only during wetter years. Historically, the Friant Division has received a combination of Class 1 and Class 2 water totaling about 1.2 million acre-feet annually. A majority of the Class 2 water is directed to groundwater basins which are the primary source of drinking water for nearly all cities, towns, and rural communities on the Valley’s East side.

San Joaquin Valley Water Imbalance

The San Joaquin Valley is home to about 5 million acres of productive, irrigated farmland and includes four of the top five agriculture-producing counties in the United States. More than half of all produce and nuts grown in the United States come from the Valley. The Valley’s economy is largely centered around agriculture.

Over the past 30 years, increasingly stringent environmental regulations have redirected water away from the Valley in an attempt by regulators to find a solution to declining fish populations dependent on the Sacramento-San Joaquin River Delta (Delta). Although these regulations have failed to produce any positive impact to fish species, they have forced San Joaquin Valley water users to rely heavily on groundwater supplies to maintain economic viability. Additionally, in 2014 the State of California imposed new groundwater regulations that will severely restrict future use of this supply, including during droughts.

Collectively, we estimate that these factors will lead to water demand by the Valley’s residents and businesses outstripping available supply by more than 2.5 million acre-feet per year. Left unaddressed, this would lead to retiring about 1 million acres of the most productive agricultural land in the world, cause severe economic hardships, and impact drinking water supplies for dozens of California’s most vulnerable communities.

Effects of Water Imbalance on Infrastructure

The effects of the Valley’s water imbalance aren’t just a specter looming in the future, however. We’re experiencing them today, and they’ve permanently degraded both our infrastructure and our ability to achieve long-term sustainability tomorrow.

From 2012-2015, the Valley's water imbalance problem was compounded as California weathered its worst drought on record, and many farms and communities faced severe cutbacks to their available surface water supplies. This left the San Joaquin Valley in a state of extreme groundwater overdraft, which occurs when groundwater is extracted faster than it is replenished over the long term.

The effect of overdraft in the Valley during the 2010s has been to cause the land elevations to drop dramatically – in some areas by a foot or more per year. This phenomenon, called subsidence, has reduced conveyance capacity of three major canals serving the Valley: the Friant-Kern and Delta-Mendota canals, which are both part of the CVP, and the California Aqueduct, which is part of the State Water Project. No matter who owns these facilities, the reduced deliveries mean that less surface water is delivered to the farms and communities who rely on it.

In the case of the Friant-Kern Canal, a portion of the facility sunk more than three feet from 2013 through 2017 due to land subsidence, and we've now lost 60% of our ability to deliver water past this point. The canal is a gravity-fed facility and does not rely on pumps to move water, which means small changes in elevation can have major impacts for water delivery. Subsidence has caused parts of the canal to sink in relationship to other parts. As a result, the canal must be operated at a lower flow-stage to ensure that water doesn't overflow its banks or wash out several bridge crossings.

In 2017, this subsidence prevented 300,000 acre-feet of water from being delivered through the southernmost third of the canal. Most, if not all, of this would have been used to support groundwater recharge – a desperately needed and critical function the canal was designed to achieve. It's also an equivalent amount of water to what could support 50,000-100,000 acres of crop production. While these losses are recoverable if the canal is repaired, time is of the essence.

The overdraft situation in the Valley is entering a crisis stage and action must be taken now to ensure greater access to surface water through the Friant-Kern Canal and other conveyance facilities. For more than two years, we have worked on the planning, design, and permitting for a project to restore the conveyance capacity of the most-severely affected portion of the canal. Current engineering cost estimates are in the range of \$350 million simply to address only this problem; addressing other, less-critical conveyance restrictions in the canal could cost another \$200 million.

Funding Challenges and Opportunities for the Friant-Kern Canal and Other Reclamation Infrastructure

At nearly 70 years old, the Friant-Kern Canal is among Reclamation's oldest facilities in California. Since taking over the responsibility for the operation and maintenance of the canal in 1986, Friant Water Authority has taken an aggressively proactive approach to maintenance and repairs and we are very proud of our track record. Despite those efforts, however, the water-carrying capacity of the canal has gradually diminished over time, partly because of natural "settling" but mostly because of land subsidence resulting from over-pumping of the groundwater in the Valley, as described above.

Under our "transferred work" contract with Reclamation, the Federal government retains ownership of the canal and its appurtenant works, and Reclamation administers the contracts governing the purchase and delivery of CVP water in the Friant Division. The Authority is responsible for all aspects of the Canal's operation, maintenance and replacement (OM&R) as well as all costs related to those activities. The Friant Division contractors have paid these costs, and also have paid off the initial federal loan for the full cost of the canal.

The Friant-Kern Canal is a unique facility: it is locally-funded, federally-owned, and used to support state polices and requirements for clean drinking water and groundwater sustainability. But the shared responsibility and interest introduces difficulties for funding and financing.

Friant Water Authority, who is financially responsible for the canal, cannot afford to pay for this scope of repairs on its own. We cannot borrow money from current Federal government loan programs because the canal is a Federal facility. We cannot finance the repair through private bonds at an affordable rate because we don't own the canal itself as a collateral asset. Instead, we are pursuing a multipronged approach to build a partnership of local, state, and (hopefully) Federal investment in restoring the canal's conveyance capacity.

In fact, we are working with the State of California to secure a state investment in the Friant-Kern Canal capacity correction project. Legislative leaders and agency officials believe that the canal is a worthy investment because of the canal's benefits for groundwater sustainability and clean drinking water. But not a day goes by without questions arising as to how the Federal government will also fund repairs to a canal that they own.

We understand the constraints that Federal agencies and the Congress face in funding or financing infrastructure projects. However, we would like to propose a few recommendations that would help on the Friant-Kern Canal capacity correction project and many others like it:

- The Congress should work to appropriate funds to address subsidence-driven conveyance challenges on the Friant-Kern Canal and other affected infrastructure in the West, like the Delta Mendota Canal.
- The Reclamation Fund should be opened to direct access by Reclamation for repairing the infrastructure it owns, much like existing authorities provided to Reclamation to access the fund to pay for Indian water rights settlements.
- Low-interest loans for water infrastructure, such as those available through the U.S. Department of Agriculture and U.S. Environmental Protection Agency, should be made available to local agencies with transferred works agreements if the facilities, like the Friant-Kern Canal, have been paid off by water users.

Even with these policy changes and the infrastructure improvements they support, more must be done. The Friant-Kern Canal represents only a small fraction of the overall solution to this larger crisis in the Valley. But, in order to reach a more lasting, comprehensive solution for the water woes that are plaguing the San Joaquin Valley, it will require bigger, bolder, and broader thinking.

A Strategic path forward

Since early 2019, a large and diverse group of stakeholders, made up water districts, agricultural groups, elected officials, representatives of Disadvantaged Communities, and academia, have been working together to establish the size of the Valleys water supply deficit, and a suite of solutions to close the gap. The Water Blueprint for the San Joaquin Valley, as the group and effort is known, presents a comprehensive and strategic plan that, if implemented among partners, would result in a long-term water balance in the San Joaquin Valley in a way that minimizes retirement of agricultural lands and allows the region's communities and economy to thrive in the future.

Foundational to the Blueprint is the development of a set of projects and associated operations that would bring the San Joaquin Valley into balance while avoiding as much land retirement as possible. This plan includes a comprehensive look at local, regional, and statewide activities and investments that, collectively, aim to resolve 2.5 million acre-feet per year or more of regional overdraft. Given the magnitude of the problem being addressed, this plan looks ambitiously beyond the range of projects that have previously been contemplated for the region.

Without an effort of this nature, unfortunately the San Joaquin Valley will never really be able to balance its water usage without drastically impacting the economy, jobs, and water quality for communities that depend on both surface water and groundwater for their residents.

Attached to this testimony is a copy of the working draft of the SJV Blueprint brochure for the hearing record.

Thank you again for the opportunity to provide our perspective and thoughts on this critical topic.



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