Testimony of Jason Phillips, Chief Executive Officer

Friant Water Authority

Before the
House of Representatives Committee on Natural Resources
Subcommittee on Water, Oceans and Wildlife

Legislative Hearing on H.R. 5316, The "Move Water Now Act"

January 28, 2020

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 in part 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 to Congressman Cox, Chairman Huffman, and Ranking Member McClintock for inviting me to speak. Friant is particularly well positioned to comment on the "Move Water Now Act," H.R. 5316, 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. The Friant Division footprint also includes more than 50 disadvantaged communities who will be disproportionately affected by future reductions in water supply without an aggressive and coordinated effort at the local, state, and federal levels.

My testimony will discuss our experiences maintaining the Friant-Kern Canal and its relationship to the Valley's water imbalance, how H.R. 5316 will facilitate completion of urgent repairs to this federal facility, and what the Valley's future might look like without action.

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 CVP. On average, the Division delivers 1.2 million acre-feet of irrigation water annually to more than 15,000 farms on over a 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, a significant amount 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, meaning it conveys surface water in wetter years for direct beneficial uses, such as irrigation and municipal supplies, to help recharge groundwater basins for use in drier years. 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 Friant Division's 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 and Groundwater Sustainability

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.

For the past one hundred years, the San Joaquin Valley has relied on more groundwater than is replenished every year, and as a result has seen massive declines in its groundwater reserves. It is for this reason that projects such as the Friant Division were constructed in the mid-1900s to help replenish these groundwater reserves. However, all of the projects envisioned to offset this deficit were not completed, and over the past 30 years, increasingly stringent environmental regulations have redirected water away from the Valley in an attempt to aid struggling fish populations dependent on the Sacramento-San Joaquin River Delta (Delta). This has resulted in a continued persistent overdraft condition in the Valley, and as water exports through the Delta declined, even more San Joaquin Valley water users have increased reliance on groundwater supplies to maintain economic viability for their communities. Until recently, California has not regulated groundwater uses, meaning there were no regulations in place to control the overuse of groundwater and the impacts that causes. This changed in 2014, when the State of California imposed new groundwater regulations – the Sustainable Groundwater Management Act (SGMA) – that will severely restrict future use of this supply, including during droughts.

This week, California is hitting a critical milestone for SGMA implementation. January 31, 2020 is the deadline for all local groundwater sustainability agencies in the state's most overdrafted basins, the majority of which are in the Central Valley, to submit their groundwater sustainability plans to the state for review. By 2040, the entire Valley is required to achieve groundwater sustainability, meaning that less groundwater is extracted from aquifers than is replaced, either naturally or through groundwater recharge projects that are supplied by facilities like the Friant-Kern Canal.

Collectively, we estimate that these factors will lead to water demand by the Valley's residents and businesses outstripping available supply by about 2.5 million acre-feet per year.

Effects of Water Imbalance on Communities

In a region of water scarcity, the most direct way to achieve a water balance is to reduce water demand. This means that, left unaddressed, the water imbalance is likely to lead to large-scale fallowing of the most productive agricultural land in the world, cause severe economic hardships, and impact drinking water supplies for some of California's most vulnerable and disadvantaged communities.

The resulting human impacts looming on the horizon are nothing short of catastrophic. A forthcoming study by Dr. David Sunding, Thomas J. Graff Professor in the College of Natural Resources at the University of California, Berkeley, estimates that the Valley's water imbalance will result in retirement of up to 1 million acres of currently productive farmland.[1] As a result, the state is poised lose 85,000 jobs annually, with 45,000 of those losses occurring to Valley farmworkers, farm managers, and people in the agricultural service sector. This is equivalent to an increase in the regional unemployment rate of about 4% per year. The associated annual wage loss is estimated at $2.1 billion. Annual farm revenue losses are estimated at $7.2 billon. Dr. Sunding estimates these impacts will be disproportionately large in the Valley's lowest-income communities. This bears repeating: these impacts will occur every single year in perpetuity to Californians in an area of our state that cannot afford it.

Effects of Water Imbalance on Infrastructure

Unlike the human effects, the physical effects of the Valley water imbalance aren't just projections for the future; they've already permanently degraded both our infrastructure and our ability to achieve long-term sustainability.

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. 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. Finally, by

[1] "Preliminary Results of Economic Analysis," Memo from David Sunding and David Roland-Holst, U.C. Berkeley, January 15, 2020.

reducing the canal's ability to deliver water to aquifers in the south Valley, the conveyance constriction will also worsen existing water supply and water quality problems in dozens of rural and disadvantaged communities who rely entirely on groundwater. 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 three 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. But since the canal plays an important role in supplying recharge water and thus mitigating the severe human effects from SGMA and other regulations, not repairing the canal isn't an option. And, compared to the human and economic costs estimated by Dr. Sunding, this seems like a relatively reasonable investment to make in the Valley and its people.

Funding Challenges for the Friant-Kern Canal and the Role of H.R. 5316

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 construction 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 repairs.

Friant Water Authority supports H.R. 5316, the "Move Water Now Act," which, if passed and funded, would represent a significant step in helping to prevent some of the severe economic hardships and human suffering that could result from the Valley's water imbalance. It would dedicate $200 million in cost-shared federal funding toward repairing water conveyance facilities at Reclamation's transferred works that have lost more than 50% of their conveyance capacity and supply water for groundwater recharge purposes, such as the Friant-Kern Canal does. It also requires a 50% non-federal cost-share component, and we are actively working with local agencies in the Valley and the State of California to develop a source for the non-federal cost-share for the project, should federal funding authorized by H.R. 5316 become available.

Additionally, H.R. 5316 authorizes the federal government to make important investments toward implementing the San Joaquin River Restoration Program (SJRRP) and achieving the goals of the stipulation of settlement in *NRDC vs. Rodgers*. The San Joaquin River Restoration Settlement Act (PL 111-11) recognized the link between achieving the settlement's Water Management Goal and restoring the

capacity of the Friant-Kern Canal, and authorized the Secretary to implement such a project if it's found to be feasible.

The effort to support the Valley's communities and ecosystems must not end with H.R. 5316. We urge the Members of this Subcommittee and your colleagues to support an appropriation of funds to ensure the support you've shown in this bill becomes a reality.

Even with H.R. 5316 and the infrastructure improvements and programs it supports, 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 identify 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, the San Joaquin Valley will unfortunately 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 are informational brochures on the Friant-Kern Canal's subsidence and the Water Blueprint for the San Joaquin Valley for the hearing record.

Thank you again for this Subcommittee's support for H.R. 5316 and for the opportunity to provide our perspective and thoughts on this critical topic.

Jason Phillips, Chief Executive Officer
Friant Water Authority