May 5, 2023

Nancy Ward
Director, Cal OES
601 Sequoia Pacific Blvd
Sacramento, CA 95811

Subject: Tulelake Public Safety Hazard – Shallow Aquifer Collapse

Dear Director Ward:

In late February of 2023, community leaders of Tulelake became aware of changes to the Tulelake High School gymnasium. It is sinking and becoming unstable, a consequence of the lack of irrigation water allocated from the Bureau of Reclamation to the surrounding farmland and refuges. To ensure the safety of our children and the community, we respectfully request the assistance to assess the safety of our school and public buildings. It is beyond doubt that we will also need the financial assistance to rebuild or reinforce structures to provide a level of public safety that is acceptable and within building code. The financial burden of these assessments and cost to correct them are beyond the resources of our disadvantaged community, school district, and the counties we are situated in.

Unfortunately, as shocking as the condition of our gymnasium may sound, it is not a surprise to residents of the greater Tulelake area who have witnessed the settling of our soil structure over the past three years. This phenomenon has impacted roads, utility infrastructure, homes and outbuildings. It was a matter of time before an impact on a community centerpiece would ring the alarm of public safety.

The Tulelake Basin is a unique landscape. The crater below us was formed by volcanic activity, which filled with alluvial sediment and vegetation over the span of millions of years. Records and core samples show that this Basin was a lake, never without water, until it was modified by the Bureau of Reclamation in the early 1900's. The fertile soils, abundant water and need to feed a hungry nation made the homesteading of the Klamath Reclamation Project an attractive prospect for war veterans eager to start a new life. For over 80 years, Tulelake was farmed in a manner that was respectful of the lakebed that we farm. Irrigation practices were aligned with crop rotations that used low-cost flood techniques that kept the shallow aquifer filled, and sprinkler irrigation was adopted where row crops demanded a more controlled approach to water application. As the crops moved around, so did the techniques, maintaining our soil profile with water that kept our soils from becoming desiccated.

Farming practices maintained the shallow water table, which effectively is part of the efficiency of the Klamath Reclamation Project. Water not consumed by crops or evaporated was recollected by a network of drain ditches across the project. These drains were pumped back to the supply system and became the source of water for the next irrigation parcel downstream, and eventually became the source for the Tulelake and Lower Klamath National Wildlife Refuges. The Klamath Reclamation Project boasts an efficiency of 94%, unmatched by any other irrigation project.

More importantly, the water kept the soil profile filled, maintaining the stability of our high organic soils. Prior to the current ultra conservative allocations of water, we had an aquifer 24 inches below the soil surface. Now, we struggle to find moisture within the top 10 feet. Over the past 22 years, water allocations to farms and refuges have been diminished repeatedly, sometimes to a zero allocation, and often to less than fifty percent of the water needed to irrigate crops and maintain refuges, and always less than what is needed to maintain our soil profiles. Compounding this issue, the need to stretch water to irrigate as many acres as possible, as efficiently (in the context of water usage) as possible, led to a cost share of $50 million (over $150 million invested combined with grower share) by the Natural Resource Conservation Service to support on-farm irrigation equipment to boost efficiencies and apply only the needs of the crops being grown. The result was an exponential depletion of our shallow aquifer. After 22 years of the assault on our shallow aquifer, our soil structure is failing. Shallow settling is occurring, and with it, damage to buildings, roads, and other infrastructure.

Deep irrigation wells are not the reason for this condition. The deep irrigation wells located in the Tulelake Basin are often cased with solid pipe to bedrock, where water is extracted from a deep aquifer, as identified in the Groundwater Sustainability Plan that Modoc County, Siskiyou County, the City of Tulelake and Tulelake Irrigation District are all a party to. Shallow domestic wells, often 40 feet deep or shallower, are all dependent on the shallow aquifer that is replenished by the irrigation project. Without water in the adjacent waterways or flood irrigation, recharge does not occur for these wells. There are twenty years of evidence to prove that dry ditches mean dry domestic wells, and wet ditches mean healthy domestic wells. In fact, in several years, wet ditches only have water in them because of the deep aquifer irrigation wells and water being moved through the irrigation district facilities.

The collapse of our soil is irreversible. The space between soil particles once cushioned by water, which provided structure to the profile, is now replaced with air. When a large enough section of that profile is filled with air, it collapses and settling occurs. There is no way to recreate that profile and undo the damage that has already been done. We can only stop the progression of this man made phenomenon, and repair the buildings, roads and utilities that have been compromised.

The City of Tulelake and the community that surrounds it is at great danger of succumbing to an unimaginable collapse of our infrastructure, and an unprecedented crisis of human safety. The canary in the coal mine was our roads, but few listened when we pointed out the problem. Now, the damage to our school, and the potential for loss of human life should it or other structures collapse, demands that those causing harm to our community by denying us water face the reality of the consequences of their actions. The damage that has already been done to our soil is irreversible, but it can be stopped before our community collapses. Water being put back on the land consistent with historical irrigation practices that made land productive while mimicking the natural hydrology of our ecosystem and land is the only way to prevent further deterioration of our community's infrastructure.

Public safety demands we immediately address the damage that has already occurred, and bring attention to the consequences of dewatering this former lakebed that our once thriving community was encouraged to populate. It was never meant to be arid. It was meant to be productive, for humans, and wildlife.

We respectfully request the assistance of the California Office of Emergency Services to provide the resources and funding needed to provide safety for our children and community. We further ask that it be recognized that the water management decisions being made by the Department of Interior are creating human and ecological hazards that are destroying private property, the ability to provide basic human needs delivered by utilities, road infrastructure, schools, creating building hazards, and an irreversible ecological disaster.

We appreciate your attention to this issue, and we look forward to working with your office to address our most immediate needs. Should you want to discuss this topic further, please contact Tulelake Irrigation District manager Brad Kirby at (530) 667-2249, and we would be happy to set up a meeting with all signatories to this letter.

Sincerely,

DocuSigned by:
John Crawford
John Crawford, President
Tulelake Irrigation District Board of Directors

DocuSigned by:
Jordan Dodson, President
TBJUSD Board of Trustees

DocuSigned by:
Jeffrey R Boyd
Jeff Boyd, President
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DocuSigned by:
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Paulette Velador, Mayor
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DocuSigned by:
Rob Wilson
Rob Wilson, Farm Advisor
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cc: Director, Siskiyou County Office of Emergency Services
Director, Modoc County Office of Emergency Services
Robert Goyeneche, Cal OES
Assemblymember Megan Dahle
Senator Brian Dahle