









the cumulative impact of increased extractions exceed natural recharge.

The citizens of Chico have done a great job in cutting the amount of water used—by over 30 percent during the past few years.

Some data indicates that orchard crops in Butte County are not adding acres, however, that's not the case in other counties in the Tuscan region. Investor-owned agricultural enterprises west of the Sacramento River continue to break ground on new orchards. New demand on the aquifer is expanding as water districts supplement supplies during dry years when river diversions are reduced. Senior districts in Glenn

A cross-sectional diagram showing the system of unconfined and confined aquifers and the water

IMAGE COURTESY OF USGS WATER SCIENCE PHOTO GALLERY

and Colusa Counties market portions of their river allotments and replace them with groundwater.

The greatest decline in aquifer level is occurring in Glenn and Colusa Counties. In Butte County declines have been noted around Durham.

Agriculture pumping in the North Valley is connected to subsidence here as well. It's occurring near the I-5 corridor between Arbuckle and Orland where, since 2018, the ground has irreversibly dropped more than 2 feet in some areas. The cumulative impact on the shared North State aguifer appears to contribute to the overall decline in groundwater levels all the way into Butte County.

The true scope of any decline is still unknown. According to

With a water table-dependent blue oak in the foreground, the Tuscan formation that slopes down from the North Rim of Chico Creek Canyon in Bidwell Park can be seen on the horizon. The Tuscan plunges underground as it continues into Chico, forming a hard cap over the lower portion of the aquifer below.

PHOTO BY JASON CASSIDY

hydrologists at Chico-based Davids Engineering, "[The] ultimate effects of pumping can occur significantly after pumping starts, or even after pumping has ceased. The timescales involved in aguifer responses to pumping and other stresses can be on the order of decades, making it difficult to associate cause with effect. In general, the longer the timeframe for effects to be observed at a given monitoring point once they become evident, the longer those effects will persist, even if the pumping causing the effects is halted immediately."

How is our groundwater managed?

Groundwater extraction by agriculture in the region is, with the exception of well spacing regulations, unmanaged. Farms certainly pay to develop wells and to operate the pumps, but there are no limits on how much water is used. Municipal customers on the other hand have been encouraged by state policy and rate-tier pricing to conserve water.

What is SGMA?

SGMA (pronounced "sigma") is the acronym for the California Sustainable Groundwater

NEWSLINES CONTINUED ON PAGE 12

