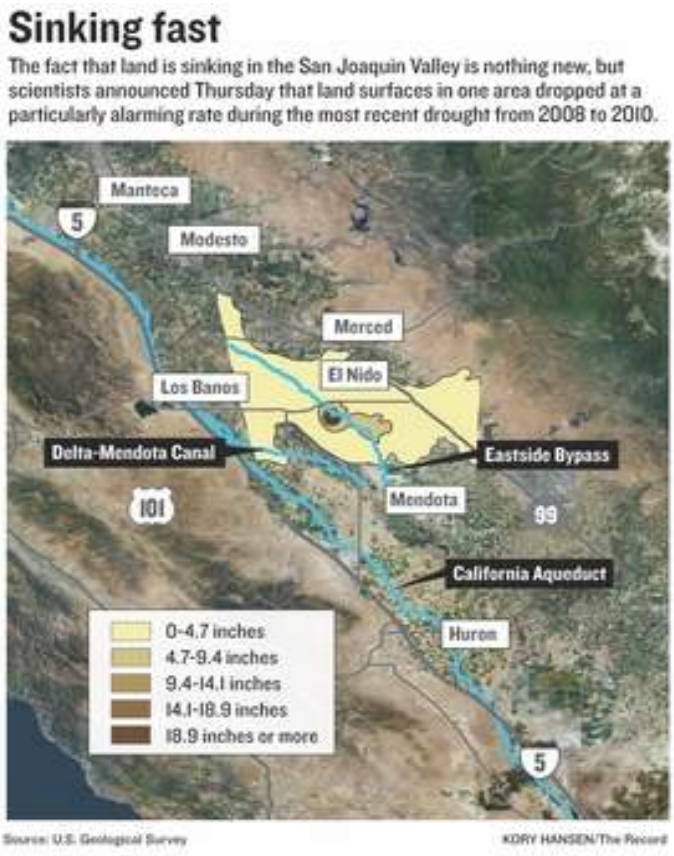
SINKING EVEN IN DROUGHT

CHANGES IN VALLEY LAND SLOW S.J. RIVER RESTORATION, COULD AFFECT DELTA TUNNELS PROPOSAL



By ***Alex Breitler***
November 22, 2013
Record Staff Writer

The earth sank at a rate of nearly 1 foot per year in a portion of the San Joaquin Valley during the state's most recent drought, scientists announced Thursday, adding that the problem is likely to persist and could threaten large aqueducts that ship water south from the Delta.

The sinking land has also slowed down the planned restoration of the San Joaquin River. And it could affect the outlook for proposed multibillion-dollar twin tunnels to carry water to Southern California.

Known technically as "subsidence," the phenomenon of sinking farmland is nothing new here. Parts of the Valley sank up to 28 feet in the early to mid-20th century as farmers pumped vast amounts of water from below ground.

The problem eased somewhat after state and federal canals were built to send Northern California water toward the south. Farmers used that water instead, pumping less from below ground.

However, the new research by the U.S. Geological Survey reveals that some land is still sinking during dry years, despite the fact that river water from the Delta is now available - albeit not as much as the farmers need.

Scientists were surprised both with the speed at which the land was sinking during the drought - among the fastest rates ever measured in the Valley, they said - and the fact that subsidence appears to have shifted north to a new, 1,200-square-mile area centered around the Merced County town of El Nido.

Explaining why, USGS hydrologist Michelle Sneed cited not only reductions in water supplied by the aqueducts, but also changes in the types of crops grown in the region.

"It's always been an agriculture-heavy area, but different crops are going in," Sneed said. "We are finding that row crops are decreasing and more permanent crops are being planted. That has the effect of providing less flexibility for farmers when there are droughts," since orchards cannot be fallowed.

The study was intended to focus on the Delta-Mendota Canal, which together with the California Aqueduct delivers Delta water south. The Delta-Mendota Canal supplies farmers on the west side of the San Joaquin Valley.

The scientists found relatively stable conditions along the northern regions of the canal near Tracy. Farther south, they found the canal sinking to some degree.

The most dramatic sinking, however, was east of the canal in an area that includes the San Joaquin River and a flood-control channel called the Eastside Bypass.

Sinking ground can threaten any number of infrastructure projects, from canals to roads and rails. A canal passing through an area that has decreased in elevation might not be able to carry as much water or might flood if the gradient has changed.

Rick Woodley, assistant regional manager with the U.S. Bureau of Reclamation in Sacramento, said that sinking lands have not yet affected how much water can be shipped through the Delta-Mendota Canal. On the other hand, projects to

prepare the long-dormant San Joaquin River for restoration have been put on hold as a result of the instability.

"Before we pursue and start spending any significant dollars on these projects, we need to understand what's going on," Woodley said. The Bureau of Reclamation commissioned Thursday's study.

The report also caught the eye of Barbara Barrigan-Parrilla, executive director of Stockton-based Restore the Delta.

The Delta has often been described as the weak link in California's vast water conveyance system, a rationale for the governor's controversial plan to build two 40-foot-wide tunnels beneath the estuary. Thursday's report reinforces the fact, however, that there are other potential problems getting the water where it needs to go.

"The subsidence in the Central Valley is contributing to delivery problems with the existing water infrastructure," Barrigan-Parrilla said. "That mirrors our argument that we don't need tunnels. We need public investment in repairing and fixing our current infrastructure."

One of the stated purposes of the tunnels is to alleviate "regulatory droughts" in which water exports to the west Valley are curtailed to protect fish. The USGS report says both natural and regulatory drought conditions have contributed to the sinking of ground levels.

Contact reporter Alex Breitler at (209) 546-8295 or abreitler@recordnet.com. Visit his blog at recordnet.com/breitlerblog.

http://www.recordnet.com/apps/pbcs.dll/article?AID=/20131122/A_NEWS/311220318/-1/A_NEWS