

Sierra snow survey finds hardly any

Peter Fimrite, San Francisco Chronicle, 1-4-12

It was supposed to be an icy traverse through a blanket of white, but the first Sierra snow survey of the year on Tuesday was more of a leisurely stroll through a sun-dappled meadow.

There was about as much snow on the ground last July 4 as there is now at historic Phillips Station off Highway 50 near the Sierra at Tahoe resort. Some say the skiing was better then, too.

Frank Gehrke, chief snow surveyor for the California Department of Water Resources, might have had better luck counting butterflies than taking snow measurements, but he nevertheless found a tiny patch of glaciated material shaded by trees.

Gehrke's careful measurement detected 0.14 of an inch of water in the 4-inch-deep patch of snow. That's 1 percent of average, the smallest amount at this time of year since measurements began in 1964 at the privately owned cabin near Echo Summit.

"That's the lowest January measurement ever," Gehrke said. "With pretty much no fall storms at all, that's not a surprise."

The monthly snow surveys, which traditionally begin right around New Year's Day, are an attempt to assess the state's frozen water supply. That's because almost two-thirds of the water used to irrigate millions of acres of farmland and quench the thirst of California's 38.8 million people is contained in the Sierra snowpack.

19% of average

The water content of the snow has proved over time to be a reliable gauge of how much drinking water will be available in California after the snow melts and fills up the department's reservoirs. The picture this year isn't good.

The water content across the entire Sierra averages 2 inches, or 19 percent of average, a feeble showing by any measure, but that figure includes totals from high-elevation sites. No snow at all was found in several locations where surveyors traditionally go, including places where measurements are taken electronically, such as Hagans Meadow at 8,000 feet elevation, and Tahoe City Cross at 6,750 feet.

Phillips Station, at 6,800 feet, is where the results of the monthly snow surveys are traditionally announced. The manual surveys there and at other locations are combined with electronic measurements to come up with the statewide figure.

The previous record low at Phillips at this time of year was in 1987, when the water content measured 0.9 of an inch. The water content in last season's first survey, taken Dec. 28, 2010, was 19 inches.

Big ridge won't budge

"It's pretty paltry at this point," said David Rizzardo, chief of the snow surveys section and water supply forecasting for the Department of Water Resources. "There isn't really much up there to talk about. There is stuff in patches here and there under the trees, but it is pretty dry in most visible places."

The culprit in all this is a giant ridge of high pressure that has parked itself over Northern California and is refusing to budge. The system has pushed storms to the north and south and left the central and northern portions of the state basking in sunshine. It was the fourth driest July-through-December period in the Northern Sierra since 1923, according to Jan Null, a meteorologist for Golden Gate Weather Services.

There is some good news, said Rizzardo, whose department does not consider sunbathing, bicycling and

barbecues during the winter a positive. The state's reservoirs are brimming, he said, thanks to the epic storms that pounded the state last year, leaving double the amount of snow that falls in a normal year.

Lake Oroville, the primary storage reservoir for the State Water Project, is at 72 percent of capacity, which is 114 percent of normal for this time. Shasta Lake, which is part of the U.S. Bureau of Reclamation's Central Valley Project and is the largest reservoir in the state, is currently at 68 percent of capacity, or 106 percent of normal.

The saving grace

"The reservoirs have a lot of carry-over storage, which is a saving grace at this point," said Rizzardo, who estimated that the amount now in storage will be able to sustain the entire state through the summer even without precipitation.

And, he said, January and February are normally very wet months, so things can turn around very quickly. For instance, that record-dry December in 1987 was followed by huge downpours. Also, January and the first two weeks of February last year were very dry despite near-record precipitation overall.

January, February are key

"It's possible to have prolonged dry periods during the winter and recover," he said. "How January and February pan out will be a real key to how this water year goes, but the further we get without storms, the chances will dramatically decrease. The deposits you put in the bank account now are crucial for next fall. If it remains as dry as it is, we are going to be relying on a lot of that carry-over storage."

Curiously, the pounding storms last year and the sunny skies so far this season both came under La Niña weather patterns.

"Interannual variability is a characteristic of the California environment," explained Gehrke, referring in hydrologist-speak to the fact that the only thing a person can count on about winter weather in California is that it cannot be counted upon.