

# Dramatic decline in Tahoe's clarity – 9.5 feet

By Kathryn Reed

Despite \$2 billion being spent on environmental improvement projects in the Lake Tahoe Basin over the course of more than a decade with the primary goal to improve the clarity of the lake, Mother Nature is foiling those plans.

UC Davis Tahoe Environmental Research Center on June 13 released the annual lake clarity report for 2017, which shows a decline of 9.5 feet to 59.7 feet from a year ago. The previous lowest level was 64.1 feet recorded in 1997.

Scientists are blaming the decline on the confluence of weather extremes – the drought and then the winter deluge.

“We are not shocked by it. I think everyone was expecting a low clarity year based on the drought conditions we had followed by what really is one of the wettest winters on record,” Tom Lotshaw, spokesman for the Tahoe Regional Planning Agency, told *Lake Tahoe News*.

Still, the trend of the last few years is declining clarity. It dropped 3.9 feet in 2016 and 4.8 feet in 2015. In other words, the clarity of Lake Tahoe has dropped more than 18 feet in three years.

“If you look at the bigger picture we know that these clarity numbers can vary wildly from season-to-season and year-to-year. That is why the total maximum daily load looks at five years. That five-year average even after this low year is still at 70 feet,” Lotshaw said. “The longer term declines we were seeing for 20 to 30 years has been stabilized.”

Clarity is measured by taking various readings with a Secchi

disk, which looks like a white dinner plate. It is put over the side of a boat and with the naked eye someone looks to see how far down they can clearly see it.

Numbers are usually the worst in summer and then improve in the fall and into winter. In 2017 the fall readings continued to decline. Then the winter rains just flushed a tremendous amount of sediment into the lake. Usually runoff is not a concern until spring.

“This report serves as a stark reminder about the importance of conservation and restoration efforts. Without that progress, the lake would already have been lost. We must continue investing in those efforts if we’re going to save Lake Tahoe,” Sen. Dianne Feinstein, D-Calif., said in a statement.

California Natural Resources Secretary John Laird and Nevada Director of Conservation and Natural Resources Bradley Cowell issued the following joint statement: “While annual clarity declines are not unusual, the record decline experienced last year warrants an in-depth review to further understand the causes and impacts, and to help ensure the 2017 decrease is an anomaly, and not a trend. After 20 years of significant investment to protect the clarity of Lake Tahoe, we take this development seriously. As the natural resources leads for our states, we are asking the science community to take a fresh look at factors affecting lake clarity and recommend actions to continue our success in protecting the ecological health of Lake Tahoe in a time of changing climate.”

While officials talk about climate change being a serious issue in the basin, no answers have been forthcoming. Weather extremes are predicted to become the norm, not be an anomaly. The lake is warming, which presents other issues. A warmer lake keeps the fine sediment particles closer to the surface which in turn diminishes clarity.

A bright spot though is that Geoff Schladlaw, director of TERC, said numbers collected so far in 2018 are encouraging, calling them “more in line with the long-term trend.”

UC Davis researchers are hoping an autonomous underwater vehicle and an underwater robotic glider that are new tools in its arsenal will help provide data that can provide answers and solutions to ongoing and growing concerns at Tahoe.

Even so, most of the money, time and scientific studies have been spent on worrying about lake clarity in the middle of Tahoe. Those who frequent the beaches worry more about the muck and the discoloration – it being more brown than clear – by the shore. But that’s a whole different issue called the near shore, which until the last handful of years wasn’t even on officials’ radar.