

Almost 4-foot drop in Lake Tahoe's clarity

By Kathryn Reed

It's clear that things are getting murkier. Lake Tahoe's clarity diminished by nearly 4 feet in 2016.

In 2016 the average depth of clarity was 69.2 feet, which is a 3.9-foot decrease from 2015. In 2015, clarity dropped 4.8 feet. The worst overall reading was in 1997 at 64.1 feet. Measurements have been taken since 1968, when the Secchi disk could be seen at 102.4 feet.

Researchers from UC Davis released the numbers May 18. Scientists use what looks like a white dinner plate to determine the lake's clarity. It is dropped over the side of a boat at several locations throughout the year and then how far someone can see it is the measurement.

Climate change is being blamed for the brunt of the decline.

"In 2015, clarity was reduced by relatively warm layers of turbid water entering near the lake surface. In 2016, the clarity was reduced by the early onset of spring favoring the growth of light blocking blooms of very small algal cells," Tahoe Environmental Research Center officials said in a press release.

The numbers were better in winter than summer. The best reading was 95.1 feet on Jan. 25, and the worst was 44.3 feet on June 7. The winter average of 83.3 feet was the highest since 2012. However, the summer numbers were alarming. There was a 16.7-foot decline in one year.

A large *Cyclotella* bloom is part of the reason for the summer problem. This single-cell algal species is able to thrive as

Lake Tahoe's waters warm. In 2016, the lake's temperature was at record-high level.

"Climate change is impacting Lake Tahoe. TRPA and its partners are committed to working with researchers to better understand the threats a warming climate poses, and to promote solutions that will improve the resiliency of Lake Tahoe's environment and communities," Tahoe Regional Planning Agency spokesman Tom Lotshaw told *Lake Tahoe News*.

While experts point to the five-year clarity average of 73.1 feet surpassing the 2016 interim restoration target of 71 feet, that average will keep dropping if the trend of lower visibility continues.

Still, scientists are confident there has been a leveling off of sorts. The nearly \$2 billion spent on environmental improvements in the Lake Tahoe Basin since the inaugural Lake Tahoe Summit in 1997 is credited with stemming what had been years of degrading clarity. Reducing fine sediment particles from the lake is the biggest change, and one that is ongoing.

"Storm water reductions are contributing to the improved winter clarity," Tahoe Regional Planning Agency spokesman Tom Lotshaw told *Lake Tahoe News*. "From local, state, and federal governments reducing storm water pollution from roads and restoring natural areas like streams, marshes, and wetlands, to homeowners installing measures to capture and infiltrate storm water on their properties, this work is helping protect and restore Lake Tahoe's famous water clarity."

What all of these numbers don't reflect is what goes on along the shore of Lake Tahoe where people have the most interaction with the water. The near shore, as scientists call it, with its algae and ever-increasing brown color is a whole different topic.