

TAHOE:  
STATE  
OF THE  
LAKE  
REPORT  
2009

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## INTRODUCTION

The University of California, Davis, has monitored Lake Tahoe for over 40 years, amassing a unique record of change for one of the world's most beautiful and vulnerable lakes. In the UC Davis Tahoe: State of the Lake Report, we summarize how natural variability and human activity have affected the lake's clarity, physics, chemistry and biology. We also present the 2008 data. The data shown here reveal a unique record of trends and patterns – the result of natural forces and human actions that operate over time scales ranging from days to decades. These patterns tell us that Lake Tahoe is a complex ecosystem, and it behaves in ways we don't always expect. While Lake Tahoe itself is unique, the forces and processes that shape it are the same as those that apply in all natural ecosystems. For this reason Lake Tahoe provides an analog for many other systems both in the western US and worldwide.

Our role as scientists is to explore that complexity, use our advancing knowledge to suggest options for ecosystem restoration and management, and help evaluate progress. Choosing among those options and implementing them is the work of those outside the scientific community. The annual UC Davis Tahoe: State of the Lake Report is intended to inform non-scientists about the most important variables that affect lake health. Until recently, only one indicator of Lake Tahoe's health status was widely available: the annual clarity report (often called the Secchi depth, after the instrument used to collect the clarity data). In the Tahoe: State of the Lake Report, the UC Davis Tahoe Environmental Research Center (TERC) publishes many other indicators of the lake's conditions.

This report is not intended to be a report card for Lake Tahoe. Rather, it sets the context for understanding what changes are occurring from year to year: How much are invasive invertebrates affecting Lake Tahoe? Was Lake Tahoe warmer or cooler than the historical record last year? Are algae increasing? And, of course, how do all these changes affect the lake's famous clarity? The data we present are the result of efforts by a great many scientists, students and technicians who have worked at Lake Tahoe throughout the decades. I would, however, like to acknowledge the contributions of Patty Arneson, John

Reuter, Scott Hackley, Brant Allen, Bob Richards, Marion Wittmann, Sudeep Chandra, Charles Goldman, Monika Winder, Debbie and Peter Hunter, Anne Liston, Tina Hammell, Heather Segale, Bob Coats, Bill Fleenor, Todd Steissberg, Veronica Alambaugh, Simon Hook, Stephen Andrews, Dan Nover and George Malyj.

Funding for this enormous undertaking comes from a great many sources, spanning federal, state and local agencies, as well as UC Davis itself. While many other water quality variables could be tracked, funding ultimately limits what we measure. Current funding for monitoring and analysis is provided by the Lahontan Regional Water Quality Control Board, the Tahoe Regional Planning Agency, the U.S. Forest Service and the U.S. Geological Survey. TERC's monitoring is frequently done in collaboration with other research institutions and agencies. In particular we would like to acknowledge the U.S. Geological Survey (USGS), the National Aeronautics and Space Administration (NASA), the Desert Research Institute (DRI), and the University of Nevada, Reno (UNR).

We hope you find this report helpful. I welcome your comments.



Sincerely,

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