



TAHOE ENVIRONMENTAL RESEARCH CENTER

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### Annual average Secchi depth

Yearly since 1968

The Secchi depth is the depth at which a 10-inch white disk, called a Secchi disk, remains visible when lowered into the water. In 2016, the annual average Secchi depth was 69.2 feet (21.1 m), a 3.9 foot decrease from the previous year but still over 5 feet greater than the lowest average of 64.1 feet (19.5 m) recorded in 1997. The annual average clarity in the past decade has been better than the prior decade. The highest individual value recorded in 2016 was 95.1 feet on January 25, and the lowest was 44.3 feet on June 7. The decline this year is largely attributable to high concentrations of the diatom *Cyclotella gordonesis*. While the average annual clarity is now better than in preceding decades, it is still short of the clarity restoration target of 97.4 feet set by federal and state regulators, a goal agencies and the Tahoe Basin community continue to work toward.

#### ANNUAL AVERAGE SECCHI DEPTH





## Winter Secchi depth

Yearly since 1968

Annual winter (December-March) Secchi depth measurements from 1968 to the present indicate that winter clarity at Lake Tahoe is showing definite improvement. In 2016, winter clarity increased by 11.7 feet. The winter average of 83.3 feet (25.4 m) was still well above the worst winter average, 65.6 feet (20.0 m), seen in 1997. Winter precipitation (which was close to the long-term average) had little effect on clarity, due to stormwater control and watershed restoration projects.

#### WINTER SECCHI DEPTH





## Summer Secchi depth

Yearly since 1968

Summer (June-September) clarity in Lake Tahoe in 2016 was 56.4 feet (17.2 m), a 16.7 foot decline from 2015. The cause of the decline was a large increase in the concentration of Cyclotella gordonesis, a small diatom (5 microns). The summer trend is dominated by a consistent longterm degradation but with a noticeable 10-15 year cyclic pattern. The red dashed lines are linear regressions for the periods: a) 1976 to 1983, b) 1987-1998, and c) 2001 to 2011.

#### SUMMER SECCHI DEPTH



YEAR



# Individual Secchi depths

2014, 2015, 2016

Here, the individual Secchi depth reading from the Index station on the west side of the lake for 2014, 2015 and 2016 are plotted.

Secchi values can be seen to sometimes

vary considerably over short time intervals. This is evident on April 5 and April 16, 2016 where the Secchi depth changed from 58 feet to 85 feet respectively. Such short-term variability is common in lakes. In these cases the sudden change is due to episodes of strong wind.

