

San Francisco Public Utilities Commission

Lake Merced Update

January 2006

This is an update on Lake Merced for the January 11, 2006 Lake Merced Task Force Quarterly Meeting.

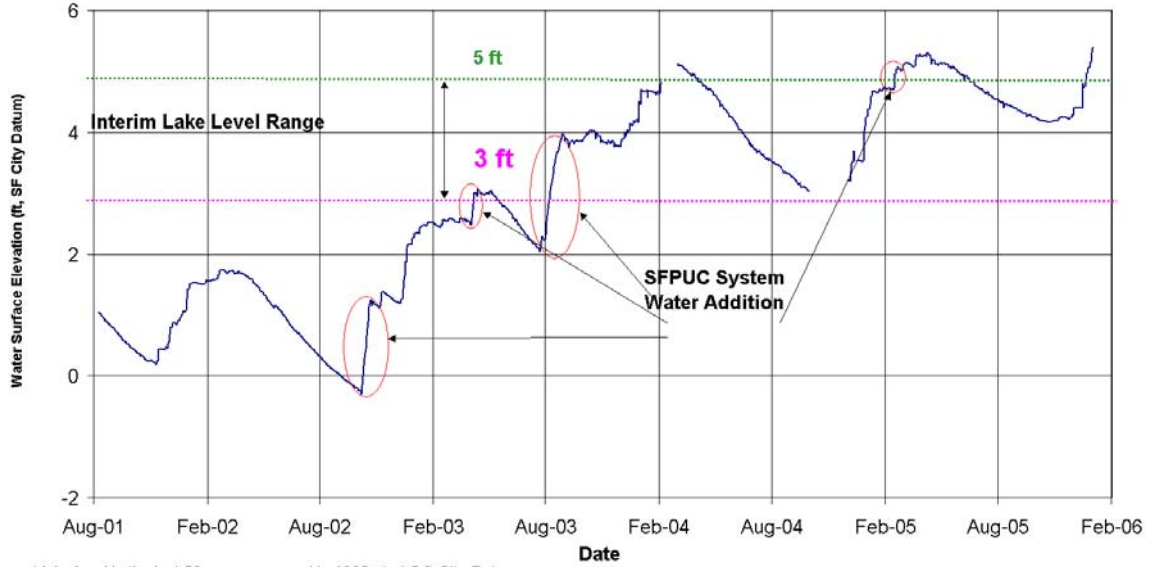
Lake Water Levels: January 2 water levels over the last 4 years are shown below.

Lake Merced Water Levels on January 2nd (2002-2006) SF City Datum	
2006	5.40
2005	4.26
2004	4.51
2003	2.35
2002	1.42

The lake level increased about one- foot due to the heavy rainfall at the end of 2005. For perspective, graphs of historic Lake Merced water levels are shown below.

Water level increases over the last 3-years are a result of a combination of factors including above average precipitation, substantial SFPUC system water additions in 2002 and 2003, limited SFPUC system water additions in 2005, and limited treated stormwater additions in 2004. In addition two regional partnerships have contributed to reducing groundwater pumping near Lake Merced and raising groundwater levels south of the Lake in Daly City, South San Francisco, and San Bruno. Between 2002 and 2005, the cities of Daly City and San Bruno, and CalWater (South San Francisco) conducted a pilot project to reduce groundwater pumping. Between 2002 and 2005 these agency's water resources were supplemented with surface water purchased from the SFPUC, allowing natural recharge to accumulate in the subsurface aquifer. Approximately 13,000 acre-feet (four billion gallons) of water has successfully been stored in the Westside Groundwater Basin as a result of the 2002-2005 joint conjunctive use demonstration project. Daly City continues to participate in the project and the SFPUC is working with San Bruno and CalWater to develop a long-term program in their service area. Closest to Lake Merced, groundwater levels in Daly City recovered by about 40 feet over the three-year period, but they remain about 75 feet below sea level, or about 90 feet below the surface of Lake Merced. Daly City also initiated a recycled water project with three local golf courses around Lake Merced in late 2004 that partially replaced groundwater pumping with recycled water for irrigation. As a result of decreased pumping for irrigation in 2005, groundwater levels beneath Lake Merced did not experience the seasonal fluctuations of about 15 feet that have characterized previous years and they rose about 5 to 8 feet in the deep aquifer beneath the Lake; however, they remain 20 to 30 feet below Lake Merced. The combined benefit of the conjunctive use demonstration and the recycled water irrigation supply has been a generally reduced gradient for groundwater flow from the vicinity of Lake Merced toward the areas of reduced groundwater levels beneath Daly City, South San Francisco, and San Bruno.

**Lake Merced Water Surface Elevation,
South Lake (August 2001 to January 2006)**

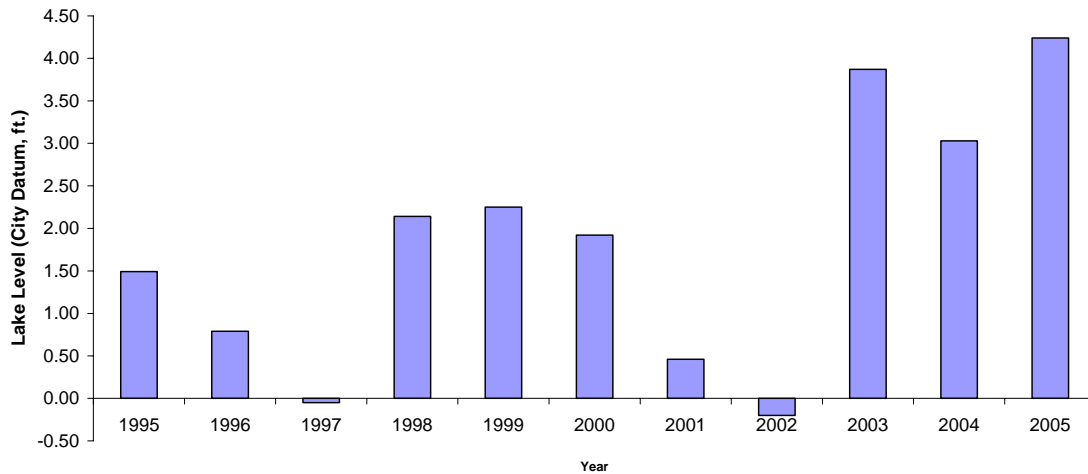


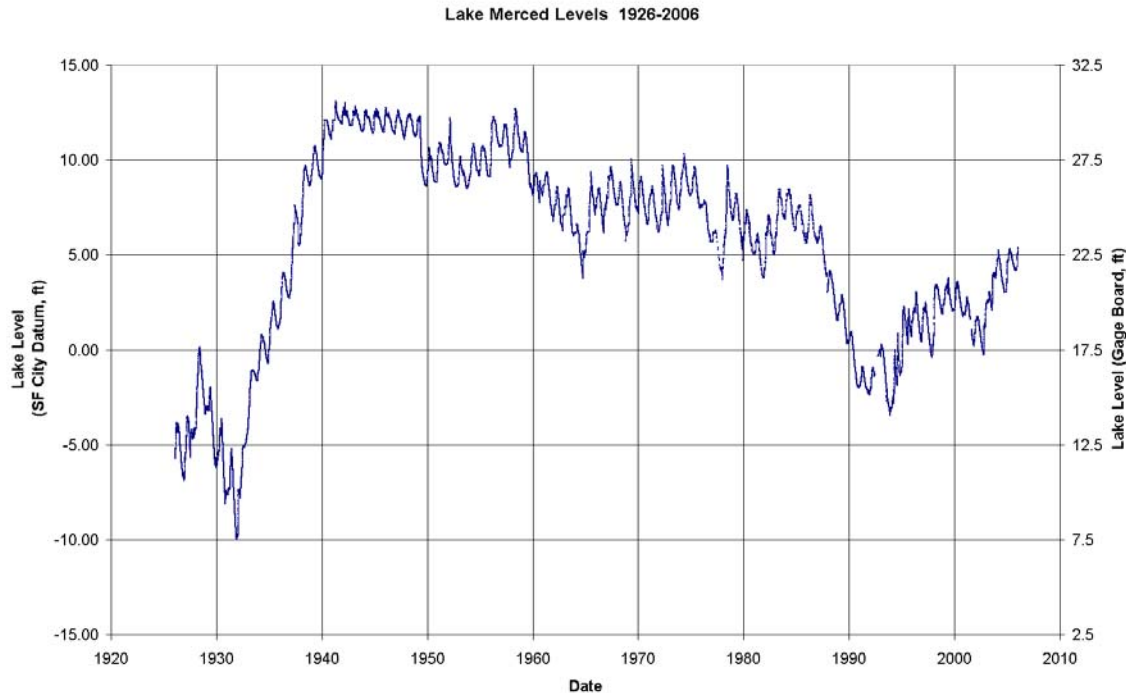
Lowest lake level in the last 50 years occurred in 1992 at -4.5 ft City Datum.
SFPUC studied the impacts and feasibility of 2.5, 4.5, 6.5, and 8.5 ft City Datum average lake levels in the "Lake Merced Initiative to Raise and Maintain Lake Level and Improve Water Quality Task 4 Technical Memorandum" prepared by EDAW, September 2004.

To convert to Sea Level (NGVD 88) add 11.37 ft to City Datum.
To convert to Gauge Board add 17.5 ft to City Datum.

LM Elevations (2001-2006) Updated_01_2006

**South Lake Merced Level on September 30th of Each Year
1995-2005**





SFPUC's Lake Merced projects planned for 2006

- Complete additional field sampling and analysis at Pacific Rod and Gun Club.
- Complete engineering alternatives analysis of supplemental water sources (stormwater, recycled water, groundwater and SFPUC imported surface water).
- Complete Vista Grande watershed plan to reduce flooding and beneficially reuse stormwater in partnership with City of Daly City.
- Continue to discharge treated stormwater to Lake Merced from the Vista Grande Canal on a pilot basis in partnership with the City of Daly City (contingent on Regional Water Quality Control Board approval).
- Continue monitoring program that includes lake and groundwater chemistry/quality, groundwater level, lake water levels, and studying the effects of higher lake levels on shoreline vegetation.
- Initiate public involvement related to selection of long-term lake level range and identification of supplemental water source.
- Support the 2006 Trout Day at Lake Merced (specific date is TBD).

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