VALLECITOS WATER DISTRICT
Water and Wastewater Specialists since 1955

South Lake Reservoir

The South Lake Reservoir (South Lake) was built in 1959 with an earthen dam and was used as an actual water source for San Marcos until November of 1984.

South Lake 1959 South Lake today

South Lake is capable of holding 73 million gallons of water at maximum capacity. The lake is filled by natural runoff from rain, so it is typically less than half full and even less than that during drought years.

What was the lake used for in the past?

The South Lake Reservoir provided drinking water to the Lake San Marcos area, most of downtown San Marcos, and the Coronado Hills area until 1984 when the District's wholesale water provider changed their disinfecting chemicals. The new chemistry had detrimental effects on the lake ecology, so the District stopped using the lake as a drinking water reservoir.

The lake was used solely as an emergency water supply until the early 90's when the State of CA Department of Public Health determined that the water would not meet their newly updated drinking water standards. The District determined that it would not be financially feasible to install the water treatment infrastructure necessary to meet their requirements, so the lake was no longer used as an emergency source.

What is the lake used for today?

The lake is used as a local wildlife habitat and for fire suppression, as firefighting helicopters pull water from the lake during wildfire events. In April of 2023, long-awaited public access became a reality as the City of San Marcos and Vallecitos Water District officials celebrated the grand opening of South Lake Park. The 10-acre site is located at 975 Sunstone Drive and includes a mile-long hiking trail around the lake, idyllic spots for fishing, and a small parking lot.

How is the water quality maintained?

The water quality within South Lake is monitored daily by water distribution operators and the condition of the dam's integrity is recorded weekly. The lake is also an aeration system runs along the bottom of South Lake to prevent the lake from "turning over." The air bubbles rising up through the water keeps the water circulating and prevents thermal layers from developing. Without the air, anaerobic bacteria can flourish on the bottom layer of the lake producing hydrogen sulfide if these layers were allowed to develop. As winter approaches, the top layer cools and can become equal to or colder than the bottom layer. Water is heaviest at around 39 degrees Fahrenheit and will sink once the top layer becomes heavier than the layers below. With the help of some wind, the layers can change places and the lake can "turn over." This can result in many fish deaths and a rotten egg odor that can be smelled by anyone who comes within a mile of the reservoir. The aeration system is run year-round to prevent this from occurring.

What is the ecology of the lake?

South Lake provides water for a thriving ecosystem within and around the facility. The lake itself is home to fresh water fish with aquatic plant life in abundance along the shoreline. The surface of the lake is home to Mud Hens, Mallards, and even Canadian Geese on occasion. The land around the lake is filled with quail, doves, rabbits, squirrels, and coyotes.

The District employees that care for the lake and its surrounding ecosystem strive to keep the habitat intact for generations to come and hope that the community will help preserve this small oasis of nature.