



Spring Valley Lake Association
13325 Spring Valley Parkway
7001 SVL Box
Victorville, CA 92395-5107

History of the Lake

Lake construction began in June 1969. The excavation of the lake basin was one of the largest earth moving projects in the history of the Victor Valley at that time. On January 1, 1970, pumps began to fill the lake with 1,080,000,000 gallons of water. It took slightly over one month for the mile long lake basin to be filled. Spring Valley Lake houses a 200 surface acre man-made lake.

The lake features various different channels/fingers that are laced with lake front homes. The depth of the lake ranges from 9 ft to 22 ft, 6,050 ft long at its longest point and has 7.92 miles of shoreline. At the normal level the Lake holds approximately 1760 acre feet or 573.3 million gallons of water.

LAKE CONSTRUCTION

June, 1969 saw the beginning of what was the biggest earth moving project in the history of the Victor Valley, as the E.L. Yeager Construction Co. began one of their largest projects at that time. Gone were the lush green fields of alfalfa and the pastoral scenes of contented cattle grazing in the tranquil fields alongside the Mojave River. Clouds of dust rose from the struggling blades of the giant earth moving machines as they started to dig the lake and change the contour of the land into what you now see as Spring Valley Lake.

In the seven months it took to finish the lake and profile the rest of the project, 710 pieces of major heavy equipment and 95 skilled operators were used to keep the flow of work going. Three million cubic yards of earth were moved to form the lake and seven million cubic yards were moved in the total project. This was no small task as the lake depth is 15 to 20 feet in spots.

In regard to the fill and removal of the earth around the lake, it might interest the reader to relate to the water outfall drain at the north end of the lake, which not only controls the level of the lake but also delivers the excess and overflow back to the Mojave River and the underground basins.

This underground outfall tunnel, which is approximately 12 square feet, was poured with steel and concrete on level ground and extended from the lake outfall to the Mojave River. As one can see; that area is now covered with streets, curbs and property lots. It does, however, give one a rough idea of the amount of earth fill needed in that area as the outfall tunnel I well below surface now.

An engineering problem of considerable magnitude was the fact that the water table in some areas was five feet higher than the lake bottom. To solve this problem ten dewatering pumps, drawing approximately 20 thousand gallons per minute, were used to lower the water level in the 200 acre excavation area.

It took seven months to build the lake and to seal the complete lake basin. The seal consisted of a mixture of bentonite and clay which was excavated from the old dry lake bed at Dead Man's Point which lies approximately eight miles east of Bear Valley Road. This waterproof compound was applied to the embankment, above and below the waterline, to help guard against wave erosion. The coating was then sprayed with a white material which bleaches off, leaving the earth embankment in its natural color.

As each segment of the lake was completed, small dikes were placed in the lake bottom and filled with two feet of water. A compound, activated by the water, was introduced to insure a seepage free lake bottom.

On January 1, 1970, the same dewatering pump[s] began to fill the lake with one billion, eighty gallons of water. On February 8, 1970 the lake was official filled covering 200 acres and holding 1,720 acre feet of water. It is one mile long and reaches a depth of approximately twenty feet in the middle. There are seven miles of shoreline. The oversized pumps were removed after performing the herculean task as that much power would not be necessary to maintain the proper lake level.



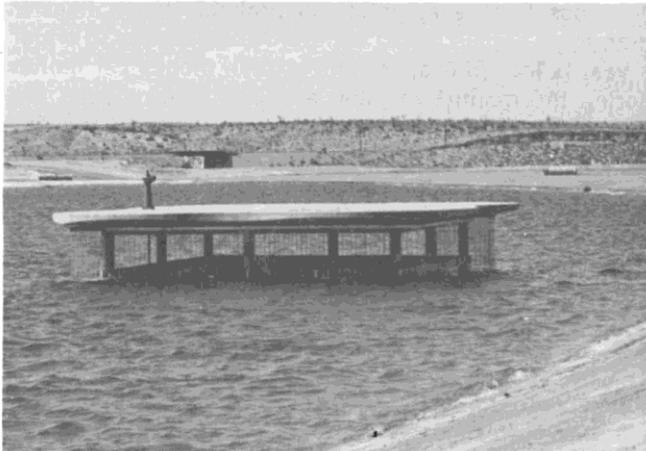
Lake during Construction



Lake about 1970

Boise agreed to maintain the lake for the first five years and, at the end of this period, they would turn it over to the property owners on December 18, 1974. In the first few years, all of the water from the fish hatchery flowed into the sparkling stream that winds through the first nine holes of the gold course to form picturesque lakes and to eventually flow into the main lake. There the excess water pours into the outfall and continues its journey to the Mojave River and to the lakes at the Mojave Narrows Regional Park.

Problems with the lake water soon became evident as the nutrients from the fish hatchery water created excess aquatic weeds, algae growth, with midge insects reaching alarming levels. True, our fish population thrived and gained firth and weight in record time, however, our lake was turning into an Okefenokee Swamp.



Lake is full: February 8, 1970



Dam Completed: 1976 to shut off fish hatchery water

In 1973, Boise engaged Dr. Goldman, a Botanist from the University California at Davis and a Mr. Damavandi, Lake Consultant and architect, to conduct a study of Spring Valley Lake. In the Goldman, Damavandi report, their recommendations were, in a broad sense, the application of chemicals, Diquate and Casoran and weed harvesting. After receiving the report, the practice of using the fish hatchery water for the lakes was discontinued. The water was diverted for use in maintain the gold course, a job for which it is much more suited.

Another recommendation from the report was the installation of twelve new pumps in the quiet ends of each finger of the lake. These wells were to fill a threefold purpose (1) to maintain proper lake level; (2) to agitate and aerate the water, creating a build-up of oxygen during critical summer months; (3) increase circulation of water in the fingers. These wells have been a successful improvement in all but on phase- they do little for the circulation. However, the lake replaces itself about three times a year which has proven adequate.

Unfortunately, the midge larvae thrive in the mud and silt of the lake bottom and during the summer months produce millions of midge daily. They rise to the surface to soar off great clouds and swarms of total aggravation. Even though they don't bite, they produce severe nuisance value and can literally darken a house with their numbers.

Electric "zap" traps were introduces which killed the midge contact. However, midge production far exceeded the slaying power of the traps and the insect also developed immunity to chemicals. Our Association turned to specialists for help- Dr. Lowell Jordan from the University of California at Davis and Dr. Mir Mulla from the University of California at Riverside.

Dr. Mulla has a Ph.D. in Entomology (insect study) and has devoted his entire career to the study of midge and related insects. Dr. Mulla conducted ongoing research project at the Spring Valley Lake, which was supported by the Administration, and made a discovery that would control midge larvae and the general water condition. His theory proved correct. With weed growth permitted on the bottom, the eggs laid by the midge on the surface would be caught by the weeds and not reach the mud bottom where they would hatch. For the summer of 1978, the midge count was down 90% from the previous years and out water was clear. Weeds also aid in the production of dissolved oxygen.

Our community was very fortunate to have on site, Jack Seals, Administrator, and Dr. George Floyd, our first lake resident. These two stalwarts worked shoulder to shoulder with all the consultants on the proper care of the lake and its waters. Through the years, they were constantly running tests and experiments and their studies turned them into experts in their own right. The University of California at Riverside recognizes Spring Valley Lake as the finest man-made lake in California.

Representatives from other lake projects often visit the project seeking advice for their water problems. In fact, a State water control committee has been set up and Dr. George Floyd of Spring Valley Lake was elected President.

The weed Harvester purchased in 1978 at a cost of \$63,000 (all costs) will chop and pick up weeds at a level of five feet below surface, leaving ample room for boating and skiing. Chemicals, of course, are used to keep the swimming areas algae and weed free. The combination of the one wind and weed growth plus the 12 new wells, give the lake water a healthy supply of the one item without which the lake could never survive – dissolved oxygen. Oxygen is king and the nitrates and phosphates are the enemy. The proper balance of oxygen and copper sulphate makes for a healthy lake for both swimmer and fish.



Weed Harvester began operating in 1978

The lake will continue to be the Association's biggest expense. However, the years of water studies should enable the Administration to keep costs at a minimum as time goes on.

It may be interesting to know what effect water temperature has on the fish and what species should be stocked, According to the Goldman report; temperature increased 1 degree to 5 degrees each month from February to July, peaking in July and August with a 25.1 degree increase in water temperature from June. It then decreased slightly in September and dropped rapidly in October and November. July and August reach the upper limits for trout toleration. The higher the water temperature the less oxygen water holds.

Required oxygen (dissolved) concentration varies with fish species, but the lower limit 3.0 to 5.0 PPM. Bass are particularly sensitive to oxygen depletion, needing a minimum concentration of 5.5 PPM. Concentrations lower than this cannot be tolerated for periods longer than several hours. Another interesting note-other tests have been taken to measure and determine if there was any water loss in the lake besides evaporation. These tests, unfortunately, were positive, with no other major loss detected.

Loss from evaporation is probably much heavier than most people would believe. Ninety inches of water a year is lost to evaporation, sixteen inches per month during the months of June and July. That means the loss of two thousand gallons every minute of the day during June and July or an annual loss of 1500 acre feet of water. This puts the water lost to evaporation at many millions of gallons yearly. The lake is everyone's concern as property owners in Spring Valley Lake each own a share.