The City of San Luis Obispo Utilities Department

RESOURCE

MANAGING COMMUNITY RESOURCES FOR THE FUTURE

Water Resource Spotlight: Whale Rock Reservoir

Whale Rock Reservoir is a 38,967 acre-foot reservoir created by the construction of an earthen dam on Old Creek near Cayucos. The Whale Rock dam was designed and constructed by the State Department of Water Resources beginning in October 1958 and completed in April 1961 with a total cost of $7.3 million, with all materials for the project quarried on site.

Spanning 2.4 miles with 9.5 miles of shoreline, the reservoir provides water to the three groups that make up the Whale Rock Commission: The City of San Luis Obispo, Cal Poly State University and California Men's Colony. Whale Rock Reservoir has an operations staff of three employees who maintain thirteen miles of fence line, 1,400 acres of open space, the earthen dam structure, two pump stations and eighteen miles of pipeline.

Whale Rock Reservoir is an important element to the City's water portfolio. The reservoir experiences low levels of evaporation due to its location in a mild coastal climate, making it an ideal location for a surface water reservoir.

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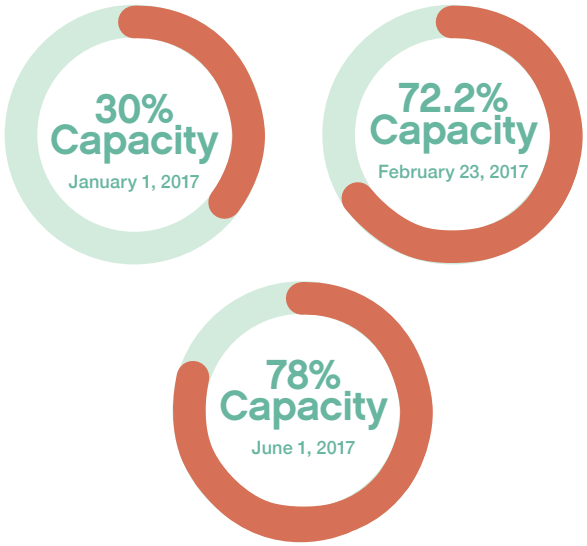
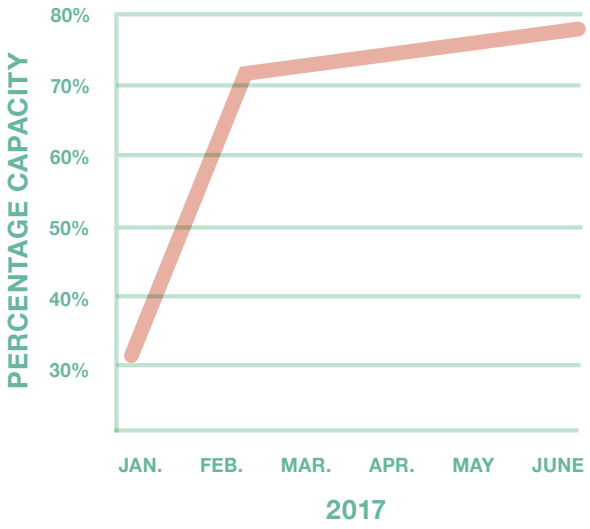
Whale Rock in 2017

At the beginning of 2017, Whale Rock Reservoir held 12,500 acre-feet of water. Due to an abundance of winter rainfall, the reservoir increased its storage to about 31,000 acre-feet from January to May. Since the City shares rights to the reservoir with the other members of the Whale Rock Commission, the City receives 55% of the water that flows into Whale Rock from rainfall. As of June, Whale Rock was 78% full.

Be sure to check out the Fall 2017 Resource for information on the City's other water resources!





Behind the Scenes

GETTING TO KNOW YOUR UTILITIES ENGINEER

TELL US A LITTLE ABOUT YOURSELF.

My name is Miguel Barcenas and I'm a Cal Poly graduate in Civil Engineering with 15 years of experience in municipal infrastructure. I was born in Morelia, Michoacán, Mexico and immigrated to Santa Maria in 1990. My wife and I are excited about being able to raise our two boys in San Luis Obispo.

WHAT ARE SOME PROJECTS THAT YOU'RE WORKING ON?

One really exciting project is the energy efficiency project for the water treatment plant, which will study the feasibility of using high pressures from water lines from reservoirs to generate electricity that can then be used to help offset electrical use at the treatment plant.

WHAT IS THE UTILITIES ENGINEER RESPONSIBLE FOR?

My role in the City is to develop an infrastructure replacement program that will provide sewer and water infrastructure to meet current and future needs of the community. Some of the oldest water and sewer pipes were installed in the early 1900s and it is important to understand why some systems and pipe materials have performed better over time than others.

Water Loss Control

ACCOUNTING FOR EVERY DROP

Even the most efficiently managed water systems across the country experience unavoidable water loss from leaks and water main breaks. Despite efforts to locate and repair leaks immediately, the average water system loses about 10% of its water through system leaks each year.

WATER LOSSES ARE GENERALLY BROKEN UP INTO TWO CATEGORIES:

1

REAL LOSSES: Leaks in distribution system infrastructure, pipeline breaks and water tank overflows.

HOW WE'RE REDUCING REAL LOSSES

- Installing a computer system to monitor water system data such as pressure, flow, and tank levels for early detection of abnormalities in the water distribution system.
- Prioritizing replacement of aging infrastructure to prevent pipe breaks and leaks.
- Performing preventative maintenance on valves, pumps, tanks and other infrastructure that helps distribute water to the community.

2

APPARENT LOSSES: Unauthorized consumption (water theft), metering inaccuracies, and data handling errors.

HOW WE'RE REDUCING APPARENT LOSSES

- Developing a comprehensive meter replacement strategy to ensure water used at homes and businesses is correctly recorded.
- Creating a more comprehensive meter testing and calibration program to ensure water meters are functioning per manufacturers' specifications.
- Performing routine billing audits to reduce data handling errors.

Why Does the City "Flush" Water Mains and Fire Hydrants?

During the recent drought, the City temporarily reduced flushing of water mains to save water. Due to reservoir levels recovering this winter, water main flushing resumed in June and will continue as one of the City's ongoing preventative maintenance programs. Water main flushing is an important routine operation that improves water quality by removing aged water and sediment that slowly build up over time. During this activity, water surges through the water main at higher than normal velocity, cleaning the inside of the main. Any debris is then flushed out of the water system through fire hydrants.

When flushing water mains, you may experience slight fluctuations in water pressure and discolored water. Discolored water can be remedied by opening a hose bib outside of the house and flushing your home's plumbing for a few minutes.

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Private Sewer Lateral Ownership, Maintenance and Inspection

A private sewer lateral is the pipe that connects the plumbing system from a property to the City's wastewater collection system. Many property owners do not know that they are responsible for maintenance, repairs and replacement of the entire pipe length when needed, including the connection point to the City's main.

A lack of private sewer lateral maintenance can lead to backups and can contribute to inflow and infiltration of rainwater during storm events. Inflow and infiltration can lead to sanitary sewer overflows, increased cost for wastewater treatment and higher sewer rates.

A sewer lateral inspection is used to determine the condition of a property's private sewer lateral. Inspections are conducted by a plumber or plumbing contractor by inserting a small video camera into the lateral through a clean out to determine the condition, material and any defects in the pipe. This is similar to how City workers inspect the public sewer mains. These inspections cost about $250 and can typically be done in 30 to 90 minutes. Private sewer lateral inspections are a good idea prior to the purchase of a property, as many older homes and businesses in the City still rely on original sewer laterals that over time have become cracked, disjointed or damaged by earth settlement or tree roots.

More information on sewer laterals is available at slowater.org.

EMERGENCY NUMBERS

Water & Sewer Problems
8 AM to 5 PM
(805) 781-7215

After Hours & Weekends
(805) 781-7312

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