



City of Sierra Madre

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A Letter to all Residents regarding Mandatory Water Conservation:

How did we end up in in this situation?

90 to 95% of Sierra Madre's water supply comes from underground aquifers (East Raymond Basin). Through the summer and fall of 2012 public works staff observed the water level depths receding at each of the City's four wells.

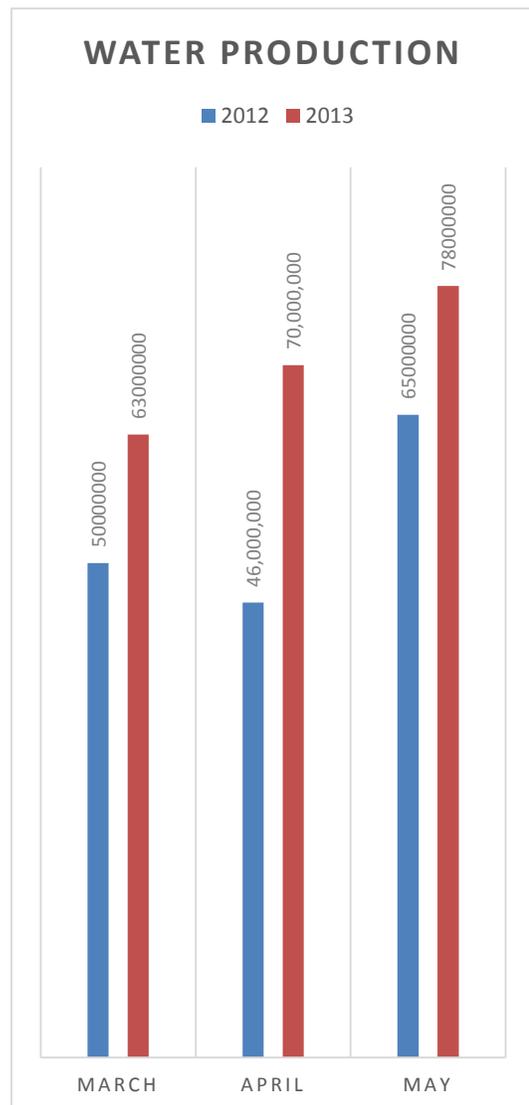
Normally, rainfall throughout the winter months reduces customers' irrigation water use and provides water to recharge the aquifer. Aquifer water levels therefore tend to increase during the winter and spring months. This rainy season only brought 9.72 inches of rainfall, as compared to the City's average rainfall of 19.64 inches. This minimal rainfall, combined with Los Angeles County Public Works diverting water from Santa Anita Dam to locations outside of Sierra Madre, resulted in limited water for groundwater recharge at the City's spreading basins.

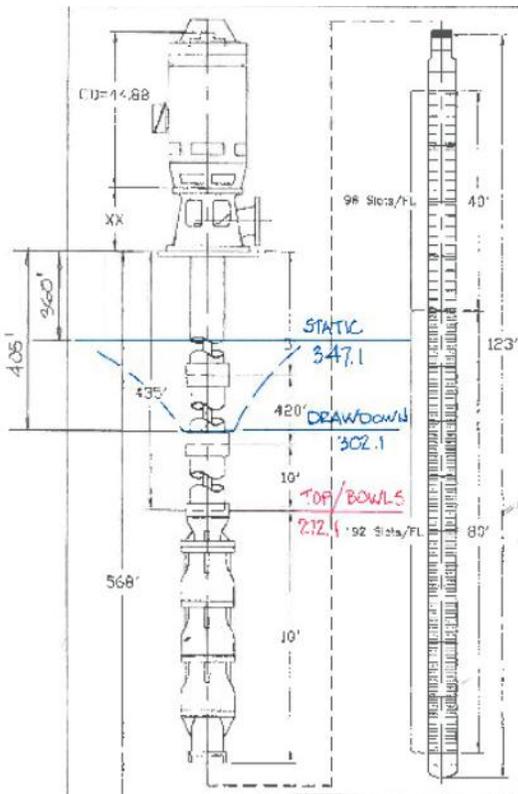
While rainfall is down, and recharge of the aquifer is down, overall water consumption is up from last year. Although the City does not read water meters each day, consumption can be gauged by how much water is pumped to be utilized the following day. During the period April 24 - 30th, the Water Department produced 2,560,000 gallons of water *a day* resulting in a 2 foot drop in water level within local wells. The same period last year showed a production of 1,500,000 gallons a day. During the month of April 2013, the department produced a total of 70,000,000 gallons versus production of 46,000,000 gallons in April 2012. Water levels at Sierra Madre's wells dropped over 30 feet during this 12 month period.

Lastly, the City's ability to pump water from the East Raymond basin has been reduced by the East Raymond Management Board, in an effort to help the aquifer recover.

The drastically low level of available groundwater resulted in mandatory water conservation. The City's Municipal Code provides for the implementation of mandatory water conservation regulations in times of water-related emergencies. A City Council resolution was adopted on May 28, 2013.

It is unknown how long the mandatory conservation measures will remain in place. It may take consecutive years of significant rainfall to get our groundwater levels back to a stable level. However, one thing is certain, a lot depends upon the amount of water we all use.





In this well diagram, the static water surface elevations shown in blue are the elevations of the water when the wells are not in operation. When a well is in operation, it forms a localized inverted cone in the water surface around itself, known as the drawdown. The “bowls” are the submerged pumping mechanism down in the well. As the water surface approaches the top of the bowls (212 feet above sea level), well production stops. The City’s water surface is currently very close at 293 feet above sea level.

What happens if we cannot pump all the water we need?

Due to the limited and decreasing water levels in the East Raymond Basin, and the limitation of Sierra Madre’s adjudicated extraction right, it will likely become necessary to import water from other agencies.

One option would be to access the City’s imported San Gabriel Valley Municipal Water District water in the San Gabriel Main Groundwater Basin via the City of Arcadia.

We have at least a year’s water already purchased from the District and sitting in the Main Basin in storage. In order to receive the water, the City would have to pay watermaster fees and Arcadia’s operational cost in pumping the water to Sierra Madre, which increase the cost of water production by over 50%. However, while Arcadia is currently willing and able to provide this water to Sierra Madre, Arcadia may not be able to provide the water in the future, as their water system capabilities have also been impacted. Additionally, importing the water from Arcadia is more costly as compared to Sierra Madre’s water department pumping the water from the aquifer.

A second option would be to access water via the Metropolitan Water District emergency connection as the current water supply conditions for Sierra Madre would most likely qualify as an emergency. This is the new connection near Grand View Avenue which is scheduled for completion in mid-June. Once the connection is in place, the City can draw water from that source. This source of water is more expensive than the City’s groundwater, and could potentially increase the cost of water production by as much as 374%.

What is the City doing to conserve water?

Residents, businesses, churches, schools, and the City must conserve water, now more than ever. The City is also conserving and has made major adjustments in the irrigation schedules at the City’s parks and other facilities. The City’s number one water use is for irrigation purposes. Community members will see a browning of turf areas, namely in our parks. Just like our customers, the City will also have a conservation target and will pay penalties if consumption is exceeded. The City will continue to make adjustments to reduce irrigation, and wherever possible will shut off irrigation altogether.

Information on conservation recommendations and the City’s latest efforts in the conservation cause can be found at www.cityofsierramadre.com/water-conservation.