



Water Conservation Questions and Answers

This is an update to the July 2013 “Questions and Answers regarding Mandatory Water Conservation”. As conditions change, or as new questions are asked, this fact sheet will be updated. Newly added questions and answers will be at the beginning of the fact sheet, followed by previous questions and answers.

Why did I receive a new Water Conservation Target?

On July 8, 2014, the City Council approved Resolution 14-58, implementing mandatory 30% water conservation, and declaring a moratorium on new water service connections to the City’s water system. The 30% reduction is calculated using 2012/2013 usage as the base year. For additional information regarding the Water Service Moratorium, please see the City’s website, or call City Hall.)

Prior to July 2014, water customers had either a 10% or a 20% water conservation target (depending upon their water usage). Today, all water customers have a 30% conservation target (except for customers that use less than 12 units). The 30% conservation target is “not in addition” to the previous 10% or 20% target. For example, if your previous target was 20% and you were achieving the 20% reduction, you would only need to conserve an additional 10%.

Is Arcadia pumping Sierra Madre’s water?

No, the City of Arcadia is not pumping Sierra Madre’s water. The basin (or underground aquifer) is an adjudicated basin, meaning there is a legal judgment that determines the amount of water that can be pumped by each of the water producers (i.e. each City) in the basin. Currently, Arcadia is pumping their adjudicated amount of water from the Eastern Unit of the Raymond Basin. Arcadia is not pumping Sierra Madre’s adjudicated amount of water.

Since 2013, both Arcadia and Sierra Madre have been limited to pumping a reduced allocation of water from the Eastern Unit of the Raymond Basin. The water level in the Eastern Unit of the Raymond Basin has fallen to below 500 feet above mean sea level; accordingly the Raymond Basin Board has enacted the “500 foot rule” which reduces Sierra Madre’s and Arcadia’s adjudicated ground water extraction. However, due to the geographical location of Sierra Madre’s wells, and low level of the aquifer, Sierra Madre has ceased pumping its allocation. This does not mean that Arcadia is pumping Sierra Madre’s water. Arcadia is only pumping Arcadia’s allocation, while Sierra Madre’s allocation remains in the basin.

Why can Arcadia still pump water from the East Raymond Basin – while Sierra Madre can’t?

There are a number of reasons why Arcadia is still pumping water.

First, Arcadia encompasses a larger geographical area as compared to Sierra Madre, and Arcadia has 15 wells in three different water basins, in addition to having connections to, and being formal members of Upper San Gabriel Water District and Metropolitan Water District to be able to import water. So while their pumping in the Eastern Unit of the Raymond basin has been reduced because of the “500 foot rule”, Arcadia’s other wells in the other aquifers/basins can continue to pump water. (Additionally, as explained in the third reason below, Arcadia’s wells in the Eastern Unit of the Raymond Basin have not “hit bottom”.) Sierra Madre only has 4 wells, and all of the City’s wells are in the Eastern Unit of the Raymond Basin. Sierra Madre does not have wells in other water basins.

Secondly, under the “500 foot” rule, Sierra Madre is limited to pumping 53% of its adjudicated right, or 940 acre feet. On average, Sierra Madre needs 2,500 to 2,800 acre feet annually. It is not possible to pump the 940 acre feet and to import (or use MWD water) for the other 1,860 acre feet, because the two water sources

cannot not be mixed. At this time, Sierra Madre is limited to using one source of water, either water from the aquifer (which is limited to less than what is needed annually) or to importing water (or purchasing water from the Metropolitan Water district via the San Gabriel Valley Municipal Water District.)

The third reason is an oversimplification, but an important factor. An analogy that might help illustrate why Arcadia's wells in the Eastern Unit of the Raymond Basin can still pump water is to imagine a swimming pool, with a shallow end and a deep end. Because of the location of Sierra Madre's wells, toward the northern edge of the aquifer, the City's wells are "in the shallow end" the pool, while Arcadia's wells are "in the deep end" of the pool. When the water level dropped, Sierra Madre wells were not deep enough to continue to operate efficiently, nor could the wells be "made deeper" because Sierra Madre wells are already at bedrock.

Why can't Sierra Madre drill a new well in the southern edge of the East Raymond Basin, where the Basin is "deeper" and pump water to Sierra Madre residents?

While this is a possibility, it is not feasible at this time for the following reasons:

- First, a single well cannot produce all of the water consumed in Sierra Madre on an annual basis.
- Second, is cost – the cost of building a new well, including purchasing land is in the millions of dollars.

Additionally, the goal is to limit pumping as much as possible so that the aquifer can be restored to safe levels, so that full pumping can be safely resumed.

What is the link or connection between mandatory water conservation and the moratorium on water meter hook ups?

Phase III mandatory water conservation requires 30% conservation, and it also requires a moratorium on new or additional water service connections to the City's water system.

I've heard there are new rules regarding when I can water my lawn. Is this because of the Phase III Mandatory Water conservation?

Not directly. The State has declared a drought emergency and passed new regulations prohibiting or modifying certain water related activities. All cities in the State were required to adopt the new regulations. The State restrictions are in addition to and separate from the Mandatory 30% Conservation, but the water use restrictions may assist water customers in meeting the 30% reduction goal.

Many of the restrictions were previously included in Sierra Madre's mandatory water conservation ordinance. One of the new restrictions is:

- Landscape irrigation can only occur two days per week.
 - Even-numbered addresses are limited to landscape irrigation on Mondays and Thursdays.
 - Odd-numbered addresses and addresses ending in fractions, are limited to landscape irrigation on Tuesdays and Fridays.

Violations of the California State water use restrictions may result in administrative citations and fines of up to \$500. For additional information regarding the State Water Use Restrictions, please go to the City's website, or call City Hall.

Why is the Water Department personnel flushing fire hydrants all over town?

The Water Department is required by the State Water Resources Control Board Division of Drinking Water to flush the water system in order to keep the disinfectant residuals consistent and to bring fresh water into areas of the system with less flow and demand. In addition flushing helps remove corrosion products that have a tendency to settle on the bottom of the pipes. These deposits can reduce the carrying capacity of water needed for fire flow and can be a source of color, taste and odor in the water.

Why is the water from the hydrant flushing just allowed to flow down the street?

When flushing the system the technician is required to flush water at high flow rates to accomplish a scouring effect and also to bring fresh water into the pipe. Most water that is flushed above Grandview and East of Baldwin actually reaches the city spreading grounds, which will then percolate into the aquifer.

Why can't the Water Department flush the water into a tank and use the water elsewhere?

This practice is done in some of the areas that require flushing. However, in most cases it does not accomplish the goal of flushing. When flushing the system, the goal is to bring fresh water into dead ends or areas of low flow preventing the stagnation of water. A good flushing program will follow American Water Works Association guidelines. These guidelines are developed to help move fresh water through the distribution system as efficiently as possible while still helping maintain the quality of water in the distribution system. Additionally, the flushing program serves to scour the inside of water mains. In order to accomplish this, water mains must be flushed at a high rate of flow. When flushing into a tanker we are attempting to flush a 6 to 8 inch water mains to flow through a two inch pipe. This practice reduces the scouring effect on mains and increase the time it takes to bring enough fresh water into the area. This method can increase the amount of flushing needed to meet the desired results.

Why is mandatory water conservation necessary?

There are basically five (5) reasons:

- The Weather – Normally, ninety to ninety-five percent of Sierra Madre's water supply comes from underground aquifers (Eastern Unit of the Raymond Basin). During the winter months, aquifer water levels usually rebound somewhat because of rainfall and lower water use during the cooler, rainy season. Unfortunately the city is experiencing an extended period of below average rain fall. For example, during the rainy season of 2012-2013, the city received only 9.72 inches of rainfall, as compared to the city's average of 19.64 inches. For the rainy season of 2013-2014, the city received only 5.9 inches of rain fall.
- Ground Water Levels – Water levels in the Eastern Unit of the Raymond Basin have reached all-time lows, and in October 2013, the City turned-off its wells and began importing water because Sierra Madre could not pump water from each of its four production wells.
- Spreading Water – Sierra Madre operates spreading basins where rainwater and water diverted from city streets, the Santa Anita Dam, and Sierra Madre Dam can flow into the settling basins and percolate into the underground aquifer. Due to much lower than normal rainfall and the construction work at the Santa Anita Dam, much less water has flowed into the settling basins. Normally the city "spreads" 1500 acre feet of water, this year the city has only been able to spread 328 acre feet of water, making this the 5th lowest year on record.
- Increased Consumption – Comparing April 2012 and April 2013, water consumption had increased by more than 50%. There has not been a population increase in Sierra Madre. This means that our existing water customers were using more water.
- Pumping Restrictions – Because of the declining ground water level, the Raymond Basin Management Board has implemented Section VI(3) of the 1984 Raymond Basin Judgment, reducing Sierra Madre's water production right from the East Raymond Groundwater Basin by 47%. This means that Sierra Madre is limited to pumping a little more than half of the amount of water normally pumped from the underground aquifer. Sierra Madre has salvage credits that will allow the city to pump additional water, but with the lack of water for spreading, there are only enough credits to last approximately 2.5 years, if water consumption does not decrease. Furthermore, pumping these "credits" means pumping water from the aquifer, and the goal of conservation is to pump less water from the aquifer. Lastly, aquifer levels had reached levels where the City's wells could not function efficiently.

How does mandatory water conservation work?

Each water customer will have two base periods, a Summer base and a Winter base. The city will calculate your average bi-monthly water consumption for a “Summer base period” and a “Winter base period”. Your “Summer base” and your “Winter base” use each customers’ 2012/2013 water consumption. The City recently imposed Phase III water conservation, which requires a 30% reduction of water use from 2012/2013. (If your Summer or Winter base bi-monthly average consumption, is less than 1200 cubic feet (12 units) of water, you are exempt from mandatory water conservation for that base period.) For reference: one (1) unit of water equals 748 gallons.

Next, your conservation target is compared to your actual bi-monthly water consumption on your water bill. If your consumption is less than your target, you have met and exceeded the required level of conservation. If your consumption exceeds your target, you will not be assessed a penalty at this time but your usage may result in water charges incurred in higher, more expensive tiers. The City Council will be considering imposing penalties in November 2014.

What are the penalties if I don’t conserve? What are the penalties if I exceed my consumption target?

At this time, there is no penalty for exceeding your water conservation target. However, you may incur additional costs for water if your usage puts you in the highest (4th tier) tier. In November 2014, the City Council will be considering whether or not to implement penalties.

How is my “average bi-monthly consumption from the base year” calculated and how is my consumption target calculated?

A sample calculation for a “Winter” base period (for the east side of town) is shown below:

Total Water Consumption for the Base Period:	Base Period bi-monthly average consumption: (The base period consumption is divided by 3 billing cycles)	30% Reduction Goal or “Conservation Target”
150 units (112,200 Gallons) 1 unit (748 gallons)	150 Units / 3 billing cycles = 50 units (37,400 Gallons)	50 units X 70% = 35 Units The Conservation Target is 35 units of water (26,180 gallons)

Note, in the example above, the household’s base period average consumption was 50 units of water, and the household is subject to the 30% conservation goal, so the Conservation Target is 35 units of water (or 26,180 gallons.)

How much am I required to conserve?

Phase III conservation requires a 30% reduction in water use from your 2012/2013 usage. Previously, beginning on July 9, 2013, the City imposed 10% or 20% mandatory conservation (the percentage was based upon the customer’s prior year water usage.) The drought has continued, increasing the need for further conservation. So on July 8, 2014, Phase III water conservation measures were approved.

The City has notified customers of their new water conservation target necessary to achieve 30% conservation. It is important to note that the 30% conservation is not in addition to your previous 10% or 20% target. It is a new revised conservation target number for your property. Most customers will need to save an additional 10% over the conservation target assigned last year. However, if you use less than 1200 (12 units) cubic feet of water, you do not need to conserve any additional water.

If I stay under my allotted maximum unit usage, can I “bank” that for another billing period?

Unfortunately you may not “carry over” units of water that are below your conservation target, to another billing period. The reason is, we need to reduce the total amount of water that is consumed. If

customers were permitted to “carry over” units of water the “carrying-over” could negatively impact the annual, total reduction in water consumption. The goal of mandatory water conservation is to reduce the amount of water being consumed. Providing customers with the ability to “bank” water, would be counterproductive to the goal.

Will I get any a credit if I stay under or use much less than before?

Unfortunately there are no “billing credits” if you stay under your conservation target.

What are the rules for multi-units accounts?

For water customer accounts, billed for multiple dwellings on a single water meter, the number of dwelling units will be divided into the bi-monthly consumption to determine the level of required conservation for that account, and to determine any penalties.

Which months are included in the Winter and Summer base periods?

The chart below provides the details regarding which months are included in the Summer and Winter base periods, based upon your billing cycle.

<u>East of Baldwin Avenue</u>			<u>West of Baldwin Avenue</u>		
<i>Graph Period (1)</i>	<i>Bill Date (2)</i>	<i>Billing Period (3)</i>	<i>Graph Period (1)</i>	<i>Bill Date (2)</i>	<i>Billing Period (3)</i>
WINTER					
<i>February</i>	March	December-February	<i>January</i>	February	November-January
<i>April</i>	May	February-April	<i>March</i>	April	January-March
<i>June</i>	July	April-June	<i>May</i>	June	March-May
SUMMER					
<i>August</i>	September	June-August	<i>July</i>	August	May-July
<i>October</i>	November	August-October	<i>September</i>	October	July-September
<i>December</i>	January	October-December	<i>November</i>	December	September-November

Note: Meters are typically read and processed within the first two weeks of the month.

- (1) *Graph Period* refers to the consumption graph printed in the lower left corner of your utility bill.
- (2) *Bill Date* refers to the month that you normally receive your bill.
- (3) *Billing Period* refers to the months when the consumption occurred.

Another way to explaining the Winter and Summer base periods, is:

- For customers East of Baldwin Avenue, the Winter base period includes consumption reflected on March, May, and July utility bills for calendar year 2013 (for consumption readings, refer to February, April, and June months on your utility bill graph). The Summer base period includes consumption reflected on the September, November, and January utility bills for calendar year 2012 (for consumption readings, refer to August, October, and December months on your utility bill graph).
- For customers West of Baldwin Avenue, the Winter base period includes consumption reflected on February, April and June bills for calendar year 2013 (for consumption readings, refer to January, March and May months on your utility bill. The Summer base period includes consumption reflected on the August, October and December bills for calendar year 2012 (for consumption readings, refer to July, September, and November months on your utility bill).

What if I think my conservation target is incorrect? What if I think my base period bi-monthly average consumption is incorrect?

The Municipal Code section that implements mandatory conservation provides for an appeal process if you think your base allocation, percentage of conservation, or conservation target is incorrect. The appeal form

is available on the City's website under "Water Conservation", or you may contact City hall to request a copy of the appeal form. The appeal process is further described in the City's Municipal Code Section 13.24.170, entitled "Administrative relief".

I recently moved into my house, and my house was vacant for a few months before I moved in; what do I do? I just had twins, so now there are four people living at my house, compared to the base period, when there were only two people living here; what do I do?

Please see the answer to the question above, "What if I think my conservation target is incorrect."

Where can I read the City's Water Conservation Ordinance?

The City's water conservation ordinance is Chapter 13.24 of the City's Municipal Code. The current, updated version of Chapter 13.24 is available on the City's website under "Water Conservation" on the City's homepage.

Where can I read the City's Resolution adopting mandatory water conservation measures?

Resolution 14-58, adopted on July 8, 2014, is available on the City's website. Look for the "Water Conservation" link on the City's homepage.

Will the City's water department "make more money" because of mandatory water conservation?

The objective of mandatory water conservation is to reduce the amount of water that is imported from other agencies. The goal is not to increase water revenues. In fact, if water conservation goals are achieved by all of our customers, water revenues will decrease.

Can't the City simply buy more water from outside sources to allow us to use more water?

The City is currently purchasing water from the City's State Water Contractor, the San Gabriel Valley Municipal Water District. For the first time in the history of the water department, Sierra Madre is completely dependent on imported water. As our water customers are aware, the imported water is different from the water that was pumped by our wells; with a different taste and chemistry, and has produced discoloration problems for many customers. Additionally, the water from outside sources costs roughly 3-times as much as water pumped from the City's own wells.

The City currently has "water credits" that were previously purchased – but based upon the City's average total usage, the credits are anticipated to be exhausted by March 2015. While the City will seek to purchase additional water from the San Gabriel Valley Municipal Water District, via the Metropolitan Water District, the City has no right to any additional allocation of water from the Metropolitan Water District, should that agency's on-hand supply run low. If the Statewide drought continues, future ability to purchase/import water could be impacted. Reducing water use by 30% demonstrates the City's effort to use this new imported source responsibly.

If you have any questions, please visit the City's website or call City Hall at (626) 355-7135, during our business hours, from 11:00 am to 5:30 pm on Monday to Thursday.