

To the Mayor and Members of the City Council

October 20, 2015

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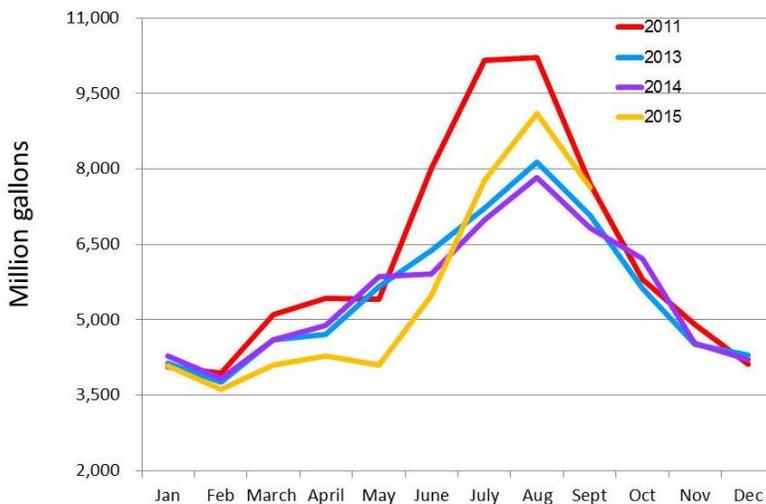


SUBJECT: WATER DEPARTMENT RESPONSE TO HIGH WATER BILL CONCERNS

This Informal Report is being provided to respond to City Council questions concerning calls from citizens related to high water bills and to provide information on how the Water Department has responded to citizen inquiries. This report provides information on water usage compared to previous years and how water consumption has been impacted by weather as well as a summary of the Water Department's actions to respond to citizen calls.

Weather variability has significant impacts on water and wastewater utilities. Factors such as rainfall, extreme temperature variations and evaporative loss impact water use. Although annual weather cycles are generally predictable at a macro level, variations from regular weather patterns do occur and can have a dramatic impact on how customers consume water, especially for irrigation purposes. The graphic below depicts monthly demand for FY2015 compared to two Stage 1 Drought years, 2013 and 2014, and the unrestricted usage from 2011. As can be seen on the graph, 2015 saw the steepest growth in the use of water as compared with previous years. This steep growth is directly attributable to the dramatic increase in rainfall seen in May and June as compared to previous years. When examining overall water consumption, we can see that water use though June this year was actually less than water use the previous three years. Once the rainfall ended and the weather changed to more traditional hot, dry conditions, water use ramped up significantly at a month over month pace rarely seen in previous years. We believe this rapid increase is the largest contributing factor to the "sticker shock" experienced by customers when they received their July and August bills in August and September.

Monthly Water Use



The table below illustrates the percentage difference in system water use on a month to month basis. As can be seen, water use from May to June and June to July this year increased by an average of

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over 37% after very small increases or decreases in the previous months. These increases were seen on the July and August water bills.

	Jan to Feb	Feb to Mar	Mar to Apr	Apr to May	May to June	June to July	Jul to Aug	Aug to Sept
2011	-2.72%	29.52%	6.26%	-0.39%	48.00%	26.87%	0.53%	-24.59%
2013	-8.96%	22.46%	2.25%	20.24%	12.71%	13.19%	12.77%	-13.01%
2014	-10.60%	20.08%	6.21%	20.04%	0.92%	18.09%	12.06%	-12.74%
2015	-11.28%	13.26%	4.02%	-3.91%	33.55%	41.80%	17.04%	-16.03%

We are confident that the dramatic change in weather in the typical weather pattern was the biggest contributor leading to customer calls concerning their water bills, because of the level of response Water Department staff has provided to citizens and the resulting findings. Following the unusual weather patterns experienced from May - August 2015, the Water Department experienced an increase in the number of calls related to increasing water bills. Each call was addressed on an individual basis with field investigations conducted to ensure the meter was functioning accurately and no leaks were present. Additionally, staff performed a 5-year review of previous consumption at each address to identify consumption patterns. Finally, customers were offered water audits to identify any irrigation practice or system issues and to identify other water saving opportunities. These audits are provided to citizens at no charge.

In August and September, the department conducted 4,167 field investigations in response to July and August consumption concerns. Field investigations for the same months during 2013 and 2014 (Stage 1 Drought) averaged 3,000. Over 5,000 investigations were conducted during 2011, which was the hottest, driest summer on record and before water usage was restricted. During August and September, 83 customers took advantage of free irrigation audits. Field investigations identified nine stopped meters and two misread meters. Less than ten leaks were identified. Leak adjustments were provided to customers who repaired leaks, in accordance with department policy. A small number of courtesy adjustments were made where historic consumption data was not available to substantiate historical billing; however, no reading issues were identified at those addresses. Irrigation system reviews identified a number of customers with systems set to water more than the two days per week watering schedule and/or extended run times, which would result in over watering. In addition, customer with pools saw increased usage resulting from evaporation.

Many locations where higher bill concerns were received have 1 ½-inch meters. This size meter puts out a much higher volume of water than the 5/8-inch meter typically used for residential accounts. A 5/8-inch meter has a maximum flow rate of about 25 gallons per minute. The 1 ½-inch meter has a maximum flow rate of about 120 gallons per minute. Sprinkler systems on these larger meters need to run for much shorter times in order to put out the same amount of water as a sprinkler system run

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from a 5/8-inch meter. Recommended adjustments to how to run sprinkler systems have been provided to customers found to have these types of meters. The size of the meter required at any address is based on the number of water-using fixtures and appliances in the home to ensure adequate water pressure.

While the Water Department does its best to evaluate what is happening at each location, the main tool available for analysis is the monthly meter readings of recorded water use. With the exception of meters dedicated for irrigation systems, there is no way for the utility to know how water is being used once it passes through the meter. Field investigations can sometimes identify undetected leaks and irrigation audits can identify problems in irrigation systems and settings but no specific daily or hourly patterns can be detected.

With the initiation of the Advanced Metering Infrastructure (AMI) project previously presented to and approved by the City Council, we will be improving our metering system with technology that will provide staff and customers additional data to monitor water use. Funding from the State Water Implementation and Revenue Fund for Texas will allow us to proceed with the first phase that involves system selection, design and implementation of a pilot program. The second phase is the system-wide implementation. The project is estimated to be completed in approximately five years.

While the Utility will still not know how water is specifically used at the customer location, the new AMI system will provide information on how much water is used hourly. Data will be available on a daily basis versus monthly and will be available for customer access. Customers will be able to set usage levels that trigger alerts, allowing them to alter water usage during the month. This should limit calls for high bill investigations in future years.

Should you have any additional questions please contact Carman, Water Director, at 817-392-8246.

David Cooke
City Manager