



Day Zero, Defeat Day Zero

It seems impossible, in a country whose constitution states that everyone has the right to have access to sufficient water, that the taps could be shut off. But that is the case in Cape Town, South Africa.

South Africa is in the third year of a drought, and Cape Town officials are estimating that they will need to shut off water service to homes and businesses in early April. On that day, now known as Day Zero, water supplies will be deemed dangerously close to being depleted by the city. Access to water will be provided at over 200 collection points in the city, and the four million residents will have to line up to fill their containers with water.

A community response of this proportion will have impacts far beyond long lines at water stations. The economics of the community will suffer significant setbacks, public health will be at risk, wastewater systems will be impacted, and social unrest will be a concern.

Mother Nature is not cooperating—the rains are not coming. Also, bringing on new water supplies seems unlikely in the near term, although efforts are in progress. As so often is the case during droughts, Cape Town’s leaders have turned to the strategy of managing through the drought by trying to control demand and ratcheting up restrictions as the drought becomes more severe. They call this strategy Defeat Day Zero.

As part of the Defeat Day Zero campaign, Cape Town officials have created one of the best public awareness websites I have ever seen. The Cape Town website (<http://coct.co/water-dashboard/>) includes the Day Zero

dashboard, which provides information on alternative water supply projects, water supply levels, trends in supply-level changes, and the percentage of citizens complying with the water use restrictions. There also are links that provide specific actions citizens can take to help.

While the strategy of providing ample information on how Capetonians can do their part to defeat Day Zero is the right one, and is presented well, there is no textbook to explain human nature when it is faced with a natural disaster. At the end of January 2018, 55% of Capetonians were complying with the rationed quantities, while the rest were not. City officials’ proposition is simple: save water and postpone—maybe defeat—Day Zero, or don’t save water and Day Zero comes sooner. So far, despite the positive efforts of many, the latter has been the reality.

Day Zero is set for April 16, but the date is not fixed. It changes along with changing projections of when water levels will be at 13.5%. This is the point at which water supplies are considered dangerously low. To help preserve this diminishing supply, Cape Town water restrictions were tightened on February 1. Residential customers are now required to use no more than 50 L (approximately 13 gal) of water per person per day (Table 1 breaks down this usage into common tasks), commercial customers are required to reduce their usage by 45% compared with predrought conditions in 2015, and agriculture must reduce its consumption by 60%. If Day Zero takes effect, the city will shut off customer taps, and residents will have to go to one of the 200 collection points to fill containers with an allowed 25 L per person per day.

The reality facing Cape Town sounds an alarm for all water professionals. It is a strong reminder of how critical water is to our communities, public health, our safety, and the economy. It sends a clear message of the importance of a diversified supply-and-demand management portfolio. Finally, it beats the drum, yet again, of the importance of investing in water infrastructure well before it is needed.

The human right to have access to sufficient supplies of water, as codified in the South African constitution, is noble; it just might be that “access” and “sufficient” are being redefined at this very moment. Here is hoping Mother Nature provides Capetonians with some relief.

<https://doi.org/10.1002/awwa.1027>

Note: This column was written in early February 2018. At the time of publication, the combination of water restrictions and rainfall pushed the estimate for Day Zero to July.

TABLE 1 Breakdown of water usage at 50 L (13 gal) per person per day

Water Usage	Quantity L
Shower—start-stop with hair washing	10
Pets—small to medium sized	1
Teeth and hands	2
Flushes—one flush	9
Laundry—one machine load/week	10
House cleaning—every two days	5
Cooking—food preparation and cooking	1
Drinking—water, tea, coffee	3
Dish washing	9
Total	50

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