



Guest Column

DESIGN CORNER

Perception vs. Reality Swimming Pools & Water Conservation

BY MICHAEL MOREHART

It is a fact: Californians are living through the most severe three-year drought in the past 1,200 years. Using satellite images of water resources, NASA has confirmed that 11 trillion gallons of water are needed to end the California drought. That amount of water would fill Lake Mead, the United States' largest reservoir, one and a half times. As California's "drought state of emergency" continues, most residents and officials are looking for ways to cut back and conserve as much water as possible. Simple solutions such as taking shorter showers and watering lawns less frequently have been common practice, but Californians are seeking more. One area receiving negative attention in connection to water conservation is the commercial pool industry. We have heard it all before: "Pools waste tons of water." However, these accusations are not factually supported.

Excluding aquatic industry professionals, most of the general public have little, if any, idea how much water is actually consumed by an average-sized competition swimming pool each year. For example, let us consider an outdoor Olympic-sized 50-meter competition pool. An average pool of this size holds approximately 700,000 gallons of water. There are many ways for a pool to lose water, including user splash out, operational and maintenance procedures, etc. For this example, we will concentrate on the three main components of water loss: evaporation, draining and filter backwashing.

Did you know that an Olympic-sized 50-meter pool has a surface area of about 12,300 square feet? According to some estimates, an outdoor swimming pool can lose about one foot of water a month due to evaporation alone. For our example, that is roughly 1.1 million gallons of water loss in a year.

Keeping the pool clean is just as important as making sure it has water; no one wants to swim in dirty water. To



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maintain clean water and adequate levels of filtration, backwashing the pool filters is required on a regular basis. These backwash cycles typically happen once a week and expel about 6,300 gallons every backwash, equating to upwards of 325,000 gallons annually.

We will assume our pool is located outdoors and drained annually for maintenance and cleaning purposes. After evaluating the three major components related to water loss, we can confidently say our annual water loss for the pool will be roughly 2.13 million gallons. According to the USGS that would be enough water for a single person to live on for more than 58 years. While 2.13 million gallons of water is perceived as a horrible amount of water to waste, in reality, it is drastically less than the amount of water used to maintain a soccer field for one year.

According to the Alliance for Water Efficiency, "A typical soccer field requires approximately 50,000 gallons of water per week in summer to maintain the healthy vegetation". Assuming the field is watered regularly throughout the year, 2.6 million gallons of water is lost from maintaining the field. If we put that into perspective, it is almost 500,000 gallons more than what we would have lost from

operating a similar sized pool. That 500,000 gallons is equivalent to more than 3.7 million bottles of water, which when stacked end to end would reach nearly 600 miles!

When evaluating water usage on a smaller scale, the California Urban Water Conservation Council conducted a study in 1999 of 194 homes. The addition of a swimming pool increased water demand between 22 and 25 percent. In comparison, a commonly used automatic sprinkler system for a lawn increased demand between 54 and 60 percent. While this study was strictly residential, it shows that on a small scale water usage levels between a pool and lawn are drastically different. If studies and comparisons of water usage for pools and grass fields were easily accessible and widely available, people would most likely begin to look at pool water usage in a different light.

While pools already use less water than outdoor athletic fields annually, additional efforts to increase water conservation can be performed at aquatic facilities to make this disparity even greater. Pool covers can drastically reduce the effects of evaporation on a pool, which would subsequently reduce most of the annual evaporation loss that pools face. According to Water Smart San Diego County, "pool covers can slow evaporation enough to reduce water loss by nearly 30 percent," with some companies reporting a reduction of up to 90 percent. Reducing water loss by 30 to 90 percent would save anywhere from 330,000 to 990,000 gallons annually in our Olympic-sized 50-meter pool.

There is hope that California's drought will end soon,

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but sources have shown that 44 percent of three-year droughts go on to last four years or longer. It is estimated that 6 to 9 inches of rainfall would be needed statewide to end the drought by April 2015. What does this mean for the commercial pool industry? The push for water conservation technologies and smart pool operating will only get stronger. It is essential that aquatic companies and aquatic industry professionals be prepared with facts regarding annual pool water usage. Additionally, aquatic industry professionals should educate the public with information on current and developing water conservation technologies. With the dispersion of knowledge and the continual increase of aquatic technologies promoting water conservation, people will begin to divert their scrutiny from the pool industry and focus their efforts elsewhere. **RM**

