Chandler · Arizona

Is Your Pool Leaking?

In our dry desert climate, the typical swimming pool can evaporate its equivalent water volume in one year – as much as 20,000 gallons of water. Along with evaporation, you will also have water lost to 'splash out' and possibly in the backwash process. However, it's also estimated that up to 30 percent of all pools have a leak, wasting lots of water unnecessarily.

Since half of the pools out there have a fill valve (automatic pool refiller), leaks often go unnoticed not only occurring in aging pools but in new ones too. Leaks may occur due to a variety of reasons. There may be problems with cracks allowing the water to leak undetected under the pool decking or the pool itself. But more often leaks are a result of plumbing problems or improper seals around pump fittings which are often missed because they only leak when the pump is running. In our intense sun, the ultraviolet (UV) rays will rapidly cause the white PVC pipe to degrade if it's not painted or protected.

To determine if your pool is leaking or if it's just the normal loss due to evaporation, use this neat trick. First, turn off your automatic pool refiller if you have one. Place a bucket of water on the top step of the pool and fill it with water to the pool's water level. You may need to use a rock or brick to hold the bucket down. Mark the water level inside the bucket. Next mark the pool water level on the outside of the bucket. After two or three days, if the water level in the pool is lower than the bucket, there is probably a leak in the pool structure or plumbing system. To further detect the cause, repeat the test with the bucket. First, measure the water loss after 24 – 48 hours with the pump running, then measure the water lost again after 24 – 48 hours with the pump off. If more water is lost when the pump is running, the plumbing is probably the cause.

If you're a do-it-yourselfer, you may be able to identify and repair most leaks. Or, if you need to, call a leak detection service or pool repair company for help. Check with the company to see if they have high-tech leak detection equipment like sonar, infrared thermography and ultrasound. While repair costs can vary greatly depending on the severity of the problem, many repairs run in the range of $200 to $300. Once it's repaired, think about all the water you'll be saving.

Have you wondered just how much water does evaporate each month? Evaporation is affected by weather conditions such as sunlight intensity, air temperature, wind and humidity, but the water temperature is also a factor. Because of that, the water volume, shading, and coloration of the pool interior may affect the amount of water that will evaporate. The chart below provides an estimate of inches of water lost and total gallons lost for a pool with a 400 square foot surface area. These figures are based on average weather conditions that we experience here in the Valley. Note: the table does not consider water gained by rainfall.

Month	Inches of Water Lost	Gallons of Water Lost
January	2.6	653
February	3.5	860
March	5.4	1,346
April	8.1	2,015
May	9.9	2,456
June	10.8	2,690
July	10.4	2,586
August	9.0	2,242
September	7.5	1,872
October	5.9	1,461
November	3.6	895
December	2.4	588
Totals	79 inches or 6.5 ft.	19,665

Water Saving Tips for Swimming Pools

Besides fixing leaks, try these other water saving ideas:

- Use a cover. This will reduce evaporation, increase safety, and keep summer monsoon dirt out of your pool, which will reduce your backwash frequency.
- Consider new **liquid** chemical covers that produce a micro-thin layer on the water's surface.
- Do not overfill to minimize potential loss due to splashing.
- Check pool fill valves (automatic pool refillers). A fill valve can get stuck "on" and run water continuously. Turn them off or have someone check your pool when you are out of town.
- Maintain chemicals properly to reduce the frequency of draining the pool. Pools seldom require draining, so consult a professional before doing so. (See below)
- Reuse pool water if you do need to drain your pool. Do not add new chemicals for up to 72 hours, then use the backwash on salt-tolerant plants (oleanders, Bermuda grass, natal plum, etc.)
- Backwash pool filters only when necessary. Backwashing more frequently wastes water.
- Monitor backwash. You only need to backwash until the water runs clear.
- Use pool companies that can do repairs without draining the pool if they are needed.
- Turn off waterfalls, water slides, or other water features when not in use.
- Use "skimmer socks" and in-line leaf traps to reduce backwashing frequency.
- Periodically check the pool pump plumbing for leaks while the pump is running.

Save water by not draining your pool! Some of the latest technology includes portable water restoration systems that are brought onsite and eliminate the need to drain the pool. Search online for local companies that provide this service such as:

- *Aqualabz (EcoKlear) at 480-894-8164 or visit www.aqualabz.com/ ecoklear*
- *Calsaway at 602-741-2315 or visit www.calsaway.com*

Tips for Draining and Refilling Your Pool

Sometimes, it is necessary to drain your pool. The best place for the water is on your landscape. If this isn't possible, pool water must be drained into the sewer clean out. If your home or property does not have a sewer clean out, you must drain it slowly enough so it remains in your yard. Pools may NOT be drained into the street, alley, or neighboring properties.

- Water used to fill the pool is not free. The charge for the water used is based on consumption, just like the water used to take a shower or to do the dishes. It is billed per thousand gallons based on the current City of Chandler rates. Winter water rates (Oct. 1 – April 30) are less than summer rates.
- In order to judge what the impact to your monthly water bill might be, you can read the water meter before you start filling the pool and read it again when the pool is filled. The difference between these reads can be multiplied by the current water rates to calculate the cost of the water used for budgeting purposes.

If you're still puzzled about your monthly water use and would like a free home water audit, please contact the Water Conservation office at conserve@chandleraz.gov or call 480-782-3583.

Be sure to visit the City of Chandler Water Conservation web pages for free landscape workshops, landscaping tips, rebates, frequently asked questions and more.

www.chandleraz.gov/water

WATER USE IT WISELY

Adapted from original article by the City of Mesa. Reference to commercial companies and products in the document are for the purpose of educating our customers regarding new water-saving technology only and should not be interpreted as an endorsement by the City of Chandler.