



How to Drain a Residential Swimming Pool

By Chris Wiant, MPH, PhD

Summer's nearly over and many backyard swimming pool owners will soon undertake their annual "pool draining ritual." Draining the water helps prevent damage to pools in geographic areas subject to freeze-thaw cycles. This article provides information to help you drain your pool responsibly.

What's the Big Deal?

It's easy enough to fill your pool with water, so why is draining it a big deal? First, all summer your swimming pool water has been treated with chemicals to help keep it safe for you and your family. Chlorine-based sanitizers, for example, probably were used to help destroy waterborne pathogens that can cause diarrhea, swimmer's ear and skin infections. These germs can enter the pool [on the bodies of swimmers](#) and in [animal feces](#). Chlorinated pools also prevent your backyard pool from becoming a mosquito breeding ground; mosquitoes potentially spread diseases like [West Nile virus](#). But the same low levels of chlorine-based sanitizer that help keep pool water safe for your swimmers can be harmful to fish and wildlife.



This storm sewer in Montgomery County, Maryland bears a sign that indicates water flowing into it drains into Rock Creek, a tributary of the Potomac River, and warns residents not to pollute.

The second reason to stop and think before you pull the plug is to consider the sheer volume of water and where it will flow to or pond outside the pool. Will it flow onto your neighbor's property? Will it pond in a depression? Are you planning to drain your pool directly into a sewer? Better find out what type of sewers are nearby. A storm sewer will channel your pool water directly into a natural stream or other body of water with no treatment. Only *sanitary sewers* channel wastewater flow to treatment facilities.

Tips to the Drainers

- Consult your local municipal Department of Environment Quality for specific guidelines or codes. The US Environmental Protection Agency (EPA) [website](#) highlights, for example, Montgomery County, Maryland's Department of Environmental Protection guidelines.
- According to an [Oregon Department of Environmental Quality Fact Sheet](#), if possible, swimming pool water should be sent to a treatment plant via a sanitary sewer. This is most important for large (especially community) pools, and happens automatically when in-ground pools are built with a drain that goes to a sanitary sewer.
- If drainage to a sanitary sewer is not possible, water may be allowed to evaporate to a lower level for the winter, if desired, or disposed of on the ground or used to irrigate your property. Water should be released, however, only after the pool owner stops adding chlorine or other treatment chemicals, or shuts off the chlorination system and holds the water in the pool *for at least one week* while chlorine levels drop.
- When disposing of pool water on the property or using it to irrigate your property, do so in a manner that water will not flow off your property or into a stream or storm sewer.
- When disposing of pool water on your property, do so in a manner that water will not pond for a prolonged period, resulting in nuisances such as odors and insect breeding conditions.
- If discharge to the ground will result in flow to a stream ditch or storm sewer, increase the holding time of water in the pool with no added chlorination to at least two weeks to allow chlorine to dissipate.
- Use a pool test kit to measure the chlorine level of the pool water prior to draining to ensure there is no detectable chlorine level (for example, the [Washington, DC Department of Energy and Environment website indicates](#) less than 0.1 mg/l free chlorine is acceptable). A longer holding period may be necessary if free chlorine levels are above 0.1 mg/l.

Happy Swimming Pool Winterizing!

Chris Wiant, M.P.H., Ph.D., is president and CEO of the Caring for Colorado Foundation. He is also chair of the Water Quality & Health Council.