



Drought-safe practices to implement at your industrial facility to conserve water.

As we begin to enter the end of a hot and dry summer after a relatively dry winter and spring, the drought situation seems to yet again be menacing over the gorgeous California horizon. But with several more long months to go before the next wet season, water conservation practices are becoming a necessary part of life again. So, in this month's edition of **The Rain Events** we will be focusing on drought-proofing your industrial facility – implementing practices and measures to improve water efficiency and conservation.

What is a drought? According to the United States Geological Survey (USGS), “a drought is a period of drier-than-normal conditions that results in water-related problems. When rainfall is less than normal for several weeks, months, or years, the flow of streams and rivers declines, water levels in lakes and reservoirs fall, and the depth to water in wells increases. If dry weather persists and water-supply problems develop, the dry period can become a drought.” Sound familiar? Think Lake Shasta (or should we say Shasta Pond?) and dozens of other lakes and rivers that are just like it. Water levels seem to be alarmingly low right now in these environmental features, which could lead to other problems later in the year—like not

enough water for proper salmon migration in the fall.

Did you know that there are actually three different types of droughts? There is a meteorological drought which constitutes of a lack of precipitation; an agricultural drought which happens due to a lack of soil moisture; and a hydrologic drought - reduced streamflow or groundwater levels. The triple threat.

If you've lived in California any length of time, you've probably seen how the drought has affected the State and its communities and commerce. Things have gotten drier, lakes and rivers are low, snowpack is down, and fire season has seem to become the fifth season of the year—spring, summer, fire, fall, and winter. You've probably all heard water conservation messages, and most likely have even implemented water efficient practices in your life and business, but if everyone is conserving water, doesn't that make you wonder where all the water in California is going? Us too. Out of curiosity, we did some research as to the water percent usage in our State.

After some digging, it turns out that the biggest water usage goes to environmental factors (lakes, rivers, dams, etc.) – roughly accounting for 50% of our state's water resources. But, instead of commerce, industry, businesses, and urban areas

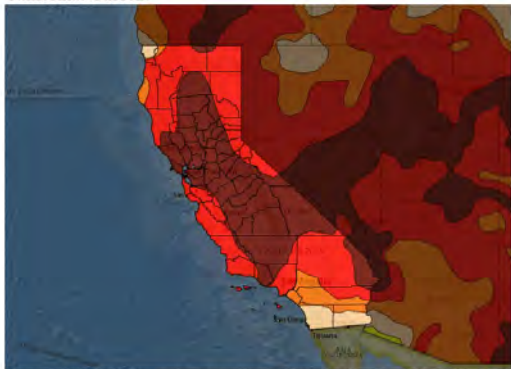
accounting for the next highest water usage, those areas collectively average only around 10% of the state's total water usage. While agriculture consumes about 40% of California's water resources. Understandably, agriculture requires a lot of water to meet the consumer demands, and we acknowledge that a lot of growers have been innovative leaders in water conservation, but while some growers are implementing water conserving irrigation methods, others have yet to convert from old, inefficient irrigation systems and practices (like flooding crop fields or using rain birds).

Some recent news stories and mandates appear to have some changes in the works for agricultural water conservation, which is a good and necessary step. However, in the meantime, we can still do our part to adopt and use water efficiency practices wherever we can. Here are some ideas for how you can incorporate these practices at your industrial facility...

Drought-Approved Water Efficiency Practices for Industrial Facilities:

- ➔ Install water restrictor devices on hoses. These little and inexpensive devices are installed between the hose bibb and the hose to save water usage. Some of these devices even let you choose your own flow rate.
- ➔ Use spring-loaded hose nozzles that shut off automatically when not being held. Don't

Current U.S. Drought Monitor Conditions for California: Current



Base map Sources: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, U.S. Drought Monitor for CA

(D0) Abnormally Dry: 100.0%	(D1) Moderate Drought: 100.0%	(D2) Severe Drought: 95.1%	(D3) Extreme Drought: 88.6%	(D4) Exceptional Drought: 46.5%
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Sources(s): NIDMC, NOAA, USDA Updates Weekly - 07/27/21

Drought.gov

waste water by just letting the hose run when not actively in use (or kinking it while you're walking to wherever you need the hose next – not only does kinking the hose damage the hose integrity, but honestly it doesn't really stop the flow – it just slows it down).

➔ Use pressure washers instead of hoses. Pressure washers use a pump to accelerate the water, supplied from a garden hose, to produce high pressure. Pressure washers generally average around 2-4 gallons per minute (GPM) of water consumption. Compared to a hose which puts out 24 GPM, pressure washers have a much lower GPM and powerful pressure which makes for quick cleaning and less overall water usage.

➔ Retrofit process equipment with low volume water emitters. Sometimes a change is necessary to conserve water. Changing out or retrofitting process equipment with water efficient parts or units can greatly reduce water consumption.

➔ Recycling and reuse of water in cooling towers and processes. "Opportunities for wastewater reuse and recycle in an industrial plant may include: general wastewater recycling; cooling tower blowdown; boiler blowdown; RO reject; once through cooling water; ion exchange rinse waters; collected rain waters. Various methods for recycling or reusing industrial water are available, depending on water quality requirements, space constraints, and budgetary considerations. Benefits can include the reduction of freshwater costs, wastewater flows, and the size of your water footprint. Operational efficiency and sustainability can also be increased along with improved production capacity due to the increase in available clean water."²

➔ Changing out appliances and fixtures for water efficient ones. Toilets, faucets, sprinkler

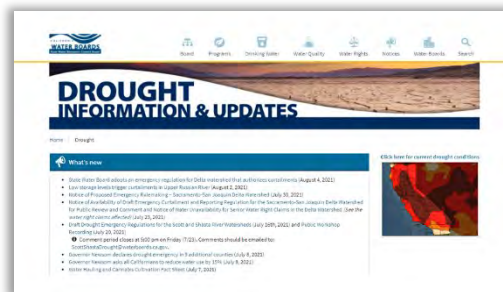
systems, refrigerators, etc. There are a lot of high quality, water conserving options available on the market today.

➔ Operations and Maintenance: Wondering what you can do to reduce water consumption in this department? Here's some recommendations from the EPA:

- **“Detect and repair all leaks.**
- **Use fogging nozzles to cool products.**
- **Adjust overflows from recirculation systems by controlling the rate at which make-up water is added: install float-controlled valve on the make-up line, close filling line during operation, provide surge tanks for each system to avoid overflow.**
- **Turn off all flows during shutdowns.**
- **Use solenoid valves to stop the flow of water when production stops.**
- **Adjust flow in sprays and other lines to meet minimum requirements.”³**

Not only can your facility reduce water consumption by implementing water efficient appliances and practices, but water efficiency can also be implemented in your facility's landscaping. During drought years, keeping landscaping healthy and alive is a challenge. Creating drought-tolerant landscaping is a great option, but at this season of the year, if you were to install low water landscaping, those drought tolerant, low-water consuming plants would need as much water as normal landscaping to help them establish (which defeats the purpose). So, if a complete landscape overhaul is needed, wait until a wetter and cooler time of year.

In the meantime, it's important to learn how to irrigate your landscaping in a water efficient way. Instead of using rain birds or popup spray sprinklers, go for drip systems which can focus where your water goes and avoid water waste. Apply mulch around plants and trees to trap moisture into the soil. Speaking of trees, these require special



Did you know the Water Board has a special webpage just for drought information and updates? Visit it [HERE](#).

attention and watering during dry times of the year—lawn sprinklers don't water them well enough. (see attached resources page for tree water guidelines) On top of choosing water efficient irrigation methods, choose to irrigate your landscaping during times when evaporation won't be at its height. Don't irrigate in the middle of a hot summer afternoon, wait until the cool of the day when your irrigation won't evaporate so quickly. (for more tips on how to take care of landscaping during a drought visit [California Department of Water Resources Water Efficient Landscaping Website](#))

Finally, when taking care of your industrial facility choose Good Housekeeping Practices that don't require water at all! Plus, without using water for cleanup purposes, the less chance you have of a non-storm water discharge occurring. Clean your facility and any spills and leaks with dry sweeping and vacuuming. Look into using hygroscopic dust suppressants for dust control instead of water trucks (if this is applicable to your facility). *And instead of washing your fleet vehicles at your facility, consider taking them to an off-site car wash which captures and recycles the wash water.*

While some of these practices may only make a miniscule dent on the drought condition, every little bit helps. Choosing drought friendly measures at your industrial facility will encourage others to do the same, which in turn will result in more water being conserved and available to those who need it.

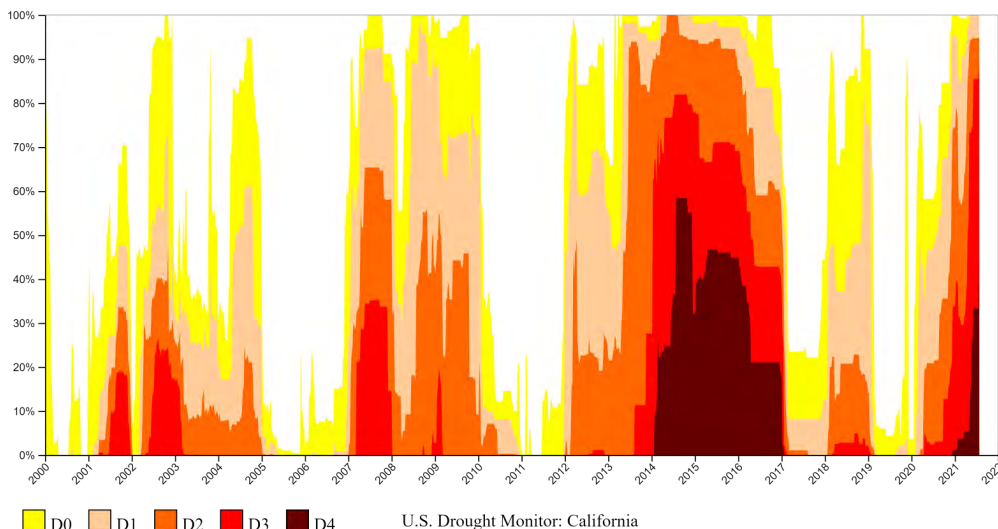
¹ <https://ca.water.usgs.gov/california-drought/what-is-drought.html>
² <https://www.evoqua.com/en/markets/applications/industrial-water-recycle-reuse/>
³ <https://www.epa.gov/sites/default/files/2017-07/documents/ws-ideas-for-industry.pdf>

The Rain Events

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Friends don't let friends miss out on cool things...

www.stormwaterawareness.org

Storm Water Awareness Week

Hey, did you hear that Storm Water Awareness Week is happening again this year? It's September 27 - October 1... You should sign up to be a presenter!

Storm Water Professional

Oh really? Where can I sign up? I think I have a great idea for a workshop...

You can sign up at www.stormwaterawareness.org. Plus, this year you can register your workshop as either virtual or in-person...

That is so awesome. Is there a cost for hosting a workshop? And how long does the workshop have to be?

100% free.
1 hour.

Signing up now....

Read

ADDITIONAL RESOURCES

- [WATER BOARD DROUGHT WEBSITE](#)
- [SAVE OUR WATER WEBSITE \(WATER CONSERVATION LANDSCAPING TIPS, GUIDELINES AND MORE\)](#)
- [UC DAVIS WATER CONSERVATION AND EFFICIENCY](#)
- [CALIFORNIA DEPARTMENT OF WATER RESOURCES WATER USE EFFICIENCY](#)
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- [THE WATER BOARD DROUGHT FACT SHEETS INDOOR & OUTDOOR](#)
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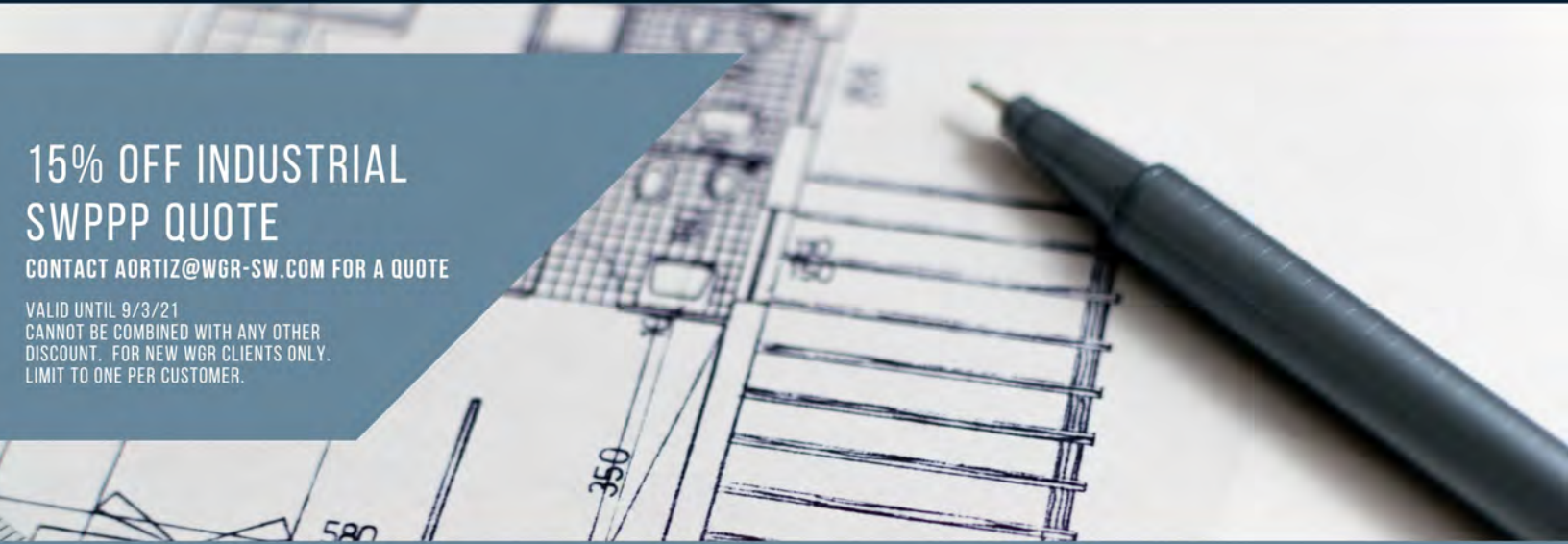
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Storm Water Contest...

Each month, we invite our readers to participate in a contest to test their knowledge of the Industrial General Permit and show their storm water compliance program. We enter all submittals to our monthly newsletter question into a drawing and one person is selected at random to receive a \$25 gift card. Last month's contest question was:

When it comes to spill prevention and response, what are the three things you should be?

Congratulations to Tracy who answered our contest question - *"Be prepared. Be prompt. Be proactive."* Tracy, we hope you enjoy a delicious Starbucks treat or coffee on us!

...This Month's Contest

We want to hear from you! What are your preferred water conservation methods? How are you incorporating water conserving practices into your work and home?

We need industrial storm water sleuths to help us with this month's question. Submit your answers by Friday, September 3rd. Email your answer to jteravskis@wgr-sw.com. One winner will be selected by a random drawing to receive a \$25 gift card to *Amazon*.

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