

Taking care of our trees and shrubs during drought



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UNDERSTANDING OUR CHANGING CLIMATE

“My trees are turning brown. I have been watering them, but they still look poorly. What is going on?” These comments are often heard, especially following our tough start to summer. So, what is happening to some of our favorite trees and shrubs?

For several years, climate scientists have warned that climate change will make itself known through weather extremes. Two weather extremes are expected more than others: heat waves and heavy rainfall. We have seen examples of these extremes throughout the country in recent years. Hotter, drier summers, accompanied by longer wildfire seasons, are becoming our new normal.

In 2014, we had temperature extremes in November that went from 60 degrees to 10 degrees in half a day. Over the next two years, the consequences of this extreme frost event were clearly evident on trees and shrubs throughout our area, with many plants damaged and others killed. In April of 2019, we had the McKay Creek flood, followed by severe flooding in the Umatilla River early in 2020. Last fall, Labor Day fires west of the Cascades set new records for property damage, while burning more than a million acres in Oregon.

We recently survived an unusual heat wave in late June that climate scientists

said would not have been possible if not for human-caused climate change. When Pendleton reached 117 degrees F on June 29, scientists deemed this event to be a one-in-a-thousand-year heat wave. But if we continue emitting greenhouse gases at current rates, then by the 2040s, scientists expect a heat wave of this same magnitude to occur every five to 10 years.

All these events impact our vegetation, fish and wildlife, our economy, our food supply and our health. This year, dryland wheat crops were affected by heat stress, which caused protein levels to rise and the crop's economic value to fall. The June heat wave decimated mid-summer crops of Walla Walla sweet onions. Soft fruits were hit especially hard by drought and heat.

When it comes to our trees and shrubs, the combination of low soil moisture, high temperatures for an extended period and sunscald on needles and leaves have stressed plants to a point where much of our urban landscape could look substantially different over the next few years, just like it did after the 2014 frost event.

In a recent presentation, Erica Fleishman, director of Oregon's Climate Change Research Institute and professor at Oregon State University, said our current drought has been several years in the making. Soil moisture is lower than we have seen in recorded history. She stated we have experienced drought for 14 of the last 20 years, with six of those years in moderate to severe drought. Currently, almost 90% of the West is in some level of drought, with 25% being assigned to what is called exceptional drought.

So, how can you help your stressed trees and shrubs? Experts suggest to deep water through the summer and early fall. Resist

the temptation to trim off dead or dying leaves and limbs until fall. Pruning now can stimulate new, tender growth, which is vulnerable to continued stress throughout the rest of summer. Make sure there is adequate mulch to retain moisture and protect roots from heat. As we approach winter, make sure there is good soil moisture around your favorite plants.

If your favorite tree or shrub does not survive and you want to replace it, the big question is this: Which species will survive for another 30 or 40 years, given the challenges we are seeing today with a changing climate? Look to the future and think about the climate we expect over the next 20 or 30 years. Try to pick a species that has a better chance of dealing with warmer, drier summers and unusual frosts.

Advice on what might successfully survive our changing climate may be found in many places, including Choosing the Right Tree resources from the Arbor Day Foundation website. And, you can review a “Right Tree Right Place” resource developed specifically for Pendleton on the Pendleton Parks and Recreation website.

Our trees and shrubs bring much beauty into our lives, and they nurture our mental well-being by providing an ever-important connection to the natural world. Climate conditions this year dealt us a bad hand. We must accept that we no longer live in the world we once knew.

Climate touches all aspects of our lives, so going forward, we must adapt to a new reality, to a new world.

Jeff Blackwood and Dave Powell each retired from a career with the U.S. Forest Service. Both are members of Eastern Oregon Climate Change Coalition.