Celebrating trees beyond Christmas

By Reese Halter
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It is indeed appropriate that the most recognized and celebrated day of the year – Christmas – the birth of Christ, is also focused around trees.

Trees are truly remarkable.

Urban trees provide a healthy environment for people and animals. Urban trees and forests remove air pollution and smog, and they save communities millions of dollars a year by stabilizing storm-water runoff. Moreover, urban trees reduce energy costs for both heating and cooling by some 40 percent in our homes and buildings.

In the wild, our forests provide massive watersheds throughout western North America that support 55 million people. Those mature subalpine forests help retain snowfall in the winter and slowly release melt-waters in the springtime that recharge reservoirs. Hundreds of billions of tree roots provide the most effective form of water filtration known to humankind.

Wild forests in California's Sierra Nevada supply nearly 90 percent of the fresh water for the most intensive agricultural system on the planet, 38 million people's daily drinking water, the eighth-mightiest industrial economy on the globe and tens of millions of tourists who visit our state each year.

Trees provide scrumptious spices including cinnamon – known to lower our blood sugar.

Trees grow incredible fruits such as apples, with apple skin one of the highest recognized natural fibers that help prevent colon cancer.

In California, trees provide us with lemons, oranges and grapefruits; and we grow more almonds than anywhere else in the world. Almonds are also an excellent source of protein and fiber. And let's not forget that California is also a world leader in avocado production – rich in Omega-3s that help preclude coronary disease.

Trees produce potent medicines. From the South American cinchona trees, the drug quinine was derived to help fight a mosquito-borne disease – malaria. From the Pacific Northwest yew tree came taxol – the billion-dollar blockbuster that offers hope to those afflicted with breast, ovarian and lung cancers, coronary disease and even AIDS. From the Chinese Camptotheca trees, camptothecin is being trialed for breast, prostate, pancreas, ovarian, leukemia, and lymphoma cancers as well as malignant melanoma.

Interestingly, scientists have known for at least the past couple decades that old trees are particularly important. In fact, the largest single stemmed tree – General Sherman, a Sierra Nevada sequoia – holds several astounding records. It has been hit at least three times with more than 100 million volts of electricity or lightning yet it's likely still the fastest-growing tree on the planet, adding the equivalent volume of wood in a tree 1.5 feet thick and 60 feet tall every year. Incidentally, the tannic acid present in its near-fireproof bark is the same chemical used in all fire extinguishers.

The oldest single stemmed tree, a bristlecone pine named Methuselah, lives in east-central California on the White Mountains nearly two miles above sea level in an extreme environment bombarded by ultraviolet radiation, blasted regularly by 80-mph winds and a growing season of about six weeks a year. It's more than 4,500 years old and has witnessed more than 1.6 million sunrises. The tree rings it lays down, almost ever year, are a living window back in time assisting climate scientists as they grapple to comprehend how life is adjusting to climate change.

Some ground-breaking work by Mark Harmon and others found that the conversion of Pacific Northwest old growth to young fast-growing forests did not decrease atmospheric carbon as compared with old-growth forests, which capture and store vast amounts of CO2. It took those low-elevation second-growth forests at least 200 years to accumulate the CO2 storage capacity of the existing living old-growth forests. In other words, old-growth forests are invaluable, massive living carbon warehouses.

Urban trees also play a crucial role in our towns and cities – in one year's time – one mature tree gives off enough oxygen for a family of four while at the same time urban trees help suck the rising greenhouse gas CO2 out of the air.

This Christmas, hopefully you purchased a live tree and celebrated the holidays with friends and family. Once Christmas is over, celebrate the magnificence of your living tree by planting it in your yard.

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