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VENTURA COUNTY STAR

During Christmas, behold our mighty trees

Staff Reports

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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 stormwater runoff.

Moreover, urban trees reduce energy costs for both heating and cooling by as much as 40 percent in our homes, offices, factories and schools. Urban trees give us fresh, healthy air.

In the wild, our forests provide massive watersheds all 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. Trillions of tree roots provide the most effective form of water filtration known to humankind.

Wild forests in California's Sierra Nevada supply almost 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 like bee-pollinated apples with apple skin being one of the highest recognized natural fibers that helps prevent colon cancer.

In California, trees provide us with lemons, oranges and grapefruits, and the state grows more bee-pollinated 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 the 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 giganteum or giant Sequoia — holds several astounding records, including being the world's only tree with a diameter greater than 20 feet at 35 feet off the ground. At 150 feet it's still nearly 16 feet thick. Moreover, the much-visited General Sherman is 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 General Sherman's 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 almost two miles above sea level in an extreme environment bombarded by ultraviolet radiation, blasted regularly by 80-mile-an-hour winds and a growing season of about six weeks a year.

Methuselah is 4,846 years old and it has stood for more than 1.77 million sunrises. The tree rings that are laid down, almost every year, are a living window back in time assisting climate scientists, tree physiologists and conservation biologists as they grapple to comprehend how life is adjusting to global warming.

Some groundbreaking work at Oregon State University by Professor Mark Harmon and many others found that the conversion of Pacific Northwest old growth to young, fast-growing forests did not decrease atmospheric carbon as compared to old growth forests, which capture and store huge 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; these massive living carbon warehouses require laws to spare them from the ax — so that they may benefit all humankind.

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.

Next Christmas, consider buying a live tree as you prepared to celebrate the holidays

with friends and family. Afterward, with your family celebrate the magnificence of your living tree by planting it in the springtime.

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