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Trees and Their Value for Wildlife and People

ROOTS AND SOIL



Week

BALD CYPRESS

Scientific Name: Taxodium distichum

Description: Bald cypresses are deciduous conifers that turn tan, cinnamon, or fiery orange in autumn. They are known for their pneumatophores (or "knees")

— specialized dome-shaped

roots that grow out of the ground. It's thought that pneumatophores transport air to drowned roots underground. The seeds feed birds and squirrels, wood ducks nest in hollow trunks, raptors nest in the treetops, and catfish spawn in submerged hollow logs. Bald cypress swamps slow floodwaters and help prevent erosion.

U.S. Habitat and Range: Bald cypress is a Southeast native that is well-adapted to wet conditions along riverbanks and in swamps, but can also be found in dry soils.

Fun Fact: Although they are conifers, bald cypress are not evergreen. They are called "bald" cypress because they drop their needles every fall.

Conservation Status: Stable. The rot-resistant heartwood of mature trees is valued in construction so many mature cypress forests have been logged.

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LOUISIANA PINE SNAKE

Scientific Name: Pituophis ruthveni

Description: Although they are constrictors, Louisiana pine snakes rarely wrap themselves around prey. Instead, they invade pocket gopher burrows and trap the rodents inside. These black and tan pine

snakes have pointed snouts that allow them to penetrate plugged up gopher mounds, and they spend much of their time feeding and resting in extensive underground tunnel systems.

U.S. Habitat and Range: As their name suggests, Louisiana pine snakes live in pine forests, specifically sandy soil longleaf pine habitat. Longleaf pines create favorable conditions for pocket gophers, which Louisiana pine snakes rely on heavily. These snakes are found only in Louisiana and east Texas.

Fun Fact: Louisiana pine snake eggs are over 5 inches long—the largest of any U.S. snake!

Conservation Status: Louisiana pine snakes are one of the rarest snakes in the U.S. They are threatened by loss of longleaf pine forests.

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MILLIPEDES

Scientific Name: Class Diplopoda

Description: The word "millipede" means "1,000 feet." They don't really have 1,000 legs, but they do have quite a few! Millipedes have a number of segments, and each segment has two sets of legs

attached underneath the body. The numerous sets of legs distinguish them from six-legged insects. They're actually more closely related to lobsters! Most millipedes are harmless decomposers that speed up the decay of dead plant matter like tree leaves in the soil.

U.S. Habitat and Range: Millipedes live in soil with abundant organic matter in all 50 states.

Fun Fact: Some millipedes in California are bioluminescent and glow in the dark!

Conservation Status: There's still much we don't know about millipedes and their conservation. They are sometimes considered pests when they invade homes or gardens. But they do not bite, sting or infest food, fabric or wood, and they are actually beneficial to gardens as they help to enrich the soil by breaking down decaying plant matter.

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PERIODICAL CICADAS

Scientific Name: Magicicada spp.

Description: Periodical cicadas are black-bodied with wide-set red eyes and clear wings with orange veins. They rely on trees throughout their unique and long lifecycles. The larvae, called nymphs, live in

tiny burrows in the soil and get their nutrients from plant roots. They emerge as adults in the spring and summer, which is when you're likely to hear the noisy mating choruses of males. Females deposit their eggs in slender tree branches, where the young hatch and return to the soil to burrow.

U.S. Habitat and Range: Periodical cicadas have highly synchronized lifecycles so that every 13 or 17 years, millions of them emerge from the soil at the same time. Groups of cicadas that emerge in the same year are called "broods." They are found in parts of the eastern and Midwestern U.S.

Fun Fact: Adult cicadas have tons of predators, including humans! Their taste is often compared to canned asparagus.

Conservation Status: The larval stage is vulnerable to pesticides.

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POCKET GOPHERS

Scientific Name: Family Geomyidae

Description: Pocket gophers are
burrowing rodents named for their
fur-lined cheek pouches. They

use these "pockets" to transport plant food that they gather while burrowing underground. Pocket gopher tunnel systems have separate areas for nesting, gathering food, and using the bathroom. When

gathering food, and using the bathroom. When tunneling, pocket gophers leave behind kidney-shaped mounds of dirt near their tunnel entrances that many people find unattractive. However, pocket gophers are important for aerating and fertilizing the soil.

U.S. Habitat and Range: Pocket gophers prefer sandy soil with lots of plant cover to eat. They live primarily in the Plains, the West, and the Southeast.

Fun Fact: Voracious pocket gophers are perhaps the only animals that can limit root growth of widespread quaking aspen trees.

Conservation Status: Most North American pocket gophers are not of conservation concern. The challenge is learning how to live peacefully with them, since they have a habit of digging through manicured lawns!

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QUAKING ASPEN

Scientific Name: Populus tremuloides

Description: Quaking aspens are deciduous trees that are named for their leaves, which quake and tremble in the breeze. Quaking aspens often reproduce asexually by sending up new stems from a single

root system. The combination of all of the stems and their single root system is a structure called a clone. Clones can live for tens of thousands of years! Hoofed mammals, rodents, and birds use quaking aspens for food and cover.

U.S. Habitat and Range: Quaking aspens are the most widely distributed tree species in North America and grow in all parts of the country except the southeast. They withstand a wide range of climatic conditions by growing at lower altitudes in the north and higher altitudes in the south.

Fun Fact: A quaking aspen clone in Utah is the largest known living thing on Earth. The entire organism covers over 100 acres and weighs 6,000 tons!

Conservation Status: Stable. Fire suppression limits growth of aboveground stems.

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SALMON

Scientific Name: Oncorhynchus spp. and Salmo salar

Description: Most salmon are anadromous fish, meaning that they live mainly in the ocean but return to freshwater to spawn. Salmon may not have an obvious relationship

with trees, but the two are actually quite closely linked! Salmon migrate out to sea because food is more abundant there. They return to freshwater to spawn. They then die, their bodies providing extra nutrients that streamside trees absorb through their roots.

U.S. Habitat and Range: Most salmon species are found in the West, but the Atlantic salmon is native to the Northeast.

Fun Fact: Salmon rely on trees as much as trees rely on salmon! Debris from trees provides food for aquatic insects that salmon like to eat. Trees shade the water, which helps salmon eggs survive. When the young salmon emerge, they shelter in pools and eddies formed by fallen logs.

Conservation Status: Climate change and damming of rivers threaten salmon survival.

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TERMITES

Scientific Name: Order Isoptera

Description: Termites are sometimes called "white ants," but they're actually more closely related to cockroaches. Like ants, termites have a social caste system of workers, soldiers, and reproductives.

Termites have gotten a bad reputation for the damage they cause to buildings. However, native species are critical decomposers of plant matter, and ecosystems couldn't function properly without these nutrient recyclers!

U.S. Habitat and Range: Most termites live in tropical environments, but there are several dozen species located throughout the U.S. They occupy diverse habitats beneath the soil, in fallen logs and stumps, and in the wooden structure of buildings.

Fun Fact: Termites can't digest wood on their own. They rely on special protozoa in their guts to break down the tough plant fibers.

Conservation Status: No termite species are federally listed as endangered or threatened. Their natural habitat is lost to development each year, which is why many seek entry into homes.

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TRUFFLES

Scientific Name: Tuber spp.

Description: Truffles are not plants or animals—they're underground mushrooms in the fungi kingdom. Truffles are the spore-bearing parts of the fungus that allow it to reproduce. Without trees, there

would be no truffles! This is because truffles and trees form symbiotic relationships called "mycorrhizae" with each other. Hyphae, which are the root-like parts of the truffle, latch onto plant roots and provide the tree with extra water and nutrients. In turn, the tree supplies the truffle with sugar produced during photosynthesis.

U.S. Habitat and Range: Truffles are found near trees. Some of the most prized species in the U.S. are harvested in the South and the Pacific Northwest.

Fun Fact: Certain species of truffles are not only edible, but considered delicacies that people pay lots of money to taste! The most prized truffles come from Europe.

Conservation Status: Truffles and trees rely heavily on each other, so tree removal also eliminates truffles.

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