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Illustration: Marina Muun

Bird-Friendly Communities

Plant Trees that Turn Your Yard Into a Bird Oasis—and Carbon Sponge

Trees create habitat and store CO2 for decades to come. Just pick carefully.

By Janet Marinelli

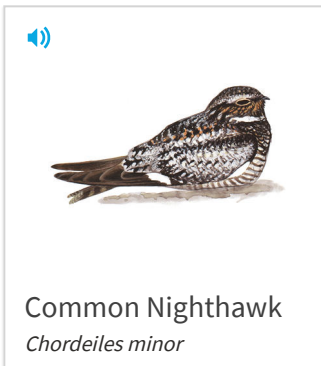
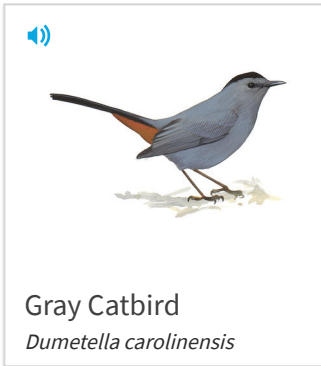
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Editor's note: Want a climate-friendly home? Your yard is a good place to start. This is the fourth in a five-part series of guides on how to [manage your outdoor turf to reduce your carbon footprint](#), all while creating bird-friendly habitat. Read [part one](#), [two](#), [three](#), and [five](#).

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One of the best ways to combat climate change is to fill your garden with as many trees, shrubs, and other plants as possible. Whether a tiny orchid or towering oak, all plants have the amazing ability to remove carbon dioxide from the atmosphere during photosynthesis and store it in their wood, shoots, and roots.

Because they're the giants of the plant kingdom, trees are also powerhouses of carbon storage. In one year, a mature tree can absorb **48 pounds** of CO₂—about the amount emitted by driving 150 miles in a hybrid plug-in car. Collectively, according to the U.S. Forest Service, trees offset **10 to 20 percent** of U.S. emissions from burning [fossil fuels](#) each year. The carbon benefits really begin to add up when you consider that trees fight global warming in other ways. For example, carefully placed trees can reduce the energy required to heat and cool a home by 25 percent (see [tips here](#) on how to place trees). Because they cool the air by casting shade and releasing water vapor when they breathe, trees also alleviate one of the most underestimated health threats of climate change—[heat waves](#).

Of course, while they're helping to reset the earth's thermostat, trees in towns and cities provide critical habitat. These so-called urban forests, the sum total of trees along streets and in parks, commercial landscapes, and residential yards, “support a lot of native [avian] species and even species of conservation concern,” says [Susannah Lerman](#), a U.S. Forest Service wildlife ecologist. New York City's Central Park, for example, is a refuge for several at-risk birds, including resident Common Nighthawks and migrants such as Wilson's Warblers, both species in decline.

The bad news is that, at a time when urban forests are needed most, they are also declining across the country. According to a recent U.S. [Forest Service study](#), nationally, about 36 million trees per year were lost in towns and cities due to pests, diseases, and development from 2009 to 2014.

Typically, only a small percentage of a city’s forest is located on public land, which means home gardeners have a vital role to play in efforts to enhance and maintain urban forests—both for their carbon-trapping and wildlife habitat benefits. “It comes down to some simple decisions,” Lerman says, “such as what kind of tree to plant for birds like chickadees that prefer to forage in neighborhoods with a high percentage of native trees.” The [native species](#), she explains, “support more caterpillars, which are [baby food](#) for birds.”

The following are some tips for choosing and using plants to maximize their climate and habitat benefits.

Regional Needs

For the biggest greenhouse gas reduction and the best wildlife habitat, plant as many trees as appropriate for your region. If you live in an East Coast or Northwest state, where water is plentiful, your landscape can support more trees than if you live in the desert Southwest.

For example, Lerman and her colleagues examined the habitat potential of 10 northeastern cities for nine birds with different habitat needs, from the relatively common American Robin to the declining Wood Thrush. A habitat feature that’s important for most of the birds in this forested region, they found, is the percentage of tree canopy cover in an area—that is, the “footprint” occupied by the combined leaves, branches, and trunks of all standing trees on a particular plot of land. The more canopy cover, the better the habitat was for most native birds.

Resilience and Maintenance

Choose native trees, which provide the best wildlife habitat. For help in selecting the most bird-friendly species, consult Audubon’s [Native Plant Database](#). But even native species need to be matched to the amount of soil moisture and other conditions on your planting site, or they won’t prosper and [reach](#) their full carbon-trapping potential. Because the climate is changing rapidly and trees live a long time, talk to tree experts at a nearby botanical garden or a local arborist to learn which species are best suited to the increased temperatures and other projected changes in your area.

Remember to also look for species that are pest- and disease-resistant and will not require much maintenance once they’re established—fertilizer, pesticides, and

irrigation all have large carbon footprints. Another important hedge: Plant a variety of native trees. A biodiverse landscape is least likely to be wiped out by a disease or pest.

Consider the Lifespan

For maximum carbon storage, plant the biggest trees your property can accommodate, and choose long-lived species because the carbon stored in a tree is sequestered only as long as it is alive. Once a tree dies and begins to decompose, greenhouse gases return to the atmosphere. Some trees can live for hundreds of years, others only two or three decades—a 30-year-old Bradford pear is quite elderly, for example, while a sugar maple of the same age is still a teen.

When individuals die, maintain overall tree biomass by replanting. Extend the climate benefits of deceased trees for decades by finding local woodworkers or artists who can use their wood, rather than allowing it to decompose. (Note: Decomposing [leaves and logs](#) also provide vital habitat for a variety of critters, so if you have a particularly woody yard, feel free to let a tree rot away, too.)

Create Vertical Layers

Finally, don't stop with the tree planting. The typical American garden, which consists of a few shade trees surrounded by lawn, lacks the biomass of the natural landscape it replaced. Remedy this situation by restoring the various vertical layers of the native plant community that once flourished on your property.

Below the tall oaks and other trees in my Shelter Island, New York, garden, for example, I've planted smaller understory trees such as flowering dogwood, as well as native shrubs, wildflowers, and ferns. This has not only restored the land's carbon storage potential but also its habitat suitability for birds, from the flycatchers that hunt high in the trees to the catbirds that nest in the shrubs and the Worm-eating Warblers that forage on the forest floor.

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