Trees for Wildlife

TREE CITY USA® BULLETIN No. 13 Editor: Dr. James R. Fazio • $3.00

A common thread that runs through the fabric of America is our love for wildlife. Whether it is a squirrel in a city park or a hovering marsh hawk hunting the edges of a golf course, wildlife is a valued resource that most Americans want to protect and enjoy. But as our country becomes more urban, sharing it with wildlife takes understanding and planning — and not surprisingly, trees play an important role.

Periodic national surveys by the U.S. Fish and Wildlife Service underscore the importance of watchable wildlife in our communities. This research also points out the tremendous economic impact associated with the nonconsumptive use of this resource. In a single year more than 71 million people 16 years of age and older spend more than $46 billion on equipment and travel for wildlife-watching. Approximately $471 million is spent on identification guides and other books or magazines, $656 million goes for binoculars and spotting scopes, and a whopping $3.3 billion buys bird food!

The importance of wildlife can also be seen in higher property values for homeowners who landscape to attract birds. There are even educational values with evidence showing that children who are fortunate enough to interact with wildlife and its habitat enjoy enhanced physical development and intellectual and social competence.

Wildlife is a barometer that measures the quality of the environment we share. The same unplanned sprawl that eliminates wildlife habitat also victimizes people who lose beauty and diversity that could enrich their lives. The link between trees and other vegetation, wildlife, and people is at the heart of good urban forestry.

With a little planning, the benefits we usually expect from trees can easily be multiplied to also benefit wildlife. For example, when planting for ornamental purposes, by knowing what trees attract birds you might substitute a bird-rich flowering dogwood in place of an eastern redbud that has only limited value for birds. Or, when planning to plant hybrid poplars for quick shade, remember that they are almost devoid of birdlife. Consider interplanting with trees like mountainash or crabapples that are favored by approximately a dozen different bird species. Wild black cherry not only grows quickly, but this bird magnet attracts nearly 50 species!

By understanding a few basic principles and obtaining some of the excellent references on attracting wildlife, you can directly affect the variety and quantity of wildlife around your home and in your community.

ASK NOT ONLY WHAT YOU CAN DO FOR BIRDS, BUT WHAT BIRDS CAN DO FOR YOU!

- A Baltimore oriole can consume 17 hairy caterpillars in a minute.
- A house wren feeds 500 insects to its young every summer afternoon.
- A pair of flickers consider 5,000 ants a mere snack.
- A swallow can devour 1,000 insects every 12 hours.
- A brown thrasher has been known to eat 6,180 insects in one day.
- A pair of scarlet tanagers have been seen eating 630 newly hatched caterpillars of the gypsy moth in 18 minutes.

Source: Courtesy of the Garden Club of America

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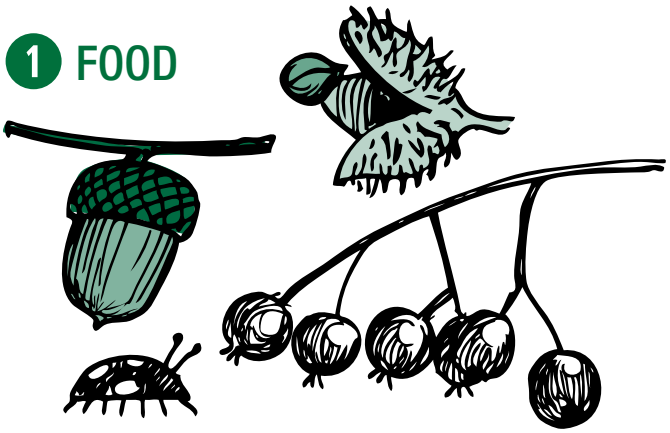
What Wildlife Needs

Urban wildlife includes many species of birds, mammals, reptiles, amphibians, insects, and even fish. However, in this issue we focus primarily on birds. But whatever the animal, whether a song sparrow or a butterfly, the key to its presence is habitat — or the place it lives. Habitat consists of the important elements discussed below, with a rule of thumb being that the greater the variety in these elements, the greater the variety of animals that live there.

1 FOOD



Each tree and shrub species has a different food value and attracts different animals. Some, like cherries, may be relished by as many as 50 species of birds. Others, such as the widely planted forsythia, or the fruitless cultivars that are so popular in urban settings, have little wildlife value. Having a wide variety of trees with high food value is the single best way to increase your pleasure of viewing wildlife — and in the long run it is cheaper than buying birdfeed!

2 COVER

Cover is essential to attract wildlife. It provides protection for breeding, nesting, sleeping, traveling, and hiding from enemies. Ideal cover for a wide range of animals is provided by dense plantings of conifers. In urban settings, even a single spruce tree will help, but all the better if you have space for a group of conifers or a hemlock hedge. Wild tangles, vines, and thorny shrubs in odd corners or narrow spaces such as between a garage and the property line also provide excellent cover. Sometimes cover plantings can serve the double purpose of controlling foot and bike traffic or providing privacy.

SOME EXCELLENT COVER PLANTS:

Cedars/Junipers	Mulberries	Greenbriers
Firs	Pines	Honeysuckles
Hemlock	Spruces	Raspberries
Hollies	Barberries	Viburnums
Live Oaks	Blackberries	Virginia Creeper

CHAMPION WILDLIFE FEEDERS INCLUDE:

Summer Fruit

Cherries	Mulberries	Viburnums
Dogwoods	Plums	Serviceberries

Fall and Winter Fruit: *These are especially important to help wildlife through the worst part of the year and to save early arriving summer birds that get caught in late season snow storms.*

Apples	Eastern Redcedars	Mountainash
Crabapples	Hackberry	Sumacs
Dogwoods	Hawthorns	Viburnums

Seeds

Alders	Firs	Maples
Birches	Hemlocks	Spruces

Mast: *Nuts and acorns.*

Buckeyes	Black Walnut	Hazels
Butternut	Chestnuts	Hickories
		Oaks

Insects: *With the exception of butterflies, attracting insects is usually not one's goal. However, most are more interesting than harmful, and many birds rely almost exclusively on insects for food. Eliminate insects and birdlife is sure to follow.*

Birches	Oaks	Sycamore
Elms	Planetree	Willows
Maples		

A WORD ABOUT PESTICIDES

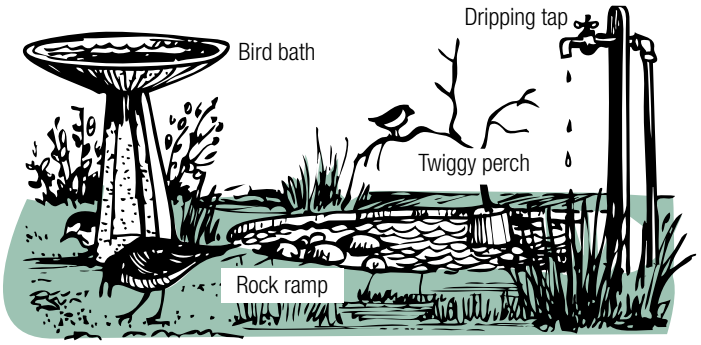
When it is absolutely necessary to use chemicals to control insect pests, remember: (1) Read and follow the label directions or hire a licensed applicator, (2) spot spray rather than apply over a wide area, (3) apply only when the wind is calm, and preferably in the evening when bees and other nectar feeders are less active, (4) use sparingly, and (5) choose a chemical specific to the pest.

For information on safe insecticidal soaps, biological insecticides, and other least-toxic methods of control, visit the Bio-integral Resource Center's website at birc.org/pubrep.htm.

3 WATER

Water is as essential for wildlife as it is for humans. Provide it and you will be rewarded with more birds, butterflies, and other wildlife.

- ☑ Provide water in winter as well as summer. Keep it free of ice with a commercially available bird bath heater, car dipstick heater, or an aquarium heater. Use only safe, outdoor wiring.
- ☑ A small pool can be created by placing a child's plastic swimming tub in a hole so the top is even with ground level. Add a perch over the water and pile some rocks inside to make a ramp for small animals.
- ☑ Wildlife prefer moving water. A dripping hose works well; otherwise, change water regularly.



- ☑ Ponds and enlarged springs or seeps are paradise for wildlife. Even digging a hole where culverts or drain pipes discharge will help attract wildlife.
- ☑ Once you begin providing water, do not let it dry up.

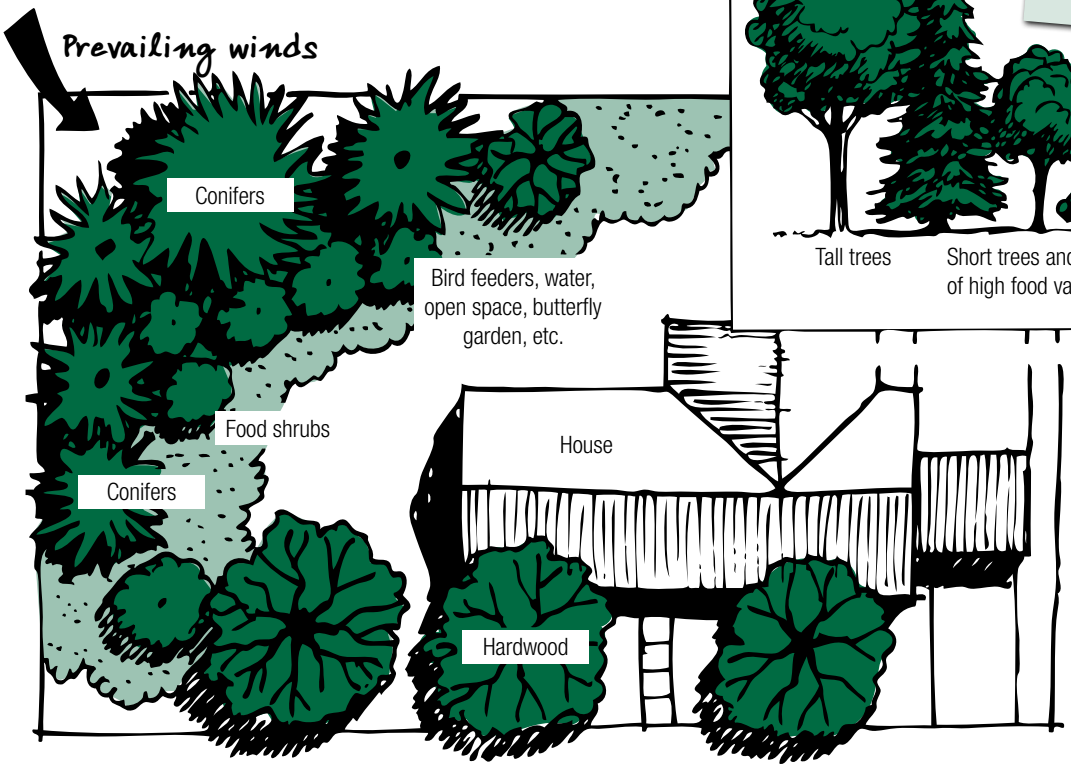
USEFUL VEGETATION PATTERNS TO HELP WILDLIFE

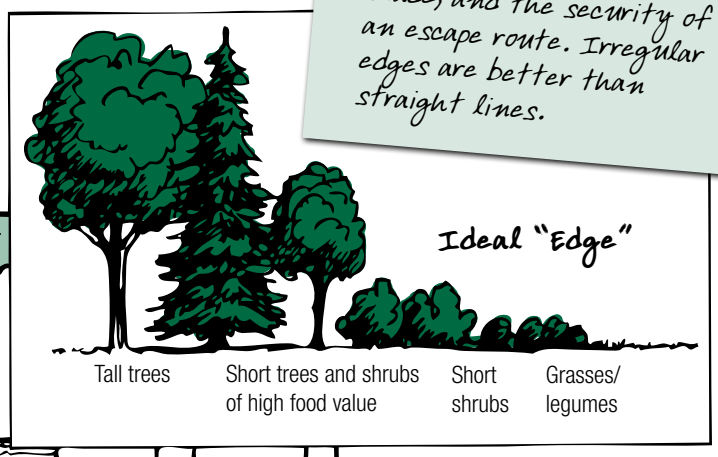
The arrangement of food sources, protective cover, and water will make a big difference in the kinds of wildlife you attract. There are many references that show property plans to help you plant for wildlife. Basic principles include:

① The same arrangement that provides wind protection and shade for humans also is a key to good urban wildlife habitat.

② When possible, provide unbroken travel lanes (rows of trees, hedges, etc.) between wooded areas.

③ **Edge** – where woods or shrubbery meet a lawn or old field – is usually the richest location for wildlife. This is due to the combination of foods available, sun and shade, and the security of an escape route. Irregular edges are better than straight lines.





Note: When planting, always match species to hardiness zone, soil, and other

Old Trees Are Good Trees

That old oak with a hole in its trunk, that fir with a broken top, that unsightly apple tree in a vacant lot — these and other old trees are among wildlife's most valuable assets. Unfortunately, they are also especially vulnerable to the chain saw. The premature removal of old trees is a common mistake that robs our environment by depriving wildlife of a unique source of food and cover. The removal of old trees, including dead ones called snags, actually threatens the existence of some cavity-nesting species of birds and animals. Retention of old snag trees is especially desirable in out-of-the-way places where people are not likely to spend time. They can, however, be a safety hazard area located along paths, over buildings, or near areas people congregate, and must therefore be sacrificed in the name of safety.

IF THEY ARE UNLIKELY TO CAUSE HARM...
LET SOME OLD TREES LIVE

Mature and over-mature trees provide:

- The only suitable habitat for many species of owls, warblers, tree frogs, and other desirable wildlife.
- Larger crops of acorns, seeds, and other wildlife food.
- A community of treetop insects that are essential for many songbirds.
- Cavities for squirrels, including the delightful flying squirrel.
- Insects for food needed by woodpeckers.
- Hollow places for wild honeybee hives.

SAVE AN APPLE TREE

Wild apple trees are a common sight in abandoned farm fields that become part of second home property or housing developments. They are also found in the backyards of older homes and in parks and abandoned lots. According to wildlife biologists, wild apple trees are among the most valuable wildlife food sources.

It is not always necessary to prune a wild apple tree if it is healthy, poses no hazard, and you don't object to its appearance. Yet to save a wild apple tree and extend its years of usefulness, follow these steps as recommended by the New Hampshire Cooperative Extension Service:

STEP 1 Carefully examine. If there is more than one stem, select the largest and most vigorous and remove the smaller competing stems. If the largest stem is badly diseased or broken, remove it and select the next largest, most vigorous stem.

STEP 2 Remove all other shrubs and trees back to the drip line of the apple tree crown. (Do not plow or cultivate or you will destroy precious roots.) If the tree is shaded by large overtopping trees, prune or remove these on at least three sides, especially towards the south. Remove all the dead branches from the apple tree.

There's Life in Dead Trees

"To keep every cog and wheel is the first precaution of intelligent tinkering," warned ecologist Aldo Leopold.

Through the ages, wildlife and plants have developed complex relationships. Often, if you remove one from the environment, the other disappears with it. Dead trees are a good example. As many as 1,200 species of birds, mammals, and amphibians use dead trees for shelter or food. Some, like woodpeckers, are absolutely dependent on these trees. Without a scattering of dead trees, the rich diversity of birdlife in America will become impoverished. At the same time, a natural control of insect populations is removed as we unwittingly eliminate the birds that evolved in relationship with decaying wood.

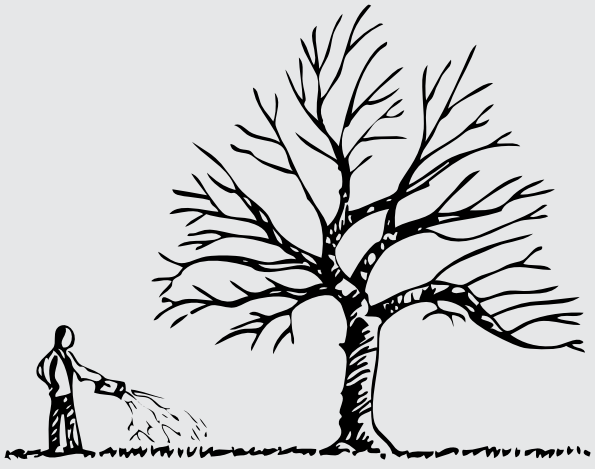
Cited as dangerous or unsightly, and eyed as cheap firewood, dead and dying trees are vanishing from urban, suburban, and rural landscapes. Of course, it is impractical and unwise to let all dead trees remain standing. But when the old tree poses no threat to safety or property, let it stay so that more wildlife can share our world.

Scientists believe that a scattering of dead trees goes beyond aesthetics. Birds that the ghost trees support actually reduce harmful insect populations. According to the Cooperative Extension Service, studies have shown that large populations of forest birds significantly reduce insect and small mammal problems for tree owners. One example is that woodpeckers hold down bark beetles and can control as much as 65 percent of emerging southern pine beetles. Snags also serve as essential perches for birds of prey that patrol for mice and gophers in areas we plant to trees or garden.

SOME WAYS YOU CAN HELP

- Leaving dead trees and broken branches is generally not recommended arboricultural practice. However in safe, out-of-the-way places these can enhance wildlife. In windbreaks, corners of lots and other places away from buildings and pedestrians, let a dead tree stand.
- When cutting firewood, plan ahead to allow drying time for live trees and utilize these from thinnings and improvement cuttings, leaving any snags for wildlife.
- If wind breaks the top of a tree, especially a conifer, do not automatically remove it. The jagged top is an excellent nest site for many species. The tree is probably safer than before the storm, and top branches will soon turn upward, covering the damage.
- Join the U.S. Forest Service and its many private and public partners in their campaign to keep snags part of our environment. Visit **arborday.org/bulletins** for a link to more information about the Animal Inn program.

STEP 3 Remove approximately one-third of the remaining live growth. In so doing, attempt to open up thick clusters of branches. Clip off 1-2 feet from the ends of vigorous side branches or vertical sucker shoots. Do not remove the short spur branches that grow on the sides of larger branches because these are the fruit-bearing branches. If the tree is a young sapling with few side branches, the top can be cut off to encourage branching.



STEP 4 Fertilize the tree by pouring a liquid solution of calcium nitrate or ammonium nitrate fertilizer in a narrow band around the tree directly below the drip line. Fertilizer in this narrow band will spread out and become available to the feeder roots as it seeps into the ground. Use up to 5 pounds of fertilizer for a large tree and up to 3 pounds for a medium-sized tree. For very small trees or saplings, use no more than 1 pound of fertilizer at least 3 feet from the base of the tree.

Wildlife and the Community Forestry Program

One morning as I was walking in what is said to be the West's oldest arboretum, the usual quiet was shattered by the whine of a chain saw. Soon a rotting old tree crashed to earth. Before nightfall its ancient branches were reduced to firewood and neatly stacked to be hauled away. More tree removals followed, then one day a man appeared with a mechanical brush cutter, attacking the underbrush like the Grim Reaper. With this, I contacted the authorities in charge and my protest was countered with, "We're just cleaning it (the arboretum) up a bit," and "you've got to remember, arboretums are for trees."

—Editor

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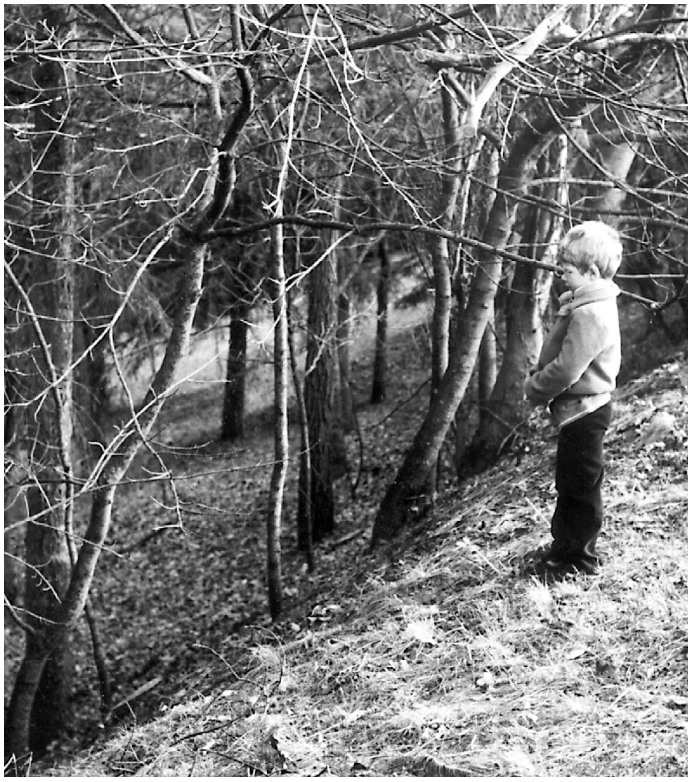
THE CHALLENGE

The problem with providing habitat for wildlife in urban settings is clearly more sociological than biological. From a technical standpoint there is no reason why a great many species of wildlife cannot coexist with people and urban developments. The challenge in urban forestry is to incorporate a multiple-use attitude that guides management on behalf of wildlife as well as vegetation. The benefactors of such a policy will be the citizens we serve — some 135 million Americans who told Census workers that viewing wildlife nonconsumptively is an important part of their lives.

The first step in meeting the challenge is simply to realize that people do want to see certain kinds of wildlife, and that making this possible is a legitimate goal of urban forestry. The second step is to find opportunities to protect or enhance wildlife habitat. Sites are everywhere — parks, golf courses, cemeteries, road rights-of-way, school grounds, maintenance garage/storage areas, and just about anywhere else with trees or an odd corner for a wild tangle. The third step is for urban foresters to routinely incorporate habitat principles and enhancement (such as described on pages 2-3) into all their decisions and practices.



Dense edge where woods adjoin a grassy area provides excellent wildlife cover. An added benefit is that it helps control the drying effects of wind and directs pedestrian use. It also costs little in the way of additional management or investment. Here, at left, snowberries and wild roses provide an excellent edge at a public arboretum. At right, near the same area, over-zealous clearing has rendered the site less useful.

PLANNING FOR WILDLIFE

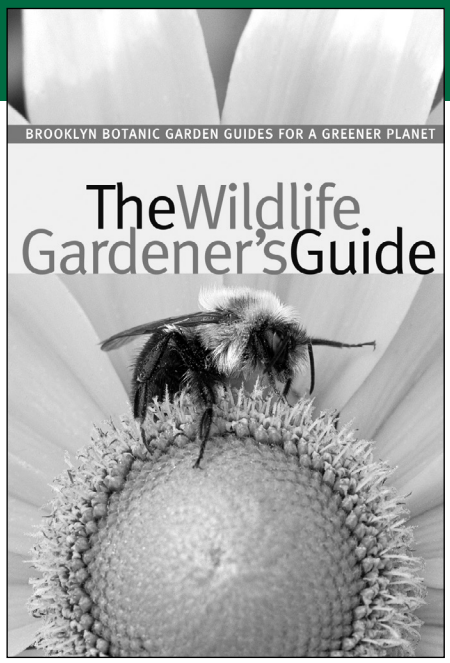
City councils, urban foresters, landscape architects, city engineers, and developers are all wildlife managers. Their every action that affects trees and the landscape also affects what wildlife will be present in a community and in what quantity. To make certain that decisions are made that positively affect wildlife, it is as necessary to plan for urban wildlife habitat as it is for housing sites or utility lines. According to the U.S. Fish and Wildlife Service, the following steps are recommended at the site level and in regional planning. For best results, a team of professionals, including a wildlife biologist, is needed for this activity.

1. Identify and map existing habitats and determine their relative value (including scarcity) to wildlife.
2. Identify important food and water sources.
3. Analyze adjacent land uses.
4. Determine what wildlife species could be present if proper habitat were provided.
5. Identify limiting factors (certain food species, water, cover, space, etc.) for preferred species.
6. Determine how much open space and what patterns of vegetation are necessary for the preferred species.
7. Integrate wildlife considerations into all plans and designs for development, being sure to minimize construction impacts and to retain or provide sufficient open space, food trees and shrubs, or other habitat needs for a variety of desired species.

EASY TECHNIQUES FOR ENHANCING WILDLIFE HABITAT

Better habitat for wildlife can easily be incorporated into the everyday business of managing a community's street vegetation, arboretum, and park system. Here are some ideas:

- Manage woodland edges by planting or favoring food and cover shrubs, vines, and small trees.
- Curve or otherwise create irregular woodland edges.
- Build occasional brush piles and rock piles.
- Leave dead and fallen trees where they pose little threat to human safety.
- Encourage moderate to dense understory.
- Remember wildlife when approving development or street tree plans.
- Leave undisturbed vegetation adjacent to some sections of stream or lakeshore.
- Protect marshes and other wetlands.
- Create greenway between parks or wooded areas.
- Control free-roaming dogs and cats.
- Protect diversity and leave pockets of natural vegetation.
- Use wildlife biologists in all planning projects.
- Provide literature to help homeowners, developers, park managers, teachers, and others landscape for wildlife.



Many landowners want to attract wildlife but need expert advice about using trees and other vegetation to advantage. Fortunately, help is available in hundreds of books and other literature. This one is available from the Brooklyn Botanic Garden. For a selection of other helpful sources, visit **arborday.org/bulletins**.

TWO WAYS TO GAIN COMMUNITY RECOGNITION

1 TREE CITY USA GROWTH AWARD

Improving wildlife habitat gains points toward the Tree City USA Growth Award. Practices such as setting aside "no mowing" zones, planting trees and shrubs to benefit wildlife, protecting riparian zones, adding water impoundments, and providing nest boxes are some of the ways to qualify for the Growth Award. For more information, contact your state forester's office or the Arbor Day Foundation.

2 BACKYARD WILDLIFE HABITAT CERTIFICATE

Thousands of sites ranging from farmland to apartment balconies have been certified by the National Wildlife Federation since it began the Backyard Wildlife Habitat program in 1973. By following guidelines provided in an information kit and creating habitat for wildlife around your home, business, or school, you receive a frameable certificate and recognition for your participation. For information, contact the National Wildlife Federation or visit its Garden for Wildlife website at nwf.org/Garden-for-Wildlife.

A Consultant Offers Advice

Consulting arborist Brian Gilles of Kirkland, Washington, takes wildlife and its habitat very seriously. Not only does his firm address the whole range of traditional urban forestry issues from tree planting to risk assessment, he has spent much of his career bringing basic wildlife techniques into metropolitan settings. Brian is quick to point out that in his state alone, there are 640 kinds of birds and mammals and 84 percent of them are considered non-game species. He also notes that over half of these species need snags, logs, or woody debris at one or more critical stages in their life cycle.

Brian's search of the literature has found that the primary causes of wildlife loss in urban areas are (1) loss of habitat, including cavities in dead trees and old logs and woody debris on the ground, and (2) predation by cats and dogs. While there is not much we can do about the latter, Brian offers these suggestions:

- ☑ Look into state and national "Backyard Wildlife Habitat" programs for guidance.
- ☑ Go beyond providing nest boxes and feeders. Consider leaving dead trees (where safe), making brush and rock piles where space allows, and providing water sources such as ponds (with logs or brush piles along part of the shore).
- ☑ Leave downed logs on the ground when space allows.
- ☑ Plant appropriate trees and create wildlife habitat in utility corridors.
- ☑ Teach park maintenance workers that wildlife habitat is part of their responsibility.
- ☑ Consider wildlife value as a selection criterion when selecting street trees and shrubs.

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PHOTOS COURTESY OF: Mike Hopiak / Cornell Lab of Ornithology (p. 2); James R. Fazio (p.8, lower right)

Left: When space allows, leave downed tree trunks on the ground. These absorb water and create microclimates that support amphibians and small mammals.

Right: Bats make up part of the fascinating web of life found even in urban areas. In some areas of the country, bat populations have been seriously reduced in recent years by white-nose syndrome. To help keep these insect-eating creations part of our environment in both urban and rural settings, bat houses such as this one can provide shelter as their natural habitat becomes less abundant.

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