

# Expanding the benefits of trees to include their value to birds

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**T**HE EVOLUTION OF TODAY'S birds began more than 65 million year ago, following the abrupt die-off of nearly all of the dinosaurs. A small group including a small winged form survived, and through adaptive radiation (speciation) has given rise to an amazing diversity of birds. They now occupy nearly every habitat across the planet. In most terrestrial habitats, birds have developed mutually beneficial associations with trees. Because arboricultural practices can adversely affect birds, I want to outline some of ways to avoid harming them, and practical measures to maintain habitat values for them. My goal here is to provide the information you'll need to engage your clients when birds or critical bird habitat is an issue, so they can make an informed decision. Though birds are my general focus here, it's important to consider that trees also benefit other wildlife in similar ways.

Birds can have simple or complex associations with trees. Some bird-tree linkages have evolved over millions of years, others more recently.

Due to exponential growth in human populations, and the associated loss of critical habitat, as well as dramatic changes in climate, bird populations are declining, and many species are expected to become extinct. The reason is that not all birds can modify their diets or behaviors, or relocate to a more favorable habitat in time to survive. Compounding this problem is the fact that habitat protection measures at the state and federal levels have remained virtually unchanged, and more recently have been weakened. The decline of birds and biodiversity overall coupled with loss of ecosystem services have largely gone unnoticed by most people.

Insect predation is the greatest ecological contribution of birds globally. Over 60% percent of birds are predominantly insectivorous, and most eat insects at least opportunistically (Capinera (2010). Research has illustrated that birds suppress the population of many invertebrates. Their direct affect, though, is hard to quantify. We know that woodpeckers for example, consume thousands of insects per day, and possibly extend the life of some infested trees. Today's seed and fruit-eating birds help to disperse over 60,000 plant species, and their biology impacts the evolution of trees and plant communities. (Figs. 1,2, 3) It's been

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Figure 1. Clark's Nutcracker

Photo: Mike Burns



Figure 2. California Scrub-Jay

Photo: Becky Matsubara



Figure 3. Oak Titmouse

Photo: Peggy Honda



estimated that there are about 1800 bird species worldwide that are important in pollinating plants—mostly hummingbirds. (Sekercioglu, Cagan et al. (2016) *Why Birds Matter*, Bird Ecosystem Services Promote Biodiversity and Support Human Well-Being, The University of Chicago Press, Chicago and London, pp 341-352 in *Why Birds Matter*, Edited by Cagan H. Sekercioglu, Daniel G. Wenny and Christopher J. Whelan.

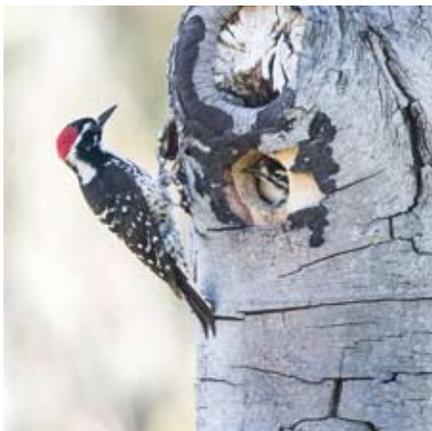
But here's the larger point. What sets birds apart is that they inhabit nearly every ecosystem around the globe. They have a high metabolic rate, requiring they consume lots of food, such as insects, or fruit containing seeds that are then widely dispersed. Furthermore, many species migrate long distances to feed or breed, and rely on many different food sources. Of particular significance is that their numbers, diversity, relative health, and movements are indicators of environmental quality. They are, if you will, 'the canary in the coal mine'. Something we should take to heart. This is one reason why we should emphasize their immense environmental value when discussing the benefits of trees. Let's consider what we can do.

#### Consider time of year and habitat quality when managing trees

It's important to be familiar with federal and state bird protection

**Figure 4. Nuttall's nesting.**

*Photo: Peggy Honda*



regulations. They protect native birds especially during the breeding season; however, the nests and habitat of endangered birds is protected year-round. While breeding times vary by region and species, February through August is considered the prime period. Naturally, this is when the impact of tree care can be greatest. The risk of harm to nesting birds also increases with the quality of the habitat. Riparian and wildland areas, parks and neighborhoods with many mature trees attract more birds than city centers, sports fields or largely hardscape areas. Before pruning or removing a tree, especially in high habitat areas during the breeding season, a careful pre-work inspection for nests is advised. Let's talk more about that.

#### Invite your clients on a pre-work inspection

Doing so can position you to reveal your wildlife awareness, talk about bird regulations, and engage their interest in supporting birds. Some nests, especially those of hummingbirds, are hard to spot, so it's best to use binoculars. Look for bird droppings in trees. Listen for the incessant, high-pitched sound of baby birds, and look for adult birds watching nearby or acting and sounding agitated. Nests can be found almost anywhere and at any time. (Figs. 4, 5) In cases where nests with eggs or

**Figure 5. Screech Owl nesting.**

*Photo: Peggy Honda*



**Figure 6. Pre-work inspection.**

*Photo: West Coast Arborists*

young are found, it is recommended that you delay work in the tree until you can determine that the birds have fledged. (Fig. 6) Explain to clients that pruning near an active nest can keep parents from incubating eggs, feeding young, and cause immature birds to bolt from the nest before they are ready to fly. Removing a lot of foliage around the nest also exposes birds to the elements and to predators. Incidentally, a tree with a very open canopy is not usually ideal for nesting birds. This is also a good opportunity to ask your clients if they would like to manage pruning on site to increase wildlife habitat. Mention that even the simple act of leaving a large empty nest in place would be beneficial because these are often reused by birds, and in short supply for owls which need them, but are unable to construct them.

When safety or emergency circumstances require work to proceed, or when working in protected habitat, a bird biologist with a valid permit from the US Fish and Wildlife



**Figure 7. Dead oak for ACWO.**  
*Photo: Gillian Martin*

Service should be consulted to provide guidance about possible buffers, or to legally transport eggs or nests to a wildlife rehabilitation center. When nests are destroyed and birds are killed, the cost of poor public relations can be high. One of the reasons is that the loss of an active nest represents the loss of all future generations those birds might have produced.

**Transform your client's view of a dead tree**

If your client is considering removing a sizable dead tree (at least 12 inches in diameter (dbh) that can be safely retained and is in a location adjacent to an area that can meet the basic needs of birds, the following information will be helpful.

Standing snags and dead limbs are invaluable as habitat to many organisms. (Fig. 7) About 40 species of tree hole-nesting birds inhabit the WCISA region. Twenty of them are woodpeckers; the remainder are ducks, falcons, and songbirds. Na-

tionally, a total of about 80 species nest in tree cavities, though not all are obligate hole-nesters. All woodpeckers (primary cavity-nesters) excavate their own cavities. The remainder (secondary cavity-nesters) rely heavily on the woodpeckers' abandoned cavities for nesting. However, some species occupy cavities have formed as a result of decay near branch stubs and broken tops. The charismatic acorn woodpecker, which is commonly encountered in parts of CA, AZ, and elsewhere in the west, gets its name from its unique habit of storing large numbers of acorns (and occasionally insects) in standing dead wood. (Fig. 8) These birds reside in colonies where multiple oak species exist. Doing so, ensures an adequate supply of acorns. Their acorn 'granaries' are critical for their survival and are protected from other wildlife by all members of the community. Furthermore, as decay softens and creates depressions or grooves in wood, these conditions become 'anvils' for the acorn woodpecker and other birds to open and crush acorns or other nuts and break apart the exoskeletons of prey. Dead trees are also favored as hunting perches for raptors, and by other birds to spot and catch insects mid-air, or for territorial defense and courtship.

When discussing how to deal with dead trees in 'high habitat' areas with clients, review all considerations and practical options. Show

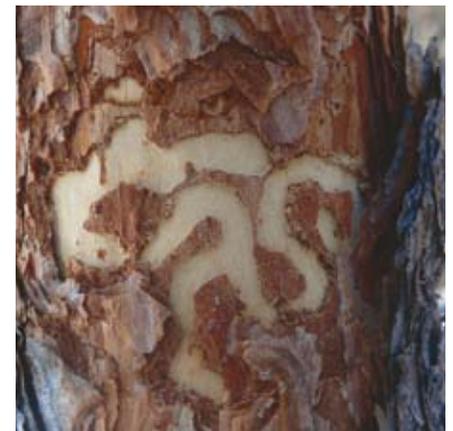
**Figure 8. Acorn Woodpecker.**  
*Photo: Mike's Birds*



them that you're interested in the welfare of birds and offer some options to safely retain the tree(s) by shortening branches as necessary to minimize the risk of failure and keep the tree standing for as long as possible. Trees that present no significant risk can be left as is. They will, of course, fall apart in time. Not all habitat trees need to be tall, and limbs can be removed or reduced in length to reduce mechanical stress on the branch or its union. For two small species of woodpeckers occurring in the West, the Nuttall's and the Downy, even a dead tree stump as short as three feet, and six inches in diameter is occasionally used for nesting. The taller the tree, the better, however; any dead limb is likely to provide some insect prey, but those at least 6 inches in diameter or greater, and about two or three feet in length may also be suitable for cavity excavators.

Engage your client, if you can, when looking for signs that a cavity-nesting bird or others have already been using the tree. An accumulation of bird droppings on limbs or on the ground are good indicators of nesting birds or that the tree is providing habitat values. Round cavity openings made by woodpeckers are certainly a give-away. But be sure to look for other signs of a woodpecker activity such as small holes made to forage for insects, or larger ones made to test the wood for nest-suit-

**Figure 9. Beetle galleries exposed by woodpecker.** *Photo: paradisebrding*



ability. Woodpeckers feed directly on wood-boring beetles colonizing trees that have died recently, by drilling through or removing the outer bark, exposing the galleries (meandering tunnels). (Fig. 9) Flaking off of the outer bark in irregularly shaped areas along the trunk, referred to as 'bark-flecking' by foresters, indicate that woodpeckers are feeding on the brood of bark beetles just under the bark or within pupal galleries in the inner bark of conifers trees, particularly pines.

Emphasize to your client that the cost of removal would be avoided, or that the pruning will cost less than total removal. A 'Wildlife Tree' sign can be purchased online for the owner to display to the community that he/she are committed to protecting wildlife. It adds meaning to the tree's retention and can be a source of pride for the client. Consider this: clients might welcome a 'shout-out' on your website or social media page for having improved the habitat quality of their property in this unique way. This may inspire others.

If a tree must be removed during nesting season, first determine if any birds are occupying any visible roosting or nesting cavities. Bang on the tree if you must to flush the bird. But initially, it's best to look for bird droppings near cavities, or quietly observe the tree and surrounding trees from a safe distance. Birds perched nearby or carrying nesting material indicate possible nesting in the area. Wait and see if the bird approaches or enters the tree. It's also a good idea to ask your clients if they would like improve wildlife habitat by leaving some downed wood on site. Dead wood can be good source of insect prey, or useful to reduce erosion on slopes as wildlife cover, trap leaf litter or snow, or serve as wildlife cover.

### Consider your client's trees on a landscape scale

Promote a planting plan when appropriate. Different age classes ensure young trees will succeed those

that die, while some snags and dead wood continue to serve wildlife that rely on them. Suggest groupings of trees, rather than rows or well separated trees. Native species that may already be present or are growing nearby are most preferable. Native shrubs and ground covers are especially valuable as cover for birds when they seek refuge from the elements or when fledglings first leave the nest. Select trees that provide diverse food for wildlife (insects, fruit, nuts, seeds, flower nectar, catkins etc.). Also suggest pruning to maximize fruit and flower production. The outcome will be a habitat with a rich food web and many opportunities to enjoy wildlife.

By promoting birds as a value of trees and striving to protect wildlife you set yourself apart, add more meaning to what you do, and responsibly assume guardianship of our planet.

For more information:  
[TreeCareForbirds.com](http://TreeCareForbirds.com)  
[CavityConservaton.com](http://CavityConservaton.com)

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(Sekercioglu, Cagen et al. (2016) Why Birds Matter, Bird Ecosystem Services Promote Biodiversity and Support Human Well-Being, The University of Chicago Press, Chicago and London, pp 341-352 in *Why Birds Matter*, Edited by Cagan H. Sekercioglu, Daniel G. Wenny and Christopher J. Whelan.