

**Songbird
ReMix**

WOODPECKERS

OF THE
WORLD



Volume 1: Woodpeckers of North America

Avian Models for 3D Applications

Characters and Texture Mapping by Ken Gilliland

Songbird ReMix

WOODPECKERS

Volume 1: Woodpeckers of North America

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Songbird ReMix

WOODPECKERS

Volume 1: Woodpeckers of North America

Introduction

Woodpeckers are part of the family *Picidae*, that also includes the piculets, wrynecks, and sapsuckers. Members of this family are found worldwide, except for Australia, New Guinea, New Zealand, Madagascar, and the extreme polar regions. Most species live in forests or woodland habitats, although a few species are known that live in treeless areas, such as rocky hillsides and deserts.

Woodpeckers are chiefly known for their characteristic behavior. They mostly forage for insect prey on the trunks and branches of trees, and often communicate by drumming with their beak, producing a reverberatory sound that can be heard at some distance. Some species vary their diet with fruits, birds' eggs, small animals, tree sap, human scraps, and carrion. They mostly nest and roost in holes that they excavate in tree trunks, and their abandoned holes are of importance to other cavity-nesting birds. They sometimes come into conflict with humans when they make holes in buildings or feed on fruit crops, but perform a useful service by their removal of insect pests on trees, in which keeps forests healthy.

The family *Picidae* includes about 240 species arranged in 35 genera. Almost 20 species are threatened with extinction due to loss of habitat or habitat fragmentation. This set features 17 species from North America (32 woodpeckers in all), including the long thought extinct, Ivory-billed Woodpecker, which may have been recently rediscovered in the Big Woods Preserve.

These avian jackhammers are a perfect addition to your woodland, forested and desert scenes. Included are native DAZ Studio and Poser versions for heighten realism.

Overview and Use

The set is located within the **Animals : Songbird ReMix** folder. Here is where you will find a number of folders, such as **Bird Library**, **Manuals** and **Resources** . Let's look at what is contained in these folders:

- **Bird Library:** This folder holds the actual species and poses for the "premade" birds. Birds are placed into a "type" folder (such as "Birds of Prey (Order Falconiformes)" which for example would hold falcons, hawks and eagles). The birds for this set can be found in the following folder(s):
 - **Woodpeckers and Toucans (Order Piciformes)**
- **Manuals:** Contains a link to the online manual for the set.

- **Props:** Contains any props that might be included in the set
- **Resources:** Items in this folder are for creating and customizing your birds
 - **Bird Base Models:** This folder has the blank, untextured model(s) used in this set. These models are primarily for users who wish to experiment with poses or customize their own species of bird. When using physical renderers such as Iray and Superfly, SubD should be turned to at least “3”.

Poser Use

Select **Figures** in the **Runtime** Folder and go to the **Animals : Songbird ReMix** folder. Select the bird from the renderer *Firefly or Superfly* folder you want and simply click it to load. Some birds in the Songbird ReMix series may load with attached parts (*Conformers*) such as tail or crest extensions. Some of these parts have specific morphs. You will need to click on the attached part to access those controls. Associated poses can be found in the same folder- **Bird Library : (Type) : Poses**.

DAZ Studio Use

Go to the **Animals : Songbird ReMix** folder. Select the bird from the renderer (*3Delight or Iray*) folder you want and simply click it to load. Some birds in the Songbird ReMix series may load with attached parts (*Conformers*) such as tail or crest extensions. Some of these parts have specific morphs. You will need to click on the attached part to access those controls. Associated poses can be found in the same folder- **Bird Library : (Type) : Poses**. **Note:** Using the "Apply this Character to the currently selected Figure(s)" option **will not** properly apply the correct scaling to the bird selected. It is better to delete the existing character first and load the one you want to use.

Physical-based Rendering

Iray and **Superfly** requires more CPU and memory horsepower than the legacy renderers because of ray-trace bounces and higher resolution meshes needed for displacement. Poser’s **Superfly** renderer will require that the “Min Transparent Bounces” be set to **at least 16** and that the “Max Transparent Bounces” be set to **at least 32** in render settings. Superfly renders may show artifacts in the head area. The higher the bounce settings, less chance those will be apparent. This is a known Poser issue and may be addressed in the future. Increasing the SubD may minimize this issue. A good work around solution for Superfly artifacts is to HIDE Fluff areas (Correction Controls).

Hiding Transparency Panes

In some camera angles and lighting situations, the area where a transparency pane connects to the main body may be obvious and undesirable. In the Correction Controls area of the model, you can hide individual sections on these transparency panes to avoid this issue.

Posing & Shaping Considerations

This volume has various species, so when using generic poses not every pose will work perfectly with every bird. You may find that some minor alteration on the stock poses may be warranted.

Here are some of the most common alterations you may need to make:

- Birds will not be flat on the zero plane due to leg size and overall scale.
- Because of the numerous beak shapes, closing the beak may range from 0.5 to 1. Usually 0.8 is about right.
- **Raise Upper Beak** (*in Action Controls*): This morph is a “one size fits all” control. Because of the variety of beak shapes. It may not work with all birds.
- **Tongue poke-through** (especially when the beak is open). This can be easily solved by using the **Throat-Fuller1 & 2** morphs (*found in Creation Control/Head Shapes*).

Some poses may go askew when IK is turned on. By default, Poser’s IK feature is turned off when loading a bird. To turn it on, select the “Figure” category from the main tool bar and “Use Inverse Kinematics” from the submenu.

By default, DAZ Studio’s IK feature is turned on when loading a bird. This will cause the thigh and shin rotations change when the character is moved. The **CTRL K** keypress will turn IK on and off in DAZ Studio. IK doesn’t work that well in Studio, so I suggest selecting the character in the **Scene tab** and simply deleting the two IK body parts to remove IK.

Where to find your birds

Type Folder	Bird Species
<p>Woodpeckers and Toucans (Order Piciformes)</p> <p>Woodpeckers</p>	<p>Acorn Woodpecker Arizona Woodpecker Downy Woodpecker Gila Woodpecker Golden-fronted Woodpecker Hairy Woodpecker Ivory-billed Woodpecker Lewis’s Woodpecker Northern Flicker (Red & Yellow-shafted) Nuttall’s Woodpecker Pileated Woodpecker Red-bellied Woodpecker Red-headed Woodpecker Red-naped Sapsucker White-headed Woodpecker Yellow-bellied Sapsucker</p>

Where to find your poses

Type Folder	For what species?
<p>Woodpeckers and Toucans (Order Piciformes)</p>	<p>All Woodpeckers; the Ivory-billed and Pileated Woodpeckers uses the “long-necked” poses; all others use the “short-necked” poses</p>

Songbird ReMix

WOODPECKERS

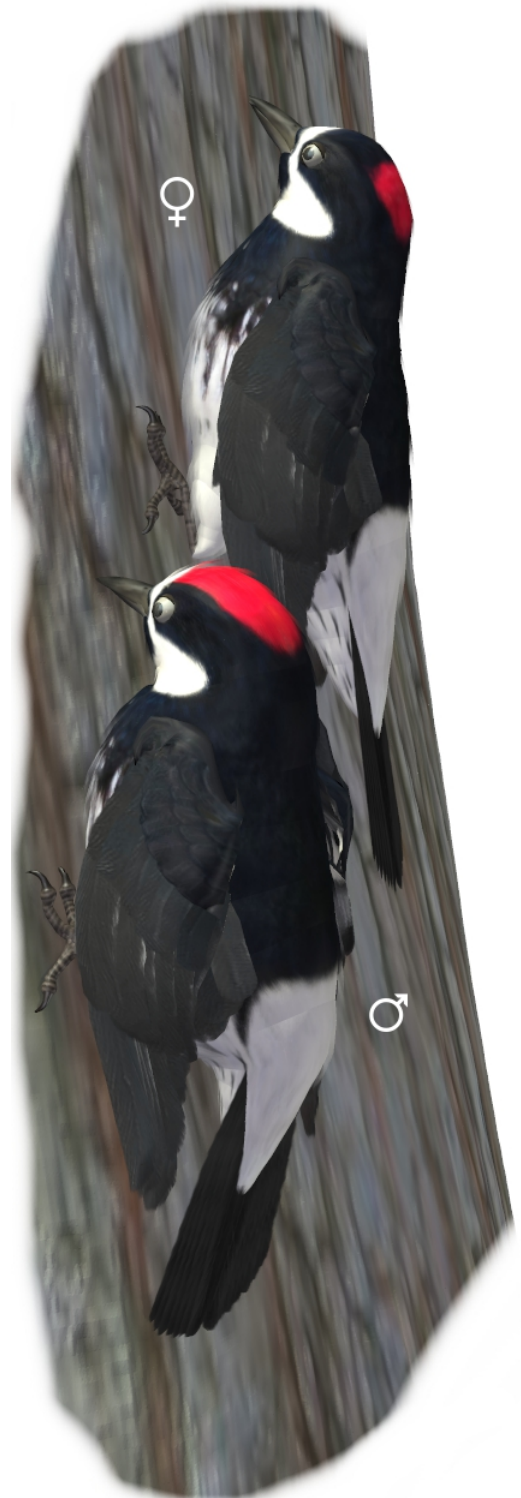
Volume 1: Woodpeckers of North America

Acorn Woodpecker
Arizona Woodpecker
Downy Woodpecker
Gila Woodpecker
Golden-fronted Woodpecker
Hairy Woodpecker
Ivory-billed Woodpecker
Lewis's Woodpecker
Northern Flicker (Red & Yellow-shafted)
Nuttall's Woodpecker
Pileated Woodpecker
Red-bellied Woodpecker
Red-headed Woodpecker
Red-naped Sapsucker
White-headed Woodpecker
Yellow-bellied Sapsucker

Common Name: Acorn Woodpecker
Scientific Name: *Melanerpes formicivorus*

Size: 9 inches (23 cm)

Habitat: North America; A resident throughout interior valleys and hills of western Oregon, in Siskiyou Mountains of Curry and Coos counties in extreme southwestern Oregon, and an isolated population in The Dalles, Wasco County, in north-central Oregon; at least one population has crossed the Columbia River in the vicinity of Lyle, Washington. In California, a resident in the north throughout Klamath Mountain region and Cascade Mountains eastward to southwestern Modoc County, and south along the western slopes of the Sierra Nevada to the mountains encircling the south end of the San Joaquin Valley, and south (west of desert areas) almost to the Mexican border. It is absent from many coastal lowlands from Del Norte County to Mendocino County in the north and absent from the San Joaquin and adjacent Salinas valleys, as well as from all eastern deserts. Small, isolated populations reside in mountains northeast of Honey Lake in Lassen County, the mountains of Plumas and Sierra counties in northeastern California, and Inyo County. Isolated populations also reside in extreme northeastern and Cape area of extreme southern Baja California. It is a resident throughout mountains of much of Arizona from the southeastern through northwestern part of state, and New Mexico (excluding northern and eastern areas). In western Texas, it is a common resident in Chisos, Davis, and Del Norte mountains, but uncommon and local in the Guadalupe Mountains and the Sierra Diablo; a small remnant population occurs in Bandera, Kerr, and Real counties in the central Edwards Plateau. It is a resident in Mexico on the Pacific slope from eastern Sonora and western Chihuahua and on the Atlantic slope from Coahuila and from Guanajuato in the interior south through central Chiapas, southern Guatemala, northern El Salvador, and nearly throughout Honduras to northwestern and northeastern



Nicaragua. Also, it occurs disjunctly in northern Guatemala, eastern El Salvador, and southern Tamaulipas, Mexico, and Mountain Pine Ridge and coastal plain of Belize. It is a resident from the Cordillera Central and Cordillera de Talamanca of Costa Rica to the highlands of western Chiriquí, Panama. Major peripherally isolated populations also occur in the Andean slopes of northern and western Colombia.

Its preferred habitat is oak and pine–oak woodlands. It can also be found along riparian corridors, and in Douglas-fir, redwood, and montane hardwood forests in the Neotropics as long as oaks are present or available nearby. It is found at sea level in southern California, but more generally in mountains up to the distributional limit of oaks.

Acorn Woodpecker densities increase with increasing abundance of oaks while population variability decreases with increasing diversity of oaks. Comparable patterns were not found in the American Southwest, where densities are generally much lower than along the Pacific Coast.

Status: Least Concern. **Global Population:** 4,000,000 Mature individuals. It is common within its habitat. Because of this species' abundance, Native Americans in California and perhaps elsewhere used the Acorn Woodpecker for food and even developed specialized traps to catch birds as they emerged from their roost holes. Their feathers were used for ornamentation on garments with one existing full-size cape is completely covered with red crown feathers from what may have been several thousand individual birds.

More recently, the primary threats to this species are from habitat loss and degradation. In the southwestern United States and parts of Mexico, much of the montane riparian and pine–oak habitat where this woodpecker occurs has been damaged by overgrazing, which has probably lead to substantial population declines in many areas. Poor regeneration of oaks in California is likely to have a major effect on this species in the future, but there is no indication of population declines at this time; on the contrary, the population at Hastings Reservation has significantly increased over the past several decades apparently due largely to canopy regrowth of existing trees. In all areas, conversion of oak, encinal, pine–oak, and riparian forests to other uses causes substantial loss of habitat.

Additional threats include competition for nest holes from introduced European Starlings, destruction of oak and pine granaries for firewood or development, the occasional legal and illegal shooting of birds to prevent depredation of nut and fruit crops and damage to structures, and loss of oak habitat due to climate change. As for the latter, studies based on climate modeling suggest that the distributions of valley oak (*Quercus lobata*) and blue oak (*Q. douglasii*), two of the most common oak species in California, could shrink by 54–59% within the next century due to climate change and be subject to regional extinctions.

Diet: Insects, especially flying ants and other Hymenoptera and Coleoptera, acorns (both immature and stored), sap, oak catkins, fruit, flower nectar, and occasional grass seeds, lizards, and bird eggs (including their own).

Insects captured by flycatching and may be stored for extended periods in cracks or crevices. More evident is the habit of storing nuts in individually drilled holes in granaries, which is unique to this species.

An individual granary tree may contain only a few or as many as 50,000 holes, each of which is typically filled with an acorn in autumn. Holes are drilled primarily in the winter and are made in dead limbs and in thick bark without penetrating the cambium and phloem layers associated with sap. Consequently, storage holes do not compromise living trees. Holes are reused annually, accumulate with time, and may eventually be drilled in almost every available limb, although preferred sites are those on the underside of limbs and other partially protected sites.

Breeding: A medium-sized, clown-faced, black-and-white woodpecker with distinctive red crown, glossy black and white head, white eyes, and white rump and wing patches. With the exception of the isolated subspecies in Colombia, adult males have solid red crowns, whereas adult females have a wide black band separating the red crown from the white forehead. Juveniles, prior to their first molt, are similar to adult males, often with duller colors lacking the gloss of adults and generally have dark irises.

Breeding depends on local conditions. In central coastal California, breeding is extended and bimodal. The primary season begins in April, peaks around May, and extends though late June. Within this time period, groups may renest or, if successful relatively early in the season, have second nests. Second nests tend to occur following years of good acorn crops and mild winters when stored acorns are still available late in the season, and are often started several days before young from the earlier nest have fledged.

In New Mexico, breeding rarely begins before May and there is no secondary autumn season, although second nests may occasionally fledge as late as early September. In Arizona, breeding is delayed until the monsoon season in late June, and renesting is rare.

The woodpecker excavates its own nest holes in whatever large trees are available. Nests may or may not be in the granary.

Each territory contains multiple cavities, several of which may be used for nocturnal roosting and any one of which may be used for nesting. Nest holes may be used repeatedly for many years. Two to five white eggs are laid in 24-hour intervals. Pairing ranges from monogamy to cooperative polygyny, depending on the colony.

Cool Facts: Acorn Woodpeckers are live and store food communally. They store insects in cracks or crevices and nuts in individually drilled holes in living or dead tree granaries. A granary tree may hold as many 50,000 acorns. Research studies have shown that these granaries are so important to the Acorn Woodpeckers survival that they are the main reasons why acorn woodpeckers live in communally. Only a large group of woodpeckers can collect so many acorns and also defend them against other groups.

Formicivorus Group:

- *M. f. bairdi*. First reported by Ridgway in 1881. It is a resident in western United States from southwestern Washington southward to northwestern Mexico (northern Baja California). The adult male has a red crown and the adult female with its nape red. The forehead patch is broad and white. The throat is pale yellow and the chest is solid black. The black flank streaks are broad. The black mantle has a green gloss and the irides are white.
- *M. f. formicivorus*. First reported by Swainson in 1827. The nominate subspecies is a resident from southern Arizona, New Mexico, and western Texas south through Mexico to the Isthmus of Tehuantepec. It is similar to *bairdi*, but the center of chest is streaked black (not solid).
- *M. f. albeolus*. First reported by Todd in 1910. A resident from southern Mexico (eastern Chiapas) to northeastern Guatemala and Belize to northern Honduras. It is similar to *formicivorus*, but the throat is whitish (not strongly yellow) and the black flank streaks are narrow or absent.
- *M. f. lineatus*. First reported by Dickey and van Rossem in 1927. A resident from southern Mexico (Chiapas) south to Guatemala and northern Nicaragua. It is like *formicivorus*, but the whole of the chest is streaked black (not solid laterally).
- *M. f. striatipectus*. First reported by Ridgway in 1874. A resident in the mountains of Nicaragua, Costa Rica, and Panama. It is similar to *lineatus*, but the throat is deep yellow (not pale) and the black mantle has a blue gloss (not green).
- *M. f. flavigula*. First reported by Malherbe in 1849. A resident in the Andes of Colombia (Western Andes, Central Andes, western slope of Eastern Andes). It is similar to *striatipectus*, but the adult male has a black crown and the adult females nape is black.

Narrow-fronted Group:

- *M. f. angustifrons*. First reported by Baird in 1870. A resident in the mountains of southern Baja California Sur. It is broadly similar to *bairdi*, but the chest is streaked black, the forehead narrow and yellowish, and the irides are dark. It also averages smaller in size.

Common Name: Arizona Woodpecker
Scientific Name: *Dryobates arizonae*

Size: 7.25 inches (18-20 cm)



Habitat: Northern America; it typically occurs in montane oak or pine–oak within Madrean woodland. It is a resident in the Peloncillo Mountains and Animas Mountains (Hidalgo County) of extreme southwestern New Mexico, and the mountains of southeastern Arizona, westward to the Baboquivari Mountains and north to the Santa Catalina Mountains and Pinaleno Mountains (Pima, Santa Cruz, Cochise, Graham, and Pinal counties). The range extends southward in Mexico through the Sierra Madre Occidental of Sonora, Chihuahua, Sinaloa, Durango, Nayarit, Jalisco, Colima, Zacatecas, and Michoacán.

In the southwestern United States and northwestern Mexico, the Arizona Woodpecker is strongly associated with Madrean woodland and forests, typically oak or pine–oak woodland, and associated sycamore–walnut and riparian woodlands.

Status: Least Concern. **Global Population:** 200,000 mature individuals with a decreasing population trend. The distribution of U.S. populations is apparently stable, generally inhabiting rough terrain with forests and woodlands of low commercial value. The population within the United States is estimated at fewer than 5,000 individuals. The habitat of populations in northwestern Mexico has been strongly impacted by rapidly increasing rural human populations.

Diet: Insects, beetle larvae, ants, fruits, and acorns.

In southeastern Arizona, it generally forages in oaks, but has also been found foraging in sycamores and pines, walnuts and willows, Arizona Cypress, junipers, and sometimes on both

flowering stalks and blossoms of agave. Foraging birds extract insect larvae from trunks to as close as 0.3 m from ground, from twigs of Silverleaf Oak, and from dead flowering stalks of agave.

It is unlikely to hammer when feeding, instead it climbs tree trunks as do Downy and Hairy woodpeckers, and instead prys, probes, and flakes off bark to expose insects.

As in other woodpeckers, the tail feathers have hardened shaft (*rachis*) and feather vanes (barbs) which is pressed against bark of trees while climbing and during activities such as drumming and cavity excavation. It commonly flies to a lower tree trunk and works upward, often spiraling around trunk and finally out onto branches before flying to the lower trunk of next tree.

Breeding: A medium-sized brown-and-white woodpecker. Sexes are alike, but male has small red patch on the occiput that is lacking in female. Females also tend to be slightly duller overall. Adults have their foreheads, crowns, napes, and remaining upper parts a solid brown (the rump and scapulars rarely have a few white marks). The remaining portions of the head are white, with brown ear coverts and a brown malar stripe. The under parts can be variable, from a mainly white with brown streaks or spots to droplet-like spots on the breast and the sides with brown spotted-bars on the abdomen to fully spotted or streak-spotted on the breast with heavy abdominal barring. The spotting becomes more pronounced and the underparts darker with wear. The tail is blackish, with white barring on the outer rectrices. The wings brown, with narrow white barring on the primaries. The bill is long, straight, and chisel-like. The adult plumages is similar throughout year. Juveniles are similar to adults, but ground color of the under parts is more grayish white, the spotting is smaller and nearly longitudinal, and the red patch present in both sexes, but the female patch is not as bright or well-defined as that of the male.

Like other *Dryobates* woodpeckers, the Arizona Woodpecker is socially monogamous. Two to four eggs are laid in 24-hour intervals. Nesting takes place in tree cavities. Cavities are usually excavated in dead wood in evergreen oaks, sycamores, maples and cottonwoods; often riparian walnuts. Both sexes incubate the eggs. At the beginning at hatching, the young are cared for almost continuously by one or the other parent for several days. Parents alternate brooding duties; when a parent arrives at nest, it relieves its brooding mate by giving “*Tik-Tik-Tik*” call.

Cool Facts: The Arizona Woodpecker is the only solid brown-backed woodpecker found in the United States. The Arizona Woodpeckers was formerly known as Strickland’s Woodpecker, but now there’s evidence that the Strickland’s and the Arizona might be two separate species.

In an account from Cornell Lab of Ornithology, “One bold Arizona Woodpecker landed on the leg of a horse and hammered on it as if it was a tree. It came back for another rap after the horse moved off, and caused the horse to plunge and kick to keep it away.”

- *D. a. arizonae*. First reported by Hargitt in 1886. The nominate subspecies is a resident in the mountains of southeastern Arizona and southwestern New Mexico southward to northeastern Sinaloa and northwestern Durango. The dorsum is typically a uniform dark brown, with white bars absent or few. The body size is large. This subspecies is said to exhibit greater sexual dimorphism in bill size than does the more southern.
- *D. a. fraterculus*. First reported by Ridgway in 1887. It is a resident in western Mexico from southeastern Sinaloa, central Durango, and western Zacatecas south to northern Colima, southern Jalisco, and central Michoacán. It is like the nominate but the dorsum averages slightly darker and it tends to have some white bars, plus the overall body size is smaller.

Common Name: Downy Woodpecker
Scientific Name: *Dryobates pubescens*

Size: 5.75 inches (14-17cm)

Habitat: North America; Resident through most wooded regions of North America, from tree line in Canada and Alaska south through peninsular Florida (but not the Florida Keys), across the Gulf Coast to southern New Mexico, central Arizona, and southern California.

It is present in open, deciduous, especially riparian, woodlands throughout its range. It is less abundant in coniferous forests except when associated with deciduous understory. It readily accepts orchards and wooded, human-modified habitats such as urban and suburban parks and residential areas, venturing into open areas, where it sometimes nests in cavities in fence posts and feeds on arthropods found in tall weeds in vacant lots and fence rows.

Status: Least Concern. **Global Population:** 13,000,000 Mature individuals. Widespread and abundant and it may be slightly increasing in some areas. Some clearing of forest has been positive for the Downy Woodpecker, since this is a species that does well in successional habitats and along edges. Forest thinning may increase habitat given that the species is associated with more open stands, however this is at the detriment of other species that need old-growth forests to survive.

Diet: Their diets comprise 75% insect and 25% vegetable. Among insects; Beetles and wood-boring larvae, weevils, ants, *Hemiptera*, plant lice, caterpillars, spiders, other arthropods, and snails are eaten. Vegetable food includes fruit, grain, poison ivy, sumacs, hard mast (acorns, etc.) and other plant materials.



They appear to rarely cache food. The tail feathers have hardened shaft (*rachis*) and feather vanes (barbs) which is pressed against bark of trees while climbing and during activities such as drumming and cavity excavation. It commonly flies to a lower tree trunk and works upward, often spiraling around trunk and finally out onto branches before flying to the lower trunk of next tree.

Breeding: A small, widely distributed, black-and-white-checked woodpecker. Sexes are alike except that male has red patch on nape. Adults have upper parts that are largely black with white stripes on head above and below black ear coverts. There are white spots on the wing feathers, and a large white patch along the center of the back. The tail is black centrally, becoming white laterally and with white areas usually barred black. The under parts unmarked and vary geographically from white in most areas to grayish white in the Pacific Northwest. Juveniles of both sexes are duller, have longer outer primaries, and show mostly black on the crown (lacking red nape) with some red-tipped feathering centrally. A few red-tipped feathers are occasionally found on the forehead of juvenile females. The iris color of juveniles is dull brownish to grayish brown, becoming darker and deep reddish brown by a year of age.

Pair formation usually takes place in early spring. The nest cavity is typically excavated about two weeks before egg-laying. Females appear to select the nest site, but if the mate does not agree, the site will be passed over. When a potential nest site is decided upon by a bird, it may drum to inform its mate. The mate will then fly to the site and tap or drum. Excavation may begin at multiple sites before the final site is chosen. There's no nest structure in cavity. Three to eight eggs are laid. The male incubates and broods at night. The sexes share duties during the day. At individual nests, the male or female may play a more dominant role, and relative role of sexes can shift with stage of nesting cycle.

Cool Facts: The smallest and one of the most widespread of North American woodpeckers, the Downy Woodpecker is a year-round resident coast to coast and from the tree line in Canada and Alaska to south Florida and the riparian forests of southern California. John James Audubon commented, "I have found it pretty generally distributed from the lower parts of Louisiana to Labrador, and as far to the westward as I have travelled. It seems, in fact, to accommodate itself to circumstances, and to live contented anywhere."

It frequently stays with mixed species flocks in winter. The woodpecker is less vigilant looking for predators and more successful at foraging when in such a flock. It will readily join chickadees or other birds mobbing a predator, but it remains quiet and does not actually join in the mobbing.

Downy Woodpeckers that live in the North are slightly larger than those that live in the South. The Northern Downy Woodpeckers also prefer higher elevations than their Southern cousins.

The Hairy Woodpecker looks most identical to the Downy. The smaller size and pronounced tuft of beak hairs on the upper bill and short bill are how you tell the difference.

There are seven subspecies:

- *D. p. medianus*. First reported by Swainson in 1832. It is a resident from north-central Alaska east through northern British Columbia and central Alberta to southern Quebec, and south to eastern Kansas east to New England and North Carolina. The white spots on the wing coverts are large; the ventrum and pale areas of the head are white and the barring on the outer rectrices is reduced. It is overall large in size from a Downy. East of the Rocky Mountains, both plumage color and body size are smoothly clinal.
- *D. p. glacialis*. First reported by Grinnell in 1910. It is a resident coastally from the Kenai Peninsula along the shores and the islands of Prince William Sound, eastward along coastal Alaska to the Taku River. It is similar to *medianus*, but the ventrum is grayer (less white) and the barring on the outer rectrices is reduced. This subspecies grades into both *gairdnerii* and *leucurus* along their respective range borders.
- *D. p. fumidus*. First reported by Maynard in 1889. A resident from southwestern-most British Columbia, including Vancouver Island, southward, west of the Cascades and Coast Ranges, to the Columbia River. It is similar to *glacialis*, but the ventrum and pale areas on head darker and grayer.
- *D. p. gairdnerii*. First reported by Audubon in 1839). A resident coastally from western Oregon south to northwestern California. It is similar to *fumidus*, but the wing coverts nearly uniform black (i.e., white spots are small) and the ventrum darker and browner (less gray).
- *D. p. leucurus*. First reported by Hartlaub in 1852. A resident in the Rocky Mountains and Intermountain ranges from southeastern Alaska south to northeastern California and western Nebraska. It is similar to *glacialis*, but the wing coverts are largely black, the ventrum gray, and the barring on the outer rectrices is greatly reduced. This subspecies hybridizes with *medianus* where ranges meet in central Canada.
- *D. p. turati*. First reported by Malherbe in 1860. A resident in the Cascades from north-central Washington south to northern California and in Coast Ranges south to southern California. It is similar to *gairdnerii*, but the ventrum is a paler gray and averages smaller overall, with the size decreasing from north to south.
- *D. p. pubescens*. First reported by Linnaeus in 1758. The nominate subspecies is largely resident from southeastern Kansas southward to eastern Texas and east to southeastern Virginia south to through peninsular Florida, although it is absent from the Keys. It is similar to race *medianus*, but the ventrum is grayish (not white) and it is smaller overall. Birds from eastern Kansas are intermediate between *pubescens* and *medianus*, reflecting the clinal nature of variation.

Common Name: Gila Woodpecker
Scientific Name: *Melanerpes uropygialis*

Size: 9 inches (24 cm)

Habitat: Northern America; mostly a permanent resident from southeastern California (Imperial Valley and lower Colorado River valley), extreme southern Nevada (South Clark County), central Arizona (north to Mogollon Rim), and extreme southwestern New Mexico (West Grant and West Hidalgo Counties) southward in Mexico through Baja California (but not in northwestern Baja California Norte; Wilbur 1987), Sonora (including Tiburón Island), southwestern Chihuahua, Sinaloa, Durango, Nayarit, and Zacatecas to Jalisco and Aguascalientes. In Arizona, it is mostly a resident, but from end of August to the start of April, it moves into lower parts of Upper Sonoran Zone adjacent to its breeding area at base of eastern slopes of most southern Arizona mountain ranges.

Status: Least Concern. **Global Population:** 1,120,000 mature individuals. Populations are declining. Threatened by human development of Sonoran Desert and by competition for nest sites with European Starlings. Audubon "Threatened" List

Diet: Insects (ants, beetles, grasshoppers, cicadas, termites], moths and butterflies, larvae). Figlike fruit of the saguaros, viscous berries of species of mistletoe, and lycium berries.

Breeding: A medium-sized woodpecker. The male has small round or rectangular red patch on crown (occasionally several red feathers on crown of juvenile and adult females). The



sexes otherwise similar in plumage. The species is strongly dimorphic in size: Males are about 14% greater in mass and have 14% longer bills than females.

Adults have a pale-gray to tan head and under parts. The upper parts, including the back, inner wing, rump, upper tail coverts, and central and outermost rectrices, are barred black and white. The belly is tinged golden yellow, and the forehead is whitish. The bill is dull black or slate black. The dorsal tail pattern shows regular white bars on inner webs of central rectrices, while the outer web has either a series of white bars or a wide streak. There are white wing-patches at base of the blackish primaries. Juveniles are similar to adults, but duller and with restricted red on head of male.

In southern Arizona, February is the only month in which Gila Woodpecker has been reported to excavate cavities, although evidence of fresh digging has been seen in December. Nesting takes place in excavated Saguaro Cactus. Relative height of nest holes within saguaros is inversely related to cactus height. Nest excavations rarely found above about 7 m. Three to four white eggs. Although sexes differ in foraging behavior, both males and females actively deliver food to young and are fed by adults for extended period after fledging.

Cool Facts: Gila Woodpecker have to build their nests far ahead of nesting season. Once the Saguaro Cactus nest is excavated it takes several months for the pulpy interior to dry and heal.

Male Gilas forage on the trunk and main branches of the Saguaro while female prefer to work on the edges and the diseased portions of the cactus.

- *M. u. uropygialis*. First reported by Baird in 1854. The nominate subspecies is a resident of southeastern California, Arizona, and New Mexico, south throughout range in western Mexico from Sonora to Aguascalientes, and Zacatecas.
- *M. u. brewsteri*. First reported by Ridgeway in 1911. It is found in Baja California from Cape San Lucas north to San Ignacio. It is smaller than the nominate, but has a relatively (sometimes absolutely) longer bill. The barring is narrower on average, and the black bars and markings on the rump are narrower and more numerous. Although a small, individuals from range of *brewsteri* matched in size by the birds from southern part of range on mainland Mexico.
- *M. u. cardonensis*. First reported by Grinnell in 1927. It is found in central and northern Baja California on the eastern side of peninsula, where found north to San Felipe. It is overall darker than the nominate but some individuals of *cardonensis* and *uropygialis* approach each other in color and pattern.

Common Name: Golden-fronted Woodpecker
Scientific Name: *Melanerpes aurifrons*

Size: 9-10 inches (22-26cm)

Habitat: North America; Found in Mexico and Central America, and in the brush lands and open wooded areas of Texas and Oklahoma.

Status: Least Concern. **Global Population:** 2,870,000 mature individuals. Populations appear stable. The proliferation of mesquite on rangeland has helped populations in Texas and Oklahoma.

Diet: Adult and larval arthropods on tree surface, subsurface, and ground; aerial insects to lesser extent. Large quantities of fruits, nuts, acorns, and corn.

There are seasonal differences in foraging. Gleaning is the dominant method of foraging in late spring and summer, steadily decreases in proportion to other methods in fall and winter. Ground-foraging, which is rare in summer, steadily increases into the winter and is the most frequently used foraging mode during that season in open habitats.

Annually, both sexes use all foraging methods, but seasonal sexual differences are present. Both sexes forage alike only in summer nesting period. In late summer and fall, males begin to peck more and glean less than females do. Females begin to increase frequency of ground-foraging during this time. By late winter, foraging differences are reversed, with females pecking more and males foraging on ground more.

Breeding: A medium-sized, zebra-backed woodpecker. The female is slightly smaller than male in all linear dimensions and body mass. This is a highly variable species. The nominate race has horizontal black and white



barring across its upper parts, a white rump and black tail, with variable amount of white barring on the outer rectrices. It has yellow nasal tufts with a golden orange to yellow nape and a red crown-patch, usually discontinuous with nape and nasal tufts. The sides of the head, breast, and flanks are grayish. The central abdomen is gray-yellow. There is a large white patch across base of primaries noticeable dorsally in flight. The female's crown is grayish, lacking the red patch that the male has. The juvenile is duller, often with some fine dusky streaking on the crown and breast, with only faint color on nape and nasal tufts.

Breeding is geographically variable; Peak months include March–April on the Mexican Plateau, early April–May in Oaxaca (Mexico) and Texas. The first eggs may be laid as early as March in Texas, February in Guatemala, and January in Chiapas, Mexico. Nests in holes in limbs and trunks of live or dead trees.

Four to five white eggs are laid in 24-hour intervals and incubation last 12-14 days. Both sexes incubate; male incubates at night, male and female alternate during day. During changeover, incubating or brooding parent waits for mate inside cavity, with head in entrance; gives low *Churr* Calls upon sight of mate

Cool Facts: The Golden-fronted Woodpeckers has many subspecies that were originally thought to be different species of woodpecker. The Golden patch on the neck is yellow to orange in Texas and most of Mexico. It's red on the Yucatan Peninsula and orange farther south.

The Golden-fronted eats as much fruit and nuts, as it does, insects. When it summers in Texas, it is said that the faces of the Golden-fronted turn stained purple from eating prickly pear cactus fruit.

Northern Group:

- *M. a. aurifrons*. The nominate is found in the southern United States from northwestern Texas and southwestern Oklahoma south across the Mexican Plateau to Jalisco, northwestern San Luis Potosí and Hidalgo.

Velasquez's Group:

- *M. a. grateloupensis*. It is found in central San Luis Potosí and southwestern Tamaulipas to eastern Puebla and central Veracruz. It is like *santacruz*i but darker below, and the dorsal barring is wider.
- *M. a. veraecrucis*. It is found in the Atlantic slope from southern Veracruz to northeastern Guatemala. It is darker and smaller than others of this group. The white bars are wider and the red of the abdomen is more restricted.
- *M. a. dubius*. It is found in the Yucatán Peninsula southward to northeastern Guatemala and Belize. The red nape continuous with the crown.
- *M. a. leei*. It is found on Cozumel Island (off the northeastern Yucatán Peninsula). It is distinctly darker, with a longer bill, the upper tail-coverts are more barred, and the red of crown often merges with nasal tufts.

- *M. a. turneffensis*. It is found on Turneffe Island (off Belize). The nape is orange red, the white bars are wider than those of other members of this group, the nasal tufts are paler red, and there is orange red on the abdomen.
- *M. a. santacruz*i. It is found in southeastern Chiapas east to El Salvador, southwestern Honduras and north-central Nicaragua. It has an orange red nape continuous with the red crown-patch. The belly is yellow to yellow orange with the nasal tufts also yellow to orange. The white bars are relatively narrow and the central rectrices sometimes have white at their base; the white wing-patch reduced or absent.
- *M. a. hughlandi*. It is found in the upper Negro River and upper Motagua Valley in Guatemala. Compared with *dubius* and *santacruz*i, it has longer wings, wider white bars dorsally and on the flanks, and is lacking in the yellow wash on the dorsum in fresh plumage.
- *M. a. pauper*. It is found on coastal northern Honduras. It has shorter wings and narrower white bars dorsally.
- *M. a. insulanus*. It is found on Utila Island (off northern Honduras). It is similar to *santacruz*i, but larger overall, with a proportionately longer tail and wings, a white forehead and superciliary region, and minimal to no white on the rectrices.
- *M. a. canescens*. It is found on Roatán Island and Barbareta Island (east of Utila). It has a paler face and abdomen, broader white barring dorsally, and the outer web of inner primaries is spotted with white.

West Mexico Group:

- *M. a. polygrammus*. It is found on the Pacific slope from southwestern Oaxaca east through interior Chiapas. It is like *aurifrons*, but there is white barring on the central rectrices, the yellow nape merges with the red crown-patch, and the white barring is slightly narrower.

Common Name: Hairy Woodpecker
Scientific Name: *Dryobates villosus*

Size: 7-10 inches (18-26cm)

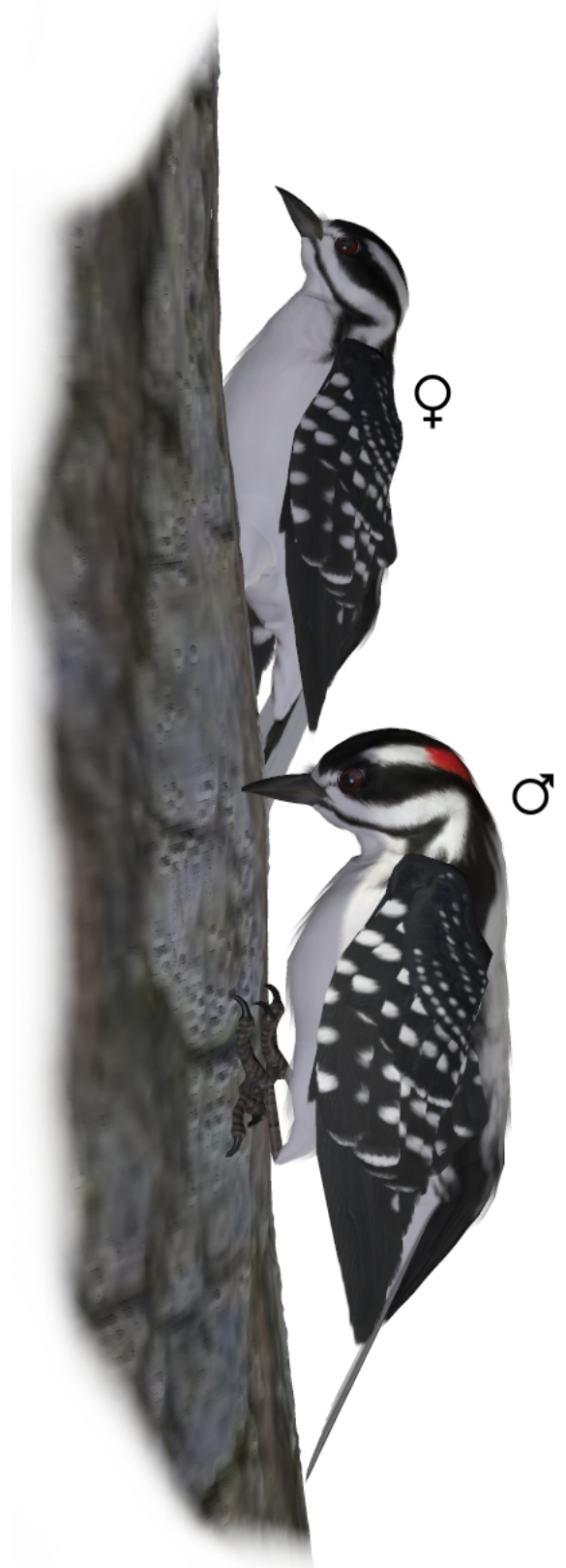
Habitat: Throughout North America; It has the most extensive range of any species in genus *Dryobates*. It is a resident in the forests of North and Central America from near the northern limit of the boreal forest in Canada and central Alaska, southward to western Panama and northern Baja California, and eastward to the northern Bahamas. Its range is continuous where ecological conditions are suitable, but disjunct populations occur on islands and in mountainous areas, especially within Mexico and Central America.

It is primarily a forest bird which is widely distributed in regions where mature woodlands are prevalent. It also occurs in small woodlots, wooded parks, cemeteries, shaded residential areas, and other urban areas with mature shade trees are (but is uncommon within these habitats). While it occupies both deciduous and coniferous forest habitats, the habitat preferences may vary geographically; for example in the southeast, southwest, and California, it is more associated with open pine forests.

Status: Least Concern. **Global Population:** 8,900,000 Mature individuals with a slight increasing trend.

Diet: Their diets comprise 75% insect and 25% vegetable. Among insects; ants are a key food item, but other *Hymenoptera* (bees, wasps) and caterpillars, mostly wood-boring species, are consumed in small quantities.

They appear to rarely cache food. The tail feathers have hardened shaft (*rachis*) and feather vanes (barbs) which is pressed against



bark of trees while climbing and during activities such as drumming and cavity excavation. It commonly flies to a lower tree trunk and works upward, often spiraling around trunk and finally out onto branches before flying to the lower trunk of next tree.

Breeding: Small to medium-sized woodpecker. Sexes are alike except that male has red patch on nape. Adults have upper parts that are largely black with white stripes on head above and below black ear coverts. There are white spots on the wing feathers, and a large white patch along the center of the back. The tail is black centrally, becoming white laterally and with white areas usually barred black. The under parts unmarked and vary geographically from white in most areas to grayish white in the Pacific Northwest. Juveniles of both sexes are duller, have longer outer primaries, and show mostly black on the crown (lacking red nape) with some red-tipped feathering centrally. A few red-tipped feathers are occasionally found on the forehead of juvenile females. The iris color of juveniles is dull brownish to grayish brown, becoming darker and deep reddish brown by a year of age.

Plumage color and size vary regionally. Many populations in Rocky Mountain and Pacific regions of North America and in Middle America have reduced amounts of white on head, back, and wings, appearing darker above, while many populations in the latter two regions also have white areas on head and body (especially on the under parts) replaced by varying shades of buff, dusky, grayish, or brownish color (darkest in southern Middle America). Males often have a larger (unbroken) red patch on the occiput than the males in eastern North America. In general, those individuals showing darkest head, back, and wings also tend to have black extending as streaks onto sides and flanks. Some insular populations (Newfoundland, Queen Charlotte Island, and Grand Bahama Island) have black bars or spots on outer webs of outer rectrices. The size varies regionally but decreases southward and to some extent at lower elevations, with smallest individuals occurring in Costa Rica and Panama.

Although most Hairy Woodpecker nestlings across species' range seem to be found in May and June, some extremes include Florida nestlings recorded as early as the end of March. Nesting takes place in living or dead trees. Cavities are usually excavated in dead wood of the tree. Three to seven white eggs are laid. Incubation lasts 11–12 days is performed by both parents. Parents nearly equally share feeding of nestlings.

Cool Facts: The Hairy Woodpecker is the most widespread resident woodpecker in North America.

While the similar Downy Woodpecker will forage on tree limbs, the larger Hairy Woodpecker sticks mostly to the trunk. Just as with the Downy Woodpecker, Hairy Woodpeckers in the north are larger than in the south.

The Hairy Woodpecker often is attracted to the Pileated Woodpecker drumming. It will forage areas that the Pileated has worked, collecting the insects the Pileated missed.

- *D. v. septentrionalis*. First reported by Nuttall in 1840. It is a resident from the tree line in central Alaska south and east through northeastern British Columbia, northern Montana, and northern North Dakota to central Ontario and the north shore of the St. Lawrence River. It ranges irregularly southward in winter to the northern United States. The ventrum and mid-dorsal stripe are pure white, the mid-dorsal stripe is wide. The white spots on the wing coverts are large and the outer rectrices are largely white. The body size is large, with the largest birds in the northwestern part of this taxon's range but a sharp break in size just south of 50° N latitude and west of 75° W longitude. Intermediates occur where this subspecies' range meets those of both *villosus* and *monticola*.
- *D. v. terraenovae*. First reported by Batchelder in 1908. It is a resident in forested parts of Newfoundland. It is similar to *septentrionalis*, but smaller overall. The white mid-dorsal stripe is narrow, with black bars of varying sizes and quantities present in adults but most developed on immatures, and the flanks streaked finely with black, more prominently so in females and juveniles.
- *D. v. villosus*. First reported by Linnaeus in 1766. The nominate is a resident east of the Rocky Mountains to the Atlantic coast from North Dakota east to Nova Scotia and south to central Texas, Kentucky, and central Virginia. It is similar to *septentrionalis*, but smaller and darker, being intermediate toward *audubonii*, with which it hybridizes in portions of the southern part of the nominate subspecies' range, although birds in Kentucky are not intermediate. Where breeding ranges meet, intermediates also occur with *septentrionalis* (in the North), *leucothorectis* (Southwest) and *monticola* (eastern foothills of the Rocky Mountains).
- *D. v. audubonii*. First reported by Swainson in 1832. It is a resident from eastern Texas east across southern Arkansas to southeastern Virginia south to the Gulf Coast and Florida. It is similar to *villosus*, but its ventrum is buff and it averages smaller overall. Intermediates with *villosus* occur in the central Mississippi River valley.
- *D. v. piger*. First reported by Allen in 1905. It is a resident in the Bahamas on Abaco, Mores, and Grand Bahama. It is similar to *audubonii*, but averages smaller and darker (grayer) ventrally, the throat is washed with creamy-white or buff, flanks marked heavily with black, the outer rectrices typically with black bars or spots, and the mid-dorsal stripe narrow and grayish.
- *D. v. maynardi*. First reported by Ridgway in 1887. It is a resident in the Bahamas on New Providence and Andros. It is similar to *piger*, but the ventrum, including the flanks, are nearly pure white and the mid-dorsal stripe whiter and broader.
- *D. v. harrisi*. First reported by Audubon in 1838. It is a resident coastally from southeastern Alaska and extreme southwestern Yukon south through British

Columbia, including on Vancouver Island, to northwestern California. It is broadly similar to *septentrionalis*, but the ventrum and pale markings on the head are washed with grayish brown and the white dorsal markings are reduced (both in size and extent).

- *D. v. picoideus*. First reported by Osgood in 1901. It is a resident on the Queen Charlotte Islands off British Columbia. It is similar to *harrisi*, but the ventrum is darker and the mid-dorsal stripe, flanks, and outer rectrices are barred with black.
- *D. v. hyloscopus*. First reported by Cabanis and Heine in 1863. It is a resident in Coast and Peninsular Ranges from northern California south to northern Baja California and east to the southern Sierra Nevada. It is similar to *harrisi*, but the ventrum is paler and infused with buff and the pale head markings are white. It averages smaller overall, although the size varies clinally, becoming smaller from north to south.
- *D. v. orius*. First reported by Oberholser, 1911. It is a resident in mountains and highlands of the Great Basin from southwestern British Columbia south and southeast through the Sierra Nevada to southeastern Arizona. It is similar to *hyloscopus*, but the ventrum is grayish or creamy white and the pale areas on the dorsum, particularly on the wing coverts is reduced. It also averages larger.
- *D. v. monticola*. First reported by Anthony in 1898. It is a resident in the Rocky Mountains region from south-central British Columbia through eastern Washington and central Montana south to north-central New Mexico and east to western South Dakota and western Nebraska. It is like *septentrionalis*, but white spots on wing coverts small and of more limited extent.
- *D. v. leucothorectis*. First reported by Oberholser in 1911. It is a resident in mountains of southeastern California, southern Nevada, southern Utah, Arizona (except southwest deserts and mountains of southeast), western and central New Mexico, and western Texas (Guadalupe Mountains). It is similar to *monticola*, but the white on the dorsum is much reduced and body size markedly smaller overall. Intermediates toward *orius* and *monticola* which are found in the southern Great Basin and the southern Rocky Mountains.
- *D. v. icastus*. First reported by Oberholser in 1911. It is a resident from southeastern Arizona (Santa Catalina Mountains) and southwestern New Mexico south through Sonora, Chihuahua, and southern Coahuila to Durango, Zacatecas, and northern Jalisco. It is similar to *leucothorectis*, but much smaller, with size variation slightly clinal, the birds becoming smaller from north to south.
- *D. v. intermedius*. First reported by Nelson in 1900. It is a resident in the Sierra Madre Oriental of Tamaulipas, San Luis Potosí, Hidalgo, Nuevo León, eastern Guanajuato, Querétaro, eastern Jalisco, and northern Veracruz. It is similar to *icastus*, but the ventrum is much darker and the pale markings on the dorsum reduced in extent and size. It averages slightly smaller.
- *D. v. jardinii*. First reported by Malherbe in 1845. It is a resident in highlands from southeastern San Luis Potosí and southern Tamaulipas south through Veracruz south to Guerrero and Oaxaca and west to Jalisco. It is similar to

intermedius, but the ventrum is darker still and the pale markings on the dorsum are further reduced. It averages smaller. This subspecies displays a high degree of variation in coloration of under parts, and body measurements are slightly clinal (east to west), with the birds from Guerrero and Michoacán being slightly larger than those from Veracruz and northern Oaxaca to the east. Between these populations, the birds from Mexico and Morelos are intermediate in coloration and size.

- *D. v. sanctorum*. First reported by Nelson in 1897. It is a resident from southern Mexico (Chiapas) to central Nicaragua. It is like *jardinii*, but the ventrum is cinnamon-brown and the sides of the breast are streaked with black. Within this subspecies, the body size decreases and the ventral darkness increases from north to south.
- *D. v. extimus*. First reported by Bangs in 1902. It is a resident in highlands of eastern Costa Rica and western Panama. It is broadly similar to *sanctorum*, but the ventrum is with darker smoky cinnamon-brown under parts and the sides of the breast are streaked heavily with black.

Common Name: Ivory-billed Woodpecker
Scientific Name: *Campephilus principalis*

Size: 18-20 inches (48-53 cm)

Habitat: North America; Old growth forests in the Southern United States and Cuba.

The most eloquent descriptions of the Ivory-billed Woodpecker's habitats are those provided by the colonial naturalists who observed the species in habitats relatively untouched by humans. For example, Alexander Wilson in 1831 in describing habitats near Wilmington, North Carolina, wrote that the Ivory-bill “. . . seeks the most towering trees of the forest; seemingly particularly attached to those prodigious cypress swamps, whose crowded giant sons stretch their bare and blasted or moss-hung arms midway to the skies. In these almost inaccessible recesses, amid ruinous piles of impending timber . . .”.

Status: **Critically endangered-Presumed Extinct.** **Global Population:** Unknown. There were credible sightings in the “Big Woods” preserve in Arkansas in 2004 and possibly in Florida and Cuba, but has been no sightings since then. Its extinction or extremely threatened status was/is due to the destruction of old growth forests.

Diet: Insects, beetle larvae, fruits, and nuts.

Audubon in 1842 wrote, “The flight of this bird is graceful in the extreme, although seldom prolonged to more than a few hundred yards at a time, unless when it has to cross a large river, which it does in deep undulations, opening its



wings at first to their full extent, and nearly closing them to renew the propelling impulse. The transit from one tree to another, even should the distance be as much as a hundred yards, is performed by a single sweep, and the bird appears as if merely swinging itself from the top of the one tree to that of the other, forming an elegant curved line."

Breeding: A very large, crested woodpecker. The plumage overall is a rich black, almost glossy blue-black, especially on the wing coverts. The outer primaries and the tail is a duller black. The adult male has its sides and back of the crest a bright red with a white stripe on the sides of the head extending from below the eye down the side of the neck and onto the side of the back. A broad white "shield" created by white of inner primaries and all secondaries when wings folded over the back, and white nasal tufts at base of long, broad, and heavy ivory-white bill that is quite chisel-shaped at tip in mature individuals. The under parts are black to brownish black, except the under surface of the wing which is black and white. The eyes are a clear lemon yellow and the legs and feet are a light gray. The female similar to the male but slightly smaller and the crest is entirely black and somewhat longer, and was perhaps often slightly up-curved. Juveniles are similar to the adults of each sex but somewhat browner and with somewhat rounded tip to bill (especially from above) and a shorter crest. Distinctive vocalizations included a single or double, simple "*tin-horn toot*." Also produced loud, deliberate, "*double rap*" by striking bill on tree, as is characteristic of other *Campephilus* woodpeckers.

Apparently monogamous, possibly mated for life. Hoyt in 1905 wrote that, "nest-cavity excavation took place in late January, eggs normally laid by 10 February, and young left nest in April". 2-4 eggs are laid.

Cool Facts: The largest Woodpecker North of Mexico and the third largest in the world. The last Ivory-billed Woodpecker was sighted in the mid 1930's. In 2002, rumors flooded the bird world that the Ivory-billed had been seen again in Arkansas. In 2004, Cornell Lab of Ornithology started a scientific monitoring system to determine if the Ivory-billed was not really extinct. In the 2005-2006 season, there were 14 sightings, 4 of which were considered with some scientific merit. While there's been no photography to verify the sightings, there has been audio recorded which appears to be the distinctive call and drum of the Ivory-billed Woodpecker. Since then, there have been no credible sightings.

The Ivory-billeds are occasionally reported; most reports pertain to the Pileated Woodpeckers with partial albinism, often in a symmetrical pattern in the wings, creating a white-winged appearance similar to the Ivory-billed Woodpecker.

Go to the Cornell Lab's [Ivory-billed Woodpecker Website](#) for the latest status report.

Common Name: Lewis's Woodpecker
Scientific Name: *Melanerpes lewis*

Size: 10-11 inches (26-28 cm)

Habitat: North America; western North America, extending north to southern British Columbia, south to southern New Mexico, west to western California, and east to eastern Colorado, approximately matching the distribution of ponderosa pine.

Important aspects of their breeding habitat include an open canopy, a brushy understory offering ground cover, dead or downed woody material, available perches, and abundant insects. The three principal habitats are open ponderosa pine forest, open riparian woodland dominated by cottonwood, and logged or burned pine forest. Breeding birds are also found, though less common, in oak woodland, nut and fruit orchards, piñon pine–juniper woodland, a variety of pine and fir forests, and agricultural areas including farm and ranchland.

Status: Least Concern. **Global Population:** 3,290,000 Mature individuals. Populations are declining due to habitat loss. Since 1975, the species has been on the Audubon Society's Blue List of species exhibiting noncyclical population declines; status was upgraded to Species of Special Concern since 1982. In the USA, designated as a species of conservation concern by several state and federal agencies (USFWS 2008, USDA 2009).

Diet: Insects, acorns or other nuts, and fruit.

It seldom, if ever, excavates for wood-boring insects; instead catches insects by fly-catching and gleaning.

Breeding: A medium sized woodpecker with a greenish black head, back, wings, and tail. It has a prominent silvery gray collar and upper breast.



The face is dark red and there is a pinkish or salmon red color to the lower breast and belly. Sexes similar; male slightly larger than female, but individuals cannot be sexed reliably without examination in the hand. Birds in Juvenile plumage (up to several months after fledging) are distinct from adults. They are overall dark and more brownish black dorsally, generally lacking the extensive gray, red, and pink coloration of adults, but highly variable. Distal portion of rectrices are more rounded in after-second-year birds than in younger birds. The legs and feet are gray. The bill is black and the iris dark in juveniles and adults.

This woodpecker is monogamous and forms long term bonds with its mate. Nesting takes place in tree cavities and it Commonly reuses existing nest holes or natural cavities. Six to seven eggs are laid and are incubated by both parents. Male incubates at night; both adults alternate during the day. During the day, male is attentive 69% of the time, female 29%.

Cool Facts: The Lewis's Woodpecker rarely excavates the wood for boring insects as with almost every other woodpecker does. Instead it gleans insects from the tree's surface or, more commonly, flycatches its meals.

Common Name: Northern Flicker
Scientific Name: *Colaptes auratus*

Size: 11-12 inches (28-31 cm)

Habitat: Throughout North America. The Red-shafted lives in the Western regions and the Yellow-shafted in the Eastern and more Northern regions.

It prefers forest edges, open woodlands, and savanna, with variation in tree species composition as broad as the geographic range of this species.

In the east, specific woodland types include riparian woodlands, especially on Great Plains, swamps or recently flooded or burned areas with numerous snags, beaver ponds, farm woodlots, and shelter belts; and settled areas from villages to suburbs to large cities. It may be common in clearcuts if snags remain standing.

In the West, the woodland types include subalpine, oak–juniper–pine woodland, pine–oak woodland, pinyon–juniper, and montane forests (yellow pine, ponderosa pine, Engelmann spruce, Douglas fir, white fir, quaking aspen). Also found in cottonwoods in riparian woodlands, and in burned woodlands.

Status: Least Concern.



Global Population: 24,000,000 mature individuals. Widespread and common, but populations in the U.S. and Canada have been declining strongly in recent decades. Removal of snags during forestry operations and urban development seems to reduce habitat suitability.

Diet: Insects, ants, beetle larvae, and seed.

It primarily forages on the ground, in soil, especially anthills. Ground cover that facilitates access to ants (bare ground, short grass) is favored while tall grass and thick grass thatch layers are avoided.

Breeding: A large woodpecker that is generally gray-brown with irregular transverse dark-brown bars above, off-white below with numerous 2- to 5-mm black spots and a black crescent mark on upper breast. The ventral surface of the wing, tail and dorsal surface of shafts of flight feathers are bright salmon red or yellow, depending on subspecies. There is a white rump-patch that conspicuous in flight. It is sexually dimorphic with a black or red malar stripe that is usually present only in the male. There is only a slight dimorphism in size, with males averaging 1–2% larger than females in structural size and 5% larger in body mass. The juveniles closely resemble the adults when they fledge.

They are for the most part monogamous (5% of the population is polyandrous and only found in Riske Creek, British Columbia). Both sexes participate in cavity excavation, but male plays dominant role. Three to twelve white eggs are laid in tree cavities. Male and female share parental care through breeding season, but sex roles are partly reversed with males doing more parental care at least at early stages.

Cool Facts: While most woodpeckers work trees for their meals, the Northern Flicker



Yellow-shafted

often works the ground, spearing ants with its barbed tongue. Ants are its favorite food.

The Northern Flicker is also one of the only migratory woodpeckers in North America.

The Red-shafted and Yellow-shafted do interbreed. From Alaska to Texas, hybridized Northern Flickers are common. The Red-shafted will also interbreed with the Gilded Flicker, but this is less common.

There are eleven subspecies which are divided into four morphologically distinct subspecies groups; *auratus*, the yellow-shafted group in Alaska, across Canada, and in the eastern United States, *cafer*, the red-shafted group in western North America, *mexicanoides*, a heavily barred red-shafted group in southern Middle America, and *chrysocaulosus*, a greener and more barred yellow-shafted group in the Greater Antilles.

Auratus group (Yellow-shafted Flicker):

- *C. a. luteus*. First reported by Bangs in 1898. It breeds across northern tier, from central Alaska east to Labrador and south in the northern Great Plains east to the Northeast and in the Appalachians. Many are resident, but numbers are much higher in the southern portion of breeding range in winter; vagrant west to Pacific coast. The cheeks and throat tan, contrasting with the gray crown and nape. The wings are longer and pointed. On the male, the malar is black and nape crescent is red.
- *C. a. auratus*. First reported by Linnaeus in 1758. The nominate is a resident in Southeast, north to southern Virginia, west to eastern Texas and the eastern edge of southern Great Plains. Like *luteus*, but smaller overall.

Cafer group (Red-shafted Flicker):

- *C. a. cafer*. First reported by Gmelin in 1788. Chiefly a resident in the Pacific Northwest, from southeastern Alaska to northwestern California. It is a vagrant in winter south to southeastern California and east to Great Basin. It is similar to the nominate but is darker and heavily saturated. The dorsum, including the crown, is deep maroon-chocolate. The ventrum is a rich vinaceous. With the male, the malar is red, and the nape crescent absent.
- *C. a. collaris*. First reported by Vigors in 1829. It breeds on the Pacific slope from northern California south, including Santa Cruz Island, to Sierra San Pedro Mártir, Baja California. It is mainly resident, but more numerous in winter in southern portion of breeding range, with some movement eastward into Mojave Desert of California and Arizona. It is similar to *cafer*, but paler, with the nape, crown, and back dark brown (lacking contrast).

- *C. a. rufipileus*. First reported by Ridgway in 1876. This subspecies is extinct; a former resident on Isla Guadalupe. It was like *collaris*, but the crown was a rich rufous.
- *C. a. canescens*. First reported by Brodkorb in 1935. It breeds throughout Great Basin and Rocky Mountains. from southwestern Canada south to north-central Mexico (to Durango and Zacatecas). It winters throughout southern portion of its breeding range, to coastal California and Baja California peninsula. It is a vagrant east of Great Plains. It is similar to *collaris*, but the nape and crown is grayer than the dark gray-brown back (distinct contrast).
- *C. a. mexicanus*. First reported by Swainson in 1827. A resident in central Mexico, from Nayarit east to Veracruz, south to Oaxaca. It is similar to *canescens*, but browner and averages smaller in size.
- *C. a. nanus*. First reported by Griscom in 1934. It is a resident in southwestern Texas (Chisos Mountains) and in northeastern Mexico from Coahuila to Tamaulipas, south to San Luis Potosí. It is similar to *mexicanus*, but smaller still (size of the nominate) and decidedly grayer.

Mexicanoides group (Guatemalan Flicker):

- *C. a. mexicanoides*. First reported by Lafresnaye in 1844. A resident in Middle America from northern Chiapas, Mexico, south to El Salvador and north-central Nicaragua. Red-shafted (tinged orange), the dorsal bars are dense and broad. The nape and crown are rich cinnamon and the rump is spotted. The ventral markings have more bars than spots. The breast patch is splotchy, less crescent shaped. The wings appear more rounded. In male, malar is mixed black and red and the nape crescent absent.

Chrysocaulosus group (Cuban Flicker):

- *C. a. chrysocaulosus*. First reported by Gundlach in 1858. It is endemic to Cuba. Yellow-shafted (tinged golden); the cheeks and throat are tan contrasting with the gray crown. The dorsum is olive-green and the rump is spotted. The tail is heavily barred and the ventral markings are more bars than spots. The wings appeared rounded. In male, the malar is black and nape is crescent red.
- *C. a. gundlachi*. First reported by Cory in 1886. A resident on Grand Cayman Island. It is similar to *chrysocaulosus*, but smaller overall with the tail proportionately shorter.

Common Name: Nuttall's Woodpecker
Scientific Name: *Dryobates nuttallii*

Size: 6-7 inches (16-18 cm)

Habitat: Northern America; endemic to California oak woodlands between 1000' to 2000'.

"A narrow canyon whose floor harbors sycamores and alders and bay trees, nourished by a purling stream, and whose sides are lined with live oaks which run up into ceanothus chaparral, is precisely the best place to look for *D. nuttallii*." —William L. Dawson, The Birds of California

Status: Least Concern. **Global**

Population: 300,000 Mature individuals. This species is considered vulnerable due to habitat loss. It also has limited distribution and sparse populations. This species, currently, has a stable population trend.

Diet: Insects and other arthropods.

It forages primarily in oaks and cottonwoods and willows of riparian habitats. Occasionally, it feeds on ground and attempts aerial capture of insects.

Breeding: A small black-and-white woodpecker that inhabits oak, pine-oak, and riparian woodlands of California and Baja California. The head has black ear coverts and a black malar stripe, which both connect with a black nape. The upper parts, including wings and tail are black with white barring; the under parts white with some black spots and barring on the sides, the flanks, and under tail coverts. Sexes alike, except that male has forehead black, becoming streaked with white on center of crown and entirely red on the



rear crown and upper nape, while the female has these areas entirely black with some white streaking. Juveniles resemble adults, but have slightly more grayish to buffy under parts, whiter upper parts, and, unlike adults, both sexes show red in crown (usually a small patch in center of crown in males, while females have fewer and more scattered red-tipped feathers).

Nuttall's woodpeckers are believed to be monogamous with individuals remaining on same territory year-round. During fall and winter, pairs often exchange calls and "double" calls when foraging. When coming into close contact, they give soft "Wad" calls. Drumming (especially by males) begins late January or February and the Kweek Call usual response to drumming and given prior to mating.

The nest cavity is excavated by male with little assistance from female. The male may roost in cavity as it nears completion. New cavities are excavated each year; neither overwintering roost sites, nor old nest cavities are reused. Three to six white eggs are laid in 24-hour intervals and the incubation period last about 14 days. Males brooded young at night; males did 50.2% of the daytime brooding, females 49.8%. The young leave nest at about 15 days of age

Cool Facts: The Nuttall's Woodpecker stays put. It's endemic to California and only found in Oak woodlands in a narrow range of elevation. It doesn't seem to like Conifers. It was named in 1843 by William Gambel for his mentor, the famous British naturalist Thomas Nuttall.

Nuttall's often have two homes; their nesting home and their roosting home.

As a primary cavity nester, this species provides nest sites for many other species in these forests because it never reuses its own nests.

Common Name: Pileated Woodpecker
Scientific Name: *Dryocopus pileatus*



Size: 16-18 inches (40-49 cm)

Habitat: North America; Throughout Canada, and in the United States; East of the Mississippi and Pacific Northwest. Prefers conifer forests.

Status: Least Concern. **Global**

Population: 13,400 mature individuals. Populations declined greatly with the clearing of the eastern forests. The species rebounded in the middle 20th century, and has been increasing slowly and steadily in most of its range. Only in Arkansas do numbers appear to be declining.

Diet: Insects, beetle larvae, fruits, and nuts.

Breeding: The largest commonly seen woodpecker in North America. Males are 10–15% heavier than females. They body plumage and dark flight feathers are not truly black but are most easily described as such. A white line extends from the bill across the cheek and down the neck. From below, the wings show a large oval white patch extending from near the body. This is bordered by a thin line of black along the leading edge of the wing and broad areas of black along the trailing black edge and wing tip. From above, little to no white shows in the folded wing (in contrast to the extensive white shield formed by white-tipped secondaries of the Ivory-billed Woodpecker). In the extended wing, the white area from above appears much reduced and centrally located as a result of overlying dark coverts. Both sexes and both adults and juveniles have a red crest, although that of juveniles is shorter. Males have red on the head extending from the bill to the nape and have a red

“mustache” stripe. Females have a gray to yellow-brown forehead and no red mustache stripe. The bill is long, slightly curved along the culmen, and broad with a chisel-like tip. The central rectrices are longest and stoutest, decurved at tip, thus maximizing “spring” potential when used for support on vertical surfaces.

The Pileated woodpeckers best known call is a loud, repeated series: “*cuk, cuk, cuk...*” It sounds similar to less loud calls of flickers and has often been used for background effect in old jungle movies. Drumming of this species is distinctive; “slow, sonorous drum-roll...tempo becomes more rapid near the end as the bird begins to peck more softly...produces a sharp diminution of the drum...similar to the rush of a receding car”

Pairs share territory all year, but courtship and intensified territorial activity begin February–March in the western United States. Nest trees are typically dead or in deteriorating live trees and within a mature or late- successional stand of coniferous, deciduous trees, or mixed trees. Both sexes excavate, but male does more of the work. Wood chips are removed from inside the cavity by the adults picking them up in their bill and tossing them outside the cavity entrance. Four white eggs are laid and incubation often starts before the last egg has been laid. Both parents incubate eggs alternately during the day; male incubates at night.

Cool Facts: The Pileated digs rectangular shaped troughs in trees to find ants. These troughs can be so wide and deep that they can cause small trees to break in two. Many birds such as House Wren and the Hairy Woodpecker specifically look for these troughs to forge in.

The Pileated prefers the largest of the trees for nesting which presences a risk of possible lightning strikes on the tree.

- *D. p. pileatus*. First reported by Linnaeus in 1758. The nominate is a resident in the southeastern United States from southeastern Kansas east through southern Illinois to Maryland and south to the Gulf Coast, including Florida south to the Florida Keys.
- *D. p. abieticola*. First reported by Bangs in 1898. A resident in the West from the southeastern Yukon and southwestern Northwest Territories east to central California, north Idaho, western Montana, and southeastern Alberta, and from Alberta east through central Saskatchewan and central and south Manitoba east to the Maritime Provinces and south through eastern North Dakota and central Iowa to eastern Kansas east to eastern Pennsylvania and New Jersey. The bill is longer and it averages larger overall. Birds of the far West tend to have the throat grayer and the ventrum less barred, but >50% of western birds have the plumage identical to eastern birds and do not differ in size.

Common Name: Red-bellied Woodpecker
Scientific Name: *Melanerpes carolinus*

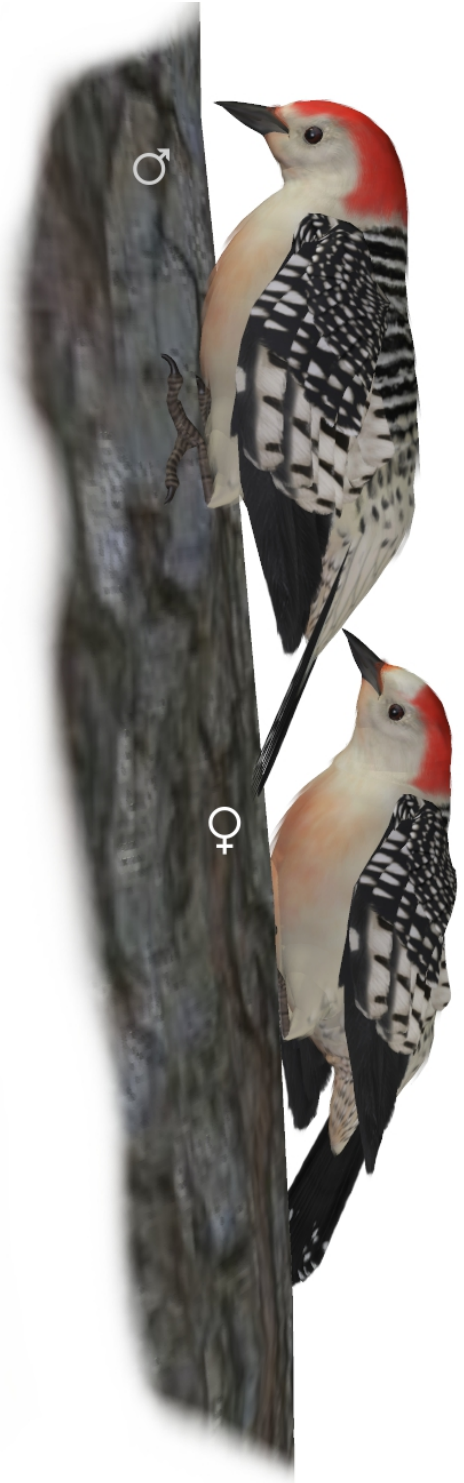
Size: 9 inches (24 cm)

Habitat: North America; widely distributed throughout the eastern and central United States, occurring west to wooded portions of Great Plains and north to Great Lakes region. It is a resident from central Minnesota, northern Wisconsin, northern Michigan (including northern Lower Peninsula and southernmost Upper Peninsula), far southern Ontario, most of New York (largely absent from higher elevations of Adirondacks and Catskills) southern Vermont (extending farther north in Champlain Valley), southern New Hampshire, and southern Maine; south throughout eastern U.S. to southern Florida (including Everglades and Florida Keys), and the Gulf Coast, west to eastern North Dakota, eastern South Dakota, central Nebraska (breeds west along the Platte and other major rivers extreme northeastern Colorado (especially along South Platte River, western Kansas, western Oklahoma, and eastern Texas (eastern panhandle and eastern third of areas south of panhandle.

Broadly adaptable generalist associated with almost any forested habitat. Closely associated with hardwood forests across much of its range, but readily uses pine and mixed pine-hardwood forests at southern latitudes, where it nests in pine snags and in cavities excavated by Red-cockaded Woodpecker.

Status: Least Concern. **Global Population:** 4,440,000 Mature individuals. This species is extended its range over the last 100 years and populations are increasing.

Diet: Wide range of fruits, mast, and seeds and arboreal arthropods and other invertebrates. Their diet consists of about 69% vegetable and 31% animal matter by volume. The vegetable matter consisted of corn, fruit, and mast (acorns, pecan, beechnuts, and hazelnuts), and unidentified



vegetable matter; animal matter consisted of *Coleoptera* (including ground beetles, weevils), ants, grasshoppers, mantids, cockroaches, stink bugs, some scale insects, caterpillars, spiders, millipedes, treefrogs, green anole, and snails.

It is reported to store nuts, acorns, corn, grapes, various seeds and berries, and insects.

Breeding: A medium-sized woodpecker with a zebra-patterned back. Males have a red forehead, crown, and nape, whereas females have red only on the nape. The actual “red belly” is limited to a small portion of the ventral region between the tarsi and is difficult to observe in the field. In flight, shows a white patch at base of the primaries and white rump. The bill black, the legs and feet are gray to green-gray. Eyes are a deep red to red-brown. Juveniles lack any red on their head, the barring is less contrasting and it is overall grayer than adults, and the bill is brownish.

Males hold territories year-round, but some females may defend territories early in the year. Red-bellied Woodpecker nest-site selection includes a ritualized behavior of mutual tapping. The male woodpecker attempts to attract mate to his roost cavity or a partially completed excavation by means of *kwirr* calls, drumming, and relatively soft taps at a rate of 3/s (mutual tapping) while perched inside the cavity, or while perched on the outside of the potential nest tree facing a partially excavated cavity. When attracted, the female flies to the male and perches beside him, joining him in nearly synchronous mutual tapping behavior, presumably indicating her acceptance of the site. If the cavity is partially completed, the mutual tapping behavior also appears to stimulate the female to help the male finish a nearly completed cavity.

Nest cavities are typically excavated on underside of limb or leaning tree trunk. Four white eggs are laid in incubate in about 12 days. Both sexes incubate. Returning parent flies directly to cavity to relieve incubating parent or may perch nearby and call *kwirr*, causing the sitting parent to emerge.

Cool Facts: The Red-bellied Woodpecker barely has a red belly. There’s a slight hint of blush of the belly though its’ head is crimson.

The Red-bellied will store its food much like the Acorn Woodpecker in crevices, cracks and drilled holes, but it doesn’t defend them as the Acorn Woodpeckers do. A Red-bellied Woodpecker in Kansas was reported to store cow dung, and captive birds have been observed to cache miscellaneous objects: nails, toothpicks, wood slivers, paper clips, and paper.

The Red-bellied is an aggressive nest evictor. There are accounts of the Red-bellied dragging a Red-cockaded Woodpecker from its’ nest and killing it to take over the nest. But even bullies get their due; European Starlings are noted for kicking out Red-bellied Woodpeckers from their nests.

Common Name: Red-headed Woodpecker
Scientific Name: *Melanerpes erythrocephalus*

Size: 7-9 inches (19-23cm)

Habitat: North America; found in the United States; east of the Rockies, but more commonly, east of the Mississippi. It often leaves the northern and western portions of its range in fall, but yearly dynamics are greatly influenced by the abundance of hard mast (nuts, acorns), such that individuals linger north and west in some years and move south and east in others. Individuals may also stop migrating and remain in an area for winter when large hard-mast crops are encountered in fall

It can be found in a variety of treed habitats, typically with a certain degree of openness and presence of dead limbs or snags for nesting purposes. This includes deciduous woodlands, especially with beech or oak, lowland and upland habitats, river bottoms, open woods, groves of dead and dying trees, orchards, parks, golf courses, open agricultural country, savanna-like grasslands with scattered trees, and forest edge and along roadsides.

Research across a woody-vegetation gradient in northwestern Indiana found Red-headed Woodpeckers to be one of the few species consistently and highly concentrated in savannas and woodlands, rather than in open, scrub, or forest habitats.

Status: Least Concern. **Global Population:** 1,600,000 Mature individuals. No other species of woodpecker in United States, with possible exception of the Yellow-bellied Sapsucker, was the subject of so much adverse criticism during nineteenth century as an agricultural pest, although there was little evidence to condemn this species except under very unusual conditions. In early colonial America, a bounty of two pence was paid for each head of a Red-



headed Woodpecker, as it was considered a major agricultural pest, particularly in orchards and cornfields, with over 100 reported shot from 1 cherry tree in a single day. Much of the species' historical habitat (e.g., oak-savannah) has largely disappeared, or been drastically altered by humans and their actions, resulting in shifts in habitat use. Formerly a species of forest edges and clearings, Red-headed Woodpeckers may, in certain cases, be forced into closed canopy forests due to snag removal, blow-downs, and competition with starlings. This shift in habitat use may lead to increased competition for nest sites and/or cavities with Red-bellied Woodpeckers and southern flying squirrels. An edge species, it declines where forests mature. It is increasing in areas where beavers are increasing and creating more flooded beaver meadows with dead snags.

Breeding Bird Survey data show the species is declining over much of its breeding range (-2.85% a year).

Diet: Various seeds and nuts; crops such as corn, berries, fruit, insects, bird eggs, nestlings, and mice. Summer diet is 34% animal (mainly insects) and 66% plant material. Its winter diet consists primarily of hard mast (e.g., acorns, beechnuts), but will capture insects on warm days.

As with most woodpeckers, it climbs upward along trunks and limbs of trees, often slowly circling the trunk. It appears more more sluggish than other species; often remaining in a single spot for long periods of time.

It is known to select "ripest and best flavored" fruits, spearing them with open bill and flying off into the woods. It appears to prefer pecans infested with weevil larvae to uninfested nuts. It caches insects (particularly grasshoppers), acorns, and beechnuts, breaking them to fit natural cracks and crevices in posts, in cavities of partially decaying trees, or under patches of raised bark. It stores nuts in gate posts and railroad ties; stores beechnuts, corn (Sutton 1967b), and cherries in cracks, often under shingles of houses and hammers acorns into crevices so tightly that other animals (e.g., Blue Jays) cannot remove them. Grasshoppers regularly stored alive, but wedged into crevices so tightly they cannot escape. Nuts and large pieces of nuts (and insects) often brought to "anvil" site, where they are broken into smaller pieces for storage or consumption.

Breeding: This medium-sized woodpecker is unmistakable with crimson red hood over entire head, neck, throat, and upper breast, contrasting with snowy-white underparts and black upper parts that have a slightly greenish or bluish sheen. The red head is subtended by a narrow black collar across the breast. The large white patch is visible on the secondaries and tertials at rest and in the flight. The rump and upper tail coverts are also white. The tail is black with the outer most rectrices white (also there is some white at the base and on the outer webs of succeeding inward pairs of feathers). The bill bluish white or light gray, becoming darker, more lead-colored terminally. The iris is dark brown or reddish brown in adults, and the legs and feet are olive gray. Sexes are monomorphic.

The immatures are distinguishable in the first fall and winter by having their head, neck, and upper breast varying from entirely from grayish brown to crimson red (with little or no brown coloration). The secondaries are white, with the subterminal black band (complete in Juveniles, variable after Prebasic molt), the under parts are whitish, with variable amounts of dusky streaking, especially on the flanks. The dark areas are brownish black and the iris grayish or grayish brown in juveniles (June–October).

Birds from the Great Plains and Rocky Mountains average larger and more frequently have the belly tinged red than birds of the Atlantic slope, although populations in the Mississippi Valley are intermediate. Variation in these traits appears to be clinal. Florida individuals are small relative to those farther north.

It is monogamous with birds pairing for several years. Courtship activities focus on the nest site and include a horizontal pose with the neck stretched forward, plumage sleeked, shoulders humped. The female usually inspects the nest cavity. The male and female spend much time playing “hide and seek” around dead stubs and telephone poles, with individuals on opposite sides alternately looking at each other around one side and then the other. Also often chase one another from tree to tree.

It is one of the latest nesting woodpeckers in the United States, often beginning in early May. Breeding season begins in early to mid-May in Colorado, or later in Wyoming and Ontario. In the southern part of the species' range, nest-building may begin as early as February, and dependent young of last broods may not fledge until late August or early September, thus making the southern breeding season longer than in the north. The male selects the nesting site and the female often taps around the prospective nest cavity, signaling her approval of the nest site. Both sexes build nest, although the male does most of the excavation. Five white eggs are laid in 24-hour intervals. Both sexes incubate. Male apparently does all incubation at night and shares duties during the daylight. Both parents participate in feeding young and in nest defense. The male and female feed equally for the first 12 days, after which the female does nearly 75% of the feeding until young fledge. The feeding of young continues for a period after young leave the nest.

Cool Facts: The Redheaded Woodpecker is one of the four North American Woodpeckers known to store food. It is also considered the most aggressive and omnivorous of the woodpeckers. It will destroy other birds' nests within its' territory.

This woodpecker has benefited from Chestnut Blight and Dutch Elm disease, which in turn provide additional nesting sightings.

The Cartoon star “Woody Woodpecker” was based on the Redheaded Woodpecker.

Common Name: White-headed Woodpecker
Scientific Name: *Dryobates albolarvatus*

Size: 8-9 inches (21-23 cm)

Habitat: North America; found along the Pacific coast of North America. The populations in most of range are considerably more fragmented than mapped because of complex topography and localized suitable coniferous forest habitat. The northernmost breeding occurs in the Okanagan Valley of south-central British Columbia (where rare). It is locally distributed southward through eastern Washington, western Idaho, through northeastern, central, and south-central Oregon (Blue, Ochoco, Wallowa, and Cascade mountain), and in California south in the Coast Ranges very locally to northwestern Colusa County, and inland through the Sierra Nevada (widespread on western slope, more local on eastern slope). Also, it breeds eastward into extreme western Nevada in Lake Tahoe region. In Cascades region of Washington and Oregon, found primarily on the eastern slopes, occurring very locally on western slopes to Crater Lake and Siskiyou Mountains, Oregon.

In southern California, the distribution generally congruent with highest mountain ranges. Breeds in Mt. Pinos region and west to mountains of east-central Santa Barbara County (Big Pine Mountain, San Rafael Mountain, possibly Figueroa Mountain), and eastern Ventura County (Pine Mountain). It is also in Transverse Ranges (San Gabriel and San Bernardino mountains), in San Jacinto Mountains, and locally south in Santa Rosa Mountains and high mountains of San Diego County (Mt. Palomar, Cuyamaca Mountains, Laguna Mountains).

It occurs predominately in montane coniferous forests dominated by pines, with tree species composition varying geographically. In much of range of nominate



albolarvatus, the ponderosa pine is the dominant pine. It is rarely found in areas dominated by ponderosa pine (e.g., Rocky Mountains of Montana, Wyoming, Colorado, New Mexico, Arizona). Other important species include sugar pine, white fir, incense cedar and Douglas-fir.

The southern race *gravirostris* occupies montane mixed-conifer forest, with Jeffrey pine, sugar pine, Coulter pine, ponderosa pine, incense cedar, and white fir. Deciduous oaks, primarily California black oak, are often common in occupied mixed-forests, but not frequently utilized.

Status: Least Concern. **Global Population:** 70,000 Mature individuals. Population numbers are stable, however there is concern about its future because of timber harvesting and development pressures.

Diet: Invertebrates (primarily adult and larval insects, especially ants, beetles, scale insects) and conifer seeds. The relative importance of these 2 categories varies regionally and seasonally. A mixture of invertebrates and Coulter pine seeds are favored by race *gravirostris* whereas sugar pine seeds are favored by the nominate subspecies.

The majority of foraging activity takes place on trunks, branches, needle clusters, and cones of live coniferous trees. In addition to direct pecking, this species flakes and chips bark of conifers with angled strokes mimicking a “chisel” maneuver. Foraging involves much peering into crevices and cracks in bark. It probes into crevices in pine bark with its tongue. When foraging on cones, it often clings to the sides and bottoms of cones. Such foraging acrobatics minimize the direct body contact with cones, which are often heavily laden with sap. It chips away at the cones to expose its seeds, usually with a series of lengthwise furrows and slides the bill between partially open scales of the cones to remove the seeds. It may remove the pine seeds whole or nearly whole from cones and takes them to an anvil (seed-cracking) site (usually on same tree or another tree within about 20 m), where it wedges the seeds into bark crevices and breaks them apart with its bill, and consumes them.

Movement along vertical trunks typical of other *Dryobates* woodpeckers, with short hitches using stiffened rectrices of the tail as brace. The rate of progression along the trunk surface is variable. Downward (tail-first) hitching along the trunk is common during foraging bouts and intraspecific interactions. When on the ground, it hops.

Breeding: A medium to small woodpecker. It is unique among *Dryobates* species in having entire body plumage and tail black, with the face, throat, crown, and large patch on the remiges white. There is white on the outer webs of the primaries forming a wing-patch visible on folded wing. The additional white from the inner webs of the remiges shows in flight. Males have a small red patch on the occiput, which is absent in the females.

In the juvenile plumage, the black is duller, there is a variable vermilion patch on crown, the white patches in the remiges are generally more broken, but unmistakable with its mostly white head.

This species is socially monogamous. Courtship involves a nest demonstration display in which one bird, usually the male, gives does a flutter aerial display near the nest hole, giving a “kweek” call in flight and a “twitter” call upon landing.

Typically, the female flies in and gives a “rattle” call to the male, who is at, near, or inside the nest cavity. The female flies to a horizontal branch near nest tree and the male flies out. A soft “chewk chewk chewk” call and wing-quivering in both sexes precede copulation.

Four to five white eggs are laid. Both male and females incubate the eggs with the mate doing the nighttime duties. The pair is very attentive to each other during nesting and often communicates through softly drumming to each other in and out of the nest.

Cool Facts: The White-headed woodpecker is the only white headed/black-bodied woodpecker in North America. Its primarily food source are pine nuts. It chips away at the unopened living pine cones to get at the nuts. It clings to the sides or the bottom of the cone to avoid the sticky sap. Once it gets the pine nut, it will wedge the nut into a crevice and hammer away at the shell to get at the nutmeat.

There are two subspecies:

- *D. a. albolarvatus*. First reported by Cassin in 1850. The nominate subspecies is found in South-central British Columbia south, discontinuously in mountains, to Washington, western Idaho, Oregon, California (south in Coast Ranges of northwestern California to Colusa County, and along Sierra Nevada in eastern California), and extreme western Nevada. It is slightly shorter-tailed and smaller-billed than *gravirostris*.
- *D. a. gravirostris*. First reported by Grinnell in 1902. It is endemic to the San Gabriel Mountains of southwestern California with the southern limit of range in San Diego County. It has a slightly longer-tail and is bigger-billed than *albolarvatus*.

Common Name: Red-naped Sapsucker
Scientific Name: *Sphyrapicus nuchalis*

Size: 7.5-8.3 inches (19-21 cm)

Habitat: North America; it breeds in the Rocky Mountains region north to central, southern, and southeastern British Columbia (north to Cinema and Yoho National Park and west to Tatla Lake and Manning Provincial Park, southwestern Alberta (in mountains north to Banff National Park and Sundre.

From Canada, it breeds southward through Idaho, western and south-central Montana (east to Blaine, Stillwater, and Bighorn counties.), western and central Wyoming, northern Nevada (west to Santa Rosa and Desatoyo Mtountains) and eastwern Nevada (south to Sheep and Spring Mountains), Utah, and western and central Colorado (east to Larimer and Las Animas Counties), to northwestern and southeastern Arizona (Coconino, Navajo, Apache, Greenlee Counties), north-central. New Mexico (south to Mogollon, Sacramento, and Guadalupe Mountains and east to Sangre de Cristo Mountains. It also breeds from northern Washington south through eastern slopes of the Cascades (rarely to western slopes) and other mountain ranges of central and eastern Washington and Oregon.

It winters from southern California (sparingly along the coast north to Los Angeles county and



exceptionally north to Oregon, sparingly along western slopes of the Sierra Nevada, and more commonly along the Colorado River), southern Nevada, southernmost Utah (locally to northern Utah), and central New Mexico south to southern Baja California, and on the Pacific slope and in the interior of Mexico from Sonora, central Coahuila, and southern Nuevo León south to northern Jalisco.

During breeding season, it is found in deciduous and mixed woodlands including aspen groves in open ponderosa pine forests, aspen-fir parklands, logged forests where deciduous groves remain, aspen groves in open rangeland, birch groves, montane coniferous forests, and, occasionally, subalpine forest edges and residential gardens from 300 to 3,000 m elevations. It is often associated with willow (used for creating sap wells).

When wintering, it is found in diverse habitats, including orchards and pine-oak woodlands. In Arizona, found in riparian woodlands, oak savanna, oak-juniper, pine-oak, and pure-oak woodland in mountains to 1,700 m.

Status: Least concern. **Global Population:** 2,440,000 mature individuals. Historically shot as an orchard pest; protected now. Populations are decreasing, but forestry practices may affect abundance in particular areas.

Diet: Sap from trees (preferably willow) and some insects.

It forages for insects by gleaning, probing, prying, tapping, and flycatching. It drills series of shallow holes in bark of tree, licks up sap.

Breeding: It is a small to medium sized woodpecker. It has a black bib on upper breast, a prominent red forehead with a black band at the rear. The nape is red (as its name suggests). There is a black stripe along the side of the head bordered by two white stripes. The crown and nape are black. It has a large white wing-patch, the back blackish (with yellowish tinges), the rump white, and the under parts buffy or yellow-tinged. The throat red in male and the chin and upper throat are white in the female with the lower throat having some red (the extent of red is variable) The throat patch is bordered by black. Some females may have reduced or no red on their foreheads and reduced or no white on throats, but otherwise similar to male in plumage and size. Juveniles retain brownish plumage until Prebasic I molt (by first fall), after which is a variegated brown. The juveniles head and body plumage replaced by black, white, and red coloration of the adult.

Pairs form within three weeks of arrival on breeding ground. In British Columbia, this species arrives late March or early April and are paired by at least third week of April. The nest site apparently chosen based on proximity to foraging areas rather than on characteristics of nest tree stand. Adults often return to breeding site of previous year, often same tree and sometimes same cavity. The male

does most of the cavity excavation with the female often sitting at or by the cavity entrance and may preen while male is away. In some cases, each member of the pair excavates in separate trees and each may start several cavities before one site is finally selected. Female participation in the excavation increases as season progresses. The construction occurs any time between dawn and dusk and takes from about six days to two weeks to complete. No nest material is added to the cavity.

Three to seven white eggs are laid by incubated by both sexes. Both adults feed young, but there is no coordination between the parents. From hatching until six days of age, adults always enters the cavity to feed. From six to sixteen days, adults enters cavity to feed but exit without waiting for their mate. After sixteen days, adults will no longer enter the cavity to feed (but male enters to remove fecal material and to roost over-night). The young are fed primarily insects (ants, caterpillars and mayflies) and spiders. At about twenty-eight days, all young are fledged.

Cool Facts: The Red-naped Sapsucker is closely related to the Yellow-bellied and Red-breasted sapsuckers. All three were formerly considered races of the yellow-bellied. The red-naped hybridizes where it comes in contact with the other two species, and birds intermediate in plumage are sometimes found.

Sapsuckers do not suck sap, but are specialized for sipping it. Their tongues are shorter than those of other woodpeckers, and do not extend as far out. The tip of the tongue has small hair-like projections on it that help pick up the sap, much like a paintbrush holds paint. Sap wells made by sapsuckers attract other sap feeders, especially hummingbirds. Although the woodpecker may eat some insects that are attracted, others are treated as competitors and are chased away.

The rare sightings of the Red-naped Sapsucker in northern Los Angeles County actually come from “Quail Hollow” in Tujunga, California (the Songbird ReMix authors home). They spend 2-3 days there of their migration path in the fall and when they return in the spring.

Common Name: Yellow-bellied Sapsucker
Scientific Name: *Sphyrapicus varius*

Size: 9 inches (21-22 cm)

Habitat: North America; It breeds from southeastern Alaska, southwestern Yukon, southwestern Northwest Territories (north to Fort Norman, Great Slave Lake), northern Saskatchewan, central Manitoba, northern Ontario (Ney Lake, Attawapiskat, but not Hudson Bay lowland region, south-central Quebec (as far north as Eastmain River, southern Labrador, and central Newfoundland south to northeastern British Columbia, southern Alberta (in Rocky Mountains, but absent from southeastern plains), central and southeastern Saskatchewan, north-central and eastern North Dakota (east of line joining Ward, Stutsman, and Sargent Counties.), extreme eastern South Dakota (along Big Sioux River), northeastern Iowa (confirmed breeding in Allamakee, Clayton, and Winneshiek Counties, the central Lower Peninsula of Michigan, southern Ontario (south to southern Lake Huron and eastern Lake Erie, northeastern Ohio (Ashtabula, Trumbull, Cuyahoga, Geauga, and Lake Counties), northern Pennsylvania (mostly north of line joining Crawford, Elk, Sullivan, and Pike Counties), western Maryland (Garrett and Alleghany Counties), extreme northwestern New Jersey, southeastern New York (breeding confirmed south to Sullivan Counties), northwestern Connecticut (Litchfield and Hartford Counties), western Massachusetts (east to Worcester Counties), New Hampshire (except coastal plain and lower Merrimack River valley), and extreme southern Maine. Also, it is locally found in the Appalachians south to eastern West Virginia, western Virginia, eastern Tennessee (Great Smoky Mountains National Park) and western North Carolina.

It winters fFrom northern Kansas, northern Missouri, central Illinois, central Indiana, central



Ohio, southeastern Pennsylvania, northern New Jersey, and Long Island, New York southward (except absent from the Appalachian Mountains south to northern Georgia) through the southern United States (west to western Oklahoma and west-central Texas), Mexico (except absent from northwestern Mexico west of eastern Coahuila and eastern Jalisco), and Central America to the highlands of Costa Rica.

For Breeding, it favors early-successional tree species for both nesting and feeding (quaking aspen, birch, maple, and mixed-conifer forest, usually along riparian zones up to 2,000 m. The Yellow-bellied Sapsucker has very specific habitat requirements for young forests.

In wintering, it found in diverse woodlands, orchards, lowlands, coastal palm groves, and scrublands.

Status: Least Concern. **Global Population:** 11,100,000 mature individuals. Historically considered pest in orchards and shot as a result (that is no longer the case). There is some concern about destruction of trees in forests with some researchers suggesting that sapsuckers cause reduction in growth of trees (e.g., birch), and each pair kills on 1-2 trees yearly because of girdling by sap wells but there is little evidence to support these assertions. The Yellow-bellied Sapsucker probably benefited with the destruction of mature forests and the creation of forest gaps and increased edge. Populations appear stable.

Diet: Sap, fruit, and arthropods.

It gleans, probes, scales bark, pounds, pecks, and drills during feeding. Most foraging time associated with sap well construction and maintenance (28% drilling for sap and 14% probing for sap). In early spring, sap wells made into xylem tissues to feed on sap moving upward. After the deciduous species leaf out, sap wells tap phloem tissues. Most sap wells placed on trunk near base of crown, or on trunk above lowest living branches, 85% constructed above scars from old wounds.

Breeding: It is a small to medium sized woodpecker with a black bib on the upper breast, a prominent red forehead and crown with a black border and band at the rear. There is a black stripe along the side of head bordered by two white stripes that join at the nape. The crown is red and there are large white wing-patch formed by the median and greater coverts. The back is blackish (with yellowish barring), the rump white, and the under parts buffy or yellow-tinged. The chin and throat are mostly red in the male and all white in female. Some females have reduced or no red on the forehead, but otherwise are similar to male in plumage and size. Juveniles are similar to the adults but with the black on the head and breast are replaced by a brownish and subdued red-and-white head markings. Juveniles retain their brownish plumage until first Prebasic

(Postjuvenile) molt (which may not be completed until March), during which the brown of the juvenile plumage replaced by black coloration of the adult.

Males arrive in the breeding areas before females and seek out drumming posts to establish their territories. About a week later, the females arrive and seek nesting sites and territory (usually from the previous year). The male does nearly all excavation of the nest. The female spends much of time preening and resting and removes very little wood from cavity, but will become more involved in excavation if first cavity not successful. No nesting structure is built in the tree cavity. Two to seven white eggs are laid. Reports of role of each sex vary, most report that the female incubates more than the male does. Both sexes feed young, bringing small insects when young first hatch.

Cool Facts: The Yellow-bellied Sapsucker is the only Eastern United States migratory woodpecker.

The harvesting of Sap, this sapsucker likes two types of holes, round and rectangular. The round holes are deep and the sapsucker inserts its bill into the hole to collect sap. The rectangular holes are shallow and are regularly maintained by the sapsucker to keep the sap flowing.

A Snagging Issue

Dead and dying trees provide vital habitat for more than 1,000 species of wildlife nationwide, however forest management and homeowners readily remove them.

Dead trees comprise two important wildlife resources:



- Snags - The name for dead trees that are left upright to decompose naturally.
- Fallen Logs - When a snag (or part of a snag) falls on the ground, it becomes a log--also a very useful for wildlife habitat.

By some estimates, the removal of dead material from forests can mean a loss of habitat for up to one-fifth of the animals in the ecosystem.

How Dead Trees Help Wildlife

Wildlife species use nearly every part of a dead tree in every stage of its decay for things such as:

- A Place to Live - Many animals, including birds, bats, squirrels and raccoons make nests in hollow cavities and crevices in standing dead wood.
- A Food Source - By attracting insects, mosses, lichens and fungi, dead wood becomes a gourmet restaurant for wildlife looking for a snack.
- A "Crow's Nest" - Higher branches of snags become excellent look-outs from

which wildlife (such as raptors) spot potential prey and also eat what they catch.

- A Hiding Place - The nooks and crannies of dead wood are put to good use by squirrels and other wildlife looking to store food.
- A Soil Refresher - Mosses, lichens and fungi all grow on snags and aid in the return of vital nutrients to the soil through the nitrogen cycle. Decaying logs on the forest floor also act as "nurse logs" for new seedlings.

Incorporating Dead Trees into Your Habitat

You can create a refuge for hundreds of woodland creatures by keeping snags in your yard (or constructing artificial snags if no natural ones are present). Despite the importance of snags to wildlife, many modern forestry practices encourage the removal of dead wood from the forest floor in an attempt to control pests and fungi, as well as for aesthetic reasons.

When should I remove a snag? - Never allow dead wood to rest against your home. Also any trees which may fall on your home (or a neighbor's home) should be removed. In both these cases, however, consider moving the wood to another safer area of your yard.

What about termites? - As long as the snags are a reasonable distance from your home, termites and other pests won't find their way into your home.

How do I create artificial snags? - If there are no natural snags in your yard, you can create artificial ones by trimming branches on live trees of varying sizes and types. Hardwood trees tend to make better nesting habitats while softer wood is better for food foraging. If you do not wish to create snags from living trees, the use of nesting boxes can be a good alternative

How many snags should I have? - Three snags per acre is a good estimate for most areas, but you should check with your local wildlife management authority to get specific recommendations for your region.

Special Thanks to my Beta-Testing Teams

2003 Original Release: B. L. Render

- 2006 Re-release: Jan, Rhonda and Sandra
- 2010 Re-release: Ali, Bea, Jan, Kelvin, Sandra & Katt
- 2021 Re-release: Alisa, FlintHawk, and Tparo

Species Accuracy and Reference Materials

The author has tried to make these species as accurate to their real life counterparts as possible. Many birds of the same species do vary considerably in color. This package tries to emulate the colors and markings in the most commonly found variants.

With the use of one generic model to create dozens of unique bird species, some give and take is bound to occur.

The model was created in Modo. The model rigs in Poser and DAZ Studio. The texture maps were created in Painter.

Field Guide Sources:

- **"The Sibley Guide to Birds"** by David Allen Sibley.
- **Handbook of the Birds of the World Alive** <https://www.hbw.com/>
- **Wikipedia** <https://en.wikipedia.org>
- **BirdLife International** <https://www.birdlife.org/>

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