

## Cavity Nesting Birds Guild

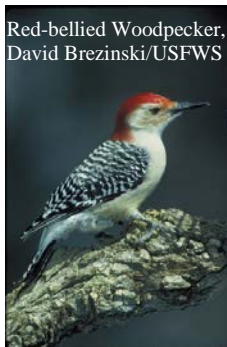
**Carolina Chickadee** *Poecile carolinensis*  
**Carolina Wren** *Thryothorus ludovicianus*  
**Chimney Swift** *Chaetura pelagica*  
**Downy Woodpecker** *Picoides pubescens*  
**Pileated Woodpecker** *Dryocopus pileatus*  
**Purple Martin** *Progne subis*  
**Red-bellied Woodpecker** *Melanerpes carolinus*  
**Red-headed Woodpecker** *Melanerpes erythrocephalus*

*NOTE: The Red-cockaded Woodpecker is discussed in its own species account.*

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### DESCRIPTION

#### Taxonomy and Basic Description



Red-bellied Woodpecker,  
David Brezinski/USFWS

The cavity nesting guild includes a diverse group of birds that all require the use of cavities or crevices as nesting locations. The most well-known cavity-nesting species are woodpeckers (family Picidae), and this account addresses 4 species: Downy Woodpecker, Pileated Woodpecker, Red-bellied Woodpecker, and Red-headed Woodpecker. The remaining birds in the Cavity Nesting Birds Guild included in this account are from the families Paridae (Carolina Chickadee), Troglodytidae (Carolina Wren), Apodidae (Chimney Swift), and Hirundinidae (Purple Martin).



Downy Woodpecker, Dan  
Sudia/USEWS



Red-headed Woodpecker,  
Dave Menke/USFWS

The Downy Woodpecker is the smallest of the 4 woodpeckers discussed here. It is distinguished in appearance by its black and white coloration, white breast, white striping on the head, and white on the back between the wings. Adult males have a smudge of red across the back of their head. The Pileated Woodpecker, the largest in North America, is a striking bird with a red crest and solid-black back. In flight, the white on the underside of its wings is readily apparent. The Red-bellied Woodpecker is a medium-sized woodpecker that is distinguished by its zebra-striped wings and back, and red “mullet”. The reddish coloration on the belly is often subtle, and most apparent on males. The Red-headed Woodpecker is similar in size to the Red-bellied and has a solid red head, bright white breast, and a solid black back with white wing patches (Sibley 2000).



Pileated Woodpecker, Mark  
Musselman/USFWS



The Carolina Chickadee is a small grayish bird with a black and white head and a small beak. The Carolina Wren is a rust-colored bird with a buffy breast, white eye stripe, and slightly down-curved beak. It often holds its tail high in the air. Chimney swifts are most often viewed in flight and are dark, brownish birds best described as “cigars with wings”. Purple Martins, the largest swallows in North America, have long, pointed wings and a slightly forked tail. Males are iridescent blue-black, and females are more brownish overall (Sibley 2000).

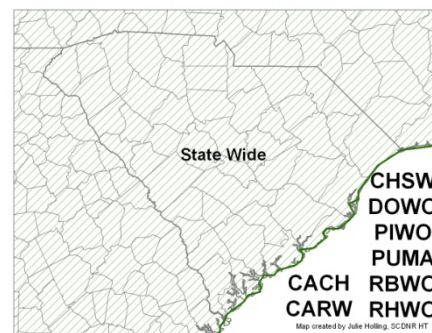
## Status

Breeding Bird Survey (BBS) data shows a significant decline in Red-headed Woodpeckers and Chimney Swifts throughout their breeding ranges in the last 45 years, although in South Carolina the status of the Red-headed Woodpecker appears to be stable (Sauer et al 2012). Both species have been placed in the Near Threatened Red List Category by the International Union for Conservation of Nature and Natural Resources due to population declines (IUCN 2012). Partners in Flight (PIF) listed the Red-headed Woodpecker as a Watch List species, being moderately abundant but with declines or high threats. PIF has also listed Carolina Wren and Red-bellied Woodpecker as Stewardship species, defined as being characteristic of a single Avifaunal Biome (Rich et al 2004). BBS data shows a significant increase in the SC population of Red-bellied Woodpeckers and Purple Martins in the last 45 years while Carolina Chickadee, Carolina Wren, Downy Woodpecker, and Pileated Woodpecker populations appear to be relatively stable range-wide and in SC (Sauer et al 2012).

## POPULATION SIZE AND DISTRIBUTION

### *Resident Species*

The Carolina Chickadee is a Southeastern species, ranging from New Jersey to Florida to Central Texas (Mostrom et al. 2002). Carolina Wrens share most of the Carolina Chickadee’s range, except that they are found a little further south into southern Texas and northern Mexico and further northward into southern Michigan, southern New York, and Connecticut



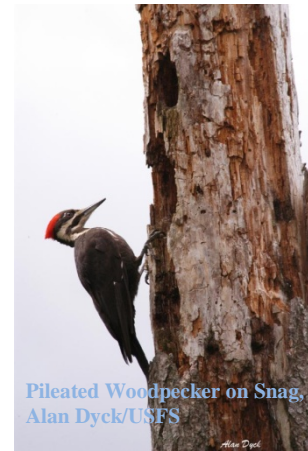
(Haggerty and Morton 1995). The Downy Woodpecker has one of the largest ranges of North American woodpeckers; it can be found throughout most of the US and Canada (Jackson and Ouellet 2002). The range of the Pileated Woodpecker covers much of the Eastern US and most of Southern Canada (Bull and Jackson 2011). It can also be found in the northwest corner of the US. Red-headed Woodpeckers are present throughout the Eastern US. They are found year-round in the Southeast, only in the breeding season in the Northern Great Plains, and only in winter in south-central Texas (Smith et al. 2000). The Red-bellied Woodpeckers are found throughout most of the Eastern US. All of the above species are common throughout South Carolina year-round (Shackelford et al. 2000).



Carolina Chickadee nest in nestbox, David Arbour/USFS

### *Neotropical Migrants*

The Chimney Swift is found in the spring and summer months throughout the Eastern US and into the southern extremes of Eastern Canada; it winters in the upper Amazon River Basin in northern South America (Cink and Collins 2002). The Purple Martin has a similar breeding range to the Chimney Swift except that it extends deeper into south-central Canada and into parts of the Southwestern US and Western Mexico. It is known to winter in Central and South America, although its exact range there is unknown (Tarof and Brown 2013). Both Chimney Swifts and Purple Martins are common throughout South Carolina in spring and summer months.



Pileated Woodpecker on Snag, Alan Dyck/USFS

## HABITAT OR NATURAL COMMUNITY REQUIREMENTS

Carolina Chickadees and Carolina Wrens both utilize a variety of habitats. Carolina chickadees prefer forests with well-developed shrub, midstory, and canopy layers; they also need living trees with cavities or dead snags in which to nest (Hamel 1992). Chimney Swifts are more commonly found in areas where there is more human development, and therefore more chimneys and similar structures for them to roost and nest in (Cink and Collins 2002). Before the widespread distribution of birdhouses, Purple Martins used woodpecker cavities in riparian areas and forest edges. Now, however, Purple Martins are found more commonly in human-populated areas (Tarof and Brown 2013).



Red-bellied Woodpecker on Snag, SCDNR

Downy Woodpeckers are quite adaptable and are found in a wide variety of deciduous forests and areas influenced by human development (Jackson and Ouellet 2002). Pileated woodpeckers are most often associated with mature bottomland hardwood forests, but also found in younger forest types with the presence of large, dead trees (Bull and Jackson

2011). Important habitat features for Red-headed Woodpeckers are open, mature forests and groves, with an abundance of dead trees in which to nest. Red-bellied Woodpeckers are suited to many forest types, as long as there are cavities for nesting available (Hamel 1992).

## CHALLENGES

Scott et al (1977) identified 85 species of North American birds that use snags for nesting. These birds use either natural cavities, use cavities created by other species, or create their own cavities. Often these dead and dying trees are eliminated from a stand by land managers because they are believed to be safety hazards, thought to be a refuge for pests, are undesirable from a timber revenue standpoint, or are considered to be an unattractive component of the forest.



The two species in this account that have seen significant declines are thought to be doing so primarily because of a loss of nesting habitat. In rural areas, nesting habitat of Red-headed Woodpecker populations has decreased due to agricultural development, river channelization, firewood cutting, and clearcutting (Ehrlich et al. 1992; Melcher 1998). Felling of dead trees and branch cutting has decreased habitat suitability in urban areas (Pulich 1998). Smith et al (2000) lists the following contributors to decline: twentieth century fire suppression, reforestation of e. US, disappearance of chestnuts, reduction of oak-savanna habitat, loss of small orchards, and shift to “clean” farming practices (e.g. removal of hedgerows, odd corners of fields, larger monoculture fields).

With the arrival of European settlers, Chimney Swifts likely went from being a somewhat uncommon bird to an abundant bird as chimneys and other human-made structures became available for nesting sites. In recent years however, the destruction of old chimneys and the subsequent construction of new chimneys less suitable as nest sites have contributed to the species’ decline (Cink and Collins 2002).

## CONSERVATION ACCOMPLISHMENTS

The Lacey Act of 1900 was the first major step toward protecting all US wildlife, including birds. According to the USFWS, under the Lacey Act, it is unlawful to “import, export, sell, acquire, or purchase fish, wildlife or plants that are taken, possessed, transported, or sold: 1) in violation of US or Indian law, or 2) in interstate or foreign commerce involving any fish, wildlife, or plants taken, possessed, or sold in violation of State or foreign law” (USFWS). The Migratory Bird Treaty Act of 1918 declared the possession of any migratory bird or part, including nests and eggs, to be illegal, with the exception of game birds during the proper season.

Aside from legal protection, the populations of birds in the cavity-nesting guild have been monitored in large-scale efforts, such as the Breeding Bird Survey and Christmas Bird Count. The Breeding Bird Survey (BBS) was initiated in 1966 and is a continental monitoring program for all breeding birds. At present there are about 2,700 active routes, which consist of 3-minute

point counts spaced every 0.5 mile for 24.5 miles (Sauer et al. 1997). The Christmas Bird Count was initiated in 1900 and is an early-winter bird census conducted by thousands of volunteers that count all birds seen and heard in specified 15-mile diameter circles during a 24-hour period (Audubon 2013). Both monitoring efforts have contributed in tremendous ways to the knowledge of bird population trends. BBS data has been analyzed in countless scientific studies and by wildlife agencies and conservation initiatives, while CBC data has contributed to reports such as the collaborative “State of the Birds 2009,” Audubon’s “Common Birds in Decline,” and “Birds and Climate Change Analysis” (Audubon 2013).

## CONSERVATION RECOMMENDATIONS

### *State-owned property*

- Leave dead snags in stands on SCDNR-managed properties.
- Assess the quality of cavity nesting bird habitat on state-owned properties by locating potential nest sites.
- Conduct point count surveys for cavity nesters on state-owned properties to determine the population densities of these species.
- Continue monitoring cavity nester populations via the Breeding Bird Survey and Christmas Bird Counts. Encourage greater participation by agency personnel.

### *Private property*

- Encourage landowners to maintain snags in a variety of stages of decay as well as existing cavity trees on their property. The general rate is 3 quality snags per acre that are within 500 feet of openings and water sources; 2 snags per acre is acceptable for forest interiors.
- Encourage landowners to provide bird houses constructed to species-specific dimensions when natural cavities are lacking in the landscape.
- Continue monitoring cavity nester populations via the Breeding Bird Survey and Christmas Bird Counts. Encourage greater participation by volunteers.

## MEASURES OF SUCCESS

As results from current research and surveys or future efforts are identified and analyzed, projects will be initiated to address specific needs that arise from these results. Monitoring of marked populations of cavity-nesting species on SCDNR properties will provide data on natural population fluctuation over time. Stable or increasing populations of these species on public lands will be a measure of success.

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