

Brown-headed Nuthatch

(Sitta pusilla)

BY:

Mark Danaher, International Paper and Mark Johns, NC Wildlife Resources Commission



Photo by: Bill Stice



Brown-headed Nuthatch (*Sitta pusilla*)

The scientific name translates to “small bird like a woodpecker”. This is a pine specialist of open southern pine forests and pine plantations with a poorly developed mid-story. It is the smallest nuthatch of the southern United States. Partners in Flight in North Carolina considers this a species of high conservation concern, mainly due to lack of suitable habitat from lack of natural fire.

This bird is most common in coastal and Piedmont open pine dominated forests that have a poorly developed mid-story, and some snags for nesting. As the mid-story reaches above 20 –30 feet under mature pines, this species begins to decline. When deciduous hardwoods begin to reach the canopy of the stands, this bird is rarely present.

Pine plantations in the coastal plain of mid to older age classes that have a poorly developed mid-story, or are recently thinned, also offer habitat for this pine specialist. As typical North Carolina piedmont forests age, the deciduous component begins to dominate and the larger White-breasted Nuthatch is the common nuthatch present.

Description

This is our only nuthatch with a brown patch of feathers extending from the crown to the eye line. Both males and females possess a brown head with a white pale spot on the nape. The back coloration is bluish-gray in this bird, and it has a white belly and underside.

Voice

The call is much different from the other North Carolina (White-breasted and Red-breasted) nuthatches. The typical call resembles the sound made by a dog's 'squeaky toy' repeated several times. Another call given is a rapid high-pitched "kit-kit-kit", or similar harsh, nasal notes mixed together.

Range

The Brown-Headed nuthatch can be found from east Texas to southwestern Arkansas, east to Georgia, and northeast to coastal Virginia and Delaware. In Florida, it can be found as far south as Lake Okeechobee. It is less common west of the piedmont region in North Carolina. Records do exist for the North Carolina mountain region at lower elevations.

Habitat and Habits

It is commonly found in southern pine forests, especially in forests with a "ball-park" appearance and intermixed with standing snags. These birds commonly nest in open pine/mixed pine-hardwood stands, clearings, and along edges. Nests are typically constructed in dead snags, but naturally occurring cavities and holes excavated by woodpeckers are commonly utilized. Nest cavities are often rather close to the ground. These nuthatches have been known to nest in birdhouses.

The breeding season in North Carolina runs from mid-March through May. The female incubates 4-6 eggs for about 14 days, and both adults then feed the young. After leaving the nest, the young birds will often remain with the parents for several weeks. The Brown-headed Nuthatch is a resident species in North Carolina.

Management Recommendations

Natural resource managers have the greatest potential to benefit nuthatches, as well as many other cavity nesters, by incorporating various considerations into their management regimes. Snag retention and protection is one of the most important considerations. Studies have shown that increases in the availability of snags on forestlands can lead to an increase in the species richness, diversity, and abundance of cavity nesting birds. Due to various abiotic factors (e.g., ice and snow storms, tornadoes, hurricanes, fire, and other meteorological events), snags are consistently produced in nature. Although snags are a common feature across the landscape, natural resource managers commonly overlook

these high value wildlife trees during planning. However, with minimal economic and time investment, snags can easily be reserved and protected from disturbance.

*Identify snags before silvicultural operations (e.g., thinning, harvesting, and site preparation) and buffer/mark accordingly. No study has explicitly shown how many snags per acre are necessary to increase abundance of cavity nesters. However, 3-6 snags per acre are recommended for benefiting most species of cavity nesters.

*Mixing the types of snags retained (e.g., various tree species, heights, and form), will benefit a wider array of wildlife species. Brown-headed Nuthatches typically nest rather close to the ground, and many nests can be easily reached.

*When forested stands are harvested and snags are retained, it is critical to ensure that they are identified and protected prior to and during site preparation activities as well.

Another consideration and common forestry practice that can benefit Brown-headed Nuthatches is thinning pine plantations. Thinnings not only provide a financial return early in the rotation, but are also the most important stand prescriptions that land managers can use to improve the quality of stand level wildlife habitat in pine plantations. Ideally, you would want a rather heavy thin with scattered snags left throughout the stand. Due to the typical 25-35 year rotation length in southern pine plantations, an extremely heavy second thin around 18-22, followed by a prescribed burn, has the potential to provide the “ball park” appearance that nuthatches typically prefer.

*Thin as early as possible to open closed canopy pine stands.

*Identify snags prior to thinning and buffer/mark accordingly.

*Conduct a prescribed burn following a thinning to facilitate open mid-story and understory.

SOURCES OF TECHNICAL INFORMATION ON: CAVITY NESTING BIRDS, MANAGEMENT OF CAVITY NESTING BIRDS AND BROWN-HEADED NUTHATCHES

Scientific Papers:

Aitken, K. E. H., K.L. Wiebe, and K. Martin. 2002. Nest-site reuse patterns for a cavity-nesting bird community in interior British Columbia. *The Auk* 119(2): 391-402.

Blem, C. R., and L. B. Blem. 1991. Nest box selection by Prothonotary Warblers. *J. Field Ornithology*. 62: 299-307.

Blem, C. R., L. B. Blem, and L. S. Berlinghoff. 1999. Old nests in Prothonotary Warbler nest boxes: effects on reproductive performance. *J. Field Ornithology*, 70(1): 95-100.

Bonar, R. L. 2000. Availability of Pileated Woodpecker cavities and use by other species. *Journal of Wildlife Management* 64(1): 52-59.

Bull, E. L., and A. D. Partridge. 1986. Methods of killing trees for use by cavity nesters. *Wildl. Society Bulletin* 14: 142-146.

Conner, R. N., R. G. Hooper, H. S. Crawford and H. S. Mosby. 1975. Woodpecker nesting habitat in cut and uncut woodlands in Virginia. *Journal of Wildlife Management*. 39: 144-150.

Conner, R. N., J. C. Kroll and D.L. Kulhavy. 1983. The potential of girdled and 2,4-D injected southern red oaks as woodpecker nesting and foraging sites. *South. J. Appl. For.* 7: 125-128.

Dickson, J.G., R. N. Conner, and J. H. Williamson. 1983. Snag retention increase bird use of a clear-cut. *Journal of Wildlife Management* 47(3): 799-804.

Edington, J. M., and M. A. Edington. 1972. Spatial patterns and habitat partition in the breeding birds of an upland wood. *J. Animal Ecology*. 41: 331-357.

Fowler, L. J. and R. W. Dimmick. 1983. Wildlife use of nest boxes in Eastern Tennessee. *Wildl. Society Bulletin* 11(2): 178-181.

Gano, R. D. and J. A Mosher. 1983. Artificial cavity construction: an alternative to nest boxes. *Wildl. Society Bulletin* 11(1): 74-76.

Hardin, K. I., and K. E. Evans. 1977. Cavity nesting bird habitat in the oak-hickory forests – a review. USDA Forest Service. General Technical Report NC-30, 23 p. USDA Forest Service, North Central Forest Experiment Station, St. Paul, Minnesota.

Harlow, R. F., and D. C. Guynn, Jr. 1983. Snag densities in managed stands of the South Carolina coastal plain. *South. J. Appl. For.* 7:224-229.

Holt, R. F. 1996. Habitat selection, demography and conservation implications for a cavity nesting community in a managed landscape. Ph. D. dissertation, University of Toronto.

Hunter, J. E. and M. L. Bond. 2001. Residual trees: wildlife associations and recommendations. *Wildl. Society Bulletin* 29(3): 995-999.

Land, D., W. R. Marion, and T. E. O'Meara. 1989. Snag availability and cavity nesting birds in slash pine plantations. *Journal of Wildlife Management* 53(4): 1165-1171.

Lawler, J. J., and T. C. Edwards, Jr. 2002. Composition of cavity-nesting bird communities in montane aspen woodland fragments; the roles of landscape context and forest structure. *The Condor* 104(4).

- Martin, K. and J. M. Eadie. 1999. Nest webs: a community-wide approach to management and conservation of cavity-nesting forest birds. *Forest Ecology and Management* 115: 243-257.
- McComb, W. C. 1979. Nest box and natural cavity use by wildlife in mid-south hardwoods as related to physical and microclimatic characteristics. Ph.D. Thesis. Louisiana State Univ., 228 pp.
- McComb, W.C., and R. N. Muller. 1983. Snag densities in old-growth and second-growth Appalachian forests. *Journal of Wildlife Management* 47(2): 376-382.
- McComb, W. C., S. A. Bonney, R. M. Sheffield, and N. D. Cost. 1986. Den tree characteristics and abundance in Florida and South Carolina. *Journal of Wildlife Management*. 50(4): 584-591.
- McComb, W. C., S. A. Bonney, R. M. Sheffield and N. D. Cost. 1986. Snag resources in Florida: are they sufficient for average populations of primary cavity-nesters? *Wildl. Society Bulletin* 14: 40-48.
- McNair, D. B. 1984. Clutch-size and nest placement in the Brown-headed Nuthatch. *The Wilson Bulletin*, 96(2): 296-301.
- Miller, S. H. and W. R. Marion. 1995. Natural and created snags and cavity-nesting birds in North Florida pine forests. *Florida Game and Fresh Water Fish Comm. Nongame Wildl.*
- Peterson, A. W. and T. C. Grubb, Jr. 1983. Artificial trees as a cavity substrate for woodpeckers. *Journal of Wildlife Management* 47(3): 790-798.
- Pierre, J. P., H. Bears and C. A. Paszkowski. 2001. Effects of forest harvesting on nest predation in cavity-nesting waterfowl. *The Auk* 118(1): 224-230.
- Rendell, W.B., and N. A. M. Verbeek. 1996. Old nest material in nest boxes of the tree swallows: effects on nest-site choice and nest building. *The Auk* 113(2): 319-328.
- Repenning, R. W., and R. F. Labisky. 1985. Effects of even-age timber management on bird communities of the longleaf pine forest in Northern Florida. *Journal of Wildlife Management* 49: 1088-1098.
- Schepps, J., S. Lohr and T. E. Martin. 1999. Does tree hardness influence nest-tree selection by primary cavity nesters? *The Auk* 116(3): 658-665.
- Scott, V. E. 1979. Bird response to snag removal on ponderosa pine. *Journal of Forestry* 77: 26-28.

Swallow, S. K., R. J. Gutierrez and R. A. Howard. 1986. Primary cavity-site selection by birds. *Journal of Wildlife Management* 50(4): 576-583.

Twedt, D. J., and J. L. Henne-Kerr. 2001. Artificial cavities enhance breeding bird densities in managed cottonwood forests. *Wildl. Society Bulletin*, 29(2): 680-687.

White, D. H., and J. T. Seginak. 2000. Nest box use and productivity of Great Crested Flycatchers in prescribed-burned longleaf pine forests. *J. Field Ornithology* 71(1): 147-152.

Wilson, M. D. and B. D. Watts. 1999. Response of Brown-headed Nuthatches to thinning of pine plantations. *The Wilson Bulletin*, 111(1): 56-60.

Wood, I. D. 1996. Protecting nest boxes from snakes and other climbing predators. *Sialia* 18: 7-10.

Zarnowitz, J. L., and D. A. Manuwal. 1985. The effects of forest management on cavity-nesting birds in northwestern Washington. *Journal of Wildlife Management* 49(1): 255-263.

WEBSITES OF INTEREST:

Cornell Lab of Ornithology: Species Profiles
<http://www.birds.cornell.edu/bfl/speciesaccts/bnhnut.html>

Brown-headed Nuthatch Species Management Abstract
<http://www.conserveonline.org/2001/03/m/bhnu>