

BIRD CONSERVATION ISSUES IN HIGH-ELEVATION (RED SPRUCE-FRASER FIR-NORTHERN HARDWOOD) FORESTS OF THE SOUTHERN BLUE RIDGE

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The highest elevations in North America east of the Mississippi River are in the southern Blue Ridge of Virginia, North Carolina, and Tennessee. This area supports fauna and flora more characteristic of Canada than anywhere else in the southeast United States. The high-elevation forests are within the High Peaks Region to distinguish them from similar forests of the central Appalachians (Allegheny Mountains of West Virginia and Pennsylvania) and boreal forests of the northeast United States and eastern Canada. Specifically, the spruce-fir dominated forests of the High Peaks Region are considered the second most endangered ecosystem in the United States. They range today in elevation from 1,350 to about 2,000 m high and total less than 28,000 ha. They remain today in widely isolated patches from Mount Rogers to the Great Smoky Mountains. Historically, the extent of spruce-fir may have been closer to 56,000 ha, with red spruce dominated forests extended down to 1,000 m on north and east facing slopes, but much of this was cut out by the early 1900s before public lands were established to protect the remaining stands. Most of cut-over areas support northern hardwood forests today with scattered red spruce. At the highest elevations, mature stands of Fraser fir (*Abies fraseri*) have all but been eliminated by exotic insect pests. Both the spruce and fir are apparently affected by air quality (and potentially acid deposition), while all forests in the High Peaks Region are subject to future losses due to global climate change. When glaciers receded many of the species associated with spruce-fir forests became restricted to the southern Appalachians in the southeast United States and genetic data suggests that these same species in the central Appalachians and further north radiated from populations now restricted to the southern Blue Ridge. These and other issues discussed in the southern Blue Ridge Bird Conservation Plan (http://www.partnersinflight.org/bcps/pl_23sum.htm) are discussed with respect to the conservation of locally high-priority species, including northern saw-whet owl (*Aegolius acadicus*), olive-sided flycatcher (*Contopus cooperi*), black-capped chickadee (*Poecile atricapilla*), and red crossbill (type 1, *Loxia curirostra*).

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