

BIRD SPECIES THAT WILL LIKELY SUFFER FROM LOGGING IN STATE PARKS

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Only 4% of all West Virginia forestland and 16% of state managed public land is currently perpetually protected from logging. Some of that small portion of forestland is currently considered mature forest habitat and likely only a tiny fraction of that habitat type would be considered old-growth forest (For a useful definition of old-growth in the eastern U.S. see http://www.dnr.state.mn.us/forests_types/oldgrowth/description.html). Only ~0.5% of West Virginia's total land acreage is protected in our 36 state parks, 29 of which protect at least 100 acres each of mature forest habitats. Other, early- and mid-successional forest habitats in our state parks are being protected as they grow into mature forest. Some of the late-successional habitats (mature forest and old-growth) in our state parks are extensive and ecologically significant, providing a vast array of ecosystem services (like clean water and air), scientific research platforms, non-extractive economic opportunities, recreation activities, and soul-renewing experiences for West Virginia citizens and visitors to our Mountain State. The old-growth forests also provide important habitats for an increasingly rare guild of bird species known as forest-interior-nesting birds.

Tracts of mature forest with perpetual care and protection are relatively rare in WV. Small acreages owned by individual families might be protected by one generation and cut for financial reasons by the next. Private nature preserves and conservation easements like those managed by the WV Chapter of The Nature Conservancy, the West Virginia Land Trust, and the Outdoor Heritage Conservation Fund sometimes allow for a certain amount of tree removal to maintain early-successional rare-plant communities or for other management purposes. Wilderness areas on National Forest lands and some portions of National Parks in WV also protect in perpetuity some tracts of mature forest. But taken altogether, these perpetually protected lands only amount to a small portion of our state's acreage, and remote-sensing research has shown a major conversion of much of our mature forestland to grassland, shrubland, and early-successional forestland at surface mines, commercially logged areas, and expanding residential, business, and industrial areas in recent decades (see land cover change maps below).

The ornithological collaborative Appalachian Mountains Joint Venture (AMJV) listed 25 land bird species as *high* or *highest* priority for immediate conservation attention because of declining populations (http://amjv.org/documents/Priority_Landbird_Species.pdf). Of those 25, 9 belong to the forest-interior-nesting guild, also known as the mature-forest-habitat guild, and 8 of those 9 regularly breed in West Virginia. One that breeds occasionally in very small numbers in the highest mountain region of the state is the Northern Goshawk, which requires mature coniferous or mixed coniferous-deciduous forests. Of the 8 regular breeders in WV, 6 are considered *Species in Greatest Conservation Need* (SGCN) by the WV Dept. of Natural Resources (WVDNR), one of the agencies proposing to cut logs from the mature forests in our state parks. Below is a compilation of the results of research that highlight the peril of 4 of those SGCN species and 3 other rapidly-declining, forest-interior nesters should our parks be opened to logging resulting from the loosely-worded bills now making their way through the WV legislature. Unless otherwise indicated, the field data used for this compilation was taken from research performed between 1966 and 2015. Director McDaniel of the WV Dept. of Natural Resources (WVDNR) has revealed at least six of the state parks he intends to have logged: Watoga, Cacapon, Lost River, Holly River, Twin Falls, and Cedar Creek. All six parks hosted at least five of the seven rapidly-declining species of forest-interior-nesters highlighted below.

Cerulean Warbler:

In 2016, the AMJV listed Cerulean Warbler as a species of *High Continental Importance* with an *Urgency/Half Life* of only 19 years, a long-term range-wide population decline of 72% and a decline of 74% within the Appalachian Mountains region, as well as a regional short-term downward trend of 2.3% per year (PIF 2016). These negative observations combined with a small total population size make this warbler one of the species of

highest concern in the United States (Sauer et al. 2014). WV had the highest percentage of estimated global population (35.0%). The WV population estimate was more than double the next highest state/province, KY, which had double the acreage within the species' range. WV had the highest concentration per survey route (2.82), with all other states/provinces within the species' range recording less than 1 per route. Therefore, WV's old-growth and mature forests had the highest estimated concentration of Cerulean Warbler of all the states/provinces across the species range (PIF 2013). The Cooperative Cerulean Warbler Forest Management Project research clearly showed and recommended that Appalachian forests supporting greater than 2 territories per 10 acres or 5 per 20 should be managed WITHOUT HARVESTING TIMBER and in ways that MINIMIZE DISTURBANCE (Boves 2011; Wood et al. 2013).

Kentucky Warbler:

In 2016, the AMJV listed Kentucky Warbler as a species of *High Continental Importance* with a long-term population decline range-wide of 29% and a decline of 41% within the Appalachian Mountains region, as well as a regional short-term downward trend of 0.8% per year (PIF 2016). WV had the seventh highest percentage of estimated global population (6.6%), but the second highest concentration per survey route, with less than half the range size of the highest percentage state of AR (14.6%). WV's old-growth and mature forests may have had the highest estimated concentration of Kentucky Warbler of all states across the species range. Despite the significant importance of WV to this species, the Kentucky Warbler suffered a significant population decrease of approximately 62% in WV between Breeding Bird Atlases, 1986-2011 (PIF 2013). The average annual decrease was 3.9% over the same period (Sauer et al. 2017).

Wood Thrush:

In 2016, the AMJV listed Wood Thrush as a species of *High Continental Importance* with a long-term population decline range-wide of 60% and a decline of 49% within the Appalachian Mountains region, as well as a regional short-term downward trend of 2.0% per year (PIF 2016). WV had the second highest percentage of estimated global population (7.2%), but with a higher concentration per survey route than any other state/province and a little more than half the range size of the highest percentage state of PA (8.1%). Therefore, WV's old-growth and mature forests likely had the highest estimated concentration of Wood Thrushes of all the states/provinces across the species range (PIF 2013). The Wood Thrush suffered a 1.4% average annual decline in West Virginia between Breeding Bird Atlases, 1986-2011, representing a 29% population decline (Sauer et al. 2017; PIF 2013).

Worm-eating Warbler:

WV had the second highest percentage of estimated global population (12.3%), but a higher concentration per survey route than any other state and only half the range size of the highest percentage state of NC (14.0%). Therefore, WV's old-growth and mature forests likely had the highest estimated concentration of Worm-eating Warbler of all the states across the species range (PIF 2013). In WV, Worm-eating Warbler populations suffered a significant average annual decline of 1.9% for the period between Breeding Bird Atlases (1986-2011). The population declined by 31% in the 41 years before 2011 (Sauer et al. 2017).

Acadian Flycatcher:

WV had the second highest percentage of the Acadian Flycatcher's estimated global population (10.3%, barely less than NC at 10.6%) and the highest concentration per survey route (8.03 nearly double the next two highest). Yet WV has a much smaller acreage than NC within the range of the species, so WV's old-growth and mature forests likely had the highest concentration of Acadian Flycatcher of all the states/provinces across the species range (PIF 2013). Despite the obvious importance of WV to this species' future, the Acadian Flycatcher suffered a significant average annual decline of 1.7% in West Virginia and a population decline of 34% between Breeding Bird Atlases, 1986-2011 (Sauer et al. 2017; PIF 2013).

Scarlet Tanager:

WV had the second highest percentage of estimated global population (9.8%), but with a higher concentration per survey route than any other state/province and a little more than half the range size of the highest percentage state of PA (14.6%). Therefore, WV's old-growth and mature forests likely had the highest estimated concentration of Scarlet Tanager of all the states/provinces across the species range (PIF 2013). The relatively stable population of this species in WV between Breeding Bird Atlases, 1986-2011, has now begun to suffer a precipitous decline at an average annual rate of 2.3% between 2005 and 2015 (Sauer et al. 2017).

Black-and-White Warbler:

The center of distribution for this species is further north than the other species in this list. WV had the sixteenth highest percentage of estimated global population (1.3%) and the seventh highest concentration per survey route, with only about 7% of the range size of the highest percentage province of Ontario (24.3%). Seven Canadian provinces had higher percentages of estimated global population, but only three higher concentrations per survey route than did WV. WV's concentration per survey route was surpassed by only five other states of the thirty-nine states that harbor the species. Therefore, WV's old-growth and mature forests are important harbors for the Black-and-White Warbler within the southern portion of the species' range (PIF 2013). During the period between Breeding Bird Atlases, 1986-2011, the species suffered a 2.14% average annual decline in WV, a loss of nearly 35% of the 1989 breeding population (Sauer et al. 2017; PIF 2013).

All of these declines were largely due to forest fragmentation and conversions of acreage in old-growth and mature forests to early-successional habitats at surface mines and commercially-logged areas, residential areas, and industrial/business expansion in WV (see land cover change maps below). **These startling facts call for stricter protections on this species' preferred habitat of mature forests, not for relaxing the protections these birds already have in WV's state parks.**

References:

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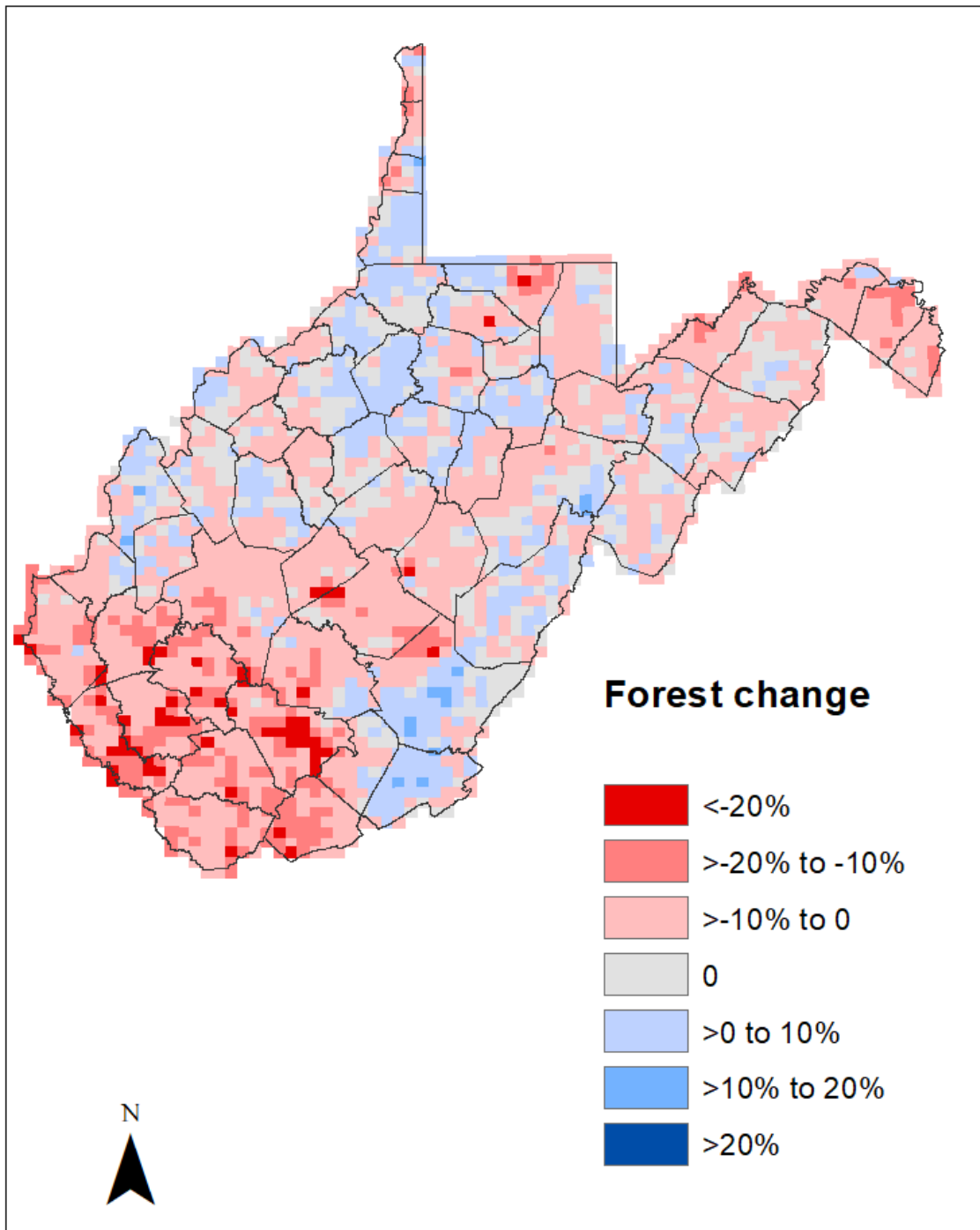
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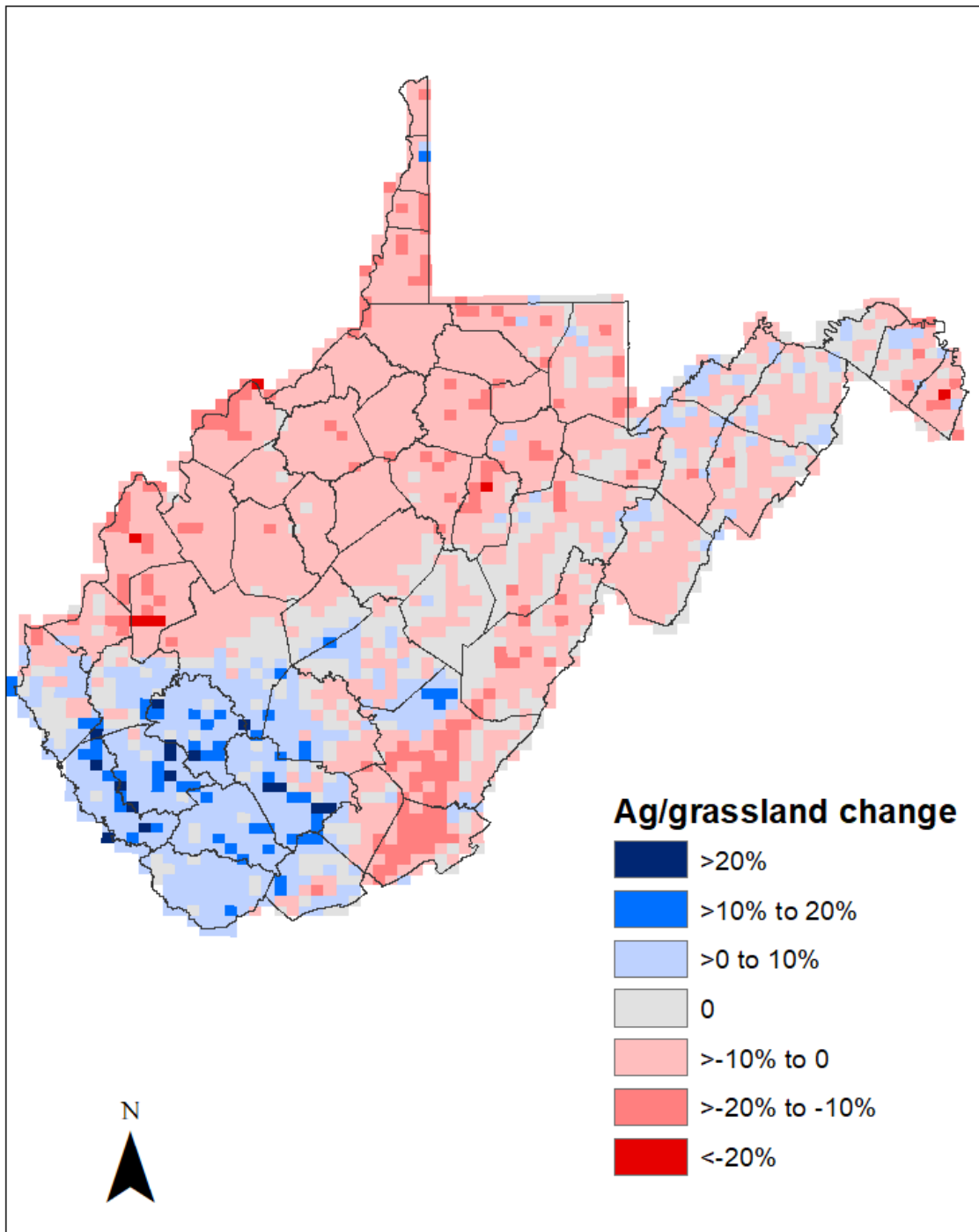
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(Source of maps: Breeding Bird Atlas workgroup)

Forest cover change between 1986 and 2011



Surface mine revegetation cover and agricultural land change between 1986 and 2011



Developed (residential, commercial, industrial) land cover change between 1986 and 2011

