Arkansas

Survival by Degrees: 389 Species on the Brink

Background

Birds form part of healthy ecosystems, bring joy to people, and benefit local economies throughout the United States. In 2011, birdwatching-related industries drove $41 billion in expenditures and $107 billion in total industry output nationally. There are more than 539,000 total birders in Arkansas alone [1]. Additionally, birds play critical roles in pollination, insect control, forest generation, seed dispersal, carrion scavenging, and many other ecosystem services we rely on.

However, the future of birds is at risk with alarming losses of biodiversity occurring worldwide. Global extinction rates are now 100 times higher than background rates [2]. Climate change exacerbates the global biodiversity crisis, with an anticipated rate of change 20 times faster in the next century than during the past two million years.

Audubon leads the way in conducting science to understand the vulnerability and threats to birds from climate change. Our science shows that stabilizing warming at a global average of 1.5°C (2.7°F), as recommended by the IPCC (Intergovernmental Panel on Climate Change) to reduce the global risk of climate change, would also reduce vulnerability and threats for many species of birds. To save birds we must address the underlying causes of climate change (*climate change mitigation*), and protect places that birds need now and will need in the future (*climate change adaptation*). Climate change mitigation means reducing or preventing the causes of climate change, such as greenhouse gas emissions. Climate change adaptation includes efforts to alter and adapt both our natural surroundings as well as our infrastructure to better withstand the threats of climate change.

Audubon's 2019 Report, *Survival by Degrees: 389 Bird Species on the Brink* [3], is a powerful look at how vulnerable birds are to climate change across North America based on a new, updated scientific analysis that leverages big data and incorporates the unique biology of each bird to determine its vulnerability. In this research, we related bird observations for 604 species with climate and habitat conditions at these locations and used modeling algorithms to capture the unique composition of each species's suitable range. We then mapped and compared the projected current and future ranges to estimate the projected range loss and gain under multiple future climate change scenarios. These projections were then used to assess how vulnerable each species was to climate change [4,5].

Figure 1. Wood Thrush. Photo: Nate Rathbun/USFWS

Future Climate and Habitat in Arkansas

Across the state of Arkansas, without substantial climate change mitigation (i.e., a 3°C/5.4°F global warming scenario), average temperatures during the warmest month are expected to increase approximately 5.9°C (11°F), and average temperatures during the coldest month are expected to increase approximately 3.3°C (5.9°F) from 2010 to the end of the century. Average annual precipitation is expected to increase by approximately 21 mm (0.84 in). Despite the overall increase in precipitation, available moisture is expected to decrease by 44% across the state due to increases in evapotranspiration [6].

The distribution of vegetation biomes, critical for plants and animals, are also projected to change under climate change scenarios [7]. By the end of the century under a 3°C (5.4°F) global warming scenario, approximately 32% of the state of Arkansas will transition to a different biome. At present, the largest biome in the state is Deciduous Forest, covering 94% of the state. By the end of the century, Deciduous Forest will cover approximately 75% of the state.

All of these changes in climate and vegetation will alter plant and insect communities; influence availability of food, water, and shelter for birds; and will likely cause ecological disruption as species assemblages reshuffle. Over time, a complex suite of changes in climate and vegetation will inevitably affect Arkansas's bird communities.

Climate Change Vulnerability

Climate change will negatively affect many birds in the state. Here, we assess vulnerability based on the amount of a species's range that may be gained or lost with climate change. We designate species that may lose much more range across North America than they have the potential to gain as *climate vulnerable*. In Arkansas, 32 out of 125 species are climate vulnerable in summer under the 3°C scenario, meaning they stand to lose more of their North American summer range than they would gain under a warming climate. Reducing emissions to 1.5°C reduces the number of vulnerable species to 17. Impacts are somewhat lessened in winter, with 4 out of 131 species vulnerable under 3°C of warming and 3 species vulnerable if we reduce warming to 1.5°C.

Each bird was grouped by its primary habitat (see Table 2 for groupings), and these groups are not equally affected. In Arkansas, the habitat groups with the most species vulnerable to the impacts of ongoing and future climate change are eastern forest (21 species) and generalist (7 species) in summer (Figure 2). In winter, eastern forest (2 species) and marshland (1 species) groups have the most vulnerable species.

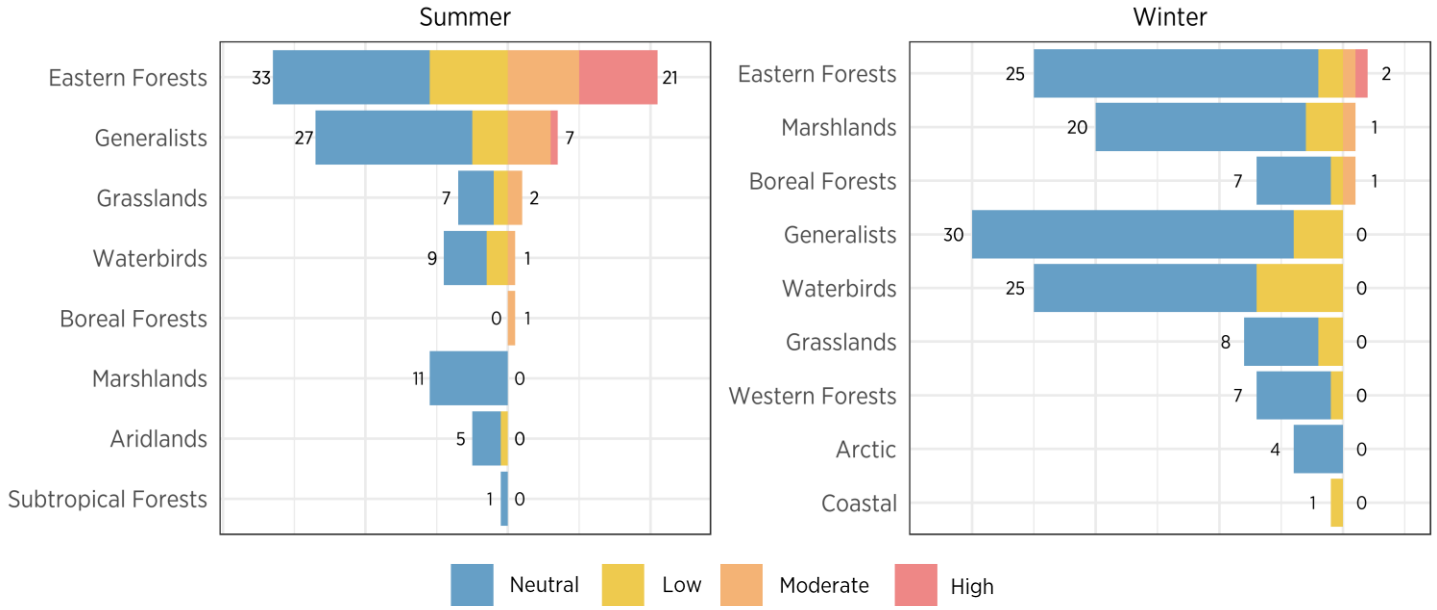

Figure 2. Number of species by their vulnerability to climate change in each habitat group under a global 3°C warming scenario. The species in each group are ones that currently live in the state, though vulnerability is assessed across the species's full North American range to better account for range-wide changes. Red and orange indicate number of vulnerable (high and moderate) species, and yellow and blue indicate non-vulnerable (low and neutral) species.

Climate-Related Threats

In addition to changes in climate across North America, we assessed the potential impacts of other forecasted threats related to climate change, including sea level rise, land use change, and extreme weather events, such as extreme spring heat, spring drought, fire weather, heavy rain, and false springs within the lower 48 states [8]. These threats are relevant to both birds and the places they need, but were only available for the lower 48 states, and were analyzed separately from vulnerability. This analysis provides information on how each location and the birds that occur there may be exposed to these specific, climate-related threats (Figure 3) beyond their range-wide vulnerability described above.

Here we summarize threats occurring within the state. Three climate-related threats will affect portions of Arkansas (Table 1). The threat affecting both the greatest area and number of species in the state is extreme spring heat.

In Arkansas, species that are most threatened by a combination of climate change and additional climate-related threats under 3°C of warming include Eastern Whip-poor-will, Brown-headed Nuthatch, Eastern Kingbird, Wood Thrush, Yellow-throated Warbler, Red-headed Woodpecker, Brown Thrasher, Eastern Towhee, Cerulean Warbler, Pine Warbler, Prairie Warbler, Scarlet Tanager, and Field Sparrow. For information on threats for individual species in Arkansas, see Table 2.

Climate-Related Threats (Cont.)

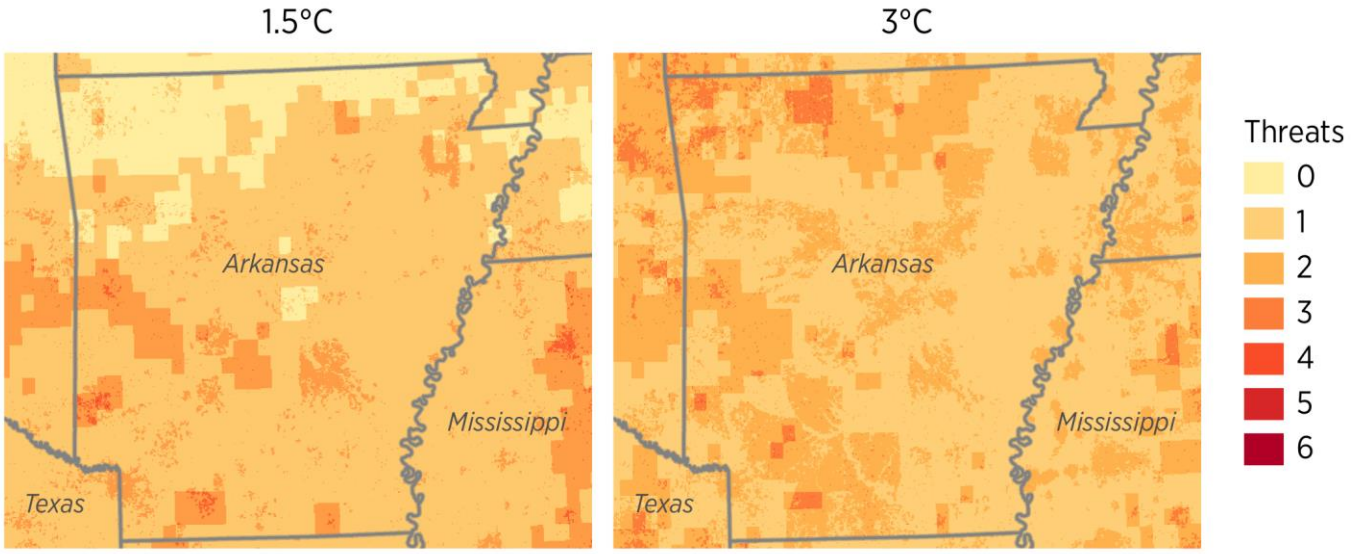

Figure 3. The number and distribution of overlapping climate-related threats under future global change scenarios of 1.5°C and 3°C. For detailed information on threats for each location in the state, refer to our online interactive tool at climate.audubon.org.

Table 1. Climate-related threats that Arkansas is expected to experience under the warming scenarios 1.5°C (2.7°F) and 3°C (5.4°F), and the projected area and number of species affected. We report the projected amount(s) of global sea level rise associated with each scenario [8]. Threats and scenarios were omitted if no species were affected in that scenario.

Threat	Scenario	Area Affected (acres)	Summer (Vulnerable) Species Affected	Winter (Vulnerable) Species Affected
Urbanization	1.5°C	1,311,527		2 (0)
	3°C	5,359,544	107 (11)	157 (2)
Extreme Spring Heat	1.5°C	27,355,265	100 (5)	138 (2)
	3°C	33,906,513	119 (17)	168 (4)
False Springs	3°C	5,489,685	1 (0)	1 (0)

We also mapped risk, areas of high conservation value for birds that are exposed to climate change-related threats. For any one location, risk is the product of the number of overlapping climate change-related threats, the total number of bird species that occur under future climate, and the number of species with range-wide vulnerability under future climate. Risk is greater across Arkansas in summer relative to winter, and mitigating warming from 3°C to 1.5°C would more than halve the average risk of climate change-related threats to birds across the state.

Conclusions and Caveats

Birds are early responders to climate change and can be important indicators of large-scale ongoing and future ecological change. We found that 19% of Arkansas's 194 bird species are vulnerable to climate change across seasons. A rapidly changing climate could lead to population declines and local extinctions if species are not able to adapt. In addition, the reshuffling of bird communities at a continental scale will bring together species that previously lived in isolation, leading to novel, unpredictable interactions. Disruptions in food and nesting resources further compound vulnerabilities to climate change.

Although we project range gains offsetting loss for some species, especially in winter, it is unknown whether birds will establish populations in these new locations because of other factors not assessed here. On top of this, the added stressors of extreme weather events and other climate change-related threats will make establishment and persistence of populations difficult in the coming decades.

While these studies did not assess the effects of climate change on people, we know that the fate of humans and birds are deeply connected. Climate change is currently and will continue to cause harm to people too, who face threats like extreme weather, loss of coastal areas and changing economic patterns, to name a few. Climate change will cause disproportionate harm to vulnerable communities, including children, the elderly, the sick, and the poor, who may have fewer resources available to move or otherwise protect themselves from these threats. If we drastically reduce carbon emissions, we help people and birds alike.

This is the most comprehensive assessment of climate change vulnerability of birds in North America to date, but even this assessment may reasonably be considered conservative because the pace of change is exceeding the scenarios considered in this study. Our work concludes that climate change will have multiple, compounding effects on birds and will likely amplify biodiversity loss, unless actions are taken to lessen its effects.

Call to Action

We know what to do.

The scientific consensus is clear. We must reduce greenhouse gas emissions at an urgent speed and on a wide scale from every sector of the economy to achieve a more favorable future for birds and people. There is no single perfect solution, but we can make a series of changes that lead to large-scale, systemic adjustments to achieve the required reductions.

Addressing the underlying causes of climate change.

Audubon is pursuing policies that together can drive down emissions at the scale and speed we need. For instance, we can invest in 100% clean energy, energy efficiency, and clean transportation policies that will dramatically reduce carbon emissions from the U.S. and world economies. We can adapt, improve, and innovate. We can power our cars, homes, cities, factories, farms, communities, and economy with clean energy-without contributing to climate change. We are working to implement policies and conservation practices that offset what we cannot eliminate, such as planting forests and testing new technologies to capture (i.e., sequester) carbon through industrial processes and permanently store it underground. We can do all of this in ways that spur innovation, create good jobs, promote homegrown industries, and build our economy for a smarter future.

Protecting the places birds need.

We can also pursue policies and conservation practices that help us avoid some of the worst effects of climate change by building more resilient infrastructure—meaning our cities, roads, and other structures—or even ranches, parks, floodplains, forests, and wetlands that can serve as good wildlife habitat and simultaneously protect our communities from extreme weather.

Audubon has identified the best opportunities to increase the resilience of coastal wetlands in key places that can serve as the first line of defense against the threat of sea level rise. We work to ensure key landscapes that are critical for birds have clean and reliable sources of water, now and in the future, and we advocate for conservation-minded management of working and urban landscapes that can help birds adapt to the changing climate.

We still have time.

We can avert and limit dangerous warming and its worst effects if we act quickly. Science tells us that in order to limit warming to a rise of 1.5°C (2.7°F), we must reduce greenhouse gas emissions 45% below 2010 levels by 2030 and reach net-zero carbon emissions by 2050.

We must act now.

We are on a dangerous path, but we have the power to chart a better one. Still, change will come only if we demand action from the public officials who represent us and the businesses we support.

We ask you to join us.

Be part of the solution. We can do this, together

How You Can Help in Arkansas

What we do.

Audubon Arkansas works on both policy and habitat protection fronts. We serve Arkansans by improving energy efficiency programs and supporting clean energy legislation. We serve Arkansas birds by growing and promoting the use of native plants they need for healthy populations now and into the future.

What you can do.

There are many ways to get involved with Audubon Arkansas, from being a part of our strong network of grassroots activists, to purchasing native plants at our sales, to being a community scientist who helps collect the data that makes this report possible. Learn about upcoming opportunities and events at our website ar.audubon.org or call us at 501-244-2229.

More Information

This project was conducted by the National Audubon Society. For more information, including details on the methods, please see the project website (climate.audubon.org) and the scientific publications [5,8].

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Species Projections

Table 2. Climate suitability projections in summer and winter under the 3°C warming scenario for birds in Arkansas. Each bird is associated with the *Habitat Group* representing its primary habitat (see classification key below). *Range-wide Vulnerability* is the vulnerability of each species, across its full North American range under 3°C of global warming, based on long-term climate and vegetation change. High and moderately vulnerable species are considered vulnerable to climate change, whereas low and neutral species are considered not vulnerable. In *State Trends*, we show the top two trends in climate and habitat suitability for select birds in Arkansas, with colors reflecting the trend according to the legend below and percentages reflecting the percent of the state's area in which each trend will occur. The total percentage reflects the area of the state that the species currently occupies and is projected to occupy in the future. Potential colonization indicates that climate and habitat are projected to become suitable for the species, whereas potential extirpation indicates that climate and habitat are suitable today but projected to become unsuitable. *State Threats* shows the additional climate-related threats each species might face, indicated by icons as in Table 1. Threats shown here were assessed within each state for species under either 1.5°C or 3°C warming (i.e., species that will be completely extirpated from the state do not have threats shown). Omitted species are either not present in the state during that season or not modeled due to data deficiency. These lists may have been further reduced by local experts. For a full list of species modeled in Arkansas, see the project website (climate.audubon.org).

Habitat classifications:

F-B = Boreal Forests
F-E = Eastern Forests
F-W = Western Forests
F-S = Subtropical Forests
A = Arctic
D = Aridlands
G = Grasslands
M = Marshlands
C = Coastal
W = Waterbirds
Gen = Generalists

Trend classifications:

Potential extirpation
Worsening
Stable
Improving
Potential colonization

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Black-bellied Whistling-Duck	M	Summer	Neutral	37%	
	M	Winter	Neutral	31%	
Fulvous Whistling-Duck	M	Summer	Neutral	5%	
Snow Goose	W	Winter	Low	51%	
Ross's Goose	W	Winter	Low	38%	
Greater White-fronted Goose	W	Winter	Low	30% 30%	
Cackling Goose	M	Winter	Moderate	12%	
Canada Goose	W	Summer	Moderate	40% 25%	
	W	Winter	Neutral	81% 19%	
Wood Duck	W	Summer	Low	42% 43%	
	W	Winter	Neutral	80% 20%	
Blue-winged Teal	M	Winter	Neutral	14% 43%	
Northern Shoveler	M	Winter	Neutral	44% 6%	
Gadwall	M	Winter	Neutral	40% 36%	
American Wigeon	M	Winter	Neutral	21% 26%	
Mallard	W	Summer	Low	14% 72%	
	W	Winter	Neutral	11% 89%	
American Black Duck	W	Winter	Low	4%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Mottled Duck	M	Winter	Low	8%	
Northern Pintail	M	Winter	Neutral	36% 6%	
Green-winged Teal	M	Winter	Neutral	33% 7%	
Canvasback	M	Winter	Neutral	34% 3%	
Redhead	M	Winter	Low	9% 10%	
Ring-necked Duck	W	Winter	Neutral	44% 32%	
Greater Scaup	W	Winter	Neutral	5% 25%	
Lesser Scaup	W	Winter	Neutral	40% 38%	
Bufflehead	W	Winter	Low	36%	
Common Goldeneye	W	Winter	Neutral	4% 15%	
Hooded Merganser	W	Winter	Neutral	64% 4%	
Common Merganser	W	Winter	Low	8% <1%	
Red-breasted Merganser	W	Winter	Low	10% 4%	
Ruddy Duck	M	Winter	Neutral	1% 16%	
Northern Bobwhite	G	Summer	Neutral	100%	
	G	Winter	Neutral	94%	
Wild Turkey	Gen	Summer	Neutral	9% 76%	
	Gen	Winter	Neutral	25% 64%	
Pied-billed Grebe	M	Summer	Neutral	<1% 5%	
	M	Winter	Neutral	39% 30%	
Horned Grebe	M	Winter	Neutral	5% 5%	
Inca Dove	D	Summer	Neutral	90%	
	D	Winter	Neutral	23%	
Common Ground-Dove	D	Summer	Neutral	30%	
	D	Winter	Neutral	50%	
Mourning Dove	Gen	Summer	Neutral	100%	
	Gen	Winter	Neutral	97% 3%	
Yellow-billed Cuckoo	F-E	Summer	Neutral	27% 73%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Common Nighthawk	Gen	Summer	Neutral	65% 27%	
Chuck-will's-widow	F-E	Summer	Neutral	46% 54%	
Eastern Whip-poor-will	F-E	Summer	High	72%	
	F-E	Winter	Low	24%	
Chimney Swift	F-E	Summer	Neutral	98% 2%	
Ruby-throated Hummingbird	F-E	Summer	Neutral	31% 69%	
Black-chinned Hummingbird	D	Summer	Neutral	5%	
Calliope Hummingbird	F-W	Winter	High	2%	
King Rail	M	Winter	Neutral	10%	
Common Gallinule	M	Summer	Neutral	5% 34%	
	M	Winter	Neutral	7%	
American Coot	M	Summer	Neutral	4%	
	M	Winter	Neutral	26% 31%	
Sandhill Crane	M	Winter	Low	37% 41%	
Black-necked Stilt	M	Summer	Neutral	2% 15%	
	M	Winter	Neutral	6%	
Snowy Plover	C	Summer	Neutral	2%	
Killdeer	W	Summer	Neutral	14% 70%	
	W	Winter	Neutral	46% 39%	
Ruddy Turnstone	W	Winter	Neutral	2%	
Stilt Sandpiper	W	Winter	Neutral	20%	
Least Sandpiper	W	Winter	Neutral	83%	
American Woodcock	F-E	Winter	Neutral	100%	
Wilson's Snipe	M	Winter	Neutral	55% 15%	
Willet	W	Summer	Neutral	4%	
Lesser Yellowlegs	W	Winter	Neutral	23%	
Bonaparte's Gull	W	Winter	Neutral	66% 14%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Ring-billed Gull	W	Winter	Neutral	2% 80%	
Herring Gull	W	Winter	Neutral	11% 83%	
Lesser Black-backed Gull	C	Winter	Low	2% 1%	
Least Tern	W	Summer	Low	22% 16%	
Caspian Tern	W	Summer	Low	1%	
Forster's Tern	M	Winter	Neutral	7% 18%	
Common Loon	W	Winter	Low	1%	
Wood Stork	M	Winter	Neutral	9%	
Anhinga	M	Summer	Neutral	29%	
	M	Winter	Neutral	25%	
Neotropic Cormorant	C	Summer	Neutral	3%	
Double-crested Cormorant	W	Summer	Neutral	3% 27%	
	W	Winter	Neutral	19% 61%	
American White Pelican	M	Winter	Neutral	22% 18%	
American Bittern	M	Winter	Neutral	4%	
Least Bittern	M	Summer	Neutral	23%	
Great Blue Heron	W	Summer	Neutral	100%	
	W	Winter	Neutral	58% 42%	
Great Egret	W	Summer	Neutral	22% 39%	
	W	Winter	Neutral	7% 91%	
Snowy Egret	M	Summer	Neutral	4% 37%	
	M	Winter	Neutral	41%	
Little Blue Heron	M	Summer	Neutral	50% 20%	
	M	Winter	Neutral	37%	
Tricolored Heron	M	Summer	Neutral	13%	
Cattle Egret	W	Summer	Neutral	19% 64%	
	W	Winter	Neutral	2% 41%	
Green Heron	M	Summer	Neutral	72% 18%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
	M	Winter	Neutral	25%	
Black-crowned Night-Heron	M	Summer	Neutral	4% 11%	
	M	Winter	Neutral	4%	
Yellow-crowned Night-Heron	M	Summer	Neutral	57% 41%	
	M	Winter	Neutral	2%	
White Ibis	M	Summer	Neutral	14% 48%	
	M	Winter	Neutral	6%	
White-faced Ibis	M	Summer	Low	4%	
Black Vulture	Gen	Summer	Neutral	86% 14%	
	Gen	Winter	Neutral	17% 78%	
Turkey Vulture	Gen	Summer	Neutral	97% 3%	
	Gen	Winter	Neutral	52% 43%	
Osprey	W	Summer	Neutral	19% 12%	
Swallow-tailed Kite	F-S	Summer	Low	5%	
Mississippi Kite	F-E	Summer	Neutral	6% 80%	
Northern Harrier	M	Winter	Neutral	55% 4%	
Sharp-shinned Hawk	F-W	Winter	Neutral	13% 25%	
Cooper's Hawk	Gen	Summer	Neutral	42% 44%	
	Gen	Winter	Low	68% 4%	
Bald Eagle	Gen	Summer	Low	92% 2%	
	Gen	Winter	Neutral	46% 34%	
Red-shouldered Hawk	F-E	Summer	Neutral	29% 71%	
	F-E	Winter	Neutral	67% 29%	
Broad-winged Hawk	F-E	Summer	Low	50% 48%	
Red-tailed Hawk	Gen	Summer	Neutral	100%	
	Gen	Winter	Neutral	100%	
Barn Owl	Gen	Summer	Neutral	100%	
	Gen	Winter	Neutral	100%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Eastern Screech-Owl	F-E	Summer	Neutral	18% 82%	
	F-E	Winter	Neutral	65% 19%	
Great Horned Owl	Gen	Summer	Neutral	87% 8%	
	Gen	Winter	Neutral	73% 13%	
Barred Owl	F-E	Summer	Neutral	73% 27%	
	F-E	Winter	Neutral	99% 1%	
Short-eared Owl	G	Winter	Neutral	4% 32%	
Belted Kingfisher	Gen	Summer	Neutral	82% 5%	
	Gen	Winter	Neutral	100%	
Yellow-bellied Sapsucker	F-E	Winter	Neutral	100%	
Red-headed Woodpecker	F-E	Summer	High	91%	
	F-E	Winter	Neutral	28% 64%	
Red-bellied Woodpecker	F-E	Summer	Neutral	82% 5%	
	F-E	Winter	Neutral	1% 99%	
Downy Woodpecker	Gen	Summer	Neutral	98% 2%	
	Gen	Winter	Neutral	18% 82%	
Red-cockaded Woodpecker	F-E	Summer	Low	3% 47%	
	F-E	Winter	Neutral	27% 36%	
Hairy Woodpecker	Gen	Summer	Low	23%	
	Gen	Winter	Low	17%	
Pileated Woodpecker	F-E	Summer	Neutral	26% 57%	
	F-E	Winter	Neutral	74% 10%	
Northern Flicker	Gen	Summer	Moderate	99%	
	Gen	Winter	Neutral	10% 90%	
Crested Caracara	D	Winter	Neutral	20%	
American Kestrel	Gen	Summer	Neutral	7%	
	Gen	Winter	Neutral	55% 27%	
Merlin	F-E	Winter	Neutral	1% 99%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Peregrine Falcon	Gen	Winter	Neutral	28% 58%	
Eastern Wood-Pewee	F-E	Summer	Low	37% 59%	
Acadian Flycatcher	F-E	Summer	Moderate	30% 70%	
Eastern Phoebe	F-E	Summer	Low	21% 30%	
	F-E	Winter	Neutral	39% 58%	
Great Crested Flycatcher	F-E	Summer	Moderate	61% 26%	
	F-E	Winter	Neutral	25%	
Western Kingbird	G	Summer	Neutral	1%	
	G	Winter	Neutral	6%	
Eastern Kingbird	G	Summer	Moderate	87% 1%	
Scissor-tailed Flycatcher	G	Summer	Neutral	31% 63%	
	G	Winter	Neutral	23%	
Loggerhead Shrike	G	Summer	Neutral	31% 22%	
	G	Winter	Neutral	24% 48%	
White-eyed Vireo	F-E	Summer	Neutral	100%	
	F-E	Winter	Low	20%	
Bell's Vireo	D	Summer	Low	1%	
Yellow-throated Vireo	F-E	Summer	Moderate	55% 17%	
Blue-headed Vireo	F-E	Winter	Low	25%	
Warbling Vireo	Gen	Summer	Neutral	34% 20%	
Red-eyed Vireo	F-E	Summer	Low	57% 37%	
Blue Jay	F-E	Summer	Neutral	14% 86%	
	F-E	Winter	Neutral	93% 6%	
American Crow	Gen	Summer	Low	2% 98%	
	Gen	Winter	Neutral	70% 30%	
Fish Crow	Gen	Summer	High	57%	
	Gen	Winter	Low	41% 19%	
Horned Lark	G	Summer	Low	<1%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
	G	Winter	Low	16% <1%	
Northern Rough-winged Swallow	Gen	Summer	Neutral	1% 99%	
Purple Martin	Gen	Summer	Neutral	22% 78%	
Tree Swallow	Gen	Summer	Moderate	<1%	
	Gen	Winter	Neutral	29%	
Barn Swallow	Gen	Summer	Neutral	1% 98%	
Cliff Swallow	Gen	Summer	Neutral	39% 46%	
Carolina Chickadee	F-E	Summer	Neutral	89% 8%	
	F-E	Winter	Low	10% 76%	
Tufted Titmouse	F-E	Summer	Neutral	86%	
	F-E	Winter	Neutral	1% 85%	
Red-breasted Nuthatch	F-B	Winter	Neutral	83% 11%	
White-breasted Nuthatch	F-E	Summer	Low	82% 8%	
	F-E	Winter	Neutral	83% 11%	
Brown-headed Nuthatch	F-E	Summer	High	75%	
	F-E	Winter	High	68% 9%	
Brown Creeper	F-W	Winter	Neutral	30% 43%	
House Wren	Gen	Summer	Moderate	<1%	
	Gen	Winter	Neutral	58% 32%	
Winter Wren	F-E	Winter	Low	27% 70%	
Sedge Wren	G	Winter	Neutral	62% 13%	
Marsh Wren	M	Winter	Low	2% 4%	
Carolina Wren	F-E	Summer	Neutral	99% 1%	
	F-E	Winter	Neutral	100%	
Bewick's Wren	D	Summer	Neutral	<1% 1%	
	D	Winter	Low	2%	
Blue-gray Gnatcatcher	Gen	Summer	Neutral	7% 93%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
	Gen	Winter	Neutral	30%	
Golden-crowned Kinglet	F-B	Winter	Neutral	96% 4%	
Ruby-crowned Kinglet	F-W	Winter	Neutral	48% 49%	
Eastern Bluebird	F-E	Summer	Neutral	87% 11%	
	F-E	Winter	Neutral	100%	
Hermit Thrush	F-W	Winter	Low	95% 2%	
Wood Thrush	F-E	Summer	High	77% 7%	
American Robin	Gen	Summer	Moderate	31%	
	Gen	Winter	Neutral	100%	
Gray Catbird	F-E	Summer	Neutral	100%	
	F-E	Winter	Moderate	<1%	
Brown Thrasher	F-E	Summer	High	99%	
	F-E	Winter	Neutral	67% 17%	
Northern Mockingbird	Gen	Summer	Neutral	97% 1%	
	Gen	Winter	Neutral	76% 24%	
American Pipit	A	Winter	Neutral	47% 24%	
Sprague's Pipit	G	Winter	Neutral	71%	
Cedar Waxwing	Gen	Winter	Neutral	96% 4%	
House Finch	Gen	Summer	Low	37% 3%	
	Gen	Winter	Low	39% 10%	
Purple Finch	F-B	Winter	Low	99%	
Pine Siskin	F-W	Winter	Neutral	52% 48%	
Lesser Goldfinch	F-W	Summer	Neutral	68%	
American Goldfinch	Gen	Summer	Moderate	21%	
	Gen	Winter	Neutral	1% 99%	
Lapland Longspur	A	Winter	Neutral	25% 3%	
Smith's Longspur	A	Winter	Neutral	21% 26%	
Bachman's Sparrow	F-E	Summer	Moderate	19% 27%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
	F-E	Winter	Neutral	28% 41%	
Grasshopper Sparrow	G	Summer	Low	6% 6%	
	G	Winter	Neutral	42%	
Chipping Sparrow	Gen	Summer	Moderate	18%	
	Gen	Winter	Neutral	87% 13%	
Field Sparrow	F-E	Summer	High	80%	
	F-E	Winter	Neutral	100%	
Lark Sparrow	D	Summer	Neutral	1% 68%	
	D	Winter	Neutral	6%	
Lark Bunting	G	Winter	Neutral	4%	
American Tree Sparrow	A	Winter	Neutral	43%	
Fox Sparrow	F-B	Winter	Moderate	99%	
Dark-eyed Junco	F-W	Winter	Neutral	53% 46%	
White-crowned Sparrow	Gen	Winter	Neutral	21% 75%	
White-throated Sparrow	F-B	Winter	Neutral	100%	
Vesper Sparrow	G	Winter	Neutral	68%	
LeConte's Sparrow	G	Winter	Neutral	70% 24%	
Savannah Sparrow	G	Winter	Low	63% 17%	
Henslow's Sparrow	G	Winter	Neutral	31%	
Song Sparrow	Gen	Winter	Neutral	66% 34%	
Lincoln's Sparrow	F-B	Winter	Neutral	3% 88%	
Swamp Sparrow	M	Winter	Neutral	99%	
Eastern Towhee	F-E	Summer	High	96%	
	F-E	Winter	Neutral	73% 27%	
Yellow-breasted Chat	F-E	Summer	Neutral	84% 15%	
Eastern Meadowlark	G	Summer	Moderate	84% 6%	
	G	Winter	Neutral	86% 5%	
Orchard Oriole	F-E	Summer	Low	50% 49%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Baltimore Oriole	F-E	Summer	Low	33% 39%	
Red-winged Blackbird	Gen	Summer	Neutral	7% 84%	
	Gen	Winter	Neutral	96% 3%	
Brown-headed Cowbird	Gen	Summer	Neutral	99% 1%	
	Gen	Winter	Neutral	97%	
Rusty Blackbird	F-B	Winter	Neutral	11% 89%	
Brewer's Blackbird	Gen	Winter	Neutral	14% 66%	
Common Grackle	F-E	Summer	Low	51% 32%	
	F-E	Winter	Neutral	91% 3%	
Great-tailed Grackle	Gen	Summer	Neutral	<1%	
	Gen	Winter	Neutral	7%	
Worm-eating Warbler	F-E	Summer	High	20% 3%	
Louisiana Waterthrush	F-E	Summer	Neutral	70% 4%	
Blue-winged Warbler	F-E	Summer	Moderate	<1%	
Black-and-white Warbler	F-E	Summer	Moderate	46% 8%	
	F-E	Winter	Neutral	9%	
Prothonotary Warbler	F-E	Summer	Neutral	90% 8%	
Swainson's Warbler	F-E	Summer	Low	30% 30%	
Orange-crowned Warbler	F-W	Winter	Neutral	4% 74%	
Kentucky Warbler	F-E	Summer	Low	43% 29%	
Common Yellowthroat	Gen	Summer	Low	81% 14%	
	Gen	Winter	Neutral	21%	
Hooded Warbler	F-E	Summer	Moderate	62% 20%	
American Redstart	F-B	Summer	Moderate	12% <1%	
Cerulean Warbler	F-E	Summer	High	3%	
Northern Parula	F-E	Summer	Moderate	29% 33%	
Palm Warbler	F-B	Winter	Low	31%	
Pine Warbler	F-E	Winter	Neutral	39% 51%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Yellow-rumped Warbler	F-B	Winter	Neutral	91% 9%	
Yellow-throated Warbler	F-E	Summer	High	100%	
	F-E	Winter	Neutral	20%	
Prairie Warbler	F-E	Summer	Moderate	72% 11%	
Summer Tanager	F-E	Summer	Neutral	90% 10%	
Scarlet Tanager	F-E	Summer	High	40% 1%	
Northern Cardinal	F-E	Summer	Neutral	94% 6%	
	F-E	Winter	Neutral	80% 20%	
Blue Grosbeak	F-S	Summer	Neutral	100%	
Indigo Bunting	F-E	Summer	Moderate	57% 37%	
Painted Bunting	D	Summer	Neutral	50% 34%	
Dickcissel	G	Summer	Neutral	50% 27%	