New York
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 3,272,000 total birders in New York 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. Piping Plover. Photo: Lorraine Minns/Audubon Photography Awards

Future Climate and Habitat in New York

Across the state of New York, 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 6.1°C (11°F), and average temperatures during the coldest month are expected to increase approximately 5.7°C (10°F) from 2010 to the end of the century. Average annual precipitation is expected to increase by approximately 67 mm (2.6 in). Despite the overall increase in precipitation, available moisture is expected to decrease by 88% 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]. The largest biome in the state is Deciduous Forest, covering 98% 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 New York'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 New York, 116 out of 227 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 71. Impacts are somewhat lessened in winter, with 25 out of 168 species vulnerable

under 3°C of warming and 10 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 New York, the habitat groups with the most species vulnerable to the impacts of ongoing and future climate change are boreal forest (35 species) and eastern forest (33 species) in summer (Figure 2). In winter, boreal forest (14 species) and waterbird (3 species) groups have the most vulnerable species.
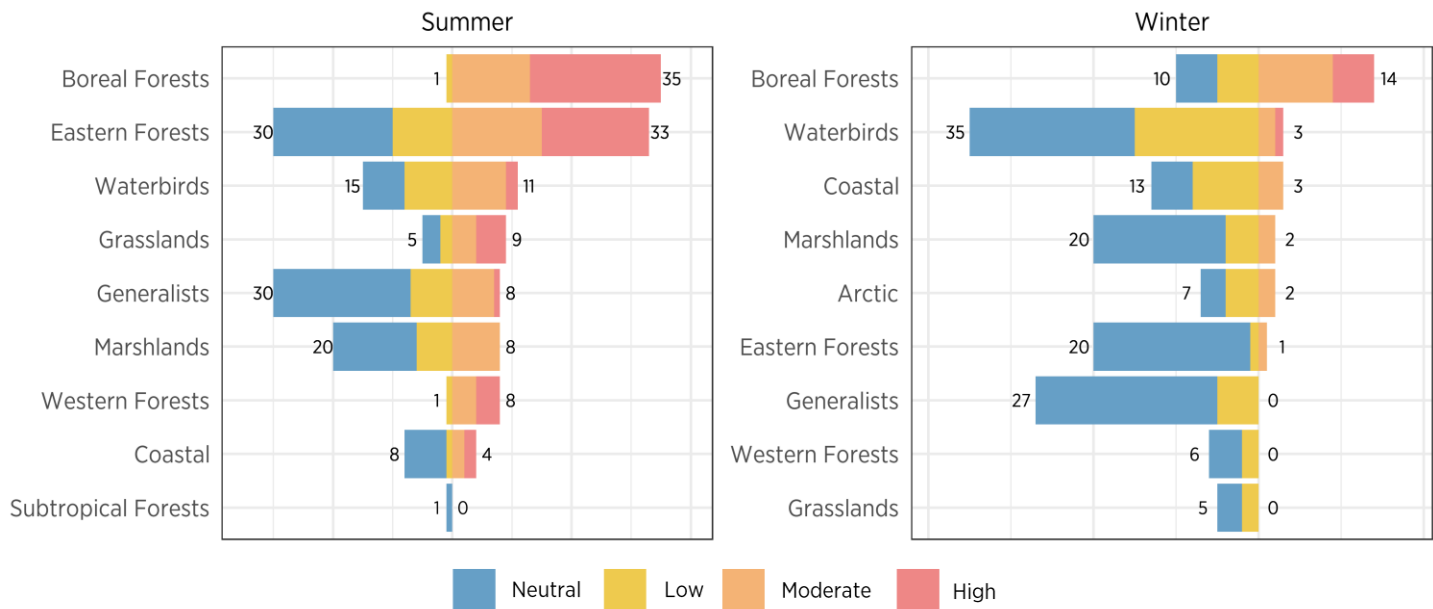
Figure 2. Number of species by their vulnerability to climate change in each habitat group under a global 3°C warming scenario. The species in each group are ones that currently live in the state, though vulnerability is assessed across the species's full North American range to better account for range-wide 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. Five climate-related threats will affect portions of New York (Table 1). The threat affecting both the greatest area and number of species in the state is extreme spring heat.

In New York, species that are most threatened by a combination of climate change and additional climate-related threats under 3°C of warming include Brown Thrasher, Eastern Towhee, Eastern Whip-poor-will, Fish Crow, Field Sparrow, Pine Warbler, Red-headed Woodpecker, Scarlet Tanager, Worm-eating Warbler, Wood Thrush, Prairie Warbler, Rose-breasted Grosbeak, Cerulean Warbler, Eastern Meadowlark, Henslow's Sparrow, American Woodcock, and Saltmarsh Sparrow. For information on threats for individual species in New York, see Table 2.

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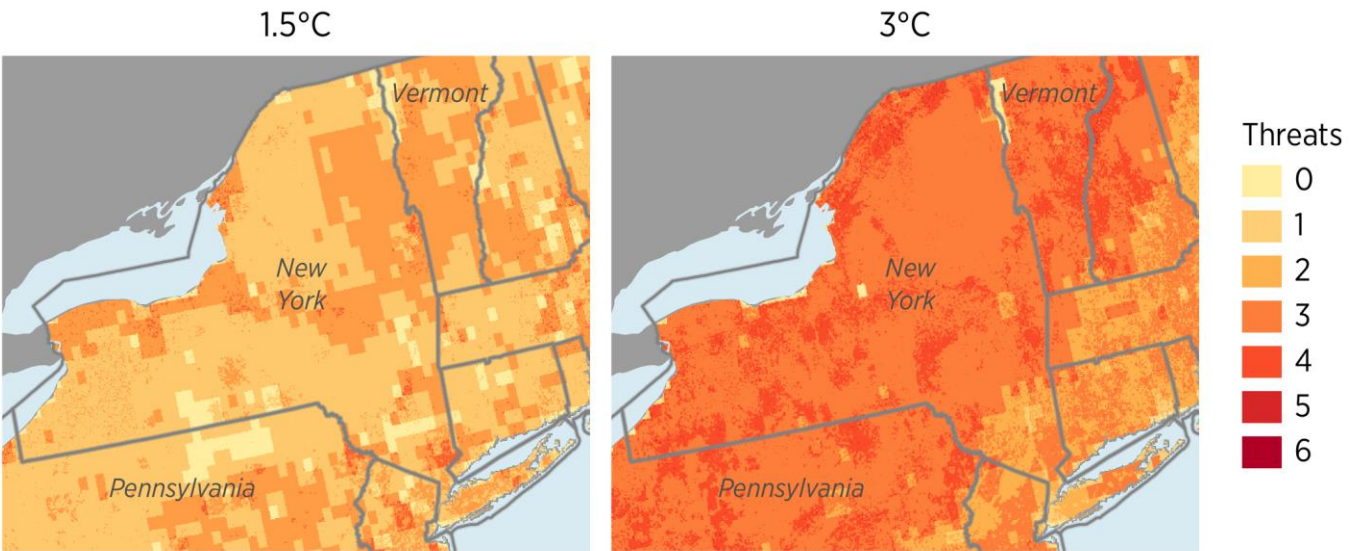
Figure 3. The number and distribution of overlapping climate-related threats under future global change scenarios of 1.5°C and 3°C. For detailed information on threats for each location in the state, refer to our online interactive tool at climate.audubon.org.

Table 1. Climate-related threats that New York 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
Sea Level Rise	1.5°C (0.5 m/1.6 ft)	101,182	4 (2)	1 (1)
	3°C (1 m/3.3 ft)	123,300	6 (1)	6 (0)
	3°C (2 m/6.6 ft)	142,612	7 (1)	8 (1)
Urbanization	1.5°C	1,190,856	18 (2)	27 (2)
	3°C	5,017,082	127 (34)	147 (9)
Extreme Spring Heat	1.5°C	11,436,761	28 (8)	27 (5)
	3°C	31,015,137	142 (49)	149 (13)
Fire Weather	3°C	28,146,495	126 (48)	122 (9)
Heavy Rain	1.5°C	27,309,303	150 (37)	99 (4)
	3°C	29,855,226	131 (48)	131 (9)

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 New York 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 48% of New York's 280 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 New York

We can make a big difference.

But we must act quickly. In New York, 125 species (51%) are climate vulnerable in summer under the 3°C scenario. Reducing emissions to 1.5°C reduces the number of vulnerable species to 77.

We must voice support for climate leadership.

Here in New York, change is on the horizon. By supporting the implementation of the Climate Leadership and Community Protection Act, we have the power to chart a greener future.

We must support the development of responsibly-sited renewable and clean energy, as well as upgrades and expansions to our electric transmission infrastructure, investments in natural climate solutions that promote additional carbon sequestration, and develop legislation and policies that support our coastal communities, which will be the first to feel the impacts of climate change.

We're off to a flying start.

We have a plan to create and protect more resilient, bird-friendly habitat in the places we now know our birds—and people—need it most. But we need your help on a local level.

In our northeastern forests, we are connecting landowners and foresters to grow and manage diverse, healthy woodlands that provide bird-friendly habitats. Our forests must be more resilient to the stressors of climate change and invasive species, so they can provide essential ecosystem services like carbon sequestration, flood control, and watershed protection.

In our urban areas we are bringing conservation to life by working with community leaders and youth, encouraging native plantings and designing sustainable buildings. Only through collaboration can we improve the urban landscape for people and birds.

On our coasts, we aim to implement an effective conservation strategy that involves habitat protection, restoration, stewardship, and effective policy. By proactively identifying and conserving thousands of acres of salt marsh, beach, and island habitat, we can help protect birds and people from climate-driven sea level rise and other threats.

We can do this, together.

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 New York. 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 New York, 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 New York, 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
Snow Goose	W	Winter	Low	10% / 47%	
Ross's Goose	W	Winter	Low	2% / 12%	
Brant	W	Winter	Moderate	3% / 1%	
Cackling Goose	M	Winter	Moderate	4% / 15%	
Canada Goose	W	Summer	Moderate	63% / 22%	
Canada Goose	W	Winter	Neutral	37% / 51%	
Trumpeter Swan	W	Summer	Moderate	4%	
Trumpeter Swan	W	Winter	Low	10% / 12%	
Tundra Swan	W	Winter	Moderate	<1% / 22%	
Wood Duck	W	Summer	Low	16% / 74%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
	W	Winter	Neutral	5% / 90%	[urban] [sun] [fire] [rain]
Blue-winged Teal	M	Summer	Low	4% / 10%	
Northern Shoveler	M	Summer	Low	<1%	[rain]
Northern Shoveler	M	Winter	Neutral	1% / 21%	[urban] [sun] [fire] [rain]
Gadwall	M	Summer	Moderate	7% / 2%	
Gadwall	M	Winter	Neutral	16% / 33%	[urban] [sun] [fire] [rain]
American Wigeon	M	Winter	Neutral	7% / 19%	[urban] [sun] [fire] [rain]
Mallard	W	Summer	Low	82% / 12%	[urban] [sun] [fire] [rain]
Mallard	W	Winter	Neutral	49% / 50%	[urban] [sun] [fire] [rain]
American Black Duck	W	Summer	Moderate	48% / 10%	[urban] [sun] [fire] [rain]
American Black Duck	W	Winter	Low	28% / 23%	[urban] [sun] [fire] [rain]
Northern Pintail	M	Summer	Moderate	<1% / <1%	[sun] [fire] [rain]
Northern Pintail	M	Winter	Neutral	11% / 16%	[urban] [sun] [fire] [rain]
Green-winged Teal	M	Summer	Moderate	10%	
Green-winged Teal	M	Winter	Neutral	1% / 20%	[urban] [sun] [fire] [rain]
Canvasback	M	Winter	Neutral	7% / 18%	[urban] [sun] [fire] [rain]
Redhead	M	Summer	Neutral	1% / 5%	
Redhead	M	Winter	Low	13% / 15%	[urban] [sun] [fire] [rain]
Ring-necked Duck	W	Summer	Moderate	12% / 17%	[sun] [fire] [rain]
Ring-necked Duck	W	Winter	Neutral	8% / 28%	[urban] [sun] [fire] [rain]
Greater Scaup	W	Winter	Neutral	21% / 26%	[urban] [sun] [fire] [rain]
Lesser Scaup	W	Summer	High	<1%	
Lesser Scaup	W	Winter	Neutral	8% / 37%	[urban] [sun] [fire] [rain]
King Eider	W	Winter	Low	1% / <1%	
Common Eider	C	Summer	Moderate	<1% / <1%	
Common Eider	C	Winter	Low	2%	[urban]
Harlequin Duck	W	Winter	Low	<1% / <1%	
Surf Scoter	C	Winter	Neutral	1% / 1%	[wave] [urban] [sun]

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
White-winged Scoter	W	Winter	Neutral	12% / 3%	sun
Black Scoter	C	Winter	Neutral	<1% / 1%	wave, building, sun
Long-tailed Duck	W	Winter	Low	2% / 15%	
Bufflehead	W	Winter	Low	18% / 11%	building, sun, fire, rain
Common Goldeneye	W	Summer	High	6%	
Common Goldeneye	W	Winter	Neutral	59% / 3%	building, sun, fire, rain
Barrow's Goldeneye	W	Winter	High	<1%	sun, rain
Hooded Merganser	W	Summer	Low	53% / 17%	sun, fire, rain
Hooded Merganser	W	Winter	Neutral	18% / 36%	building, sun, fire, rain
Common Merganser	W	Summer	Moderate	54% / 5%	sun, fire, rain
Common Merganser	W	Winter	Low	67% / 15%	building, sun, fire, rain
Red-breasted Merganser	W	Summer	Moderate	14%	
Red-breasted Merganser	W	Winter	Low	10% / 18%	building, sun, fire, rain
Ruddy Duck	M	Winter	Neutral	6% / 15%	building, sun, fire, rain
Northern Bobwhite	G	Summer	Neutral	2% / 34%	building, sun, fire, rain
Northern Bobwhite	G	Winter	Neutral	1% / 18%	building, sun, fire, rain
Ruffed Grouse	F-B	Summer	Moderate	86%	rain
Ruffed Grouse	F-B	Winter	Moderate	86% / 9%	rain
Spruce Grouse	F-B	Summer	High	6%	
Spruce Grouse	F-B	Winter	High	11%	
Wild Turkey	Gen	Summer	Neutral	83% / 8%	building, sun, fire, rain
Wild Turkey	Gen	Winter	Neutral	87% / 9%	building, sun, fire, rain
Pied-billed Grebe	M	Summer	Neutral	5% / 5%	
Pied-billed Grebe	M	Winter	Neutral	2% / 21%	building, sun, fire, rain
Horned Grebe	M	Winter	Neutral	9% / 13%	building, sun, fire, rain
Red-necked Grebe	M	Winter	Neutral	8% / 5%	
Clark's Grebe	M	Summer	Low	3%	
Mourning Dove	Gen	Summer	Neutral	83% / 15%	building, sun, fire, rain

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
	Gen	Winter	Neutral	89% / 10%	building, sun, fire, rain
Yellow-billed Cuckoo	F-E	Summer	Neutral	81% / 19%	building, sun, fire, rain
Black-billed Cuckoo	F-E	Summer	Low	79% / 10%	sun, fire, rain
Common Nighthawk	Gen	Summer	Neutral	15% / 76%	building, sun, fire, rain
Chuck-will's-widow	F-E	Summer	Neutral	17%	building, sun, rain
Eastern Whip-poor-will	F-E	Summer	High	35% / 33%	building, sun, fire, rain
Chimney Swift	F-E	Summer	Neutral	60% / 39%	building, sun, fire, rain
Ruby-throated Hummingbird	F-E	Summer	Neutral	69% / 18%	building, sun, fire, rain
King Rail	M	Summer	Low	1%	
King Rail	M	Winter	Neutral	2%	building
Clapper Rail	C	Summer	Low	2%	building, sun
Clapper Rail	C	Winter	Low	1% / 2%	building, sun
Virginia Rail	M	Summer	Moderate	41% / 5%	building, sun, fire, rain
Virginia Rail	M	Winter	Low	1% / 13%	building
Sora	M	Summer	Moderate	10%	
Common Gallinule	M	Summer	Neutral	7% / 9%	rain
American Coot	M	Summer	Neutral	2% / 5%	
American Coot	M	Winter	Neutral	8% / 19%	building, sun, fire, rain
Sandhill Crane	M	Summer	Moderate	25%	rain
Sandhill Crane	M	Winter	Low	<1%	building, sun, fire, rain
American Oystercatcher	C	Summer	Neutral	<1% / 2%	wave, building, sun
American Oystercatcher	C	Winter	Neutral	<1% / 1%	wave, building, sun
Black-bellied Plover	W	Winter	Neutral	1% / 7%	
Wilson's Plover	C	Summer	Neutral	1%	wave, building
Piping Plover	C	Summer	High	1%	wave, building
Piping Plover	C	Winter	Moderate	2%	building, sun
Killdeer	W	Summer	Neutral	72% / 10%	building, sun, fire, rain

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
	W	Winter	Neutral	2% 89%	Urbanization, Extreme Heat, Fire, Heavy Rain
Upland Sandpiper	G	Summer	Neutral	4% 16%	Urbanization, Extreme Heat, Fire, Heavy Rain
Ruddy Turnstone	W	Winter	Neutral	1% 5%	
Sanderling	W	Winter	Neutral	2% <1%	Urbanization
Dunlin	W	Winter	Low	1% 1%	Urbanization, Extreme Heat, Fire, Heavy Rain
Purple Sandpiper	W	Winter	Low	1% 1%	Urbanization, Extreme Heat, Heavy Rain
American Woodcock	F-E	Summer	Moderate	40% 59%	Urbanization, Extreme Heat, Fire, Heavy Rain
American Woodcock	F-E	Winter	Neutral	4% 73%	Urbanization, Extreme Heat, Fire, Heavy Rain
Wilson's Snipe	M	Summer	Moderate	1%	
Wilson's Snipe	M	Winter	Neutral	1% 28%	Urbanization, Extreme Heat, Fire, Heavy Rain
Spotted Sandpiper	W	Summer	Moderate	34% 7%	Extreme Heat, Fire, Heavy Rain
Greater Yellowlegs	W	Winter	Neutral	<1% 7%	
Willet	W	Summer	Neutral	1% 3%	
Willet	C	Winter	Neutral	1%	Sea Level Rise, Urbanization
Dovekie	C	Winter	Moderate	1% <1%	Sea Level Rise
Thick-billed Murre	C	Winter	Moderate	1% <1%	
Razorbill	C	Winter	Low	1% 1%	Sea Level Rise, Urbanization, Extreme Heat
Black-legged Kittiwake	C	Winter	Neutral	1% 3%	Urbanization, Extreme Heat
Bonaparte's Gull	W	Winter	Neutral	7% 27%	Urbanization, Extreme Heat, Fire, Heavy Rain
Little Gull	W	Summer	Moderate	4%	Heavy Rain
Little Gull	C	Winter	Low	8% 1%	
Laughing Gull	C	Summer	Neutral	2% 1%	Urbanization, Extreme Heat
Ring-billed Gull	W	Summer	Low	38% 2%	Urbanization, Extreme Heat, Heavy Rain
Ring-billed Gull	W	Winter	Neutral	45% 35%	Urbanization, Extreme Heat, Fire, Heavy Rain
Herring Gull	W	Summer	Low	17% 5%	
Herring Gull	W	Winter	Neutral	77% 18%	Urbanization, Extreme Heat, Fire, Heavy Rain
Iceland Gull	C	Winter	Low	12% 8%	
Lesser Black-backed Gull	C	Winter	Low	6% 14%	Extreme Heat, Heavy Rain

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Glaucous Gull	W	Winter	Low	23% / 6%	rain
Great Black-backed Gull	C	Summer	Moderate	8% / 2%	urban, sun
	C	Winter	Low	27% / 6%	urban, sun, rain
Least Tern	W	Summer	Low	2% / 13%	urban
Gull-billed Tern	C	Summer	Neutral	1%	waves, urban, sun
Caspian Tern	W	Summer	Low	6% / 5%	
Black Tern	M	Summer	Low	6% / 5%	
Common Tern	W	Summer	Low	5% / 9%	
Forster's Tern	M	Summer	Neutral	5% / 6%	
	M	Winter	Neutral	8%	urban
Royal Tern	C	Summer	Neutral	1%	waves, urban
Black Skimmer	C	Summer	Neutral	1% / 2%	urban, sun
Red-throated Loon	W	Winter	Low	12% / 8%	sun, fire, rain
Common Loon	W	Summer	Moderate	83%	rain
	W	Winter	Low	4% / 8%	urban, sun, rain
Northern Gannet	C	Winter	Neutral	1%	waves, urban, sun
Great Cormorant	C	Winter	Low	2% / 2%	urban, sun
Double-crested Cormorant	W	Summer	Neutral	6% / 28%	sun, fire, rain
	W	Winter	Neutral	1% / 19%	urban, sun, rain
American White Pelican	M	Winter	Neutral	5%	urban
Brown Pelican	C	Summer	Neutral	<1%	waves, urban
American Bittern	M	Summer	Low	46%	rain
	M	Winter	Neutral	<1% / 9%	
Least Bittern	M	Summer	Neutral	3% / 16%	sun, fire, rain
Great Blue Heron	W	Summer	Neutral	88% / 12%	urban, sun, fire, rain
	W	Winter	Neutral	45% / 48%	urban, sun, fire, rain
Great Egret	W	Summer	Neutral	14% / 15%	urban, sun, fire, rain
	W	Winter	Neutral	2% / 27%	urban, sun, fire, rain

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Snowy Egret	M	Summer	Neutral	3% / 9%	🏢
Little Blue Heron	M	Summer	Neutral	1% / 24%	🏢 ☀️ 🔥 🌧️
Tricolored Heron	M	Summer	Neutral	1% / 9%	
Cattle Egret	W	Summer	Neutral	1% / 22%	🏢 ☀️ 🌧️
Green Heron	M	Summer	Neutral	56% / 19%	🏢 ☀️ 🔥 🌧️
Black-crowned Night-Heron	M	Summer	Neutral	16% / 9%	🏢 ☀️ 🔥 🌧️
	M	Winter	Neutral	3% / 8%	
Yellow-crowned Night-Heron	M	Summer	Neutral	2% / 33%	🏢 ☀️ 🔥 🌧️
White Ibis	M	Summer	Neutral	10%	🏢
Glossy Ibis	M	Summer	Neutral	1% / 2%	🏢
Black Vulture	Gen	Summer	Neutral	1% / 7%	🏢 ☀️ 🌧️
	Gen	Winter	Neutral	1% / 8%	🏢 ☀️ 🌧️
Turkey Vulture	Gen	Summer	Neutral	61% / 19%	🏢 ☀️ 🔥 🌧️
	Gen	Winter	Neutral	2% / 65%	🏢 ☀️ 🔥 🌧️
Osprey	W	Summer	Neutral	62% / 4%	🏢 ☀️ 🔥 🌧️
Mississippi Kite	F-E	Summer	Neutral	<1% / 13%	🏢 ☀️ 🌧️
Northern Harrier	M	Summer	Low	14%	☀️
	M	Winter	Neutral	15% / 20%	🏢 ☀️ 🔥 🌧️
Sharp-shinned Hawk	F-W	Summer	Moderate	80%	☀️ 🔥 🌧️
	F-W	Winter	Neutral	65% / 25%	🏢 ☀️ 🔥 🌧️
Cooper's Hawk	Gen	Summer	Neutral	38% / 35%	🏢 ☀️ 🔥 🌧️
	Gen	Winter	Low	50% / 46%	🏢 ☀️ 🔥 🌧️
Northern Goshawk	F-B	Summer	High	42%	☀️ 🌧️
	F-B	Winter	Low	89% / 3%	☀️ 🔥 🌧️
Bald Eagle	Gen	Summer	Low	21% / 78%	🏢 ☀️ 🔥 🌧️
	Gen	Winter	Neutral	99% / 1%	🏢 ☀️ 🔥 🌧️
Red-shouldered Hawk	F-E	Summer	Neutral	5% / 95%	🏢 ☀️ 🔥 🌧️
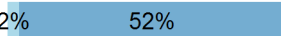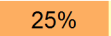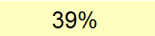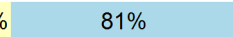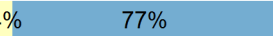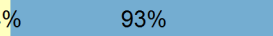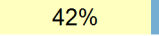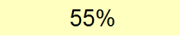
Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
	F-E	Winter	Neutral	54%	urbanization, heat, fire, rain
Broad-winged Hawk	F-E	Summer	Low	46% / 25%	urbanization, heat, fire, rain
Red-tailed Hawk	Gen	Summer	Neutral	54% / 46%	urbanization, heat, fire, rain
	Gen	Winter	Neutral	55% / 38%	urbanization, heat, fire, rain
Rough-legged Hawk	A	Winter	Moderate	46% / 3%	urbanization, heat, fire, rain
Barn Owl	Gen	Summer	Neutral	5% / 89%	urbanization, heat, fire, rain
	Gen	Winter	Neutral	14% / 83%	urbanization, heat, fire, rain
Eastern Screech-Owl	F-E	Summer	Neutral	29% / 30%	urbanization, heat, fire, rain
	F-E	Winter	Neutral	42% / 38%	urbanization, heat, fire, rain
Great Horned Owl	Gen	Summer	Neutral	48% / 46%	urbanization, heat, fire, rain
	Gen	Winter	Neutral	42% / 49%	urbanization, heat, fire, rain
Snowy Owl	A	Winter	Low	65% / 34%	urbanization, heat, fire, rain
Barred Owl	F-E	Summer	Neutral	84% / 16%	urbanization, heat, fire, rain
	F-E	Winter	Neutral	93% / 5%	urbanization, heat, fire, rain
Great Gray Owl	F-B	Winter	Moderate	3%	
Long-eared Owl	F-W	Summer	Low	12%	heat, rain
	F-W	Winter	Low	33% / 30%	urbanization, heat, fire, rain
Short-eared Owl	G	Winter	Neutral	17% / 15%	urbanization, heat, fire, rain
Boreal Owl	F-B	Summer	High	1%	
	F-B	Winter	High	3%	
Northern Saw-whet Owl	F-B	Summer	Moderate	59%	heat, fire, rain
	F-B	Winter	Low	13% / 75%	urbanization, heat, fire, rain
Belted Kingfisher	Gen	Summer	Neutral	97% / 2%	urbanization, heat, fire, rain
	Gen	Winter	Neutral	11% / 81%	urbanization, heat, fire, rain
Yellow-bellied Sapsucker	F-E	Summer	High	61%	rain
	F-E	Winter	Neutral	12% / 88%	urbanization, heat, fire, rain
Red-headed Woodpecker	F-E	Summer	High	3% / 84%	urbanization, heat, fire, rain
	F-E	Winter	Neutral	69%	urbanization, heat, fire, rain

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Red-bellied Woodpecker	F-E	Summer	Neutral	31% / 57%	🏢 ☀ 🔥 🌧
	F-E	Winter	Neutral	30% / 54%	🏢 ☀ 🔥 🌧
Black-backed Woodpecker	F-B	Summer	High	11%	
	F-B	Winter	Moderate	11%	
Downy Woodpecker	Gen	Summer	Neutral	83% / 11%	🏢 ☀ 🔥 🌧
	Gen	Winter	Neutral	83% / 14%	🏢 ☀ 🔥 🌧
Hairy Woodpecker	Gen	Summer	Low	36% / 39%	🏢 ☀ 🔥 🌧
	Gen	Winter	Low	27% / 47%	🏢 ☀ 🔥 🌧
Pileated Woodpecker	F-E	Summer	Neutral	87% / 3%	🏢 ☀ 🔥 🌧
	F-E	Winter	Neutral	78% / 9%	🏢 ☀ 🔥 🌧
Northern Flicker	Gen	Summer	Moderate	33% / 65%	🏢 ☀ 🔥 🌧
	Gen	Winter	Neutral	14% / 83%	🏢 ☀ 🔥 🌧
American Kestrel	Gen	Summer	Neutral	7% / 83%	🏢 ☀ 🔥 🌧
	Gen	Winter	Neutral	2% / 41%	🏢 ☀ 🔥 🌧
Merlin	F-E	Summer	Moderate	65%	
	F-E	Winter	Neutral	97% / 3%	🏢 ☀ 🔥 🌧
Gyrfalcon	A	Winter	Low	56%	
Peregrine Falcon	Gen	Summer	Neutral	69% / 13%	☀ 🌧
	Gen	Winter	Neutral	50% / 27%	🏢 ☀ 🔥 🌧
Olive-sided Flycatcher	F-B	Summer	High	10%	☀ 🌧
Eastern Wood-Pewee	F-E	Summer	Low	41% / 40%	🏢 ☀ 🔥 🌧
Yellow-bellied Flycatcher	F-B	Summer	High	6%	
Acadian Flycatcher	F-E	Summer	Moderate	48% / 42%	🏢 ☀ 🔥 🌧
Alder Flycatcher	F-B	Summer	Moderate	68%	
Willow Flycatcher	F-W	Summer	Moderate	32% / 51%	🏢 ☀ 🔥 🌧
Least Flycatcher	F-B	Summer	Moderate	70%	
Eastern Phoebe	F-E	Summer	Low	11% / 65%	🏢 ☀ 🔥 🌧
	F-E	Winter	Neutral	6%	🏢 ☀ 🌧

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Great Crested Flycatcher	F-E	Summer	Moderate	67% / 20%	urban, sun, fire, rain
Eastern Kingbird	G	Summer	Moderate	73% / 16%	urban, sun, fire, rain
Northern Shrike	F-B	Winter	Moderate	91%	rain
White-eyed Vireo	F-E	Summer	Neutral	13% / 80%	urban, sun, fire, rain
Yellow-throated Vireo	F-E	Summer	Moderate	27% / 22%	urban, sun, fire, rain
Blue-headed Vireo	F-E	Summer	High	60%	—
Philadelphia Vireo	F-B	Summer	High	1%	—
Warbling Vireo	Gen	Summer	Neutral	41% / 39%	urban, sun, fire, rain
Red-eyed Vireo	F-E	Summer	Low	53% / 45%	urban, sun, fire, rain
Canada Jay	F-B	Summer	High	3%	—
Canada Jay	F-B	Winter	High	5%	—
Blue Jay	F-E	Summer	Neutral	23% / 72%	urban, sun, fire, rain
Blue Jay	F-E	Winter	Neutral	90% / 3%	urban, sun, fire, rain
American Crow	Gen	Summer	Low	10% / 87%	urban, sun, fire, rain
American Crow	Gen	Winter	Neutral	99% / 1%	urban, sun, fire, rain
Fish Crow	Gen	Summer	High	3% / 32%	urban, sun, fire, rain
Fish Crow	Gen	Winter	Low	4% / 17%	urban, sun, fire, rain
Common Raven	Gen	Summer	Low	56% / 44%	sun, fire, rain
Common Raven	Gen	Winter	Low	92% / 8%	sun, fire, rain
Horned Lark	G	Summer	Low	9% / 4%	urban, sun, fire, rain
Horned Lark	G	Winter	Low	28% / 16%	urban, sun, fire, rain
Northern Rough-winged Swallow	Gen	Summer	Neutral	46% / 41%	urban, sun, fire, rain
Purple Martin	Gen	Summer	Neutral	26% / 65%	urban, sun, fire, rain
Tree Swallow	Gen	Summer	Moderate	69% / 19%	sun, fire, rain
Bank Swallow	Gen	Summer	Neutral	19% / 51%	urban, sun, fire, rain
Barn Swallow	Gen	Summer	Neutral	81% / 12%	urban, sun, fire, rain
Cliff Swallow	Gen	Summer	Neutral	13% / 59%	urban, sun, fire, rain

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Carolina Chickadee	F-E	Summer	Neutral	40%	urban, sun, fire, rain
	F-E	Winter	Low	39%	urban, sun, fire, rain
Black-capped Chickadee	F-B	Summer	Low	47% / 42%	urban, sun, fire, rain
	F-B	Winter	Low	8% / 90%	urban, sun, fire, rain
Boreal Chickadee	F-B	Summer	High	8%	
	F-B	Winter	High	5%	
Tufted Titmouse	F-E	Summer	Neutral	33% / 45%	urban, sun, fire, rain
	F-E	Winter	Neutral	34% / 47%	urban, sun, fire, rain
Red-breasted Nuthatch	F-B	Summer	Moderate	64%	sun, rain
	F-B	Winter	Neutral	7% / 93%	urban, sun, fire, rain
White-breasted Nuthatch	F-E	Summer	Low	38% / 34%	urban, sun, fire, rain
	F-E	Winter	Neutral	15% / 73%	urban, sun, fire, rain
Brown-headed Nuthatch	F-E	Winter	High	3%	urban, sun
Brown Creeper	F-W	Summer	Moderate	48%	sun, fire, rain
	F-W	Winter	Neutral	100%	urban, sun, fire, rain
House Wren	Gen	Summer	Moderate	31% / 37%	urban, sun, fire, rain
	Gen	Winter	Neutral	2%	urban, sun
Winter Wren	F-E	Summer	High	47%	
	F-E	Winter	Low	4% / 76%	urban, sun, fire, rain
Sedge Wren	G	Summer	Moderate	18%	rain
	G	Winter	Neutral	7%	urban, sun
Marsh Wren	M	Summer	Low	7% / 5%	
	M	Winter	Low	1% / 16%	urban, sun
Carolina Wren	F-E	Summer	Neutral	43% / 52%	urban, sun, fire, rain
	F-E	Winter	Neutral	52% / 43%	urban, sun, fire, rain
Blue-gray Gnatcatcher	Gen	Summer	Neutral	16% / 62%	urban, sun, fire, rain
Golden-crowned Kinglet	F-B	Summer	Moderate	22%	sun, rain
	F-B	Winter	Neutral	20% / 63%	urban, sun, fire, rain

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Ruby-crowned Kinglet	F-W	Summer	High	12%	
	F-W	Winter	Neutral	7%	🏙️ ☀️ 🌧️
Eastern Bluebird	F-E	Summer	Neutral	60% / 30%	🏙️ ☀️ 🔥 🌧️
	F-E	Winter	Neutral	29% / 51%	🏙️ ☀️ 🔥 🌧️
Veery	F-E	Summer	Moderate	84% / 6%	🌧️
Swainson's Thrush	F-B	Summer	High	7%	
Hermit Thrush	F-W	Summer	High	26%	☀️ 🌧️
	F-W	Winter	Low	2% / 52%	🏙️ ☀️ 🔥 🌧️
Wood Thrush	F-E	Summer	High	25% / 39%	🏙️ ☀️ 🔥 🌧️
American Robin	Gen	Summer	Moderate	46% / 52%	🏙️ ☀️ 🔥 🌧️
	Gen	Winter	Neutral	18% / 81%	🏙️ ☀️ 🔥 🌧️
Gray Catbird	F-E	Summer	Neutral	21% / 75%	🏙️ ☀️ 🔥 🌧️
	F-E	Winter	Moderate	3% / 1%	🏙️ ☀️ 🔥 🌧️
Brown Thrasher	F-E	Summer	High	27% / 50%	🏙️ ☀️ 🔥 🌧️
	F-E	Winter	Neutral	<1% / 20%	🏙️ ☀️ 🌧️
Northern Mockingbird	Gen	Summer	Neutral	4% / 77%	🏙️ ☀️ 🔥 🌧️
	Gen	Winter	Neutral	4% / 93%	🏙️ ☀️ 🔥 🌧️
American Pipit	A	Winter	Neutral	1% / 21%	🏙️ ☀️ 🔥 🌧️
Bohemian Waxwing	F-B	Winter	High	29%	☀️ 🔥 🌧️
Cedar Waxwing	Gen	Summer	Low	47% / 32%	🏙️ ☀️ 🔥 🌧️
	Gen	Winter	Neutral	52% / 14%	🏙️ ☀️ 🔥 🌧️
Evening Grosbeak	F-B	Summer	High	27%	☀️ 🌧️
	F-B	Winter	Moderate	71%	☀️ 🔥 🌧️
Pine Grosbeak	F-B	Winter	Moderate	20%	
House Finch	Gen	Summer	Low	42% / 35%	🏙️ ☀️ 🔥 🌧️
	Gen	Winter	Low	55% / 27%	🏙️ ☀️ 🔥 🌧️
Purple Finch	F-B	Summer	Moderate	72%	🌧️
	F-B	Winter	Low	94% / 3%	🏙️ ☀️ 🔥 🌧️

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Common Redpoll	A	Winter	Low	93% / 2%	☀ 🔥 ☔
Hoary Redpoll	A	Winter	Moderate	30%	
Red Crossbill	F-B	Summer	High	3%	☀ 🔥 ☔
Red Crossbill	F-B	Winter	Moderate	22%	☀ 🔥 ☔
White-winged Crossbill	F-B	Summer	High	9%	
White-winged Crossbill	F-B	Winter	Moderate	59% / 40%	☀ 🔥 ☔
Pine Siskin	F-W	Summer	Moderate	3%	☀ ☔
Pine Siskin	F-W	Winter	Neutral	61% / 37%	🏢 ☀ 🔥 ☔
American Goldfinch	Gen	Summer	Moderate	50% / 35%	☀ 🔥 ☔
American Goldfinch	Gen	Winter	Neutral	99% / 1%	🏢 ☀ 🔥 ☔
Lapland Longspur	A	Winter	Neutral	9% / 44%	🏢 ☀ 🔥 ☔
Snow Bunting	A	Winter	Low	58% / 38%	🏢 ☀ 🔥 ☔
Grasshopper Sparrow	G	Summer	Low	2% / 39%	🏢 ☀ 🔥 ☔
Chipping Sparrow	Gen	Summer	Moderate	50% / 38%	🏢 ☀ 🔥 ☔
Chipping Sparrow	Gen	Winter	Neutral	3%	🏢 ☀
Clay-colored Sparrow	G	Summer	High	1%	
Field Sparrow	F-E	Summer	High	45% / 26%	🏢 ☀ 🔥 ☔
Field Sparrow	F-E	Winter	Neutral	7% / 91%	🏢 ☀ 🔥 ☔
American Tree Sparrow	A	Winter	Neutral	43% / 54%	🏢 ☀ 🔥 ☔
Fox Sparrow	F-B	Winter	Moderate	4% / 72%	🏢 ☀ 🔥 ☔
Dark-eyed Junco	F-W	Summer	High	43%	☔
Dark-eyed Junco	F-W	Winter	Neutral	90% / 9%	🏢 ☀ 🔥 ☔
White-crowned Sparrow	Gen	Winter	Neutral	81%	🏢 ☀ 🔥 ☔
White-throated Sparrow	F-B	Summer	High	16%	
White-throated Sparrow	F-B	Winter	Neutral	8% / 86%	🏢 ☀ 🔥 ☔
Vesper Sparrow	G	Summer	Moderate	14%	☔
Seaside Sparrow	C	Summer	Neutral	1%	🌊 🏢 ☀
Seaside Sparrow	C	Winter	Moderate	2%	🏢 ☀

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Nelson's Sparrow	G	Summer	High	<1%	
Saltmarsh Sparrow	M	Summer	Neutral	1% / 2%	🏢 ☀️
Savannah Sparrow	G	Summer	High	36%	
Savannah Sparrow	G	Winter	Low	2% / 12%	🏢 ☀️ 🔥 🌧️
Henslow's Sparrow	G	Summer	High	19%	☀️ 🔥 🌧️
Henslow's Sparrow	G	Winter	Neutral	1%	🏢 ☀️
Song Sparrow	Gen	Summer	Moderate	55% / 29%	☀️ 🔥 🌧️
Song Sparrow	Gen	Winter	Neutral	36% / 61%	🏢 ☀️ 🔥 🌧️
Lincoln's Sparrow	F-B	Summer	High	9%	
Swamp Sparrow	M	Summer	Moderate	46%	🌧️
Swamp Sparrow	M	Winter	Neutral	11% / 78%	🏢 ☀️ 🔥 🌧️
Eastern Towhee	F-E	Summer	High	21% / 50%	🏢 ☀️ 🔥 🌧️
Eastern Towhee	F-E	Winter	Neutral	6% / 89%	🏢 ☀️ 🔥 🌧️
Yellow-breasted Chat	F-E	Summer	Neutral	3% / 64%	🏢 ☀️ 🔥 🌧️
Bobolink	G	Summer	High	84%	🌧️
Eastern Meadowlark	G	Summer	Moderate	37% / 22%	🏢 ☀️ 🔥 🌧️
Eastern Meadowlark	G	Winter	Neutral	2% / 50%	🏢 ☀️ 🔥 🌧️
Orchard Oriole	F-E	Summer	Low	15% / 80%	🏢 ☀️ 🔥 🌧️
Baltimore Oriole	F-E	Summer	Low	50% / 41%	🏢 ☀️ 🔥 🌧️
Red-winged Blackbird	Gen	Summer	Neutral	86% / 5%	🏢 ☀️ 🔥 🌧️
Red-winged Blackbird	Gen	Winter	Neutral	19% / 70%	🏢 ☀️ 🔥 🌧️
Brown-headed Cowbird	Gen	Summer	Neutral	52% / 24%	🏢 ☀️ 🔥 🌧️
Brown-headed Cowbird	Gen	Winter	Neutral	30% / 56%	🏢 ☀️ 🔥 🌧️
Rusty Blackbird	F-B	Summer	High	3%	
Rusty Blackbird	F-B	Winter	Neutral	3% / 89%	🏢 ☀️ 🔥 🌧️
Brewer's Blackbird	Gen	Winter	Neutral	1%	🏢 ☀️ 🔥 🌧️
Common Grackle	F-E	Summer	Low	84% / 7%	🏢 ☀️ 🔥 🌧️
Common Grackle	F-E	Winter	Neutral	4% / 67%	🏢 ☀️ 🔥 🌧️

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Boat-tailed Grackle	C	Summer	High	<1% / <1%	🌊 🏢
	C	Winter	Moderate	1%	🌊 🏢 ☀️
Ovenbird	F-E	Summer	Moderate	83% / 1%	🌧️
Worm-eating Warbler	F-E	Summer	High	3% / 45%	🏢 ☀️ 🔥 🌧️
Louisiana Waterthrush	F-E	Summer	Neutral	33% / 50%	🏢 ☀️ 🔥 🌧️
Northern Waterthrush	F-B	Summer	Moderate	71%	
Golden-winged Warbler	F-E	Summer	High	50%	🌧️
Blue-winged Warbler	F-E	Summer	Moderate	27% / 27%	☀️ 🔥 🌧️
Black-and-white Warbler	F-E	Summer	Moderate	60% / 7%	🏢 ☀️ 🔥 🌧️
Prothonotary Warbler	F-E	Summer	Neutral	5% / 84%	🏢 ☀️ 🔥 🌧️
Tennessee Warbler	F-B	Summer	Moderate	3%	
Nashville Warbler	F-E	Summer	Moderate	18%	☀️ 🌧️
Mourning Warbler	F-B	Summer	High	34%	
Kentucky Warbler	F-E	Summer	Low	<1% / 41%	🏢 ☀️ 🔥 🌧️
Common Yellowthroat	Gen	Summer	Low	54% / 46%	🏢 ☀️ 🔥 🌧️
Hooded Warbler	F-E	Summer	Moderate	39% / 34%	🏢 ☀️ 🔥 🌧️
American Redstart	F-B	Summer	Moderate	20% / 78%	🏢 ☀️ 🔥 🌧️
Cerulean Warbler	F-E	Summer	High	16% / 35%	☀️ 🔥 🌧️
Northern Parula	F-E	Summer	Moderate	16% / 34%	🏢 ☀️ 🔥 🌧️
Magnolia Warbler	F-B	Summer	High	27%	
Bay-breasted Warbler	F-B	Summer	High	<1%	
Blackburnian Warbler	F-B	Summer	High	52%	
Yellow Warbler	F-B	Summer	Moderate	89% / 9%	☀️ 🔥 🌧️
Chestnut-sided Warbler	F-E	Summer	High	67%	🌧️
Blackpoll Warbler	F-B	Summer	Moderate	9%	
Black-throated Blue Warbler	F-E	Summer	High	51%	🌧️
Palm Warbler	F-B	Summer	High	13%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
	F-B	Winter	Low	2%	sea level rise, urbanization, heat
Pine Warbler	F-E	Summer	High	36% / 41%	urbanization, heat, fire, heavy rain
	F-E	Winter	Neutral	4%	urbanization, heat
Yellow-rumped Warbler	F-B	Summer	Moderate	42%	heavy rain
	F-B	Winter	Neutral	4% / 81%	urbanization, heat, fire, heavy rain
Yellow-throated Warbler	F-E	Summer	High	2% / 53%	urbanization, heat, fire, heavy rain
Prairie Warbler	F-E	Summer	Moderate	19% / 29%	urbanization, heat, fire, heavy rain
Black-throated Green Warbler	F-E	Summer	High	64% / <1%	heavy rain
Canada Warbler	F-B	Summer	High	22%	
Wilson's Warbler	F-W	Summer	High	<1%	
Summer Tanager	F-E	Summer	Neutral	30%	urbanization, heat, fire, heavy rain
Scarlet Tanager	F-E	Summer	High	33% / 29%	urbanization, heat, fire, heavy rain
Northern Cardinal	F-E	Summer	Neutral	48% / 49%	urbanization, heat, fire, heavy rain
	F-E	Winter	Neutral	68% / 20%	urbanization, heat, fire, heavy rain
Rose-breasted Grosbeak	F-E	Summer	Moderate	69% / 9%	heat, fire, heavy rain
Blue Grosbeak	F-S	Summer	Neutral	<1% / 7%	urbanization, heat, heavy rain
Indigo Bunting	F-E	Summer	Moderate	45% / 27%	urbanization, heat, fire, heavy rain
Dickcissel	G	Summer	Neutral	1% / 33%	urbanization, heat, fire, heavy rain