Utah

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 410,000 total birders in Utah 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. Sagebrush Sparrow. Photo: Mick Thompson/Eastside Audubon

Future Climate and Habitat in Utah

Across the state of Utah, 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 6.5°C (12°F), and average temperatures during the coldest month are expected to increase approximately 4.9°C (8.8°F) from 2010 to the end of the century. Average annual precipitation is expected to increase by approximately 23 mm (0.92 in). Despite the overall increase in precipitation, available moisture is expected to decrease by 26% 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 43% of the state of Utah will transition to a different biome. At present, the largest biome in the state is Desert Scrub, covering 49% of the state. By the end of the century, Desert Scrub will cover approximately 76% 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 Utah'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 Utah, 108 out of 223 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 72. Impacts are somewhat lessened in winter, with 37 out of 157 species vulnerable under 3°C of warming and 19 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 Utah, the habitat groups with the most species vulnerable to the impacts of ongoing and future climate change are western forest (41 species) and boreal forest (16 species) in summer (Figure 2). In winter, western forest (13 species) and boreal forest (9 species) groups have the most vulnerable species.

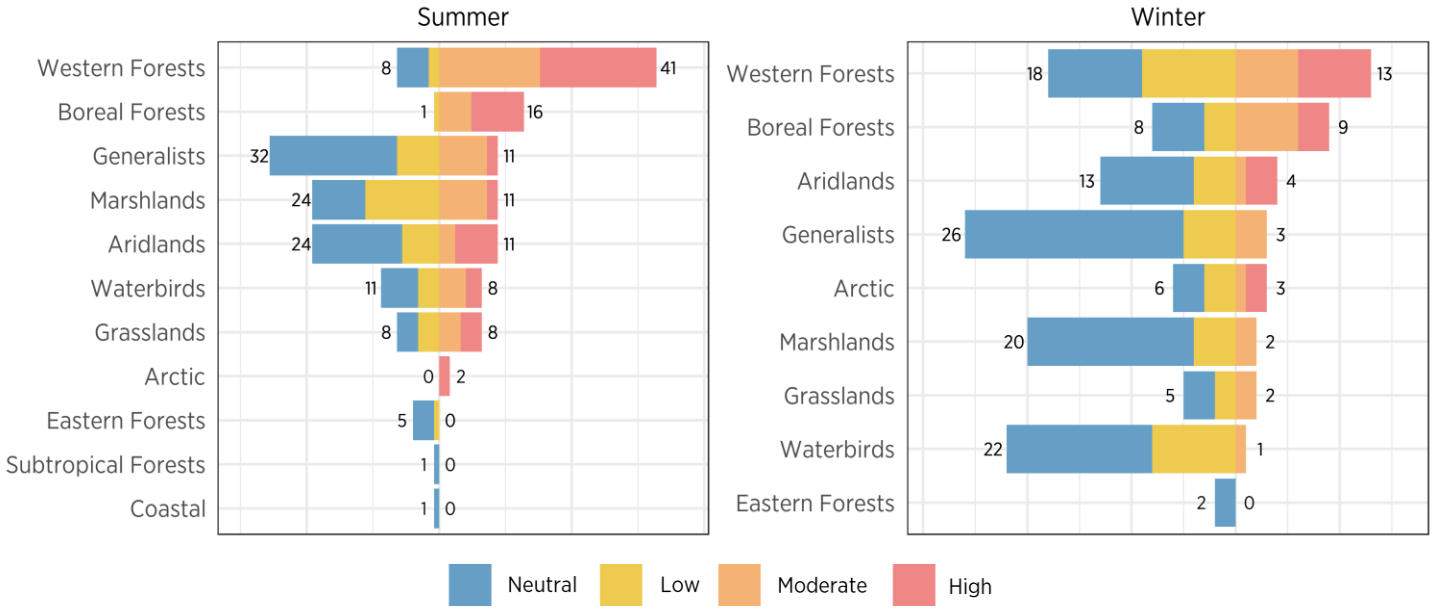

Figure 2. Number of species by their vulnerability to climate change in each habitat group under a global 3°C warming scenario. The species in each group are ones that currently live in the state, though vulnerability is assessed across the species's full North American range to better account for range-wide 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 Utah (Table 1). The threat affecting both the greatest area and number of species in the state is extreme spring heat.

In Utah, species that are most threatened by a combination of climate change and additional climate-related threats under 3°C of warming include Greater Sage-Grouse, Eared Grebe, Brewer's Sparrow, Broad-tailed Hummingbird, Long-billed Curlew, Mountain Chickadee, Black-billed Magpie, American Dipper, Evening Grosbeak, and Yellow Warbler. For information on threats for individual species in Utah, see Table 2.

Climate-Related Threats (Cont.)

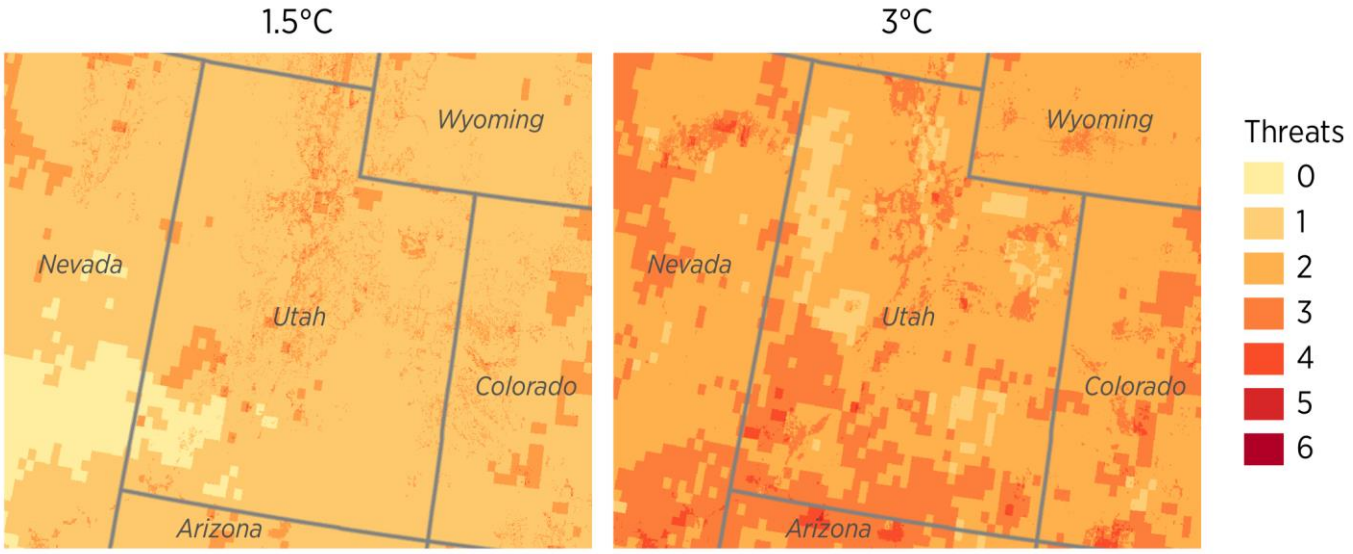

Figure 3. The number and distribution of overlapping climate-related threats under future global change scenarios of 1.5°C and 3°C. For detailed information on threats for each location in the state, refer to our online interactive tool at climate.audubon.org.

Table 1. Climate-related threats that Utah 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	808,256	1 (0)	1 (0)
	3°C	2,769,582	9 (4)	2 (0)
Cropland Expansion	1.5°C	2,781,908	20 (6)	7 (2)
Extreme Spring Heat	1.5°C	51,976,560	232 (65)	175 (20)
	3°C	54,587,471	223 (86)	200 (45)
Fire Weather	3°C	46,576,080	220 (84)	195 (43)
Spring Droughts	3°C	8,087,005	18 (4)	21 (5)

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 Utah 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 49% of Utah's 251 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 Utah

We still have time.

Utah still holds vast natural landscapes, from the rolling sagebrush steppe, to montane forests, connected by rivers, wetlands, and lakes. Utah is also home to the largest saline lake in the Western Hemisphere—Great Salt Lake and its wetlands. Future climate conditions could affect the overall health of the lake and its associated wetlands, thereby reducing available habitats for shorebirds and waterbirds that rely on Great Salt Lake and the network of saline lakes in the Intermountain West. Continuing to protect these remaining habitats and restore them where appropriate will help birds weather the impacts of climate change.

We must act now.

Fortunately, there are things everyone can do to fight climate change. Audubon can connect you to solutions making a difference across Utah. Keep carbon sequestered in grasslands by supporting ranches certified by Audubon's Conservation Ranching Initiative. Create urban refuges for birds by planting a bird-friendly garden. Advocate for policies that support a balanced future for the sagebrush steppe, or policies that help promote wise water use and water conservation to stretch Utah's water resources in ways that protect habitat as well as human needs Learn more at rockies.audubon.org and at audubon.org/conservation/western-water-initiative.

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].

References

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Contact

Brooke Bateman, PhD
Senior Climate Scientist, National Audubon Society
climatescience@audubon.org

Species Projections

Table 2. Climate suitability projections in summer and winter under the 3°C warming scenario for birds in Utah. 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 Utah, 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 Utah, 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:

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Snow Goose	W	Winter	Low	35% 8%	
Ross's Goose	W	Winter	Low	21% 4%	
Cackling Goose	M	Winter	Moderate	27% 9%	
Canada Goose	W	Summer	Moderate	42% 9%	
	W	Winter	Neutral	68% 19%	
Trumpeter Swan	W	Winter	Low	10% 11%	
Tundra Swan	W	Winter	Moderate	7% 30%	
Wood Duck	W	Summer	Low	9% 8%	
	W	Winter	Neutral	31% 33%	
Blue-winged Teal	M	Summer	Low	2% 9%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
	M	Winter	Neutral	2%	
Cinnamon Teal	M	Summer	Moderate	8% 17%	
	M	Winter	Neutral	38% 33%	
Northern Shoveler	M	Summer	Low	9% 9%	
	M	Winter	Neutral	14% 33%	
Gadwall	M	Summer	Moderate	36% 11%	
	M	Winter	Neutral	43% 37%	
Eurasian Wigeon	M	Winter	Moderate	4% 3%	
American Wigeon	M	Summer	Moderate	6% <1%	
	M	Winter	Neutral	30% 33%	
Mallard	W	Summer	Low	92% 6%	
	W	Winter	Neutral	74% 21%	
Northern Pintail	M	Summer	Moderate	18% 8%	
	M	Winter	Neutral	33% 13%	
Green-winged Teal	M	Summer	Moderate	5% 9%	
	M	Winter	Neutral	30% 32%	
Canvasback	M	Summer	Low	3% 6%	
	M	Winter	Neutral	41% 28%	
Redhead	M	Summer	Neutral	17% 7%	
	M	Winter	Low	16% 23%	
Ring-necked Duck	W	Summer	Moderate	16% 11%	
	W	Winter	Neutral	35% 23%	
Greater Scaup	W	Winter	Neutral	3% 10%	
Lesser Scaup	W	Summer	High	7% <1%	
	W	Winter	Neutral	26% 30%	
Bufflehead	W	Summer	High	1% 2%	
	W	Winter	Low	17% 15%	
Common Goldeneye	W	Summer	High	2% <1%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
	W	Winter	Neutral	94% 3%	
Hooded Merganser	W	Winter	Neutral	11% 4%	
Common Merganser	W	Summer	Moderate	31% 4%	
	W	Winter	Low	72% 11%	
Red-breasted Merganser	W	Winter	Low	3% 1%	
Ruddy Duck	M	Summer	Low	8% 32%	
	M	Winter	Neutral	6% 33%	
California Quail	D	Summer	Low	2% 1%	
	D	Winter	High	2%	
Gambel's Quail	D	Summer	Neutral	1% 5%	
	D	Winter	Neutral	1% 4%	
Ruffed Grouse	F-B	Summer	Moderate	8% 1%	
	F-B	Winter	Moderate	18% 2%	
Greater Sage-Grouse	D	Summer	High	22% <1%	
	D	Winter	High	26%	
Dusky Grouse	F-W	Summer	High	18% 1%	
	F-W	Winter	High	21% 1%	
Sharp-tailed Grouse	G	Summer	Low	6%	
	G	Winter	Moderate	7%	
Wild Turkey	Gen	Summer	Neutral	9% 17%	
	Gen	Winter	Neutral	10% 22%	
Pied-billed Grebe	M	Summer	Neutral	9% 1%	
	M	Winter	Neutral	6% 44%	
Eared Grebe	M	Summer	High	7% 7%	
	M	Winter	Neutral	4% 11%	
Western Grebe	M	Summer	Low	7% 14%	
	M	Winter	Low	13%	
Clark's Grebe	M	Summer	Low	1% 9%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
	M	Winter	High	3%	
Band-tailed Pigeon	F-W	Summer	Moderate	<1%	
	F-W	Winter	High	5%	
Inca Dove	D	Summer	Neutral	<1% 5%	
	D	Winter	Neutral	<1% 2%	
White-winged Dove	D	Summer	Neutral	18%	
Mourning Dove	Gen	Summer	Neutral	80% 15%	
	Gen	Winter	Neutral	23%	
Greater Roadrunner	D	Summer	Neutral	3% 24%	
	D	Winter	Neutral	3% 21%	
Lesser Nighthawk	D	Summer	Neutral	4% 38%	
Common Nighthawk	Gen	Summer	Neutral	55% 37%	
Common Poorwill	D	Summer	Neutral	69% 21%	
	D	Winter	Moderate	6%	
Black Swift	F-W	Summer	Moderate	1% <1%	
White-throated Swift	D	Summer	Low	35% 18%	
	D	Winter	Moderate	3%	
Black-chinned Hummingbird	D	Summer	Neutral	16% 70%	
Anna's Hummingbird	Gen	Summer	Low	4%	
Costa's Hummingbird	D	Summer	Neutral	5%	
	D	Winter	Neutral	4%	
Broad-tailed Hummingbird	F-W	Summer	High	8% 5%	
Calliope Hummingbird	F-W	Summer	High	7% 2%	
Virginia Rail	M	Summer	Moderate	26% 6%	
	M	Winter	Low	20% 21%	
Sora	M	Summer	Moderate	8% <1%	
Common Gallinule	M	Summer	Neutral	1% 5%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
American Coot	M	Summer	Neutral	7% 33%	
	M	Winter	Neutral	28% 30%	
Sandhill Crane	M	Summer	Moderate	20% 1%	
	M	Winter	Low	3% 12%	
Black-necked Stilt	M	Summer	Neutral	8% 14%	
American Avocet	M	Summer	Neutral	16% 7%	
	M	Winter	Neutral	9% 3%	
Snowy Plover	C	Summer	Neutral	17% 41%	
Killdeer	W	Summer	Neutral	58% 4%	
	W	Winter	Neutral	15% 60%	
Long-billed Curlew	G	Summer	High	48% 5%	
Marbled Godwit	M	Winter	Neutral	4%	
Western Sandpiper	W	Winter	Neutral	3%	
Wilson's Snipe	M	Summer	Moderate	5%	
	M	Winter	Neutral	29% 41%	
Wilson's Phalarope	M	Summer	Low	33% 1%	
Spotted Sandpiper	W	Summer	Moderate	60% 17%	
Willet	W	Summer	Neutral	3% 10%	
Lesser Yellowlegs	W	Winter	Neutral	2%	
Franklin's Gull	M	Summer	High	1% 2%	
Ring-billed Gull	W	Summer	Low	8% 6%	
	W	Winter	Neutral	46% 12%	
California Gull	W	Summer	Moderate	20% 27%	
	W	Winter	Low	41% 28%	
Herring Gull	W	Winter	Neutral	34% 7%	
Glaucous Gull	W	Winter	Low	4% 1%	
Caspian Tern	W	Summer	Low	2% 8%	
Black Tern	M	Summer	Low	2% 2%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Forster's Tern	M	Summer	Neutral	13% 3%	
	M	Winter	Neutral	4%	
Double-crested Cormorant	W	Summer	Neutral	16% 5%	
	W	Winter	Neutral	1% 19%	
American White Pelican	M	Summer	Low	13% 3%	
	M	Winter	Neutral	7%	
American Bittern	M	Summer	Low	11%	
	M	Winter	Neutral	5%	
Least Bittern	M	Summer	Neutral	6%	
Great Blue Heron	W	Summer	Neutral	67% 25%	
	W	Winter	Neutral	45% 27%	
Great Egret	W	Summer	Neutral	3% 16%	
	W	Winter	Neutral	3% 41%	
Snowy Egret	M	Summer	Neutral	6% 9%	
Little Blue Heron	M	Summer	Neutral	3%	
Cattle Egret	W	Summer	Neutral	6% 27%	
Green Heron	M	Summer	Neutral	<1% 11%	
Black-crowned Night-Heron	M	Summer	Neutral	46% 13%	
	M	Winter	Neutral	10% 37%	
Yellow-crowned Night-Heron	M	Summer	Neutral	37%	
White-faced Ibis	M	Summer	Low	22% 26%	
Turkey Vulture	Gen	Summer	Neutral	33% 36%	
	Gen	Winter	Neutral	2%	
Osprey	W	Summer	Neutral	14% 1%	
Golden Eagle	Gen	Summer	Moderate	55% 27%	
	Gen	Winter	Moderate	9% 91%	
Mississippi Kite	F-E	Summer	Neutral	11%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Northern Harrier	M	Summer	Low	42% 13%	
	M	Winter	Neutral	56% 16%	
Sharp-shinned Hawk	F-W	Summer	Moderate	32% 7%	
	F-W	Winter	Neutral	83% 15%	
Cooper's Hawk	Gen	Summer	Neutral	32% 42%	
	Gen	Winter	Low	56% 30%	
Northern Goshawk	F-B	Summer	High	29% 2%	
	F-B	Winter	Low	43% 13%	
Bald Eagle	Gen	Summer	Low	49% 20%	
	Gen	Winter	Neutral	40% 56%	
Red-shouldered Hawk	F-E	Summer	Neutral	33%	
Swainson's Hawk	G	Summer	Neutral	56% 16%	
Zone-tailed Hawk	F-W	Summer	Neutral	15%	
Red-tailed Hawk	Gen	Summer	Neutral	93% 7%	
	Gen	Winter	Neutral	71% 19%	
Rough-legged Hawk	A	Winter	Moderate	58% 21%	
Ferruginous Hawk	G	Summer	Moderate	43% 5%	
	G	Winter	Moderate	46% 14%	
Barn Owl	Gen	Summer	Neutral	39% 40%	
	Gen	Winter	Neutral	39% 45%	
Western Screech-Owl	F-W	Summer	Neutral	28% 39%	
	F-W	Winter	Neutral	35% 36%	
Great Horned Owl	Gen	Summer	Neutral	88% 6%	
	Gen	Winter	Neutral	91% 3%	
Snowy Owl	A	Winter	Low	33%	
Northern Pygmy-Owl	F-W	Summer	High	15% 4%	
	F-W	Winter	High	21% 8%	
Burrowing Owl	G	Summer	Neutral	10% 50%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
	G	Winter	Neutral	29%	
Barred Owl	F-E	Summer	Neutral	2%	
Long-eared Owl	F-W	Summer	Low	15% 81%	
	F-W	Winter	Low	68% 21%	
Short-eared Owl	G	Summer	Moderate	51% 7%	
	G	Winter	Neutral	9% 4%	
Northern Saw-whet Owl	F-B	Summer	Moderate	30% 4%	
	F-B	Winter	Low	53% 29%	
Belted Kingfisher	Gen	Summer	Neutral	6% 6%	
	Gen	Winter	Neutral	51% 39%	
Williamson's Sapsucker	F-W	Summer	High	20% 4%	
	F-W	Winter	High	12%	
Yellow-bellied Sapsucker	F-E	Winter	Neutral	6%	
Red-naped Sapsucker	F-W	Summer	High	38% 2%	
	F-W	Winter	Neutral	13% 61%	
Lewis's Woodpecker	F-W	Summer	Moderate	34% 32%	
	F-W	Winter	Low	17% 22%	
Acorn Woodpecker	F-W	Summer	High	2%	
	F-W	Winter	Moderate	<1% 3%	
American Three-toed Woodpecker	F-B	Summer	High	11% 1%	
	F-B	Winter	High	12% 1%	
Downy Woodpecker	Gen	Summer	Neutral	39% 17%	
	Gen	Winter	Neutral	52% 24%	
Ladder-backed Woodpecker	D	Summer	Neutral	1% 5%	
	D	Winter	Neutral	2% 12%	
Hairy Woodpecker	Gen	Summer	Low	15% 9%	
	Gen	Winter	Low	8% 8%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
White-headed Woodpecker	F-W	Summer	High	2%	
Pileated Woodpecker	F-E	Summer	Neutral	3%	
	F-E	Winter	Neutral	2%	
Northern Flicker	Gen	Summer	Moderate	61% 22%	
	Gen	Winter	Neutral	81% 17%	
American Kestrel	Gen	Summer	Neutral	94% 4%	
	Gen	Winter	Neutral	63% 22%	
Merlin	F-E	Winter	Neutral	91% 6%	
Peregrine Falcon	Gen	Summer	Neutral	90% 5%	
	Gen	Winter	Neutral	31% 38%	
Prairie Falcon	D	Summer	Low	5% 77%	
	D	Winter	Low	85% 4%	
Olive-sided Flycatcher	F-B	Summer	High	18% 1%	
Western Wood-Pewee	F-W	Summer	High	47% 16%	
Willow Flycatcher	F-W	Summer	Moderate	10% 8%	
Hammond's Flycatcher	F-W	Summer	High	10% 2%	
Gray Flycatcher	D	Summer	High	39% 7%	
Dusky Flycatcher	F-W	Summer	High	20% 1%	
Cordilleran Flycatcher	F-W	Summer	High	14% 3%	
Black Phoebe	Gen	Summer	Neutral	8% 58%	
	Gen	Winter	Neutral	1% 5%	
Say's Phoebe	Gen	Summer	Low	78% 6%	
	Gen	Winter	Low	<1% 3%	
Ash-throated Flycatcher	D	Summer	Neutral	27% 43%	
Brown-crested Flycatcher	D	Summer	Neutral	<1% 3%	
Cassin's Kingbird	D	Summer	High	2% 1%	
Western Kingbird	G	Summer	Neutral	53% 29%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Scissor-tailed Flycatcher	G	Summer	Neutral	42%	
Loggerhead Shrike	G	Summer	Neutral	47% 21%	
	G	Winter	Neutral	11% 54%	
Northern Shrike	F-B	Winter	Moderate	76% 8%	
Bell's Vireo	D	Summer	Low	9%	
Gray Vireo	D	Summer	Moderate	6% 22%	
Hutton's Vireo	F-W	Winter	Moderate	5%	
Cassin's Vireo	F-W	Summer	Low	5%	
Plumbeous Vireo	F-W	Summer	Neutral	51% 17%	
Warbling Vireo	Gen	Summer	Neutral	46% 26%	
Canada Jay	F-B	Summer	High	3%	
	F-B	Winter	High	6% 1%	
Pinyon Jay	F-W	Summer	Moderate	43% 18%	
	F-W	Winter	Low	42% 25%	
Steller's Jay	F-W	Summer	Moderate	6% 5%	
	F-W	Winter	Moderate	7% 15%	
Woodhouse's Scrub-Jay	F-W	Summer	Moderate	36% 17%	
	F-W	Winter	Moderate	58% 14%	
Black-billed Magpie	Gen	Summer	High	71% 14%	
	Gen	Winter	Moderate	69% 15%	
Clark's Nutcracker	F-W	Summer	High	29% 3%	
	F-W	Winter	High	31% 1%	
American Crow	Gen	Summer	Low	23% 21%	
	Gen	Winter	Neutral	26% 51%	
Common Raven	Gen	Summer	Low	13% 87%	
	Gen	Winter	Low	48% 52%	
Horned Lark	G	Summer	Low	6% 51%	
	G	Winter	Low	11% 35%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Northern Rough-winged Swallow	Gen	Summer	Neutral	81% 12%	
Purple Martin	Gen	Summer	Neutral	<1% 8%	
Tree Swallow	Gen	Summer	Moderate	27% 4%	
Violet-green Swallow	F-W	Summer	Moderate	57% 16%	
Bank Swallow	Gen	Summer	Neutral	33% 14%	
Barn Swallow	Gen	Summer	Neutral	63% 8%	
Cliff Swallow	Gen	Summer	Neutral	72% 27%	
Black-capped Chickadee	F-B	Summer	Low	57% 16%	
	F-B	Winter	Low	75% 13%	
Mountain Chickadee	F-W	Summer	High	19% 10%	
	F-W	Winter	High	29% 16%	
Bridled Titmouse	F-S	Winter	High	2%	
Juniper Titmouse	F-W	Summer	Low	9% 39%	
	F-W	Winter	Low	27% 17%	
Verdin	D	Summer	Neutral	1% 5%	
	D	Winter	Neutral	1% 29%	
Bushtit	F-W	Summer	High	35% 22%	
	F-W	Winter	Moderate	10% 45%	
Red-breasted Nuthatch	F-B	Summer	Moderate	19% 2%	
	F-B	Winter	Neutral	29% 61%	
White-breasted Nuthatch	F-E	Summer	Low	39% 9%	
	F-E	Winter	Neutral	42% 14%	
Pygmy Nuthatch	F-W	Summer	High	20% 3%	
	F-W	Winter	Moderate	17% 11%	
Brown Creeper	F-W	Summer	Moderate	14% 2%	
	F-W	Winter	Neutral	21% 72%	
Rock Wren	D	Summer	Moderate	3% 66%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
	D	Winter	Neutral	50%	
Canyon Wren	D	Summer	Neutral	27% 26%	
	D	Winter	Neutral	39% 21%	
House Wren	Gen	Summer	Moderate	23% 10%	
	Gen	Winter	Neutral	5%	
Marsh Wren	M	Summer	Low	4% 3%	
	M	Winter	Low	12% 47%	
Bewick's Wren	D	Summer	Neutral	29% 56%	
	D	Winter	Low	9% 72%	
Cactus Wren	D	Summer	Neutral	8% 60%	
	D	Winter	Neutral	1% 22%	
Blue-gray Gnatcatcher	Gen	Summer	Neutral	46% 25%	
Black-tailed Gnatcatcher	D	Summer	Neutral	1% 21%	
	D	Winter	Neutral	<1% 15%	
American Dipper	F-W	Summer	Moderate	8% 46%	
	F-W	Winter	High	22% 8%	
Golden-crowned Kinglet	F-B	Summer	Moderate	9% 1%	
	F-B	Winter	Neutral	7% 4%	
Ruby-crowned Kinglet	F-W	Summer	High	16% 1%	
	F-W	Winter	Neutral	9% 68%	
Western Bluebird	F-W	Summer	Moderate	16% 17%	
	F-W	Winter	High	12% 9%	
Mountain Bluebird	F-W	Summer	High	18%	
	F-W	Winter	Low	41%	
Townsend's Solitaire	F-W	Summer	High	13% 2%	
	F-W	Winter	High	40% 36%	
Swainson's Thrush	F-B	Summer	High	3%	
Hermit Thrush	F-W	Summer	High	11% 1%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
	F-W	Winter	Low	4% 44%	
American Robin	Gen	Summer	Moderate	67% 19%	
	Gen	Winter	Neutral	65% 23%	
Gray Catbird	F-E	Summer	Neutral	25% 7%	
Curve-billed Thrasher	D	Summer	Neutral	19%	
Bendire's Thrasher	D	Summer	Low	4% 42%	
	D	Winter	Neutral	8%	
LeConte's Thrasher	D	Summer	High	11%	
	D	Winter	Moderate	11%	
Crissal Thrasher	D	Summer	Low	3% 44%	
	D	Winter	Low	1% 6%	
Sage Thrasher	D	Summer	High	62% 9%	
	D	Winter	Low	8% 31%	
Northern Mockingbird	Gen	Summer	Neutral	22% 38%	
	Gen	Winter	Neutral	29%	
American Pipit	A	Winter	Neutral	1% 22%	
Sprague's Pipit	G	Winter	Neutral	2%	
Bohemian Waxwing	F-B	Winter	High	41% 2%	
Cedar Waxwing	Gen	Summer	Low	28% 5%	
	Gen	Winter	Neutral	27% 24%	
Phainopepla	D	Summer	Neutral	8%	
Evening Grosbeak	F-B	Summer	High	17% 1%	
	F-B	Winter	Moderate	48% 8%	
Pine Grosbeak	F-B	Summer	High	4% <1%	
	F-B	Winter	Moderate	13% 1%	
Gray-crowned Rosy-Finch	A	Winter	High	31% 1%	
Black Rosy-Finch	A	Winter	High	18% 1%	
House Finch	Gen	Summer	Low	75% 15%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
	Gen	Winter	Low	70% 20%	
Cassin's Finch	F-W	Summer	High	51% 7%	
	F-W	Winter	Moderate	3% 91%	
Common Redpoll	A	Winter	Low	32% 2%	
Red Crossbill	F-B	Summer	High	25% 2%	
	F-B	Winter	Moderate	37% 13%	
White-winged Crossbill	F-B	Winter	Moderate	18% 1%	
Pine Siskin	F-W	Summer	Moderate	19% 1%	
	F-W	Winter	Neutral	27% 69%	
Lesser Goldfinch	F-W	Summer	Neutral	31% 35%	
	F-W	Winter	Neutral	15% 65%	
Lawrence's Goldfinch	D	Winter	Low	21%	
American Goldfinch	Gen	Winter	Neutral	15% 56%	
Lapland Longspur	A	Winter	Neutral	26% 7%	
Chestnut-collared Longspur	G	Winter	Moderate	8%	
Snow Bunting	A	Winter	Low	39% 12%	
Chipping Sparrow	Gen	Summer	Moderate	18% 13%	
	Gen	Winter	Neutral	4%	
Black-chinned Sparrow	D	Summer	High	1% 3%	
	D	Winter	Low	13%	
Brewer's Sparrow	D	Summer	High	75% 9%	
Black-throated Sparrow	D	Summer	Neutral	51% 17%	
	D	Winter	Neutral	12% 60%	
Lark Sparrow	D	Summer	Neutral	57% 22%	
	D	Winter	Neutral	2%	
Lark Bunting	G	Summer	High	5% <1%	
	G	Winter	Neutral	2%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
American Tree Sparrow	A	Winter	Neutral	64% 11%	
Fox Sparrow	F-B	Summer	High	2%	
	F-B	Winter	Moderate	2%	
Dark-eyed Junco	F-W	Summer	High	21% 2%	
	F-W	Winter	Neutral	79% 15%	
White-crowned Sparrow	Gen	Summer	High	11% <1%	
	Gen	Winter	Neutral	50% 26%	
White-throated Sparrow	F-B	Winter	Neutral	1% 36%	
Sagebrush Sparrow	D	Summer	High	50% 8%	
	D	Winter	Neutral	35%	
Bell's Sparrow	D	Summer	Moderate	4%	
	D	Winter	Neutral	2%	
Vesper Sparrow	G	Summer	Moderate	37% 7%	
	G	Winter	Neutral	12%	
Savannah Sparrow	G	Winter	Low	<1% 21%	
Song Sparrow	Gen	Summer	Moderate	53% 17%	
	Gen	Winter	Neutral	49% 24%	
Lincoln's Sparrow	F-B	Summer	High	12% <1%	
	F-B	Winter	Neutral	35% 55%	
Swamp Sparrow	M	Winter	Neutral	<1% 5%	
Canyon Towhee	D	Summer	Low	5%	
	D	Winter	High	2%	
Abert's Towhee	D	Summer	Moderate	<1% 2%	
	D	Winter	Moderate	<1% 1%	
Rufous-crowned Sparrow	D	Summer	Low	1% 17%	
	D	Winter	High	<1% 3%	
Green-tailed Towhee	D	Summer	High	29% 8%	
	D	Winter	Neutral	3%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Spotted Towhee	F-W	Summer	Moderate	47% 13%	
	F-W	Winter	Low	33% 38%	
Yellow-breasted Chat	F-E	Summer	Neutral	51% 22%	
Yellow-headed Blackbird	M	Summer	Low	14% 20%	
	M	Winter	Low	2%	
Western Meadowlark	G	Summer	Low	33% 23%	
	G	Winter	Neutral	27% 31%	
Hooded Oriole	F-W	Summer	Neutral	1% 16%	
Bullock's Oriole	F-W	Summer	Neutral	77% 12%	
Scott's Oriole	D	Summer	Neutral	18% 44%	
Red-winged Blackbird	Gen	Summer	Neutral	57% 8%	
	Gen	Winter	Neutral	50% 25%	
Brown-headed Cowbird	Gen	Summer	Neutral	80% 13%	
	Gen	Winter	Neutral	13%	
Brewer's Blackbird	Gen	Summer	Moderate	12% 81%	
	Gen	Winter	Neutral	28% 46%	
Great-tailed Grackle	Gen	Summer	Neutral	7% 54%	
	Gen	Winter	Neutral	2% 31%	
Orange-crowned Warbler	F-W	Summer	High	12% <1%	
	F-W	Winter	Neutral	<1% 32%	
Lucy's Warbler	D	Summer	Low	<1% 29%	
Virginia's Warbler	F-W	Summer	Moderate	5% 10%	
MacGillivray's Warbler	F-W	Summer	Moderate	12% 5%	
Common Yellowthroat	Gen	Summer	Low	38% 13%	
Yellow Warbler	F-B	Summer	Moderate	53% 6%	
Pine Warbler	F-E	Summer	High	2%	
Yellow-rumped Warbler	F-B	Summer	Moderate	18% 2%	
	F-B	Winter	Neutral	36% 53%	

Species	Habitat Group	Season	Range-wide Vulnerability	State Trends	State Threats
Black-throated Gray Warbler	F-W	Summer	Moderate	28% 12%	
Wilson's Warbler	F-W	Summer	High	6% 1%	
Red-faced Warbler	F-S	Summer	High	2%	
Hepatic Tanager	F-W	Summer	Moderate	2%	
Summer Tanager	F-E	Summer	Neutral	1% 13%	
Western Tanager	F-W	Summer	Moderate	22% 15%	
Northern Cardinal	F-E	Winter	Neutral	4%	
Black-headed Grosbeak	F-W	Summer	Moderate	14% 12%	
Blue Grosbeak	F-S	Summer	Neutral	19% 51%	
Lazuli Bunting	F-W	Summer	Neutral	45% 32%	
Varied Bunting	D	Summer	Neutral	3%	