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Climate Change Impacts Birds across State and Country

SEATTLE, Feb. 10 – Like canaries in coal mines, birds across America are giving early warning signs of what climate change portends for our landscapes and, ultimately, ourselves, according to new reports issued today by the National Audubon Society and Audubon Washington.

The overall study by Audubon scientists examines 40 years of avian data and shows that nearly 60% of species that winter in North America have moved northward or inland – sometimes by hundreds of miles – most likely in response to climate change.

"Climate change is exacerbating the threats that already exists for our birds, as well as raising new ones," said Don McIvor, science coordinator for Audubon Washington, a state field office of the national organization.

Five years ago, Audubon Washington's first *State of the Birds* analysis showed that Washington's growing human population and fragmentation of habitat has severely affected natural places critical to many bird species.

The most direct effects of climate change are changes in precipitation and temperature – which, in turn, drive alterations of entire ecosystems. Birds shift their ranges to find food, shelter, nesting areas, and other conditions necessary for survival.

"If birds had plenty of new land and water into which they could move, problems might be minimized," McIvor continued. "But, the boundaries of our parks and protected areas don't move."

What was once important wildlife habitat may become inundated by seawater, negatively altered by wildfire patterns, too hot or too cold, too dry or too wet, and no longer able to support plants and organisms necessary to resident or migratory populations. Wildlife that depends on this habitat will need to shift its range – or not survive.

Among Washington bird species that have significantly shifted their ranges in the past decades are Marbled Murrelet, Western Scrub-Jay, Lincoln's Sparrow, Say's Phoebe.

Projections show that the Pacific Northwest will lose 32 percent of the bird species but will gain new species as some move into the rearranged climate and habitats of the region – resulting in a net loss of 16 percent of our total number of bird species. Birds most at risk from habitat loss are those specialized in their habitat needs, including those restricted to islands, alpine zones or coastal beaches for critical parts of their life cycles.

The Audubon Washington 2009 *State of the Birds* report focuses on the species using the state's 74 Important Bird Areas, or IBAs, places important to birds during some part of their life cycles -- breeding, wintering, feeding or migrating. The identification and conservation of IBAs is a global effort spearheaded by BirdLife International, spanning more than 100 countries on every continent, as well as the open oceans.

Climate Change Risk	Effect on Habitat	Effect on Birds	WA IBA High-risk Birds
Sea level rise	Inundation, erosion, and degradation of natural shoreline	Loss of breeding habitat for beach nesting species; loss of feeding and stopover sites for Pacific Flyway migrants	Western Snowy Plover, Rock Sandpiper, Short-billed Dowitcher
Wildfire patterns	Increased weed invasion, loss of native plants, habitat conversion, erosion of soil and reduction of stream/river quality	Significant decline in quality of shrub-steppe ecosystem leads to fragmentation of habitat and bird populations, and extirpation of area-specific species; reduction in quality of coniferous forest habitat leads to further decline of old-growth dependent species but allows influx of pioneering, insectivorous species	Spotted Owl, Flammulated Owl, Greater Sage Grouse, Ferruginous Hawk, Sharp-tailed Grouse, Sage Thrasher, Sage and Brewer's Sparrows
Warming temperature; wetter winters, drier summers	Increases temperatures at all elevations. Decreased snowpack means less water for wetlands, lakes, rivers. Increasingly severe storms	Birds pushed into higher or more northerly ranges to maintain optimum body temperatures. Increased mortality risk from exposure to extreme weather. Fewer wetlands especially in eastern Washington for breeding and fall migrating waterbirds	White-tailed Ptarmigan, Gray-crowned Rosy Finch, American Pipit, Northern Shrike; Western and Clark's Grebes, Black-necked Stilt, American Avocet, Black Tern, Long-billed Curlew
	Changes in location and timing of flora and fauna life cycles	Disruption of food availability on migration routes and in breeding grounds	70% of Washington birds are migratory and therefore vulnerable to this effect
		Disruption of avian life cycle events, e.g., breeding and nesting; increased vulnerability of nestlings and of parents during period of feeding young	Common Murre, Gray Jay
Atmospheric and ocean circulation patterns	Increase in ratio of El Niño to La Niña cycles resulting in warmer, nutrient-poor coastal waters and stronger wave-caused shoreline erosion	Reduction in food availability for oceanic and coastal birds plus inability to find shelter, or suitable nesting or breeding places increases vulnerability to predators, injury, and disease	Marbled Murrelet, Common Murre, Pigeon Guillemot, Cassin's and Rhinocerous Auklets, Tufted Puffin

The 2009 reports by Audubon Washington and by the National Audubon Society are available on the web at wa.audubon.org. The reports include suggestions for individual action.

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