

# THE HEAT IS ON

Species feeling the effects of climate change



## ROCKIES White-tailed Ptarmigan *Lagopus leucura*

### Region:

Rocky Mountains

### Area affected:

Rocky Mountain National Park

### Climatic change:

Temperature increase

### Impact:

Habitat loss, chick mortality

### ABOUT THIS SPECIES

White-tailed ptarmigan are the smallest members of the grouse family and one of only a handful of birds that spend their entire lives in alpine tundra. They are pure white in the winter and molt to a mottled brown in the summer for camouflage. Widely distributed across Alaska and western Canada, they are found in isolated populations in the highest mountains of the Lower 48, particularly in the Cascades Range and Colorado Rockies, the southernmost extent of their range. They breed in high-elevation alpine meadows and move downslope in winter for the protection offered by stunted spruce trees just below the tree line. They are most active at dawn and dusk, feeding in small flocks on willows and other vegetation before roosting under protective vegetation or in burrows under the snow. Nests consist of a clutch of about six eggs laid in a depression lined with vegetation and feathers.

### DESCRIPTION OF IMPACT

White-tailed ptarmigan populations in Colorado have been monitored regularly since the 1960s and have declined by 66 percent of those recorded in the late-1970s. Several different climate factors may be contributing to the decline. Warmer winter conditions are associated with reduced population growth, possibly due to reduction in snow cover, which ptarmigan rely on for insulation while roosting overnight. Early spring temperature increases that shift precipitation from snow to rain are a problem. Young chicks are vulnerable to freezing to death if conditions are rainy in the first days after hatching. And warm, dry summers also negatively impact ptarmigan both directly, because they cannot tolerate high temperatures, and indirectly by drying out the wet meadows where they forage.

### References

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