

Brown-capped Rosy-Finch *Leucosticte australis*

REGULATORY STATUS

USFWS: Migratory Bird
USFS R2: No special status
UWFS R4: No special status
Wyoming BLM: No special status
State of Wyoming: Protected Bird

CONSERVATION RANKS

USFWS: Bird of Conservation Concern
WGFD: NSSU (U), Tier II
WYNDD: G4, S1
Wyoming Contribution: HIGH
IUCN: Least Concern
PIF Continental Concern Score: 17

STATUS AND RANK COMMENTS

Brown-capped Rosy-Finch (*Leucosticte australis*) has no additional regulatory status or conservation rank considerations beyond those listed above.

NATURAL HISTORY

Taxonomy:

There are no recognized subspecies of Brown-capped Rosy-Finch^{1,2}. In 1983, the three North American rosy-finch species (Brown-capped Rosy-Finch, *L. australis*; Black Rosy-Finch, *L. atrata*; and Gray-crowned Rosy-Finch, *L. tephrocotis*) were combined with Asian Rosy-Finch (*L. arctoa*) into one species³. In 1993, the American Ornithologist Union (AOU) reversed this change based upon lack of evidence supporting the merge⁴. Recent genetic evidence suggests that the three North American rosy-finches may only be one species, but this has not been formally accepted by AOU⁵.

Description:

Identification of Brown-capped Rosy-Finch is possible in the field. Brown-capped Rosy-Finch is approximately 16 cm in length, similar in size and overall shape to large sparrows, but stockier. The species has a mid-sized conical bill, and a relatively short, notched tail. Adult males and females differ in plumage. The male is uniformly brown on the breast, neck, and the face below the eye. Coloration is similar on the back but appears streaky due to darker feather shafts. The belly, rump, upper and under-tail coverts, and bend of the wing are tipped with red. The cap is brown overall but is darker on the forehead. The bill is yellow during the summer breeding season, and gray to black in winter. Juveniles and females appear drabber than males overall^{1,6}. The species is most similar to Black Rosy-Finch (*L. atrata*) and Gray-crowned Rosy-Finch (*L. tephrocotis*); however, Brown-capped Rosy-Finch can be distinguished from both by its uniformly brown head⁶.

Distribution & Range:

Brown-capped Rosy-Finch is a localized, high altitude breeder. The continental distribution includes northern New Mexico and western Colorado and extends into extreme southeastern Wyoming, where the species is only known to breed in the high peaks of the Snowy Range ¹. Brown-capped Rosy-Finch has been documented in 8 of Wyoming's 28 latitude/longitude degree blocks, with confirmed breeding documented in just 1 degree block ⁷. In winter, Brown-capped Rosy-Finch can be found at lower elevations across its continental distribution ^{1, 6}.

Habitat:

Brown-capped Rosy-Finch is a habitat specialist during the breeding season, found exclusively above tree-line in alpine tundra ^{1, 6, 8}. In the Wyoming portion of the species' range, suitable habitat is found among the highest peaks in the Snowy Range in the southern part of the state. Cliffs provide nesting sites, while snowfields and adjacent alpine tundra provide feeding habitat ^{1, 8}. In winter, Brown-capped Rosy-Finch uses open areas, including alpine tundra, meadows, and open valleys. The species regularly visits bird feeders and other anthropogenic food sources in urban areas during the winter ¹.

Phenology:

Migration movements of Brown-capped Rosy-Finch are generally altitudinal, and are mainly tied to weather conditions. Harsh weather and deep snow drive the birds downslope, and they return upslope when conditions improve ¹. However, individuals may additionally move south within the breeding range to overwinter. Egg-laying has been observed from mid-June to August, incubation from late June to mid-August, and fledging from late July into September ¹. Brown-capped Rosy-Finch is believed to be a single-brood species.

Diet:

In the breeding season, Brown-capped Rosy-Finch eats spiders, insects, and seeds. During winter, the diet is primarily composed of seeds ¹.

CONSERVATION CONCERNS

Abundance:

Continental: REGIONAL ENDEMIC

Wyoming: VERY RARE

There are no robust estimates of abundance available for Brown-capped Rosy-Finch in Wyoming. The species has a statewide abundance rank of VERY RARE and appears to be uncommon within suitable environments in the occupied area ⁷. Informal volunteer surveys around Medicine Bow Peak in the Snowy Range have detected 6–12 individuals annually from 2010–2012 ⁹. Brown-capped Rosy-Finch has never been detected during annual surveys for either the Wyoming Breeding Bird Survey (BBS) between 1968–2015 ¹⁰ or the Integrated Monitoring in Bird Conservation Regions program between 2009–2015 ¹¹. Given the extremely restricted and high-elevation distribution of Brown-capped Rosy-Finch in Wyoming, more targeted surveys would be required to adequately detect this species in the state.

Population Trends:

Historic: UNKNOWN

Recent: UNKNOWN

Robust population trends are not available for Brown-capped Rosy-Finch in Wyoming, or anywhere else in its North American distribution, because the species is infrequently detected during monitoring surveys.

Intrinsic Vulnerability:

HIGH VULNERABILITY

Brown-capped Rosy-Finch has very limiting requirements for breeding habitat, breeding exclusively in alpine tundra, generally near cliff faces, which leads to a very restricted breeding range in Wyoming⁸.

Extrinsic Stressors:

HIGHLY STRESSED

The main stressor for Brown-capped Rosy-Finch is global climate change. The already limited suitable alpine tundra habitat in Wyoming and across its range may decrease in area due to global climate change^{1, 8}. Climate change may also alter the timing of prey abundance and result in temperatures above the species' tolerance threshold, resulting in local extirpations⁸. The species may not be able to alter the timing of its breeding cycle to adapt to such changes.

KEY ACTIVITIES IN WYOMING

The Laramie Audubon Society conducts informal annual surveys for Brown-capped Rosy-Finch around Medicine Bow Peak in the Snowy Range⁹. Plans are being developed by this organization and the Wyoming Natural Diversity Database to formalize these surveys so that trend estimates may be obtained. There are currently no research projects designed specifically for Brown-capped Rosy-Finch in Wyoming.

ECOLOGICAL INFORMATION NEEDS

Accurate population abundance and trend estimates, both in Wyoming and range-wide, as well as information on the demographic factors affecting population growth (e.g., overwinter survival, recruitment, breeding season survival) would help to refine assessments of conservation status for Brown-capped Rosy-Finch. Information on the fidelity of individuals to nest sites could also aid in development of monitoring and management strategies.

MANAGEMENT IN WYOMING

This section authored solely by WGFD; Zachary J. Walker. Brown-capped Rosy-Finch is classified as a SGCN in Wyoming due to restricted breeding range and data deficiencies. Two separate but compatible survey programs are in place to monitor populations of many avian species that breed in Wyoming; the BBS¹² and the multi-partner IMBCR¹¹. While these monitoring programs provide data for many species in Wyoming, targeted survey efforts are needed for Brown-capped Rosy-Finch. Wyoming management priorities for Brown-capped Rosy-Finch should focus on addressing data deficiencies, and information gained from target efforts should be used to create informed management recommendations.

CONTRIBUTORS

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Figure 1: Adult Brown-capped Rosy-Finch in Rocky Mountain National Park, Larimer County, Colorado. (Photo courtesy of Shawn Billerman)



Figure 2: North American range of *Leucosticte australis*. The breeding range in southern Wyoming is very localized. (Map courtesy of Birds of North America, <http://bna.birds.cornell.edu/bna>, maintained by the Cornell Lab of Ornithology)



Figure 3: Brown-capped Rosy-Finch breeding habitat, Medicine Bow Peak, Carbon County, Wyoming. (Photo courtesy of Michael T. Wickens)

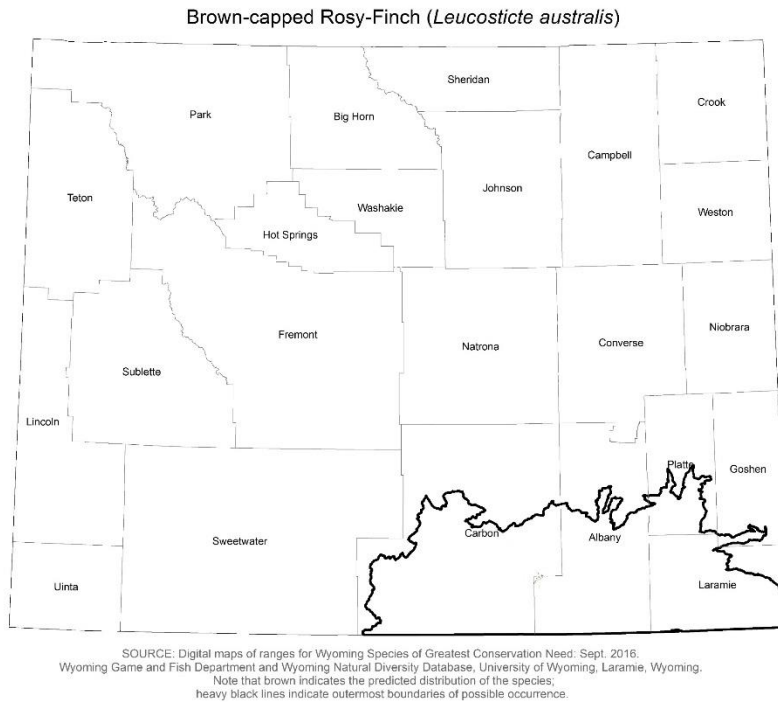


Figure 4: Range and predicted distribution of *Leucosticte australis* in Wyoming. Predicted breeding habitat is restricted to the slopes of Medicine Bow peak along the boundary of Carbon and Albany Counties.