Canyon Wren

Catherpes mexicanus

REGULATORY STATUS

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

CONSERVATION RANKS

USFWS: No special status
WGFD: NSS4 (Bc), Tier III
WYNDD: G5, S4
Wyoming Contribution: LOW
IUCN: Least Concern
PIF Continental Concern Score: 11

STATUS AND RANK COMMENTS

Canyon Wren (*Catherpes mexicanus*) has no additional regulatory status or conservation rank considerations beyond those listed above.

NATURAL HISTORY

Taxonomy:

Canyon Wren has previously been placed in the genera *Thryothorus* and *Salpinctes*, but is now placed in the genus *Catherpes*. The number of subspecies is debated and ranges from 3 to 8 depending on the source. This account follows the Birds of North America, which recognizes 3 subspecies; only *C. m. conspersus* is found in Wyoming [1].

Description:

Identification of Canyon Wren is possible in the field. Canyon Wren is a small wren that averages 13 cm in length (range 11.4–15.4 cm). The species does not display sexual dimorphism in plumage, although males are larger than females. Size also varies throughout the range of the species, with northern populations generally smaller and paler than southern populations. The back, wings, and belly are reddish brown with varying amounts of white spots; the head is grayish and somewhat flattened, with a slightly decurved bill. The throat and breast are white, and the tail is more brightly rust-colored than the rest of the body with black bars [1]. Five species of wrens are commonly found in Wyoming, including Canyon Wren, but only Rock Wren (*S. obsoletus*) shares similar habitats and is likely to be mistaken for Canyon Wren [2]. Rock Wren is paler, grayer, has streaking on the breast, and does not display a sharp definition between the chest and belly plumage [1]. The song repertoire of Canyon Wren is fairly limited [3] but is generally described as a series of descending notes, somewhat resembling the sound of a pebble falling down canyon walls. The species may sing more often and with lower frequency and harsher

notes when defending territory [4]. Singing can be heard throughout the year but is most common in the breeding season [1].

Distribution & Range:
Canyon Wren is distributed nearly continuously in the western United States and Mexico from southern British Columbia, Canada in the north to Oaxaca, Mexico in the south. The range extends from the Pacific Ocean east to western Montana, Wyoming, Colorado, the panhandle of Oklahoma, and central Texas. A disjunct population is found in the Black Hills of South Dakota, northeastern Wyoming, and southeastern Montana [1] as well around the Laramie Mountains in Wyoming [2]. Canyon Wren has been observed in 25 of Wyoming's 28 latitude/longitude degree blocks, and confirmed or suspected breeding has been documented in 15 degree blocks [5]. Canyon Wren is found year-round throughout its range and consistently defends the same territories annually [1].

Habitat:
As the name suggests, Canyon Wren is typically found in arid, rocky habitats, including cliffs, canyons, rock outcrops, and boulder piles between 300 and 1,850 m in elevation [1]. Cliffs with overhangs, as opposed to vertical cliffs [6], and large rocks may be particularly important for nest-site selection [7]. Canyon Wren is often found near water, which may be a byproduct of its canyon habitat as opposed to a limiting factor. Canyon Wren does not seem to display a preference in vegetative communities, as long as rocky habitat is available, and may be found in grasslands, chaparral, deserts, and forests dominated by piñon-juniper (*Pinus* spp.-*Juniperus* spp.), oak (*Quercus* spp.), and conifers such as Ponderosa Pine (*P. ponderosa*) and Douglas-fir (*Pseudotsuga menziesii*) [1]. In Idaho, however, areas with vegetation tended to be selected less than expected, although nearly a third of Canyon Wren observations in the Lower Salmon River Gorge were in grasslands with steep slopes and scattered rock outcrops [7]. Nests may be reused in subsequent years [8] and are composed of twigs, moss, grasses, and dead leaves and lined with lichens, plant down, wool, cobwebs, and feathers [1]. Nests are typically located in cliffs, rock outcrops and caverns, and cliffs and banks [1], where they are protected from wind and rain [8], and microclimates tend to be more stable [7]. Breeding and winter habitat is similar [1]. In Colorado, Canyon Wren tended to be associated with the presence of Cliff Swallow (*Petrochelidon pyrrhonota*), and would use Cliff Swallow nests not only for nesting but also for foraging [6].

Phenology:
Canyon Wren does not migrate, although it may exhibit limited altitudinal changes between seasons. Little is known on the breeding phenology of Canyon Wren. In Colorado, pair formation begins in early February, although pairs often remain together throughout the winter. Copulation occurs in March, egg-laying begins in mid-May, and young fledge in late June. Clutch size averages 5 eggs (range 3–7). Incubation averages 16 days (range 12–18 days), and young fledge after 15 days (range 12–17 days). Adults will continue to provide for fledglings for 5–10 days post-fledging, and young can remain with adults in family groups for up to several months. Canyon Wren can produce two broods per year, with the second brood fledging roughly 1.5 months after the first [1, 8]. Rarely, Canyon Wren may have 3 broods in a season [8].

Diet:
Canyon Wren is insectivorous, gleaning both insects and spiders from cliff walls, rock crevices, under rocks, and occasionally from nearby foliage [1]. Insects, lice, and mites may also be gleaned from nests of other cliff-nesting species [6]. The slightly flattened head and long, slender bill allows Canyon Wren to probe into small interstitial spaces in rocks to forage. Like many other

species adapted to arid environments, Canyon Wren likely acquires all needed water from prey items [1].

CONSERVATION CONCERNS

Abundance:

Continental: WIDESPREAD
Wyoming: RARE
Using North American Breeding Bird Survey (BBS) data, the Partners in Flight (PIF) Science Committee estimated the global population of Canyon Wren to be 400,000 birds [9]. Approximately 0.6% of the global population, or around 2,000 birds, is estimated to breed in Wyoming [10]. The statewide rank of RARE is based on the rather small area of the state known to be occupied in any given season and the small coverage of suitable habitat within that area. However, within suitable habitat in the occupied area, Canyon Wren appears to be uncommon, occurring in relatively low densities and requiring intensive survey efforts to detect the species [5]. Canyon Wren density (number of birds per square km) and population size estimates for Wyoming are available from the Integrated Monitoring in Bird Conservation Regions (IMBCR) program for the years 2009, 2010, 2012, 2013, and 2015, although detections are limited so data must be interpreted with caution [11].

Population Trends:

Historic: UNKNOWN
Recent: UNKNOWN
Population trends are not available for Canyon Wren in Wyoming due to a limited number of survey routes or grids in place in the state where this species occurs and low detection rates during monitoring surveys. Currently, there are no robust North American BBS trend data for Canyon Wren in Wyoming due to an extremely limited observation sample size (N = 17 routes; 1968–2013) and data that fall within a credibility category containing data with important deficiencies [12].

Intrinsic Vulnerability:

LOW VULNERABILITY
Cliffs, canyons, and rock outcrops tend to represent a small percentage of the landscape overall, which may limit habitat available to Canyon Wren. However, within this rocky habitat, Canyon Wren is a generalist and does not seem to display a preference in vegetative communities as long as rocky habitat is available [1]. In fact, habitat availability may not be limiting, as not all suitable habitat is used every year, and territory occupancy varies across years [6, 8], although overall density may be low [6]. In Colorado, nesting success ranged from 79–86%, with only 14% of nests known to have failed [8]. Other life history characteristics do not predispose the species to declines from changes in environmental conditions.

Extrinsic Stressors:

MODERATELY STRESSED
PIF assigns the Canyon Wren a threat level of 2, indicating that the future suitability of breeding and non-breeding conditions is expected to remain stable and has no significant threats [9]. Cliff and canyon habitat is fairly stable through time and not likely to be heavily impacted by land use changes [7]. Recreational rock climbing and bouldering may impact individuals at a local scale [1, 13], but this is not expected to have noticeable impacts at the population level [2]. Overwinter survival may drive population size, although studies addressing this issue have been limited [8].

KEY ACTIVITIES IN WYOMING

Canyon Wren is listed as a Species of Greatest Conservation Need (SGCN) in Wyoming by the Wyoming Game and Fish Department and a Wyoming PIF Level III Priority Species [14]. The species is not adequately monitored by current avian monitoring efforts in Wyoming, including the IMBCR program initiated in 2009 (12 detections since initiation) [11] or the BBS program conducted on 108 established routes since 1968 [12]. No additional, targeted, systematic surveys of Canyon Wren have been implemented in the state.

ECOLOGICAL INFORMATION NEEDS

More information is needed on specific breeding locations of Canyon Wren in Wyoming. Better estimates of Canyon Wren population trends are also needed. Additional studies on Canyon Wren winter ecology, population dynamics, and seasonal or post-breeding movements would further increase our understanding of this species in the state [2]. Effects of drought and climate change on Canyon Wren are unknown but could potentially impact the species in Wyoming.

MANAGEMENT IN WYOMING

This section authored solely by WGFD; Andrea C. Orabona. Canyon Wren is classified as a SGCN in Wyoming due to insufficient information on breeding, distribution, and population status and trends. Two separate but compatible survey programs are in place to monitor populations of many avian species that breed in Wyoming; the BBS [12] and the multi-partner IMBCR [11]. While these monitoring programs provide robust estimates of occupancy, density, or population trend for many species in Wyoming, survey efforts do not tend to detect Canyon Wren at adequate levels, suggesting targeted, species-specific monitoring efforts are needed. Best management practices or key management recommendations to benefit Canyon Wren include maintaining the integrity of canyons and rock outcrops, and preventing land conversion of these areas; protecting known nesting areas, as pairs will return to nesting sites in subsequent years; limiting human activities, such as intensive rock climbing, near known Canyon Wren nests during the breeding season; and minimizing insecticide use in canyon habitats to maintain a food source for Canyon Wren (and other insectivores) [14].

CONTRIBUTORS

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Figure 1: Adult Canyon Wren in Arizona. (Photo courtesy of Bill Schmoker)

Figure 2: North American range of *Catherpes mexicanus*. (Map courtesy of Birds of North America, http://bna.birds.cornell.edu/bna, maintained by the Cornell Lab of Ornithology)

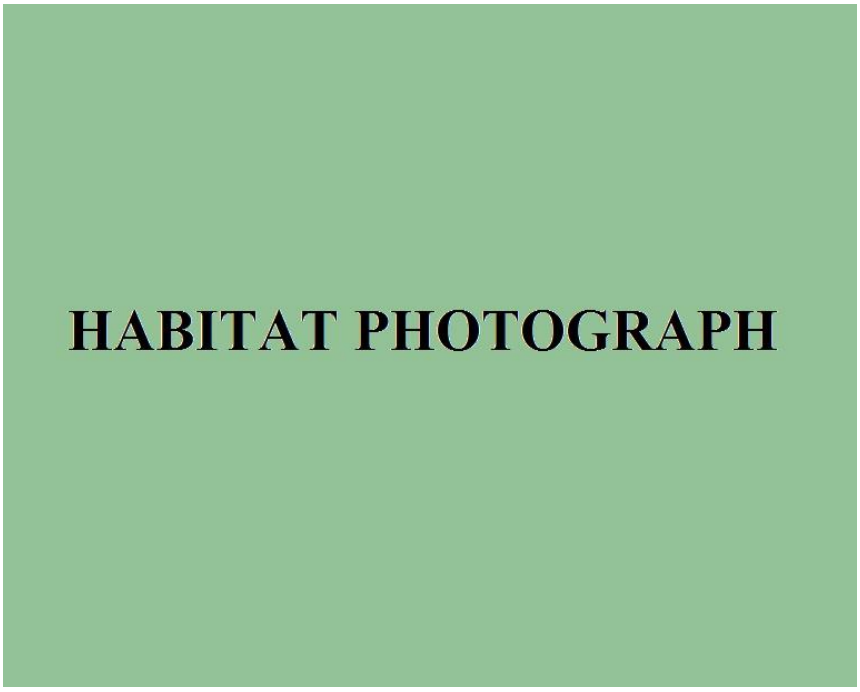

Figure 3: Photo not available.

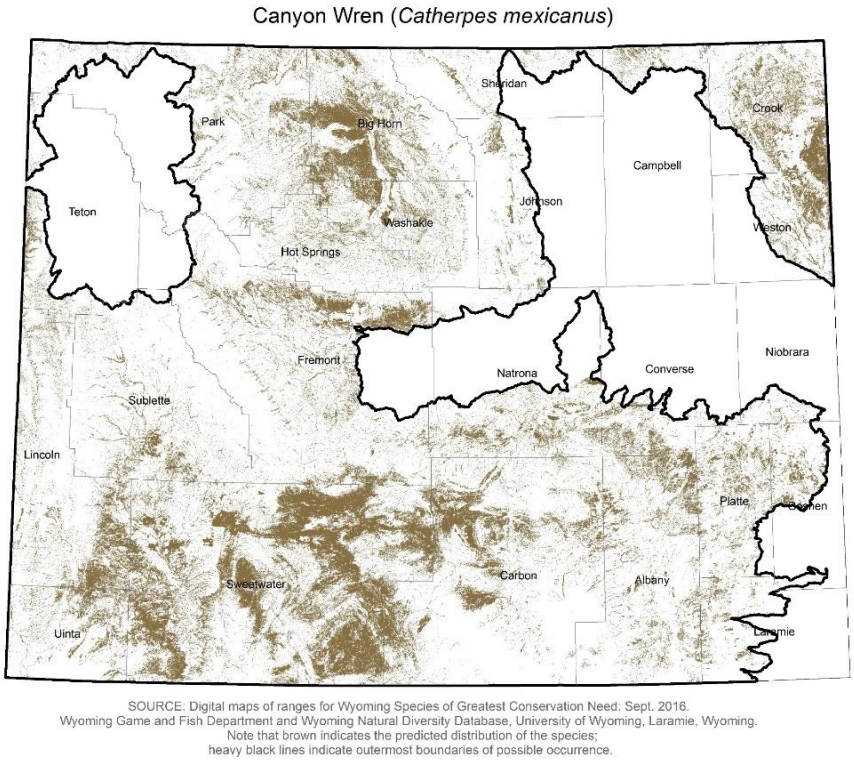

Figure 4: Range and predicted distribution of *Catherpes mexicanus* in Wyoming.