

Woodhouse's Scrub-Jay *Aphelocoma woodhouseii*

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: NSS3 (Bb), Tier II
WYNDD: G5, S1
Wyoming Contribution: LOW
IUCN: Least Concern
PIF Continental Concern Score: 9

STATUS AND RANK COMMENTS

Woodhouse's Scrub-Jay (*Aphelocoma woodhouseii*) has no additional regulatory status or conservation rank considerations beyond those listed above.

NATURAL HISTORY

Taxonomy:

In 2016, the American Ornithological Union split Western Scrub-Jay (*A. californica*) into California Scrub-Jay (*A. californica*) and Woodhouse's Scrub-Jay (*A. woodhouseii*) because of morphological, ecological, and genetic distinctions as well as variations in song¹. Only Woodhouse's Scrub-Jay is found in Wyoming. Western Scrub-Jay previously had fourteen recognized subspecies divided into three groups (i.e., *californica*, *woodhouseii*, and *sumichrasti*)^{2,3}. The newly recognized California Scrub-Jay now encompasses the subspecies and distribution of the former *californica* group, while Woodhouse's Scrub-Jay encompasses the subspecies and distributions of the *woodhouseii* and *sumichrasti* groups; however, some have suggested that the *sumichrasti* group, in southern Mexico, should also be recognized as a separate species¹. Only birds in the *woodhouseii* group occupy Wyoming.

Description:

Identification of Woodhouse's Scrub-Jay is possible in the field. The sexes are identical in appearance: adults range in length from 28–30 cm, weigh 70–100 g, and have a wingspan of about 39 cm^{3,4}. Woodhouse's Scrub-Jay is a crestless jay with a blue head, wings, and tail; white streaked throat and breast bordered by faint blue breast bands; gray cheeks and back; pale gray underparts; thin white eyebrows; and black bill and legs⁴. Juveniles have a gray head and sooty-tinged underparts^{4,5}. Similar sympatric species in Wyoming are Steller's Jay (*Cyanocitta stelleri*), and Pinyon Jay (*Gymnorhinus cyanocephalus*); however, Steller's Jay has a blackish

head with a long crest, while Pinyon Jay is blue overall with no obvious other coloring or markings ⁴.

Distribution & Range:

The year-round distribution of Woodhouse's Scrub-Jay is patchily distributed in the interior western United States and interior mainland Mexico ³. Southwestern Wyoming is on the northeastern edge of the species' core distribution. Confirmed or suspected breeding has been documented in just 3 of the 28 latitude/longitude degree blocks in Wyoming, all in the southwestern corner of the state ⁶. It has been suggested that the restricted distribution of Woodhouse's Scrub-Jay in southwestern Wyoming may be tied to the local presence of Piñon Pine (*Pinus edulis*), the seeds of which are an important food source for the species in this region of the country ⁷. However, Woodhouse's Scrub-Jay occasionally occurs well outside of southwestern Wyoming and has been observed as far away as Sheridan near the state's northern border ⁷.

Habitat:

In Wyoming, Woodhouse's Scrub-Jay is primarily found in rocky woodlands dominated by Utah Juniper (*Juniperus osteosperma*), with low to moderate tree cover and an understory of shrubs such as Mountain Mahogany (*Cercocarpus montanus*) and sagebrush (*Artemisia* spp.) ^{7,8}. Elsewhere across its distribution, the species has been documented in a variety of mostly arid scrub and woodland environments, including piñon-juniper, oak (*Quercus* spp.) and mixed-oak woodlands, desert riparian woodlands, cactus forests, and scrub in tropical deciduous forests ³. Nesting sites are often well-concealed in trees, shrubs, bushes, or clustered vines. Both males and females participate in the construction of the nest, which is an open cup of large, interwoven twigs lined with finer twigs, plant material, and sometimes hair from livestock ^{3,8}.

Phenology:

Woodhouse's Scrub-Jay is non-migratory and is a year-round resident in Wyoming ^{7,8}. Nesting phenology has not been studied in the state, and most knowledge of the species is from studies in California on the newly recognized California Scrub-Jay. Clutch initiation dates can vary from year to year in California, but most egg laying occurs in March and April ³. Incubation time for California Scrub-Jay is 17–18 days, fledging occurs at 20 days of age, and post-fledging dispersal occurs about 6 weeks after fledging. Woodhouse's Scrub-Jay likely has a similar nesting phenology, but slight differences may exist due to regional differences in climate and breeding behavior ³. The species typically produces one brood per season but may renest multiple times following consecutive clutch losses ³.

Diet:

Woodhouse's Scrub-Jay primarily feeds on arthropods and fruit during the breeding season and acorns and pine seeds during the non-breeding season; however, the species is omnivorous and will opportunistically consume caterpillars, small reptiles and amphibians, mice, bird eggs, nestlings, fledglings, adult birds, carrion, and ecto-parasites preened from live deer. Excess food is scatterhoarded, with birds caching a single food item at each location, and retrieved for consumption at a later date ³.

CONSERVATION CONCERNS

Abundance:

Continental: WIDESPREAD BUT PATCHY

Wyoming: VERY RARE

There are no robust population estimates for Woodhouse's Scrub-Jay in Wyoming. The species has a statewide abundance rank of VERY RARE and appears to be uncommon within suitable environments in the occupied area ⁶. Woodhouse's Scrub-Jay was not detected by the Wyoming Breeding Bird Survey (BBS) program between 1968–2015 ⁹, and just 1 individual was detected during surveys for the Integrated Monitoring in Bird Conservation Regions (IMBCR) program between 2009–2015 ¹⁰. More targeted surveys in juniper woodland habitat may be necessary to adequately detect Woodhouse's Scrub-Jay in Wyoming.

Population Trends:

Historic: UNKNOWN

Recent: UNKNOWN

Robust population trends are not available for Woodhouse's Scrub-Jay in Wyoming because the species is infrequently detected during monitoring surveys. Survey-wide trend data from the North American BBS indicate that Woodhouse's Scrub-Jay numbers declined annually by 0.09% from 1966–2013 and increased annually by 0.31% from 2003–2013, but neither trend estimate was statistically significant ¹¹.

Intrinsic Vulnerability:

HIGH VULNERABILITY

In Wyoming, Woodhouse's Scrub-Jay has moderate intrinsic vulnerability due to its low abundance and dependence on a narrow range of habitat types. Woodhouse's Scrub-Jay utilizes a variety of habitats across its continental distribution; however, the species is strongly associated with Utah Juniper woodlands within its very restricted Wyoming distribution. Only 2.2% of the total land area in Wyoming is classified as juniper woodlands ¹², and Woodhouse's Scrub-Jay is not known to breed in any other environments in the state. Therefore, the species would have limited opportunity for range expansion within Wyoming should disturbance or loss of existing habitat occur.

Extrinsic Stressors:

MODERATELY STRESSED

Habitat loss and degradation could negatively impact Woodhouse's Scrub-Jay in Wyoming. Piñon and juniper woodlands have been expanding in many areas of the western United States since the mid-1800s ¹³; however, Wyoming is predicted to lose a majority of its Utah Juniper woodlands over the next century due to changing climate ¹⁴. Existing juniper woodlands in the state are potentially vulnerable to changes in fire regime; invasive species such as Cheatgrass (*Bromus tectorum*); drought and climate change; habitat fragmentation; and human disturbance, including juniper removal and thinning programs ¹². In addition, juniper woodlands in southwestern Wyoming are often associated with rocky habitats, which are threatened by potential energy development and exposure to anthropogenic disturbances from recreational activities ^{12, 15}. In other parts of its range Woodhouse's Scrub-Jay inhabits disturbed and successional habitat and appears relatively tolerant of human presence ³; however, the species showed significantly lower abundance in piñon-juniper woodlands with continuous light grazing than in piñon-juniper with long-term grazing exclusion in New Mexico ¹⁶. Currently, it is not known how potential extrinsic stressors impact Woodhouse's Scrub-Jay in Wyoming.

KEY ACTIVITIES IN WYOMING

Woodhouse's Scrub-Jay is classified as a Species of Greatest Conservation Need by the Wyoming Game and Fish Department (WGFD), and as a Level 2 Priority Bird Species requiring monitoring in the Wyoming Bird Conservation Plan ¹⁷. Current statewide activities for monitoring annual detections and population trends for Woodhouse's Scrub-Jay in Wyoming include the BBS program conducted on 108 established routes since 1968 ¹⁸, and the multi-agency IMBCR program initiated in 2009 ¹⁹. In 2016, the WGFD began a two-year project designed to collect data on the distribution, relative abundance, and habitat use of piñon-juniper obligate species, including Woodhouse's Scrub-Jay, in the woodlands of southwestern Wyoming.

ECOLOGICAL INFORMATION NEEDS

In Wyoming, Woodhouse's Scrub Jay would benefit from research to determine its actual abundance and population trends. Very little is known about the specific breeding habits of this species in the state, and nothing is known about nest success or fledgling survival. The detailed distribution and proportion of habitat occupied by the species in Wyoming is not well understood, especially when it comes to vagrant reports in other parts of the state. Finally, additional research is needed to determine how Woodhouse's Scrub-Jay populations in Wyoming might respond to natural and anthropogenic disturbances to existing habitat.

MANAGEMENT IN WYOMING

This section authored solely by WGFD; Andrea C. Orabona. Woodhouse's Scrub-Jay is classified as a Species of Greatest Conservation Need in Wyoming due to a need for robust information on breeding status and population trend in Wyoming; limited distribution of required breeding habitat; loss, degradation, and fragmentation of Utah Juniper habitat due to industrial developments; and incompatible management practices ¹². Two separate but compatible survey programs are in place to monitor populations of many avian species that breed in Wyoming; the BBS ¹¹ and IMBCR ¹⁰. While these monitoring programs provide robust estimates of occupancy, density, or population trend for many species in Wyoming, Woodhouse's Scrub-Jay needs a targeted, species-specific survey method approach to obtain these data. Initial work and written species accounts on avian Utah Juniper obligate species, including Woodhouse's Scrub-Jay, occurred in 1988 ²⁰. However, higher priorities and limited personnel and funding precluded conducting additional work on these species. Best management practices to benefit Woodhouse's Scrub-Jay include implementing a sufficient monitoring technique; maintaining mature stands of Utah Juniper habitat where Woodhouse's Scrub-Jay nest, including herbaceous vegetation and shrubs for foraging; implementing prescribed and natural fire management to maintain savannah-like stands of juniper woodlands in areas occupied by Woodhouse's Scrub-Jay; and coordinating Utah Juniper management to provide a mosaic of juniper woodland conditions ²¹.

CONTRIBUTORS

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Figure 1: Adult Woodhouse's Scrub-Jay in Jefferson County, Colorado. (Photo courtesy of Shawn Billerman)



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



Figure 3: Woodhouse's Scrub-Jay habitat in southwestern Wyoming, dominated by Utah Juniper. (Photo courtesy of Leah H. Yandow, WGFD)

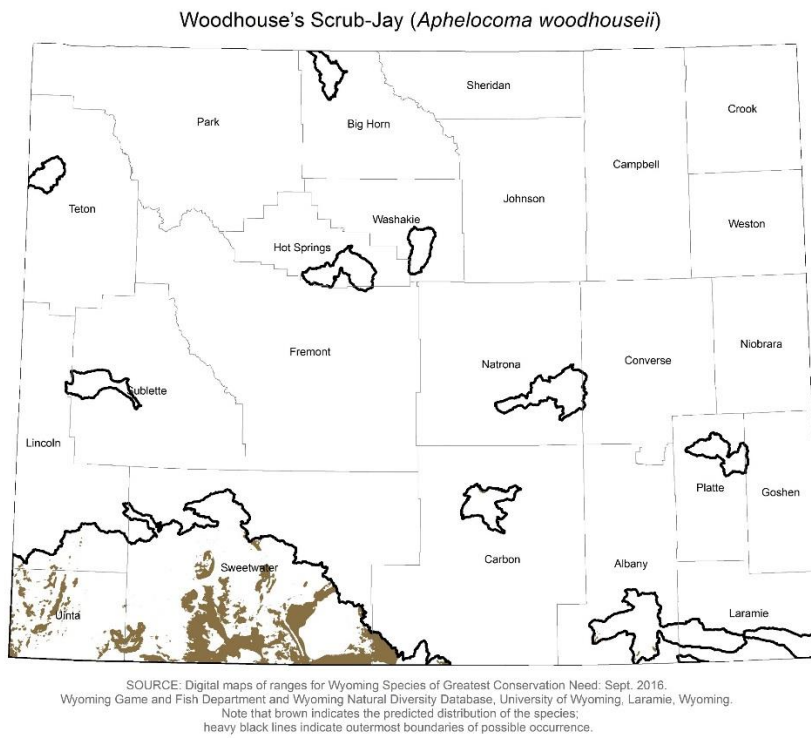


Figure 4: Range and predicted distribution of *Aphelocoma woodhouseii* in Wyoming.