

Yellow-billed Cuckoo

Coccyzus americanus

REGULATORY STATUS

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

CONSERVATION RANKS

USFWS: Bird of Conservation Concern
WGFD: NSSU (U), Tier II
WYNDD: G5, S1
Wyoming Contribution: LOW
IUCN: Least Concern
PIF Continental Concern Score: 12

STATUS AND RANK COMMENTS

Yellow billed Cuckoo (*Coccyzus americanus*) populations west of the Continental Divide were first proposed for protection under the Federal Endangered Species Act (ESA) in 1986¹. Following several warranted but precluded findings, western Yellow-billed Cuckoos were proposed for listing as a Threatened Distinct Population Segment (DPS) by the U.S. Fish and Wildlife Service in 2013². In 2014, the Yellow-billed Cuckoo western DPS was officially designated as Threatened under the ESA³. In this context it is important to note that the species occurs on both sides of the Continental Divide in Wyoming (see Distribution and Range, below), but the ESA status applies only to individuals occurring west of the Divide.

NATURAL HISTORY

Taxonomy:

There are currently no recognized subspecies of Yellow-billed Cuckoo^{1,4}. Two subspecies were previously suggested based on differences in size, vocalizations, behavior, and ecology in populations east and west of the Continental Divide; however, diagnostic analyses do not support the designation of subspecies based on these differences¹.

Description:

Identification of Yellow-billed Cuckoo is possible in the field. The species is similar in size to most jays⁵. The sexes are identical in appearance. The species is a slender, long tailed bird, with a grayish-brown head and upperparts, and dullish white underparts. The tail is about half the length of bird and is brown above and black below. The undertail has an alternating black and white pattern^{1,5}. The species has a pale yellow to dusky eye ring. The base of the lower mandible of the bill is at least 40% yellow. Juveniles of the *occidentalis* subspecies have a dark lower mandible, while juveniles of the *americanus* subspecies have yellow at the base of the lower mandible⁶. In Wyoming, the species is most similar to Black-billed Cuckoo (*C.*

erythroptalmus). Yellow-billed Cuckoo is identified by its yellow to dusky eye ring, yellow lower mandible, and larger white spots in the undertail. In contrast, Black-billed Cuckoo has a red-eye ring in adults, all black lower mandible, and only small white undertail spots^{5,6}.

Distribution & Range:

Historically, Yellow-billed Cuckoo bred across most of North America. Range contractions in western North America have resulted in extirpations from some states and Canadian provinces, and a patchy distribution overall^{1,7}. In Wyoming, it is found in the southwestern portion of the state, as well as portions of the great plains in the eastern part of the state, and scattered localities elsewhere^{8,9}. The species migrates to South America for the winter^{1,7}.

Habitat:

Yellow-billed Cuckoo prefers to nest in open woodlands with a densely vegetated understory, especially near water. On the Great Plains, favored nesting habitat includes well-wooded river valleys and associated deciduous forests. In the southwest, riparian woodlands are preferred, particularly those with an ungrazed understory. Occasionally, other riparian-associated woodlands and orchards are used. The species requires dense patches of broad-leaved trees for nest placement. In the western portion of their range, this habitat type is typically only found along riparian corridors⁷. In Wyoming, suitable habitat is found along the Green River and potentially along the Bighorn, Powder, Tongue, Cheyenne, Belle Fourche, Little Missouri, Laramie, and North Platte River drainages^{7,8}. The species may use upland areas dominated by Piñon Pine (*Pinus* spp.), oak (*Quercus* spp.), Juniper (*Juniperus* spp.), and Manzanita (*Arctostaphylos pungens*) for 2–3 weeks prior to breeding¹.

Phenology:

Phenology of Yellow-billed Cuckoo has not been studied in Wyoming. Yellow-billed Cuckoo is a relatively late spring migrant, especially in the west, arriving on the breeding grounds in mid to late May. Some individuals may arrive as late as June or mid-July¹. In Colorado, birds in the western portion of the state began to breed in early July, while those in the eastern part of the state began in mid-July⁷. The breeding season is long, and the species has bred as late as September in South Dakota. Fall migrants in the west leave 2–3 weeks earlier than eastern populations, with departure beginning in August, with nearly all birds gone by mid-September^{1,7}.

Diet:

Yellow-billed Cuckoo primarily feeds upon large insects such as katydids, caterpillars, cicadas, grasshoppers, and crickets, taking particular advantage of large outbreaks of gypsy moth caterpillars and periodical cicadas^{1,10,11}. Occasionally, small vertebrates such as frogs, lizards, and young birds are taken. The species will sometimes eat fruits and seeds, though these foods are more commonly eaten in winter¹.

CONSERVATION CONCERNS

Abundance:

Continental: WIDESPREAD

Wyoming: VERY RARE

There are no robust estimates of Yellow-billed Cuckoo abundance in Wyoming¹². In 2013, Partners in Flight estimated that Yellow-billed Cuckoo had a global population of approximately 9 million individuals, and a Wyoming population of approximately 1,400¹³; however, this state

estimate is based primarily on Breeding Bird Survey (BBS) data and should be viewed with caution due to the low detection rate of this species in Wyoming. Yellow-billed Cuckoo has a statewide abundance rank of VERY RARE and appears to be uncommon within suitable environments in the occupied area ¹⁴. From 1968–2015, annual Wyoming BBS detections of Yellow-billed Cuckoo ranged from 0 to 10, with none recorded in most years ¹⁵. Yellow-billed Cuckoo was not detected during surveys for the Integrated Monitoring of Bird Conservation Regions program between 2009–2015 ¹².

Population Trends:

Historic: LARGE DECLINE

Recent: LARGE DECLINE

Robust population trends are not available for Yellow-billed Cuckoo in Wyoming because the species is infrequently detected during monitoring surveys. However, survey-wide trend data from the North American BBS indicate that Yellow-billed Cuckoo numbers experienced statistically significant annual declines of 1.75% from 1966–2013 and 2.18% from 2003–2013 ¹⁶.

Intrinsic Vulnerability:

HIGH VULNERABILITY

In Wyoming, Yellow-billed Cuckoo is restricted to riparian woodland habitat greater than 15 hectares in size, with at least 3 hectares of closed canopy, a canopy height of 5 to 30 m, and a vegetated understory 1 to 6 m in height ^{7, 8}. In the western portion of the species’ range, only one brood per season is produced. Reproductive success is highly variable ¹.

Extrinsic Stressors:

HIGHLY STRESSED

Little is known about Yellow-billed Cuckoo in Wyoming. Loss and reduced quality of riparian habitat led to reduced numbers in the western range of the species. Elsewhere in its range, pesticide use on breeding and winter grounds has led to population declines. These effects are from the reduction of food availability and bioaccumulation of chemicals in the cuckoo’s body tissues. These both can cause reproductive failure ⁷. Evidence suggests that reproductive success decreases with increasing local temperature ¹⁷. Tamarisk (*Tamarix* spp.) invasion reduces habitat quality for the species ^{1, 18}. Alteration of hydrology due to dam construction and irrigation impacts the species. Dam construction may produce dense riparian woodlands the cuckoo prefers, while drawdowns for irrigation cause riparian habitat degradation. Livestock grazing in riparian woodlands reduces habitat quality, and has led to local extirpations ⁷. Noise from roads has been shown to negatively impact the species ¹⁹.

KEY ACTIVITIES IN WYOMING

Yellow-billed Cuckoo is classified as a Species of Greatest Conservation Need (SGCN) by the Wyoming Game and Fish Department (WGFD), and as a Level II Priority Bird Species requiring monitoring in the Wyoming Bird Conservation Plan ²⁰. Surveys for the presence of Yellow-billed Cuckoos were conducted along the Bighorn and Shoshone Rivers in northern Wyoming in 2009, with only one detection ²¹. Annual songbird monitoring programs in the state, such as the BBS and IMBCR, have failed to adequately detect Yellow-billed Cuckoo in Wyoming ^{12, 16}. WGFD biologists have attended U.S. Fish and Wildlife Service training to survey for Yellow-billed Cuckoo within the state. Surveys are planned within the western DPS of Yellow-billed Cuckoo to monitor this species. Collaborative regional surveys are currently being planned which will standardize species monitoring across the western DPS.

ECOLOGICAL INFORMATION NEEDS

A clear understanding of the subspecies taxonomy and distribution is needed for Yellow-billed Cuckoo. For example, individuals from the North Platte River in Nebraska show genetic similarities to the western subspecies⁸. Additionally, current taxonomy is based on a small sample size and studies that evaluated more individuals have found no genetic evidence for subspecies designations^{22, 23}. Basic phenology of the species is unknown, especially in western North America^{1, 7}. Basic demographic knowledge of the species is unknown^{1, 7, 8}. Distribution, abundance, and population trends of the species in Wyoming is unknown^{7, 8}. The impacts of restricting or eliminating livestock grazing in the species' habitat in Wyoming is unknown⁷.

MANAGEMENT IN WYOMING

This section authored solely by WGFD; Zachary J. Walker. Yellow-billed Cuckoo is classified as a SGCN in Wyoming due to limited distribution and breeding habitat, national population declines, lack of Wyoming specific population data, and susceptibility to human disturbance. Species-specific monitoring should be conducted for Yellow-billed Cuckoo within the state. Additional monitoring should occur in designated Yellow-billed Cuckoo critical habitat along the Henry's Fork and Seedskahee National Wildlife Refuge. Wyoming should engage in regional efforts to conserve and monitor for this species as funding allows. Additional research should focus on site-specific population trends and habitat utilization. The WGFD should work cooperatively with willing landowners and other land management agencies to ensure Yellow-billed Cuckoo habitat is maintained. Critical habitat should also be managed to promote Yellow-billed Cuckoo populations within the state. This could include minimizing pesticide application, promoting multi-storied canopies in riparian zones, and enhancing suitable upland habitat.

CONTRIBUTORS

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Figure 1: Adult Yellow-billed Cuckoo in Cape May, New Jersey. (Photo courtesy of Bill Schmoker)



Figure 2: North American range of *Coccyzus americanus*. The full extent of the species' western range is unknown. (Map courtesy of Birds of North America, <http://bna.birds.cornell.edu/bna>, maintained by the Cornell Lab of Ornithology)



Figure 3: Yellow-billed Cuckoo habitat at Bill Williams River National Wildlife Refuge, Arizona. (Photo courtesy of Lauren B. Harter)

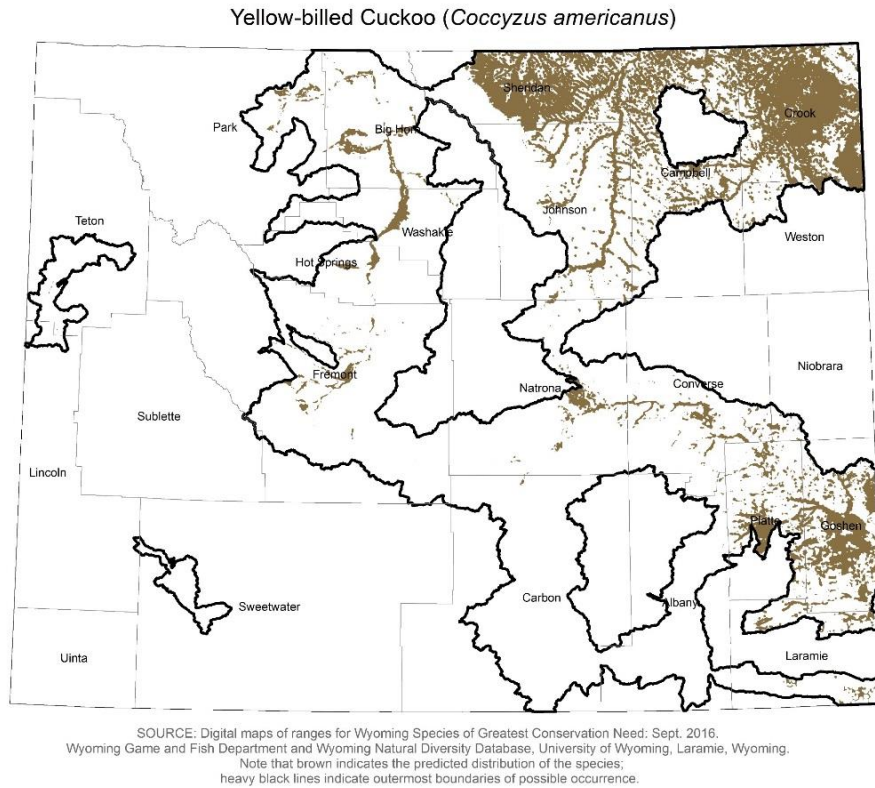


Figure 4: Range and predicted distribution of *Coccyzus americanus* in Wyoming.



Figure 5: Adult Yellow-billed Cuckoo on nest in an oak tree, Knob Noster State Park, Missouri. (Photo courtesy of Michael T. Wickens)