

Yellow-billed Cuckoo

Coccyzus americanus



Photo by Murrelet Halterman

Habitat Use Profile

Habitats Used in Nevada	
Mojave Lowland Riparian Great Basin Lowland Riparian (historically) (Springs)	
Key Habitat Parameters •	
Plant Composition	Fremont cottonwood, willows, saltcedar, mesquite
Plant Density & Height	High-density ($\geq 50\%$ cover) riparian woodlands with canopy heights varying from 5-30 m [16 – 100 ft] ^{2, 8}
Mosaic	Large intact patches of riparian gallery forest, or tall riparian shrub thickets; diverse vertical structure important ⁸
Distance to Water	< 100 m [330 ft] from water ⁸
Response to Vegetation Removal	Negative ^{EO}
Area Requirements ◦	
Minimum Patch Size	> 20 ha [50 ac] ^{2, 4, EO}
Recommended Patch Size	> 80 ha [200 ac] ^{8, 12}
Home Range	~ 20 ha [50 ac] with core area of ~ 4 ha [10 ac] ²⁰

Conservation Profile

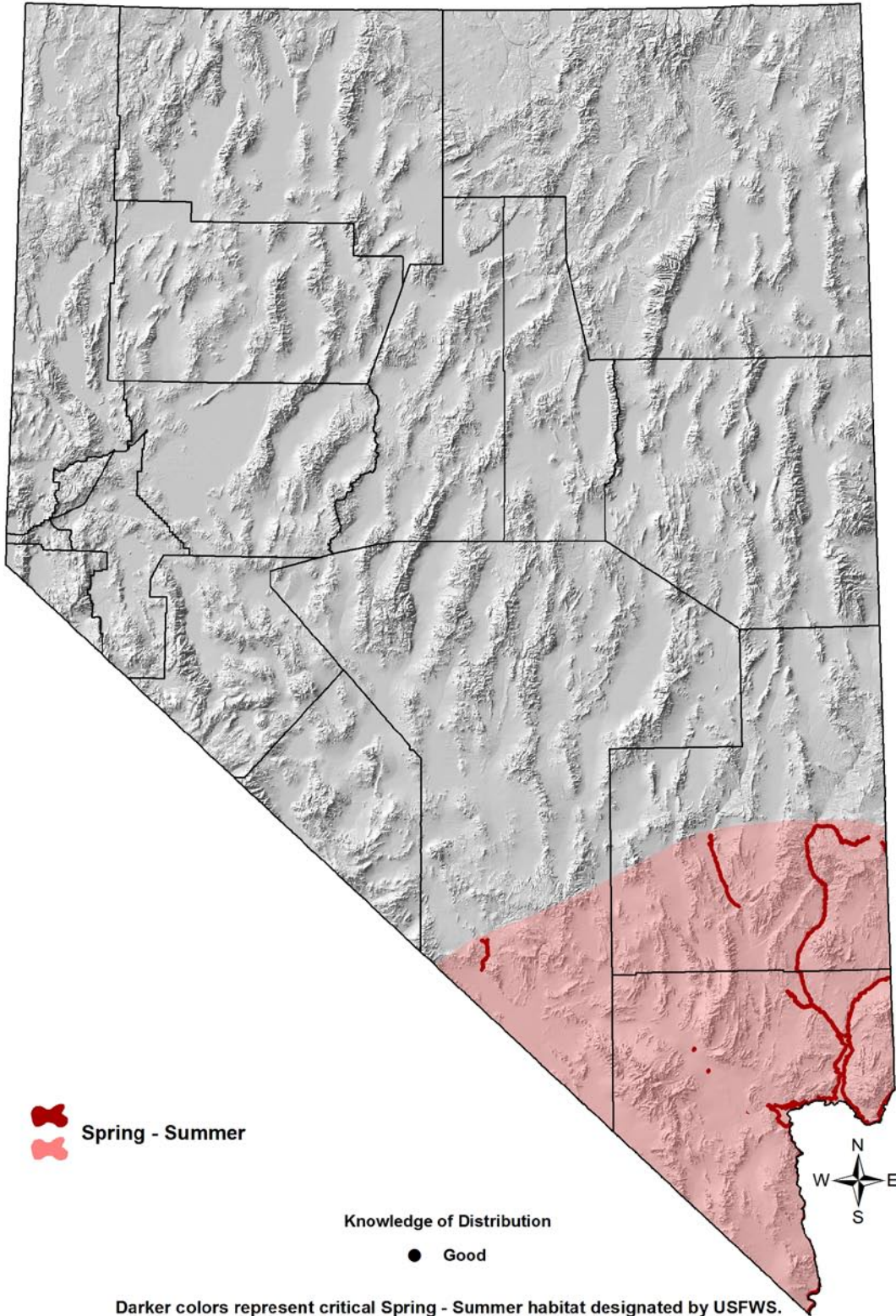
Priority Status	
Conservation Priority Species	
Species Concerns	
ESA listing: Candidate species - Historical declines Small population size - Habitat threats	
Other Rankings	
Continental PIF	None
Audubon Watchlist	None
NV Natural Heritage	S1B
USFWS	Candidate Species; Bird of Conservation Concern, Migratory Bird
BLM	None
USFS	Sensitive Species
NDOW	Conservation Priority
Other	Covered by Clark County MSHCP, ³ Lower Colorado River MSCP, ¹⁸ and Virgin River HCRP ¹⁹
Trends	
Historical •	Steep declines in west ⁸
Recent ◦	Unknown ¹⁶
Population Size Estimates	
Nevada •	10-20 ¹⁴
Global •	< 2,000 west of Rocky Mountains ⁸
Percent of Global	~ 1% of western population
Population Objective	
Maintain / Increase ^{EO}	
Monitoring Coverage	
Source	Special surveys by USBR, USFWS, NDOW, SNWA and others
Coverage in NV	Good
Key Conservation Areas	
Protection	All currently occupied habitat
Restoration	All lowland riparian areas, and springs in Mojave region

Natural History Profile

Seasonal Presence in Nevada	
Spring – Summer	
Known Breeding Dates in Nevada	
Late June – early September ^{EO}	
Nest and Nesting Habits	
Nest Placement	Above ground (< 10 m [33 ft] high) in dense riparian thicket ⁸
Site Fidelity	Probably moderate for breeding site ^{EO}
Other	Not territorial ⁸
Food Habits	
Basic	Shrub gleaner
Primary Diet	Large terrestrial insects, e.g., cicadas, caterpillars, grasshoppers, crickets ⁸
Secondary Diet	Small vertebrates, eggs ⁸

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Darker colors represent critical Spring - Summer habitat designated by USFWS. Lighter colors represent the area within which the species could occur in appropriate habitat types.

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Overview

Although the Yellow-billed Cuckoo is common and widespread in the Great Plains and eastward, its western populations have suffered drastic declines and range reductions since the settlement period. Once suspected in the 1970s of being extirpated from Nevada,⁸ Yellow-billed Cuckoos now breed semi-regularly along the Virgin and Muddy Rivers.^{14,15} Surveys by the Nevada Department of Wildlife and others have discovered cuckoos in a few additional locations in southern Nevada,¹⁴ and the Nevada Bird Count and Nevada Breeding Bird Atlas projects have added records in western and northeastern Nevada, although these probably involved nomadic non-breeders.¹²

Yellow-billed Cuckoos require large patches of multi-layered riparian gallery forest, with cottonwoods and willows (ideally both) clearly being preferred.^{5,11} Riparian mesquite habitats may be used, but usually only when willow-cottonwood habitat is unavailable.¹² Key habitat features are dense foliage, especially within 10 m [33 ft] of the ground,⁴ and moist conditions.⁸ Cuckoos may require the relatively cool temperatures and high humidity that only larger patches of dense forest next to open water can provide.^{8,9} On the lower Colorado River, cuckoo habitat is characterized by a dense overstory dominated by cottonwoods and willows, a subcanopy with willow and, often, saltcedar components, and a sparse understory. However, sites where the subcanopy is dominated by saltcedar are less likely to be used.⁹ Cuckoos will forage in pure saltcedar stands, but they have not been found breeding in them, except in New Mexico.¹⁷ Cuckoos will readily use younger forest stands with canopy heights of 10 m [33 ft] or less,⁴ as is the case with restoration sites on the South Fork of the Kern River (CA).^{11,13} In this restoration project, sites with less than 40% canopy closure were not used by cuckoos, and those with greater than 65% canopy closure were deemed optimal.

Cuckoos may use patches of forest as small as 10-20 ha [25-50 ac] in area and 100 m [330 ft] wide,⁴ but ideally habitat patches should be > 80 ha [200 ac] or > 600 m [2,000 ft] wide and contain open water within 100 m [330 ft] of the bird's activity center.¹² Although cuckoos appear to respond more strongly to local patch features than to the surrounding landscape mosaic,⁵ the presence of multiple patches of suitable habitat in close proximity to one another is still thought to be beneficial for the species' population dynamics. Thus fragmentation and isolation of remaining habitat is a concern, as are potentially low colonization rates for newly-restored sites.¹² Fortunately, there has been recent evidence that in some cases, cuckoos can find new restoration sites more rapidly than previously expected.^{4,11,20} Beyond some threshold distance from source areas, however, colonization does appear to be slow. As an example, apparently suitable habitat that has been restored within the cuckoo's historical Great Basin breeding range has yet to be colonized.

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Abundance and Occupancy by Habitat

No information

Nevada-Specific Studies and Analyses

Because of its status as an ESA candidate species, Yellow-billed Cuckoos are heavily monitored and studied in Nevada by NDOW, USBR, USFWS, SNWA, and others.

Relevant Conservation Plans and other legal documents can be found at:

<http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06R>

A thorough review of the Yellow-billed Cuckoo's natural history and a survey protocol are available at:⁷

http://www.southernsierraresearch.org/cuckoo_methodology_May2010%5B1%5D.pdf

Main Threats and Challenges

Habitat and Other Threats

- Loss, degradation, and fragmentation of riparian habitat due to:¹⁰
 - Surface water diversion and flood control projects
 - Saltcedar invasion
 - Fire
 - Livestock grazing, primarily in historically-occupied Great Basin areas
- High-water events of long duration that can kill cottonwoods and willows⁹
- Disturbance of nesting area, which may cause nest abandonment¹¹
- The tendency of cuckoo populations to decline after warm years has been suggested as a possible indication of sensitivity to climate change¹

Research, Planning, and Monitoring Challenges

- Reasons for the continued absence of Yellow-billed Cuckoos from apparently suitable habitat in the Great Basin need further investigation

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Conservation Strategies

Habitat Strategies

- Mojave Lowland Riparian (p. Hab-11-1) and Great Basin Lowland Riparian (p. Hab-7-1) habitat conservation strategies benefit this species
- Protect current Yellow-billed Cuckoo habitat from additional loss or degradation
- Promote natural recruitment of cottonwoods and willows by facilitating channel-scouring hydrological processes, where possible
- Restore native riparian habitat, where opportunities exist, to create patches of suitable size in all historical locations, including the corridors of the Colorado River and tributaries in southern Nevada, and the Walker, Truckee, and Carson River corridors in northern Nevada
- In currently grazed river reaches with diminished foliage density, removal of cattle has been shown to increase cuckoo numbers^{10, 13}

Research, Planning, and Monitoring Strategies

- Continue current population monitoring efforts
- Identify areas where potential exists to restore native riparian vegetation in patches of 40 ha [100 ac] or larger, and pursue partnerships and strategies to implement restoration projects
- Conduct additional surveys of potential breeding areas in northern and western Nevada
- Where groundwater pumping or channel diversions, or flood control projects occur, monitor effects on potential habitat
- Design and implement a coordinated fire management strategy that protects occupied remnants of cuckoo habitat

Public Outreach Strategies

- None identified

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References: ¹Anders and Post (2006); ²Biosystems Analysis (1989); ³Clark County (2000); ⁴Gaines and Laymon (1984); ⁵Girvetz and Greco (2009); ⁶Greco (2008); ⁷Halterman et al. (2009); ⁸Hughes (1999); ⁹Johnson et al. (2008); ¹⁰Krueper et al. (2003); ¹¹Laymon (1998); ¹²Laymon and Halterman (1989); ¹³Laymon et al. (1997); ¹⁴NDOW (2009); ¹⁵Rathbun and Braden (2003); ¹⁶Sauer et al. (2008); ¹⁷Sogge et al. (2008); ¹⁸LCR MSCP (2004); ¹⁹(Jeri Krueger, *pers. comm.*); ²⁰Sechrist et al. (2009); ^{EO}Expert opinion



Yellow-billed Cuckoo habitat in the Mojave region. Photo by Jen Ballard.