## **Yellow-billed cuckoo (*Coccyzus americanus*)**

Status

Threatened (79 FR 59991; October 03, 2014) with Proposed Critical Habitat (79 FR 48547; August 15, 2014).

Species Summary Table

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| --- | --- | --- | --- |
|  | Feeding | Breeding | Sheltering |
| Juvenile | Adult | Adult | Juvenile | Adult |
| Habitat | Riparian woodlands with cottonwood-willow, salt cedar, or mesquite communities. | Riparian woodlands with cottonwood-willow, salt cedar, or mesquite communities. Woody lowland vegetation near fresh water during winter. | Riparian woodlands with cottonwood-willow, salt cedar, or mesquite communities. | Riparian woodlands with cottonwood-willow, salt cedar, or mesquite communities. | Riparian woodlands with cottonwood-willow, salt cedar, or mesquite communities. Woody lowland vegetation near fresh water during winter. |
| Prey | Insect regurgitant | Insects, frogs, and lizards | Insects, frogs, and lizards | N/A | N/A |
| Perches | N/A | Tree branches | Tree branches | N/A | Tree branches |
| Cover | Nest 1 to 6 meters above ground within dense understory foliage and > 70 percent canopy coverage. | Greater than 70 percent canopy cover. | Greater than 70 percent canopy cover. | Nest 1 to 6 meters above ground within dense understory foliage and > 70 percent canopy coverage.  | Greater than 70 percent canopy cover.  |
| Temperature | N/A | N/A | Nests require canopy coverage that provides cooler temperatures | N/A | N/A |
| Lighting | Diurnal | Diurnal | Day light hours | Roosts during the night and under dense canopy coverage during the day. | Roosts during the night and under dense canopy coverage during the day. |
| Moisture | N/A | N/A | Nests require canopy coverage that provides higher humidity. | N/A | N/A |
| Sound | Sensitive to noise | Sensitive to noise | Sensitive to noise | Sensitive to noise | Sensitive to noise |
| Water | Perennial rivers and streams  | Perennial rivers and streams  | Perennial rivers and streams  | Perennial rivers and streams  | Perennial rivers and streams  |
| Dispersal | N/A | Home ranges average 100 acres in size. | Migrates from Central and South America to the western United States. | N/A | N/A |
| Seasonal Activity | N/A  | Insects, frogs, and lizards during summer. Fruits and seeds during winter | Mid-June to late August  | Late August begin migration to winter grounds | Late August begin migration to winter grounds |

Life History

*Species Description and Ecology*

The yellow-billed cuckoo (YBCU) is a medium-sized bird with a slender, long-tailed profile and a stout, slightly down-curved bill that is blue-black above and yellow on the base of the lower mandible. Plumage is grayish brown above and white below, with red primary flight feathers and tail feathers that are boldly patterned with black and white below. YBCUs have short, bluish gray legs, and adults have a narrow, yellow eye ring. As a member of the avian family Cuculidae, they share the common feature of a zygodactyl foot (two toes pointing forward and two toes pointing backward).

The YBCU is a long-distance neotropical migrant and the western population breeds along river systems west of the Rocky Mountains, which separates them from the eastern yellow-billed cuckoo population. The western population is considered a biologically separate population segment; therefore, populations west of the Continental Divided have been identified as a Distinct Population Segment for conservation purposes. (Daw 2014).

YBCUs hunt while perched motionless on a tree branch, scanning foliage for prey items. During migration and breeding season, the species feeds primarily on insects such as caterpillars, cicadas, and katydids; but will also consume tree frogs and lizards. The species migrates to Central and South America for the winter, where fruits and seeds are eaten more frequently (AGFD 2011 and Daw 2014). YBCUs have relatively large home ranges, with the average home range size covering over 100 acres; however, home ranges encompassing up to 500 acres have been recorded (USFWS 2014a).

*Reproduction*

Typically, western YBCUs are late migraters and arrive on their breeding grounds in early to mid-June. Once on the breeding grounds, the species may time the onset of breeding to coincide with an abundance of large insects such as cicadas. Peak nesting season for the YBCU occurs from July to early August. Nests are placed on the horizontal branch of a tree such as a willow and both the male and female participate in constructing the nest. The nest is a loosely-built, flat, saucer-shaped, stick nest lined with bark and leaves. The cup nest is relatively shallow ranging from 2 to 4 centimeters deep and is usually positioned 1 to 6 meters above ground; below a dense patch of canopy and concealed by surrounding foliage. YBCUs will lay 3 to 4 unmarked, pale greenish-blue eggs. Incubation lasts 9 to 11 days and eggs will change color to greenish-yellow before hatching. Young are born atricial and will leave the nest 6 to 9 days after hatching. On occasion the species may parasitize broods of other cuckoos (AGFD 2011 and Daw 2014).

*Suitable Habitat*

The western population of YBCUs occupy riparian woodlands along perennial rivers and streams at elevations below 6,600 feet. Cottonwood-willow galleries are most often inhabited; however, salt cedar, mesquite bosques, and other riparian tree communities may also be used. The species requires relatively large contiguous patches of multi-layered riparian habitat with dense understory foliage for nesting. The multi-layered canopy structure provides the necessary microclimate of cooler temperatures and higher humidity needed for successful nesting (AGFD 2011 and Daw 2014).

Primary Constituent Elements (PCEs) for YBCU habitat were identified as three distinct habitat elements; riparian woodland structure, availability of prey populations, and riverine processes. The PCEs that were identified in the 2014 Proposed Rule Designation of Critical Habitat for the species include:

1. *Riparian woodlands*. Riparian woodlands with mixed willow-cottonwood vegetation, mesquite-thorn forest vegetation, or a combination of these that contain habitat for nesting and foraging in contiguous or nearly contiguous patches that are greater than 325 ft (100 m) in width and 200 ac (81 ha) or more in extent. These habitat patches contain one or more nesting groves, which are generally willow dominated, have above average canopy closure (greater than 70 percent), and have a cooler, more humid environment than the surrounding riparian and upland habitats.
2. *Adequate prey base*: Presence of a prey base consisting of large insect fauna (for example, cicadas, caterpillars, katydids, grasshoppers, large beetles, dragonflies) and tree frogs for adults and young in breeding areas during the nesting season and in post-breeding dispersal areas.
3. *Dynamic riverine processes:* River systems that are dynamic and provide hydrologic processes that encourage sediment movement and deposits that allow seedling germination and promote plant growth, maintenance, health, and vigor (e.g. lower gradient streams and broad floodplains, elevated subsurface groundwater table, and perennial rivers and streams). This allows habitat to regenerate at regular intervals, leading to riparian vegetation with variously aged patches from young to old.

Threats

The primary causes for YBCU declines in the western United States are due to loss, degradation, and fragmentation of riparian habitats. The threats to riparian habitat used by YBCUs are a result of alteration of hydrology due to dams, water diversions, management of riverflow that differs from natural hydrological patterns, channelization, and levees and other forms of bank stabilization that encroach into the floodplain (USFWS 2014a).

Range and Survey History

Within Arizona, the YBCU is found along rivers in southern and central Arizona, as well as extreme northeast portions of the state (AGFD 2011). Statewide surveys have been conducted in Arizona at historical YBCU locations during 1998 and 1999. During these surveys, cuckoos were documented along 25 drainages, with the majority occurring along the San Pedro, Agua Fria, and Verde rivers and Sonoita and Cienega creeks (Corman and Magill 2000). Another survey effort conducted in 2005, focused on sites along the Lower Colorado and Gila Rivers in La Paz and Yuma County. The majority of YBCU detections for this study occurred at the Colorado and Gila River confluence, Limitrophe Division North near Yuma, and the Quigley Wildlife Management Area along the Gila River (Johnson et. al. 2006). These studies have attributed the decline in western YBCU populations to habitat loss, as loss of riparian habitat in Arizona has been substantial.

Include information in this section to establish an environmental baseline (i.e. survey data, local status, etc) for YBCU within your projects vicinity. The following references and resources may assist in establishing an environmental baseline. Always obtain permission from the ADOT biologist prior to contacting outside agencies about an ADOT project.

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| US Fish and Wildlife Service |
| Susan Sferra | Species Lead |  | Susan\_Sferra@fws.gov |

Notes: 1Consultants are NOT to discuss potential effect findings with outside agencies.

2Red text is to be removed prior to placing this evaluation into a Biological Evaluation.

References:

Arizona Game and Fish Department (AGFD). 2011. Western Yellow-billed Cuckoo (*Coccyzus americanus*). Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. 6 pp.

Corman, T. E., and R. T. Magill. 2000. *Western Yellow-billed Cuckoo in Arizona: 1998 and 1999 Survey Report*. Nongame and Endangered Wildlife Program Technical Report 150. Arizona Game and Fish Department, Phoenix, Arizona.

Daw, Sonya. 2014. Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*). Species Fact Sheet. Southwestlearning.org. 4 pp.

Johnson, M.J., J.A. Holmes, R. Weber, and M.S. Dionne. 2006. Yellow-billed Cuckoo Distribution, Abundance, and Habitat Use Along the Lower Colorado and Gila Rivers in La Paz and Yuma Counties. Final Report. 54 pp.

U.S. Fish and Wildlife Service (USFWS). 2014a. “Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*); Final Rule.” *Federal Register* 79(192): 59992–60038.

USFWS. 2014b. “Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-billed Cuckoo; Proposed Rule.” *Federal Register* 79(158): 48548–48652.