Western Yellow-billed Cuckoo

ASSESSING HABITAT QUALITY FOR PRIORITY WILDLIFE SPECIES IN COLORADO WETLANDS

© LARRY SMITH

With loud *ka, ka, ka, ka, kow, kow, kow, kowlp, kowlp* calls, western yellow-billed cuckoos (*Coccyzus americanus occidentalis*, Family *Cuculidae*) are more often heard than seen.

Species Description

Identification

Large rufous patches on the upper wings and long showy, black tails with white spots, viewed from below, give their identity away. The white throat, breast, and belly contrast with the grayish-brown back and upper tail.

Preferred Habitats

Western yellow-billed cuckoos are considered riparian obligates, preferring multiple vegetation layers. Although they use other tree species elsewhere, in Colorado, cottonwoods form the most likely upper-story.

Diet

Using multiple foraging strategies (sit and scan, search and glean, aerial picking, aerial diving, and ground foraging), yellow-billed cuckoos eat primarily large insects, including caterpillars, grasshoppers, katydids, and cicadas. They also occasionally consume berries, bird eggs and nestlings, small frogs, and lizards. While mostly foraging in riparian areas, yellow-billed cuckoos sometimes forage in adjacent orchards and other woodlands.

Conservation Status

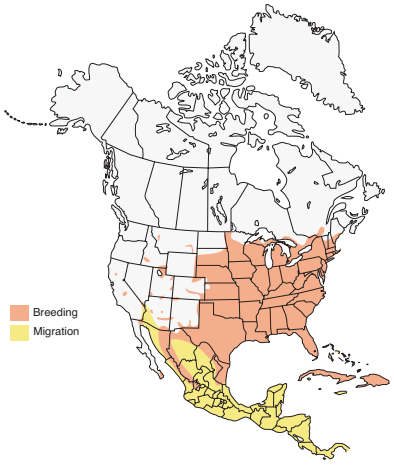
Federal: Listed as Threatened in 2014.
Colorado: Listed as Species of Concern, designated Tier 1 Species of Greatest Conservation Need.
BLM: Listed as Sensitive Species.
USFS: Listed as Sensitive Species.

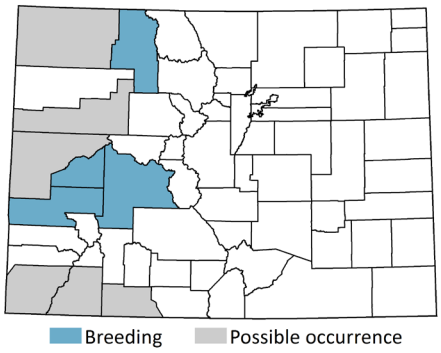
For conservation purposes, USFWS recognizes the population west of the Rocky Mountains as a "Distinct Population Segment." Likely due to loss of suitable riparian habitat, populations sharply declined and then disappeared from the Pacific Northwest and Nevada. Habitat loss in the Southwest has furthered population declines.

Species Distribution

Range

During the breeding season, western yellow-billed cuckoos historically ranged from British Columbia through western Mexico and eastward to the Rocky Mountains. Currently, they breed mostly in Arizona, California, and New Mexico. They breed in only a few locations in Colorado. After the breeding season, they migrate to South America for the winter with some stops in Mexico and Central America.





North America map used by permission from Cornell Lab of Ornithology and represents all yellow-billed cuckoos. The Colorado map represents only the western population.

Version Date: November 2020

Preferred Habitat Conditions

Yellow-billed cuckoos nest in shrubs and forage in trees, making these two habitat components essential for occupation. Cuckoos are well known for their nomadic tendencies, following food resources, such as outbreaks of caterpillars. During these forays, they can use alternative habitat, but they are usually found in mesic areas.	
Dominant structure	multiple layers, ideally shrubs, mid-story shrubs or tree saplings, and trees
Dominant species	cottonwood and willow, no tamarisk
Canopy	dense closed canopy for a core area of at least 11–12 acres
Size of habitat	the larger, the better with most researchers considering less than 100 acres marginal or unsuitable; however yellow-billed cuckoos can cobble together numerous small patches, and the minimum size currently considered suitable in Colorado is 12 acres
Width of habitat	more than 325 feet may be suitable; more than 2,000 feet preferred
Upper-story canopy height	>16 feet
Humidity	high, typically produced by multiple layers of vegetation

Management Recommendations

This fact sheet contains easy-to-use guidelines for understanding habitat needs of Colorado Parks and Wildlife priority wetland-dependent wildlife. Biologists with expertise in western yellow-billed cuckoos have suggested numerous practical steps that can be taken to improve habitat quality for this species.

Hydrology

- Restore natural flow regimes where possible.
- Conserve water to protect integrity of water table.
- Avoid diverting water from riparian areas.

Vegetation

- Control weeds.
- Restore degraded riparian areas, encourage growth of shrubs under mature trees.
- Create core areas of at least 11–12 acres of optimal habitat within a larger area (>175 acres), if a larger area cannot be restored.

Contamination

- Eliminate the use of pesticides.
- Reduce agricultural chemicals and other toxins.

Land Use

- Manage livestock grazing to avoid potential negative effects, especially during restoration.

Conservation

- Preserve all yellow-billed habitat, even if not suitably large, especially in the vicinity of other small patches.

© MARK DETTLING, POINT BLUE CONSERVATION SCIENCE

© LARRY SMITH

Acknowledgements
Terry Ireland (U. S. Fish and Wildlife Service, Grand Junction, CO), Matthew J. Johnson (Colorado Plateau Research Station, Northern Arizona University, Flagstaff, AZ), and Charles Van Riper III (Professor Emeritus, University of Arizona; U. S. Geological Survey, Tucson, AZ) reviewed earlier versions and provided input on preferred habitat conditions.

Suggested Reading and Citations

Anderson, B. W., and S. A. Laymon. 1989. Creating habitat for the yellow-billed cuckoo (*Coccyzus americana*). USDA Forest Service Gen. Tech. Rep. PSW-110.

CPW (Colorado Parks and Wildlife). 2015. State Wildlife Action Plan: A Strategy for Conserving Wildlife in Colorado. Denver, Colorado.

Daw, S. 2014. Species fact sheet: Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). U. S. Fish and Wildlife Service.

Hughes, J. M. 2020. Yellow-billed Cuckoo *(Coccyzus americanus),* version 1.0. In Birds of the World (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA.

Johnson, M. J., J. R. Hatten, J. A. Holmes, and P. B. Shafroth. 2017. Identifying western yellow-billed cuckoo breeding habitat with a dual modelling approach. Ecological Modelling 347:50-62.

Laymon, S. A., and M. D. Halterman. 2012. A proposed habitat management plan for yellow-billed cuckoos in California. USDA Forest Service Gen. Tech. Rep. PSW-110:272-277.

Sechrist, J., and E. Best. 2012. Yellow-billed cuckoo migration study results, Pecos River, New Mexico 2011–2012. U.S. Department of the Interior, Bureau of Reclamation, Fisheries and Wildlife Resources, Denver; http://www.usbr.gov/pmts/fish/Reports/Pecos YBCU Geolocator Final 2012web.pdf.

Wiggins, D. 2005. Yellow-billed Cuckoo (*Coccyzus americanus*): a technical conservation assessment. [Online]. USDA Forest Service, Rocky Mountain Region. Available: http://www.fs.fed.us/r2/projects/scp/assessments/yellowbilledcuckoo.pdf.

DISCLAIMER: This scorecard is designed specifically for the Colorado Parks and Wildlife Wetland Wildlife Conservation Program. It does not replace protocols required by U. S. Fish and Wildlife Service. Please contact the U. S. Fish and Wildlife Service regarding questions about their required protocols for species listed under the Endangered Species Act.

Habitat Scorecard for Western Yellow-billed Cuckoo (v. Nov 2020)

Assessment of habitat before and after restoration or management actions

Project Name: _____ Project Area (acres): _____ Habitat Area (acres): _____

Size of Contiguous Habitat outside Project Area (acres): _____ Ownership (circle): Same / Different / Conservation Easement

Scorecard Instructions: Enter one value that best describes early to mid-summer conditions of each habitat variable, using the numbers in the value column. Habitat variables are in shaded boxes; ranges of condition are directly below each variable. **If condition is outside range or is not described, enter a zero.**

Project Area and Habitat Area: The project area includes the entire area affected by the project. The habitat is the area that will provide (in case of pre-project) or does provide (post-project) habitat for each potential target species within the project area. The habitat area may be the same size as the project area or it might be smaller and it may be defined differently for different target species. If there is contiguous habitat area outside the project area, note the size and whether the ownership of the contiguous areas is the same or different and whether it is under conservation easement or other habitat protection. If the habitat area within your project area is noncontiguous and/or if sections are in very different conditions, consider using multiple scorecards so that each scorecard represents the general conditions. If you use multiple scorecards, identify each habitat area on a map.

Key habitat variable and conditions	Value	Pre-Project	Expected Post-Project	Actual Post-Project
Date of assessment				
Riparian structure (must be riparian)				
Multiple layers throughout patch of >200 acres	17.9			
Multiple layers in at least 12 acres surrounded by at least 100 acres of either trees or shrubs	11.9			
Multiple layers in <12 acres surrounded by at least 40 acres of either shrubs or trees	6.0			
Dominant shrub species				
Willow dominate with or without other species adding diversity and without tamarisk	17.9			
Willow dominate with or without other species and tamarisk 20–50%	11.9			
Willow do not dominate and tamarisk >50–75%	6.0			
Size of habitat (area)				
>200 acres	17.9			
>100–200 acres	11.9			
12–100 acres	6.0			
Tree canopy				
Dense closed tree canopy throughout the majority of patch	14.3			
Dense closed tree canopy of ≥12 acres of patch	9.5			
Dense closed tree canopy of <12 acres of patch	4.8			
Width of habitat area				
>2,000 feet	10.7			
>650–2,000 feet	7.1			
325–650 feet	3.6			
Upper-story (tree layer) canopy height*				
>20 feet	10.7			
16–20 feet	7.1			
<16 feet	3.6			
Under-story (shrub layer) canopy height*				
>5–20 feet	10.7			
3–5 feet	7.1			
< 3 feet	3.6			
Total (of 100 possible): add all numbers in before or after columns				

**Note that the lower values for upper-story overlap with the high values of under-story; this covers all situations and would be unlikely at a given site. If no upper-story or under-story exist, enter zero or NA (not applicable) for score rather than using the lowest value.*