

Acoustic Monitoring for Western Yellow-billed Cuckoo in the Grand Valley

Whit Blair

Colorado Parks and Wildlife

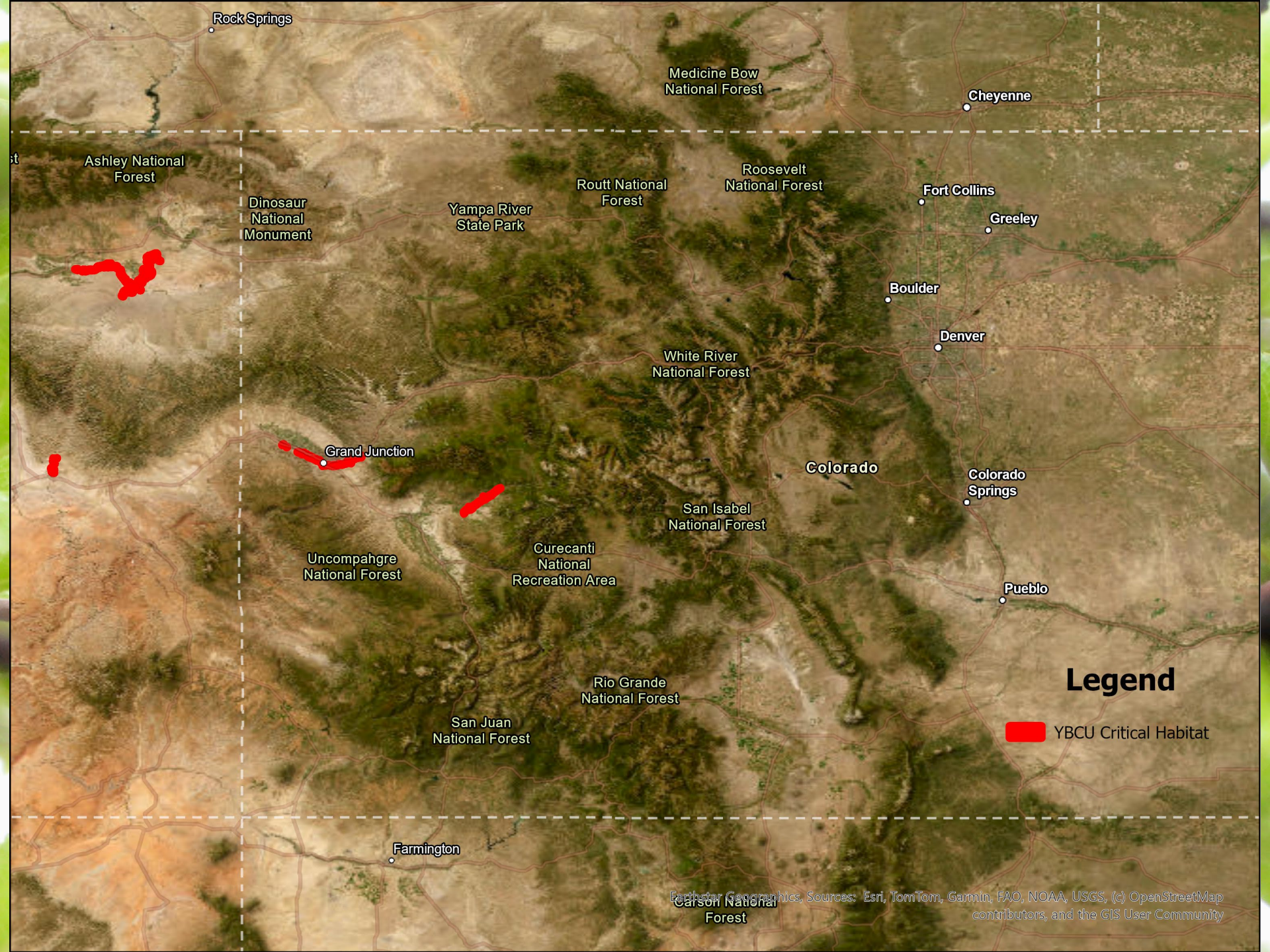


Background


- Federally Threatened (2014)
- Designated Critical Habitat (2021)
- Colorado Tier 1 Species (2015, 2025)



Photo Credit: Adam Petry, Western Biology



Legend

 YBCU Critical Habitat

Grand Valley

Grand Junction

Grand Mesa National Forest

North Fork Valley

Dominguez-Escalante National Conservation Area

Gunnison Gorge National Conservation Area

Legend

 YBCU Critical Habitat

Uncompahgre National Forest

Montrose

Surveys for Western Yellow-billed Cuckoos on Lands Managed by the Uncompahgre Field Office of the Bureau of Land Management in Western Colorado



Fork Valley

October 2008

Rocky Mountain Bird Observatory
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www.rmbo.org

Tech. Report # R-YBCU-BLM-08-1



In Cooperation With:



Legend

 YBCU Critical H

Surveys for Western Yellow-billed Cuckoos on Lands Managed by the Uncompahgre Field Office of the Bureau of Land Management in Western Colorado

Executive Summary

Rocky Mountain Bird Observatory conducted surveys for Western Yellow-billed Cuckoos and other bird species of interest in June and July, 2008. Surveys were accomplished by broadcasting cuckoo calls at designated points in suitable habitat on or near lands managed by the Uncompahgre Field Office of the Bureau of Land Management in western Colorado.

We completed three visits to 21 locations during the course of the season, for a total of 448 total survey minutes. Vegetation measurements were also estimated and recorded during the first visit to each survey point.

We did not detect any Yellow-billed Cuckoos on lands managed by the Bureau of Land Management. We recorded 80 bird species during our surveys, including 12 detections of Yellow-breasted Chat, a species of interest to RMBO. Even though cuckoos were not detected during surveys for this project, they were detected on private land near land managed by the Uncompahgre Field Office. Therefore, it is possible that cuckoos occupy lands managed by the Bureau of Land Management in this district and were not detected during our surveys.

Legend

 YBCU Critical H

In Cooperation With:



www.rmbo.org

Tech. Report # R-YBCU-BLM-08-1

**Inventory and Distribution of Yellow-billed Cuckoo
(*Coccyzus americanus*) in Western Colorado**

**Competitive State Wildlife Grant
Range-wide Inventory Project**

2022



PHOTO CREDIT: ADAM PETRY, 2022

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Inventory and Distribution of Yellow-billed Cuckoo (*Coccyzus americanus*) in Western Colorado

Competitive State Wildlife Grant Range-wide Inventory Project

Survey Detections


Twenty-seven ($n = 27$) YBCU detections were confirmed and documented in Colorado in 2022. Of these 27 total detections, 23 were survey-related and 4 were non-project incidentals. Of the 23 survey-related detections, 21 (92%) were solicited by call playbacks and 2 (9%) were incidentally detected without playbacks. It is believed that of the 27 total detections, approximately half were of unique individual cuckoos (e.g. presumed migrants) while the remainder were likely redetected individuals at sites with previous detections during the season; 2 were probable repeat detections. Of the 4 non-project incidentals, 2 were located in the North Fork Valley, 1 in the Grand Valley, and 1 in the San Luis Valley. Of the 6 total detections across the 2 valleys containing USFWS Critical Habitat, half were detected incidentally by citizen scientists unrelated to the survey project.



2 in Grand Junction



Legend

 YBCU Critical Habitat



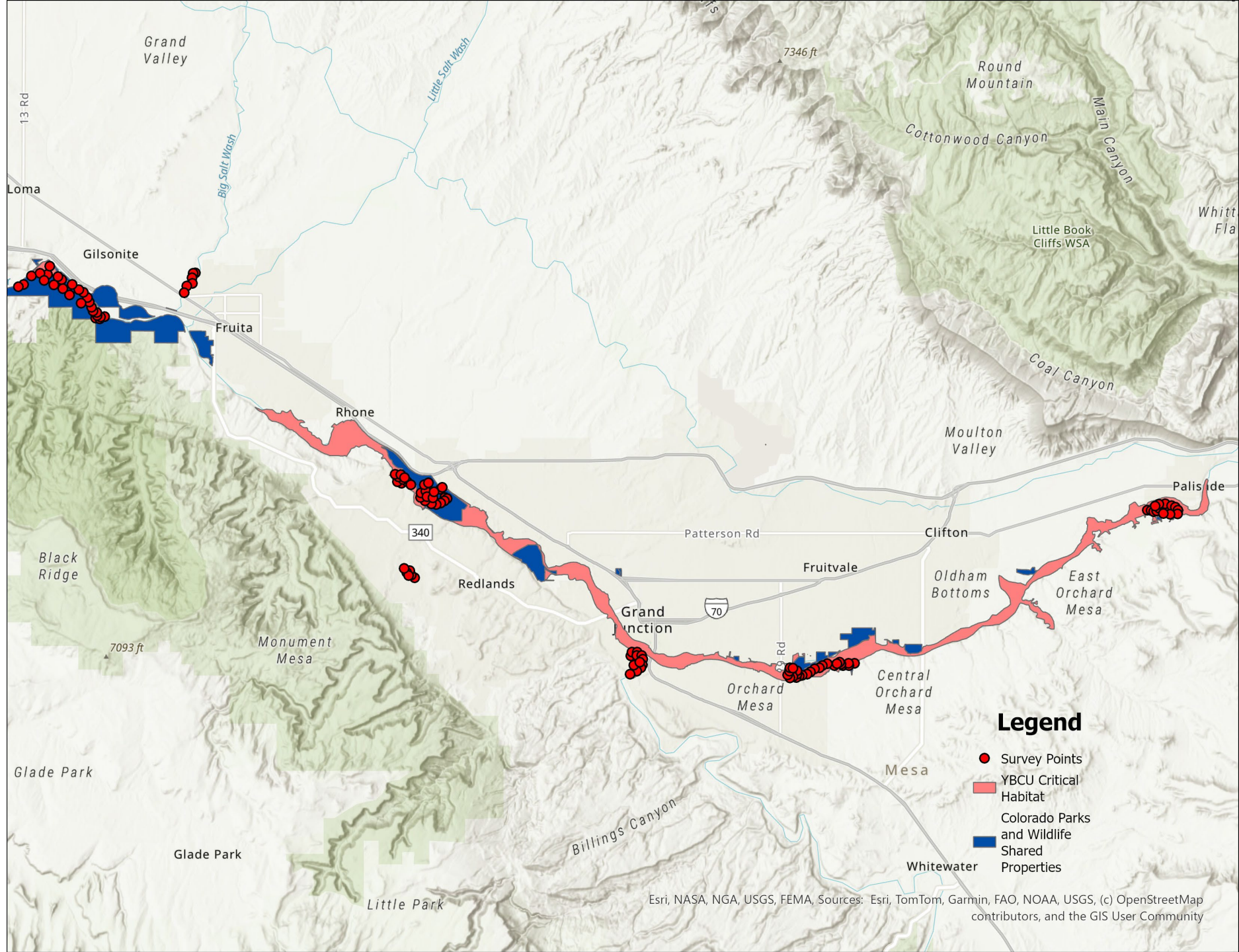
Legend

- YBCU Critical Habitat
- Colorado Parks and Wildlife Shared Properties

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community

Traditional Call-Playback Surveys

- Pre-recorded contact “kowlp” call (knocking) 70db
- 300-m spacing between points
- Low response rates



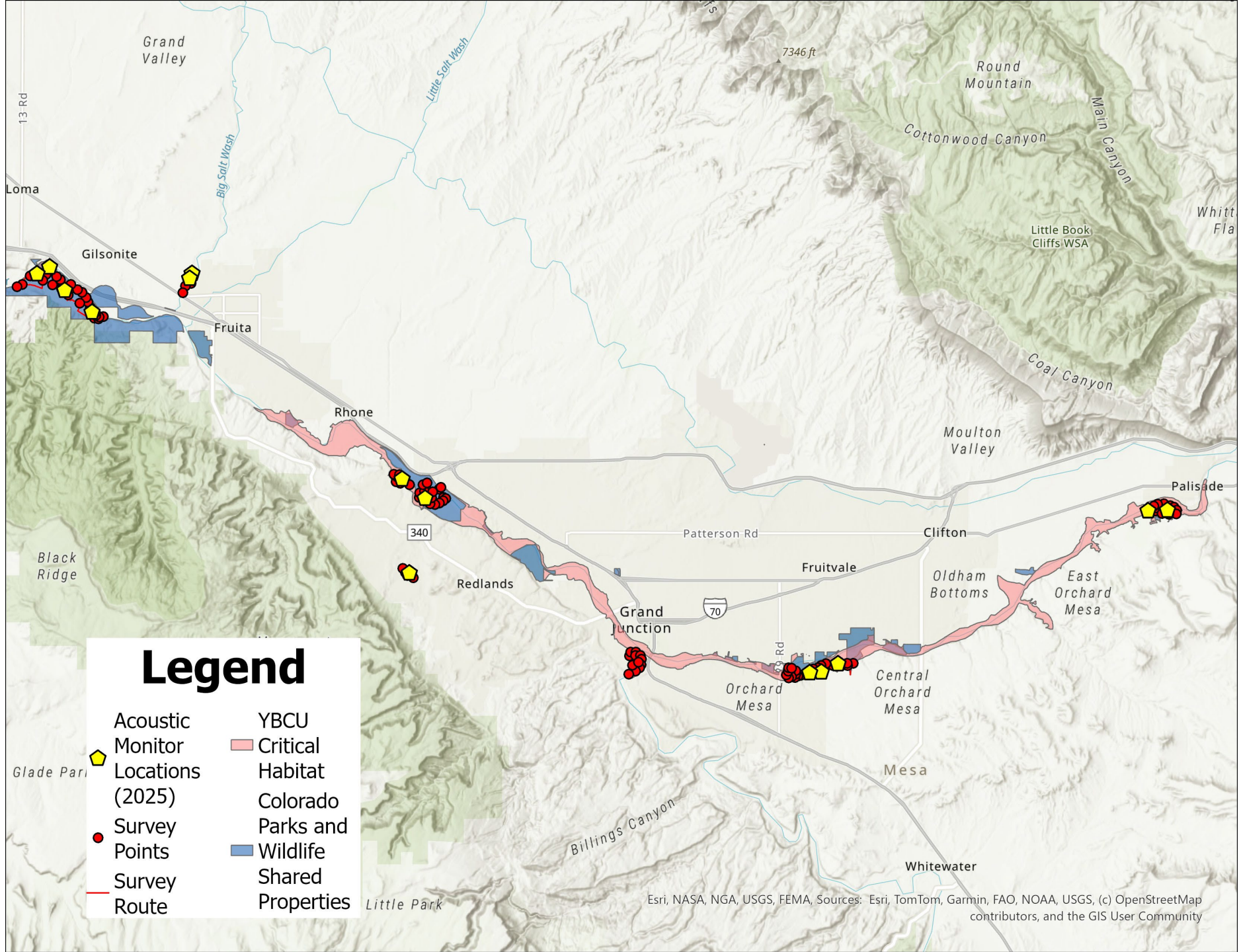
Legend

- Survey Points
- YBCU Critical Habitat
- Colorado Parks and Wildlife Shared Properties






ARU Methods

- Song Meter SM-4
- Non-random site selection
- Time: sunrise to +3 hours after sunrise
- Early June – Late August
- Replace batteries once a month (minimum)





Legend

-  Acoustic Monitor Locations (2025)
-  Survey Points
-  Survey Route
-  YBCU Critical Habitat
-  Colorado Parks and Wildlife Shared Properties



Recording Analysis

- BirdNET-Analyzer or Raven Pro
- All call types tested and confirmed 90% or higher confidence
- Any confidence below 80% for YBCU inaccurate (always coo song)



Start (s)	End (s)	Scientific name	Common name	Confidence
2985.0	2988.0	<i>Zenaida macroura</i>	Mourning Dove	0.8663
2988.0	2991.0	<i>Coccyzus americanus</i>	Yellow-billed Cuckoo	0.5712
3012.0	3015.0	<i>Zenaida macroura</i>	Mourning Dove	0.7212
3027.0	3030.0	<i>Zenaida macroura</i>	Mourning Dove	0.6587
3042.0	3045.0	<i>Zenaida macroura</i>	Mourning Dove	0.6514

- BirdNET-Analyzer or Raven Pro
- All “artificial” call types tested and confirmed 90% or higher confidence
- Any confidence below 80% for YBCU inaccurate (always coo song)

2024 Results:

- 4 survey locations
- 720 recording hours
- 87 unique bird species
- 2 distinct YBCU detections on one property
 - 1 from call-playback, 1 from ARU

2025 Results:

- 8 survey locations
- 1400 recording hours
- 118 unique bird species
- 3 distinct YBCU detections on two properties
 - all from ARUs

Results

- The Russian Olive Problem: both 2024 detections and 2/3 2025 detections in Russian Olive
- Dense mid-story structure availability
- “Non-traditional” potentially suitable habitat
- All detections single day, late-June to early-July



Discussion

- Creative site selection based on potential forage availability





Legend

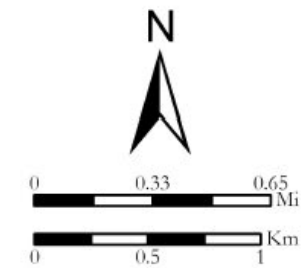
- Survey Points
- Survey Lines
- Survey Area



Horsethief Canyon State Wildlife Area Western Yellow-billed Cuckoo Surveys 2024

Esri, TomTom, Garmin, FAO, NOAA, USGS, Bureau of Land Management, EPA, NPS, USFWS, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Esri, USGS, Maxar

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere





Legend

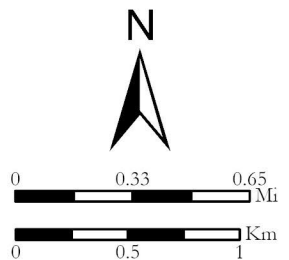
- Survey Points
- Survey Lines
- Survey Area



Horsethief Canyon State Wildlife Area Western Yellow-billed Cuckoo Surveys 2025

Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere



Discussion

- Creative site selection based on potential forage availability
- Run monitors from early June to early September
- Map Cooper's Hawk avoidance areas
- Other species of conservation concern: Broad-tailed Hummingbird (Tier 2), Canyon Wren (SGIN), Cliff Swallow (SGIN), Gray Vireo (SGIN), Juniper Titmouse (SGIN), Killdeer (SGIN), Violet-green Swallow (SGIN), Wilson's Warbler (SGIN)
- Track diversity trends



Questions?



Photo Credit: Adam Petry, Western Biology