

Yellow-billed Cuckoos in Western Colorado



January 2009



Rocky Mountain Bird Observatory

PO Box 1232

Brighton, CO 80601-1232

303.659.4348

www.rmbo.org

Tech. Report # R-YBCU-CDOW-08-1
& R-YBCU-USFWS-08-1

**In cooperation with the Colorado Division of Wildlife and the
United States Fish and Wildlife Service**

ROCKY MOUNTAIN BIRD OBSERVATORY

Mission: *To conserve birds and their habitats*

Vision: *Native bird populations are sustained in healthy ecosystems*

Core Values: *(Our goals for achieving our mission)*

1. **Science** provides the foundation for effective bird conservation.
2. **Education** is critical to the success of bird conservation.
3. **Stewardship** of birds and their habitats is a shared responsibility.

RMBO accomplishes its mission by:

Partnering with state and federal natural resource agencies, private landowners, schools, and other nonprofits for conservation.

Studying bird responses to habitat conditions, ecological processes, and management actions to provide scientific information that guides bird conservation efforts.

Monitoring long-term trends in bird populations for our region.

Providing active, experiential, education programs that create an awareness and appreciation for birds.

Sharing the latest information in land management and bird conservation practices.

Developing voluntary, working partnerships with landowners to engage them in conservation.

Working across political and jurisdictional boundaries including, counties, states, regions, and national boundaries. Our conservation work emphasizes the Western United States, including the Great Plains, as well as Latin America.

Creating informed publics and building consensus for bird conservation needs.

Suggested Citation:

Jason P. Beason. 2009. Yellow-billed Cuckoos in Western Colorado. Tech Rep. R-YBCU-CDOW & USFWS-08-1. Rocky Mountain Bird Observatory, Brighton, Colorado. 27 pp.

Cover Photo:

Yellow-billed Cuckoo by Bill Schmoker

Contact Information:

Jason Beason jason.beason@rmbo.org
Rocky Mountain Bird Observatory
PO Box 1232
14500 Lark Bunting Lane
Brighton, CO 80601-1232
303-659-4348

Executive Summary

Rocky Mountain Bird Observatory conducted surveys for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*) at several known historical locations and at locations with suitable habitat in June and July, 2008. In late July, we searched for nests at two locations where pairs of cuckoos had been observed during the 2008 surveys. We hired two interns and enlisted twelve volunteers to conduct surveys for this project. Surveys were accomplished by broadcasting Yellow-billed Cuckoo calls in or near suitable habitat.

We conducted 521 surveys of at least seven minutes duration (3647 total survey minutes). We completed visits to 86 locations during the course of the season, including visits to 20 of the 37 (54%) sites with known historical cuckoo detections in western Colorado. Vegetation measurements were also estimated and recorded during the first visit to each survey point.

Yellow-billed Cuckoos were detected at 17 points at nine locations as a result of this project. Incidental (non-survey) detections of cuckoos were also reported from four locations. We believe that these detections represent at least 13 pairs of Yellow-billed Cuckoos occurring in western Colorado during the summer of 2008. During nest-searching efforts, a nest containing two nestlings was discovered along the North Fork of the Gunnison River near Hotchkiss. We also recorded detections of Cooper's Hawk (*Accipiter cooperii*), Band-tailed Pigeon (*Patagioenas fasciata*), Great Horned Owl (*Bubo virginianus*), Black Swift (*Cypseloides niger*), Lewis's Woodpecker (*Melanerpes lewis*), Willow Flycatcher (*Empidonax traillii*), Least Flycatcher (*Empidonax minimus*), and Yellow-breasted Chat (*Icteria virens*), which were chosen as species of interest by the Rocky Mountain Bird Observatory.

Acknowledgements

We thank the U.S. Bureau of Land Management, Colorado Division of Wildlife, and U.S. Fish and Wildlife Service for funding this project. This report constitutes the fulfillment of the requirements in our contract with the Colorado Division of Wildlife and U.S. Fish and Wildlife Service.

I sincerely thank Jennifer Blakesley, Alison Cariveau, Nancy Drilling, David Hanni, David Klute, Arvind Panjabi, Missy Siders, and Tammy VerCauteren for recommendations made during the project proposal process. I would like to thank Larry Arnold, Jennifer Blakesley, Jacob Cooper, Bill Day, Cheryl Day, Coen Dexter, Nic Korte, Tom Litteral, Forrest Luke, Andrea Robinsong, Brenda Wright, and Dave Wright for the time and effort that they put into conducting surveys. I would like to thank the following landowners for granting permission to conduct surveys on their property: Melinda Bell, Dewitt Daggett, George Hall, Julie Littlefield, Bob McClellan, Dave Mitchell, Robin Nicholoff, Kevin Parks, Andrea Robinsong, David Seely, Barbara Thomson, and Louis Wyman. The following individuals granted permission for surveys on land they manage: Adam Mendoza (U.S. Fish and Wildlife Service-Hotchkiss National Fish Hatchery), Mike Owens (City of Hotchkiss), and Charles Shannon (Mesa County Land Conservancy). I am also appreciative of Rob Sparks for creating maps in this report and Jennifer Blakesley, Alison Cariveau, Stephanie Jones, David Klute, and Kevin Kritz for reviewing this report.

Table of Contents

Executive Summary	i
Acknowledgements	ii
Table of Contents	iii
Introduction	1
Methods	2
Site Selection.....	2
Figure 1. Sites selected for Yellow-billed Cuckoos surveys in western Colorado, 2008.	3
Protocol	3
Results	4
Grand Junction Area	7
Dolores River Drainage	8
Gunnison River Drainage	9
North Fork of the Gunnison River Drainage	11
Plateau Creek Drainage	12
San Miguel River Drainage	13
Uncompahgre River Drainage	14
Yampa River Drainage	15
San Luis Valley Incidental Reports.....	16
Other Species of Interest.....	16
Discussion and Recommendations	16
Literature Cited.....	18

Introduction

The Western Distinct Population Segment (DPS) of the Yellow-billed Cuckoo inhabits riparian areas with tall trees and well-developed understory vegetation (Johnson et al. 2008). In western Colorado, Yellow-billed Cuckoos have historically occupied extensive Fremont (*Populus deltoides*) or narrowleaf cottonwood (*Populus angustifolia*) riparian forests (Righter et al. 2004). In California, where the Western DPS of the Yellow-billed Cuckoo has been well-studied, research has shown that cuckoos require forested stands at least 10 hectares (24.7 acres) in size (Haltermann 1991).

The U.S. Fish and Wildlife Service (USFWS) designated the Western DPS of the Yellow-billed Cuckoo as a candidate for listing under the Endangered Species Act (ESA) (Listing Priority 3) in 2001 (USFWS 2001). The Colorado Division of Wildlife (CDOW) lists the “Western” Yellow-billed Cuckoo as a species of greatest conservation need (Tier 1). The U. S. Bureau of Land Management (BLM) lists the “Western” Yellow-billed Cuckoo as a sensitive species in Colorado. Populations of the Yellow-billed Cuckoo have declined precipitously since the early 20th century in western North America (Hughes 1999). Yellow-billed Cuckoos have been extirpated from British Columbia, Washington, Oregon, and reduced to a small fraction of their historic range in California (Hughes 1999).

In Colorado, west of the Rocky Mountains, in the 1950s and 1960s Yellow-billed Cuckoos were found annually in Palisade, near Grand Junction (Righter et al. 2004). Cuckoos were regularly detected as recently as the mid-1980s along the Uncompahgre and Gunnison Rivers near Delta (Rich Levad, pers. comm.). However, during the first Colorado Breeding Bird Atlas (1987-1994), only three cuckoos were recorded on the western slope (Colorado Bird Atlas Partnership 1998). Of these three atlas records, only one confirmed cuckoos breeding on the Yampa River in Routt County.

Yellow-billed Cuckoos have been recorded sporadically and inconsistently in western Colorado since the first Colorado Breeding Bird Atlas. Many of the cuckoos reported have been in the Grand Junction area. Several cuckoos were reported at Orchard Mesa Wildlife Area in July, 2006 (Dave Wright, pers. comm.). There were several cuckoo detections from Connected Lakes State Park along the Colorado River and the surrounding Grand Junction residential areas in 2001 and 2002 (Larry Arnold, pers. comm.). Prior to the nest found this summer near Hotchkiss, the most recent Yellow-billed Cuckoo breeding confirmation was recorded in the Grand Junction area along the Colorado River near Clifton in 1998. This observation consisted of a cuckoo carrying nesting material on private land near Corn Lake State Park (Coen Dexter, pers. comm.). In 2007, there was a report of a cuckoo near Gunnison along the Gunnison River (Tyler Hicks, pers. comm.). A vocalizing Yellow-billed Cuckoo was reported in 2005 in Plateau City on two dates in late May (Larry Arnold, pers. comm.). In 2005, a calling cuckoo was heard on two dates in Nucla in July (Coen Dexter, pers. comm.). However, regular cuckoo observations have been recorded at only two locations in the range of the Western DPS of the Yellow-billed Cuckoo. At the first location, on lands managed by the BLM in the San Luis Valley of south central Colorado (Banks and Lucero 2004), cuckoos have been detected annually since 2001. Breeding is suspected at this

location but has not been confirmed. At the second location, in the North Fork of the Gunnison River (North Fork) valley, cuckoos have been detected annually since 2003. In 2008, during organized nest-searching efforts for this project, breeding was confirmed by the Rocky Mountain Bird Observatory (RMBO) in the North Fork valley near Hotchkiss in Delta County. Aside from the information that has been collected about this species at these two locations, very little is known about the current range of this species in western Colorado.

Because the health of riparian areas is of interest to our cooperators (BLM, CDOW, and the USFWS), and the Western DPS of the Yellow-billed Cuckoo is a candidate for listing under the ESA, these agencies were interested in information regarding this species in western Colorado. Our objective in this study was to determine presence, estimate numbers, and confirm breeding for the Western DPS of the Yellow-billed Cuckoo in its range in Colorado. Information about the population status of Yellow-billed Cuckoo in western Colorado will assist managers and other conservation partners concerned with recovering viable populations of the species at the state and regional level.

Methods

Site Selection

We searched literature and consulted with biologists and bird experts in western Colorado to learn of historical records of Yellow-billed Cuckoos (Appendix A). Additional areas with suitable habitat for the Yellow-billed Cuckoo were chosen to be surveyed after consulting with these experts. We also used Google Earth™ to search for riparian areas with extensive cottonwood galleries in western Colorado. The selected sites were distributed throughout western Colorado and at elevations consistent with those where cuckoos have been detected in western Colorado (between 4500 and 7700 feet [1372 and 2348 meters] elevation). Surveys took place in eight areas in western Colorado: Grand Junction Area (Colorado and Gunnison Rivers), Dolores River Drainage, Gunnison River Drainage, North Fork River Drainage, Plateau Creek Drainage, San Miguel River Drainage, Uncompahgre River Drainage, and Yampa River Drainage (Figure 1). Appendix B lists Universal Transverse Mercator (UTM) coordinates for all survey points and bird species of interest detected at each point. Figures 2 through 8 show locations of survey points in each drainage or geographical location.

RMBO chose the following as species of interest to be recorded during surveys: all raptors (except American Kestrel (*Falco sparverius*) and Red-tailed Hawk (*Buteo jamaicensis*), Band-tailed Pigeon, Black Swift, White-throated Swift, Lewis's Woodpecker, Willow Flycatcher, Least Flycatcher, and Yellow-breasted Chat. These species were chosen because of they are of interest to RMBO and because of their low density on the landscape.

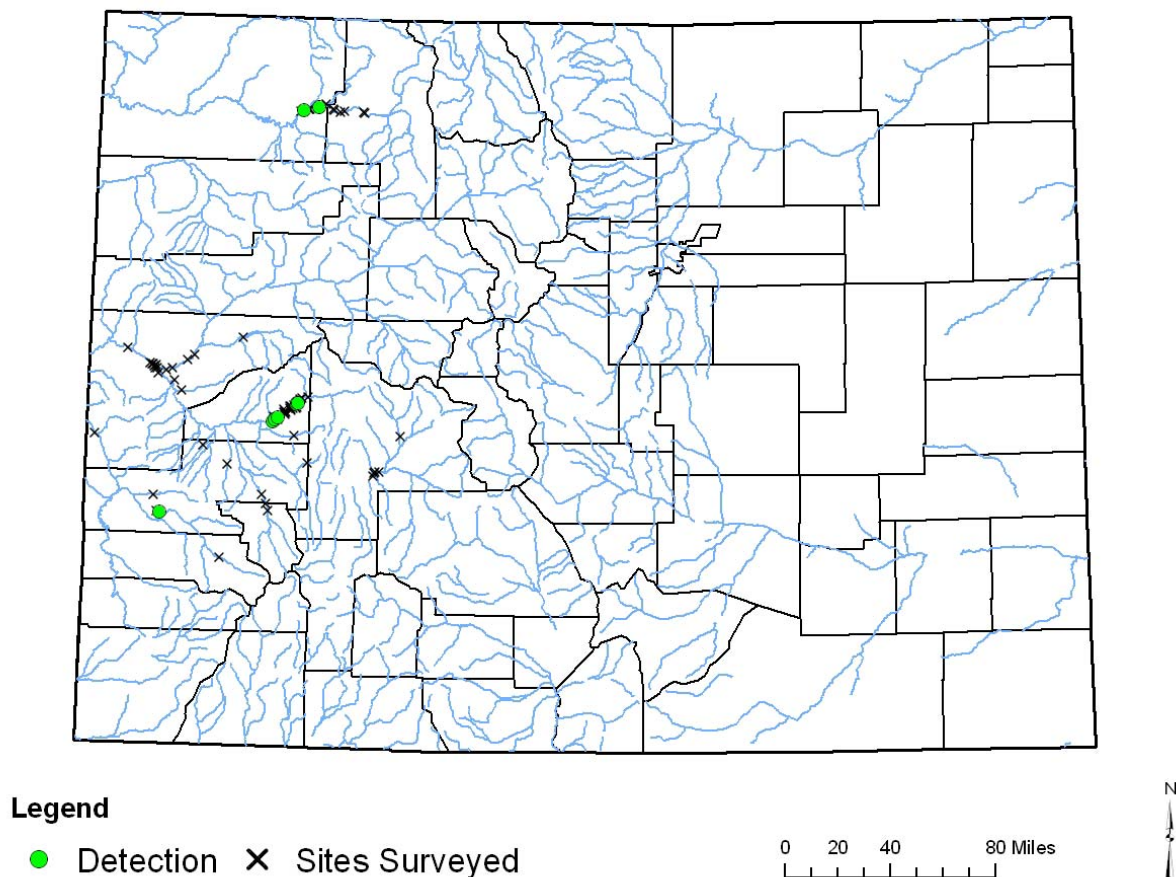


Figure 1. Sites selected for Yellow-billed Cuckoos surveys in western Colorado, 2008.

Nest-searching efforts were conducted at the end of the field season at sites where at least one pair of cuckoos was observed. We used criteria for documenting breeding that are explained in the Second Colorado Breeding Bird Atlas Manual on Use of Breeding Codes (Colorado Bird Atlas Partnership 2007). This document lists eleven observation types and at least one of these must be witnessed to confirm breeding by a bird species (nest building through nest with young).

Protocol

Surveys entailed broadcasting Yellow-billed Cuckoo calls in an effort to lure cuckoos closer to the observer so that they could be seen and/or to encourage a vocal response (following Halterman 1991). We used a variation of the methodology used by U.S. Geological Survey (USGS) biologists surveying for cuckoos in Arizona, California, and Nevada (Johnson et al. 2007). Points were established in or near (within 49 feet [15 m] of habitat edge) appropriate habitat and spaced at least 656 feet (200 m) apart. Playback equipment projected the calls at least 328 feet (100 m) without distortion. We

avoided areas of unsuitable habitat (i.e., a monoculture of young tamarisk or an extensive cobble bar) between patches (i.e., if the unsuitable habitat was at least 984 feet (300 m) in extent). We visited each point at least once between 15 June and 31 July, the time period chosen to minimize detections of cuckoos merely migrating through western Colorado. We intended to visit each point three times during the course of the season; however, because volunteers were paying for travel costs on their own, many observers were unable accomplish all surveys because of the dramatic increase in gas cost in the summer of 2008. If cuckoos were detected at a point, surveyors would move at least 984 feet (300 m) before conducting another call playback survey in order to minimize disturbance to potentially nesting cuckoos. Qualified interns were trained and organized to survey as many of the chosen sites as possible. Volunteers that participated in surveys were experienced with RMBO survey protocols and active with other special species programs. Therefore, they had received training with bird survey protocols before being sent the protocol for this project. The protocol was discussed the all volunteers before they conducted any surveys.

We initiated surveys with a one-minute quiet period to listen for spontaneously calling cuckoos. If no cuckoos were heard in the one-minute period after arriving at the point, the surveyor played a Yellow-billed Cuckoo *kwlp*, *knocker*, or *coo* call once, followed by 1 minute of silence to listen for a response. Cuckoo calls were played using hand-held mp3 players amplified by lightweight speakers. If no detections occurred, this playback-listen sequence was repeated five times or until a cuckoo responded. A minimum of seven minutes were spent at each point during a survey.

At most survey points we recorded UTM coordinates using Global Positioning System (GPS). We visually estimated the percent cover by each plant species in the overstory and understory within a 164 foot (50 m) radius of the survey point. We also noted whether the area appeared to be grazed.

Results

We conducted 521 tape-playback surveys at 271 points (some points were visited more than once) between 15 June and 31 July (Table 1). The 271 points were distributed across 86 locations. In 2008, cuckoos were detected at six locations (14 points) on the North Fork River, one location (one point) near the San Miguel River, and two locations (two points) on the Yampa River (Figures 5, 6, and 8). We also received incidental reports of cuckoos from four locations (one on the Conejos River, two on the North Fork River, and one on the Rio Grande) during the cuckoo breeding season. Breeding by the Yellow-billed Cuckoo was documented on the North Fork River near Hotchkiss on 21 July during nest-searching efforts.

We were able to survey only 20 of the known historical Yellow-billed Cuckoo sites because the limited amount of funding available in 2008. Also, we learned of nine of the 37 historical sites after the 2008 field season was completed.

We compiled all vegetation information that was gathered for this project and report the

YELLOW-BILLED CUCKOO: 2008

percent of survey area occupied by each species in the overstory and understory in each drainage or geographic location. This information is presented in Tables 2 and 3.

Table 1. Number of points surveyed for Yellow-billed Cuckoos, Percent of survey points, first date of survey, and last date of survey in each drainage or geographic location in western Colorado, 2008.

Drainage or Geographic Location	Number of Points	Percent of Total	Date of First Survey	Date of Last Survey
Grand Junction Area	65	12.5%	19 June	21 July
Dolores River Drainage	6	1.2%	21 June	21 June
Gunnison River Drainage	49	9.4%	15 June	19 June
North Fork River Drainage	252	48.4%	15 June	31 July
Plateau Creek Drainage	19	3.6%	28 June	11 July
San Miguel River Drainage	42	8.1%	21 June	30 July
Uncompahgre River Drainage	24	4.6%	25 June	31 July
Yampa River Drainage	64	12.3%	16 June	26 July

Table 2. Species composition (percent cover) of overstory vegetation at survey points in each drainage or geographic location surveyed for Yellow-billed Cuckoos in western Colorado, 2008.

Species	Grand Junction Area	Dolores River Drainage	Gunnison River Drainage	North Fork River Drainage	Plateau Creek Drainage	San Miguel River Drainage	Uncompahgre River Drainage	Yampa River Drainage
apple	-	-	-	-	-	2.9%	-	-
ash spp.	-	-	-	1.5%	-	-	-	-
aspen	-	-	3.6%	-	-	-	-	-
blue spruce	-	-	-	1.1%	-	2.5%	-	-
box elder	-	-	-	2.0%	2.2%	-	0.5%	26.5%
cottonwood spp.	46.2%	-	7.1%	-	84.4%	-	-	72.2%
Fremont cottonwood	34.9%	83.3%	21.6%	30.8%	-	35.4%	47.5%	-
Gambel oak	-	-	1.3%	-	-	-	-	-
hybrid cottonwood	-	-	14.3%	4.9%	-	-	-	-
juniper spp.	-	-	0.7%	1.3%	-	-	-	-
narrowleaf cottonwood	-	-	51.4%	41.2%	11.1%	46.1%	49.0%	-
Russian olive	-	-	-	-	-	4.3%	1.0%	-
Siberian elm	12.2%	-	-	11.7%	-	5.0%	2.0%	-
silver maple	4.1%	-	-	1.8%	1.1%	-	-	-
skunkbush	-	-	-	-	-	1.8%	-	-
tamarisk	-	16.7%	-	-	-	-	-	-

YELLOW-BILLED CUCKOO: 2008

unknown spp.	2.6%	-	-	3.8%	-	2.1%	-	-
willow spp.	-	-	-	-	1.1%	-	-	1.3%

Table 3. Species composition (percent cover) of understory vegetation at survey points in each drainage or geographic location surveyed for Yellow-billed Cuckoos in western Colorado, 2008.

Species	Grand Junction Area	Dolores River Drainage	Gunnison River Drainage	North Fork River Drainage	Plateau Creek Drainage	San Miguel River Drainage	Uncompahgre River Drainage	Yampa River Drainage
alder spp.	-	-	-	-	-	-	-	0.4%
apple	-	-	-	1.0%	-	-	-	-
big sagebrush	2.1%	2.5%	0.7%	3.1%	-	-	1.0%	-
box elder	-	-	-	1.3%	-	1.4%	1.0%	30.7%
buffaloberry	-	-	-	1.2%	-	-	7.5%	-
chokecherry	-	-	-	2.1%	-	-	-	-
cottonwood spp.	-	-	-	-	-	-	-	18.0%
Fremont cottonwood	-	1.7%	-	1.7%	-	-	0.5%	-
Gambel oak	-	-	0.7%	8.2%	-	-	10.0%	-
greasewood	-	21.7%	-	-	-	-	12.5%	-
hawthorne spp.	-	-	6.6%	-	-	-	-	18.9%
juniper spp.	-	0.8%	0.7%	1.0%	-	4.3%	-	-
narrowleaf cottonwood	-	-	26.0%	5.9%	-	-	8.0%	-
poison ivy	-	-	14.8%	-	-	-	-	-
ponderosa pine	-	-	-	-	-	2.1%	-	-
rabbitbrush	-	6.7%	-	-	-	-	4.0%	-
red-osier dogwood	-	-	2.0%	-	-	-	-	15.7%
Russian olive	27.9%	-	-	29.1%	-	26.4%	15.0%	-
saltbush	-	8.3%	-	-	-	-	-	-
Siberian elm	4.5%	-	-	6.6%	-	2.1%	1.5%	-
skunkbush	8.9%	7.5%	-	17.4%	-	16.8%	9.0%	-
tamarisk	27.9%	26.7%	0.7%	-	-	-	5.0%	-
tree-of-heaven	2.4%	-	-	-	-	-	-	-
unknown spp.	24.7%	9.2%	2.7%	10.3%	25%	5.7%	-	-
wild rose	-	-	7.6%	2.0%	-	7.1%	3.0%	-
willow spp.	1.6%	15.0%	37.6%	9.1%	75%	33.9%	22.0%	16.3%

Grand Junction Area

We conducted 65 call-playback surveys (12.5% of all surveys) in the Grand Junction area between 19 June and 21 July 2008 (Figure 2; Table 1). This area includes the Colorado River, the Gunnison River, and the residential areas with suitable habitat in or near Grand Junction. No cuckoos were detected during surveys in this area in 2008. The Grand Junction area has the largest amount of suitable habitat for the Yellow-billed Cuckoo in western Colorado below 5000 feet (1524 m) elevation.

We recorded the following plant species, listed most to least abundant, in the overstory during surveys in the Grand Junction area: cottonwood (*Populus* spp.), Fremont cottonwood, Siberian elm (*Ulmus pumila*), and silver maple (*Acer saccharinum*) (Table 2). Plants we recorded in the understory in the Grand Junction area were Russian olive (*Elaeagnus angustifolia*), tamarisk (*Tamarix chinensis*), skunkbush (*Rhus trilobata*), Siberian elm, tree of heaven (*Ailanthus altissima*), big sagebrush (*Artemisia tridentata*), and willow (*Salix* spp.) (Table 3).

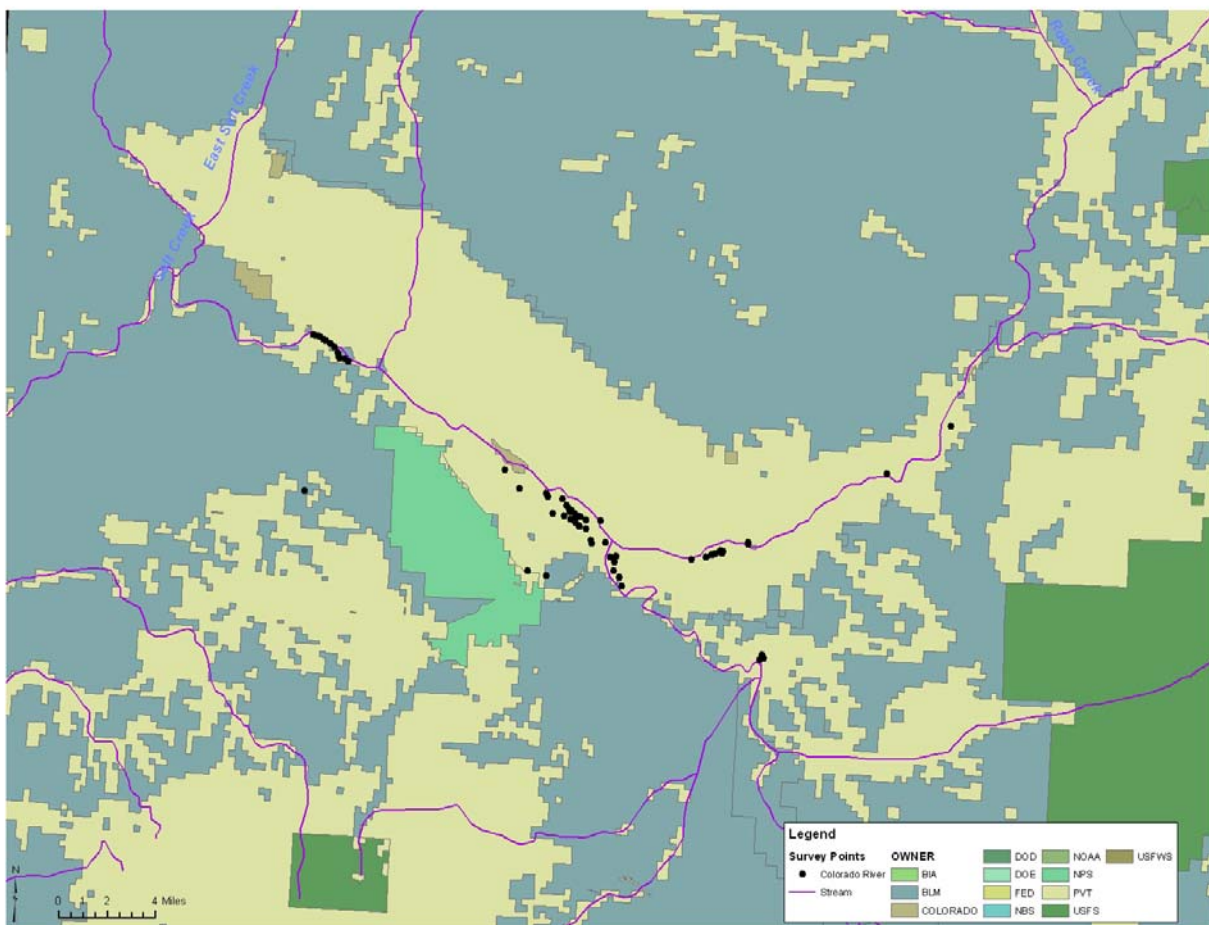


Figure 2. Locations of Yellow-billed Cuckoo survey points in the Grand Junction Area, 2008.

Dolores River Drainage

We conducted six surveys (1.2% of all surveys) along the Dolores River at Gateway on 21 June 2008 (Figure 3; Table 1). We detected no cuckoos during our surveys in this area in 2008. The suitable habitat for the Yellow-billed Cuckoo in this area is below 5000 feet (1524 m) elevation.

We recorded the following plant species, listed most to least abundant, in the overstory during surveys along the Dolores River: Fremont cottonwood and tamarisk (Table 2). Plants we recorded in the understory in the Dolores River Drainage area were tamarisk, greasewood (*Sarcobatus vermiculatus*), willow, saltbush (*Atriplex* spp.), skunkbush, rabbitbrush (*Chrysothamnus* spp.), big sagebrush, Fremont cottonwood, and juniper (*Juniperus* spp.) (Table 3).

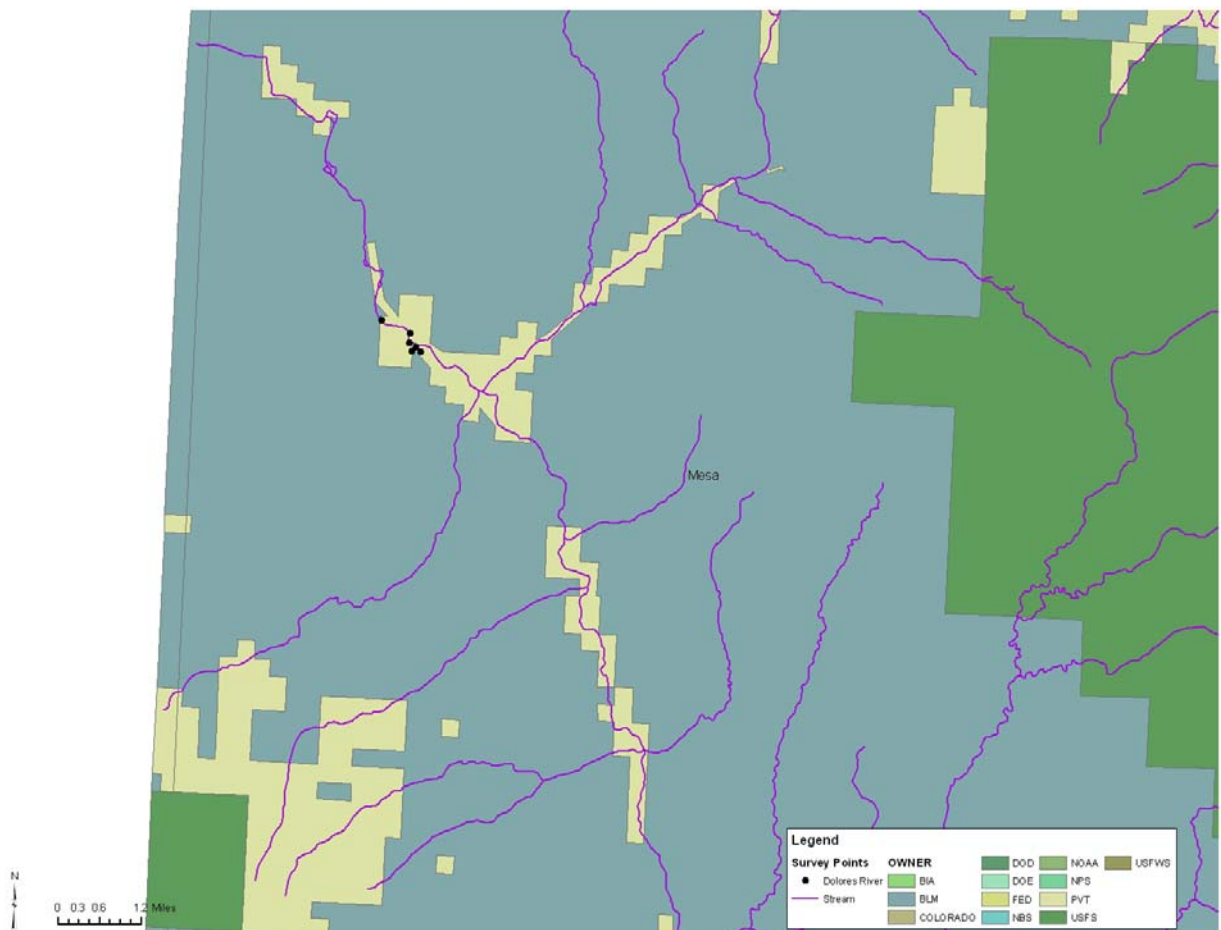


Figure 3. Locations of Yellow-billed Cuckoo survey points in the Dolores River Drainage, 2008.

Gunnison River Drainage

We conducted 49 call-playback surveys (9.4% of all surveys) in the Gunnison River drainage (this does not include the surveys along the Gunnison River near Grand Junction) between 15 June and 16 July 2008 (Figure 4; Table 1). In addition to surveys adjacent to the Gunnison River, we conducted surveys along the following tributaries: Cottonwood Creek (Montrose County), Crystal Creek (Gunnison County), East River (Gunnison County), Kannah Creek (Mesa County), and Smith Fork Creek (Delta County). We detected no cuckoos during our surveys in this area in 2008. The suitable habitat for the Yellow-billed Cuckoo in this drainage ranges from just below 5000 feet (1524 m) elevation in the Delta area to over 8000 feet (2439 m) near the town of Gunnison.

We recorded the following plant species, listed most to least abundant, in the overstory during surveys in the Gunnison River drainage: narrowleaf cottonwood, Fremont cottonwood, hybrid cottonwood (Fremont x narrowleaf), cottonwood, aspen (*Populus tremuloides*), Gambel oak (*Quercus gambelii*), and juniper (Table 2). Plants we recorded in the understory in the Gunnison River drainage area were willow, narrowleaf cottonwood, poison ivy (*Toxicodendron rydbergii*), wild rose (*Rosa* spp.), hawthorne (*Crataegus* spp.), red-osier dogwood (*Cornus sericea*), Gambel oak, juniper spp., big sagebrush, and tamarisk (Table 3).

YELLOW-BILLED CUCKOO: 2008

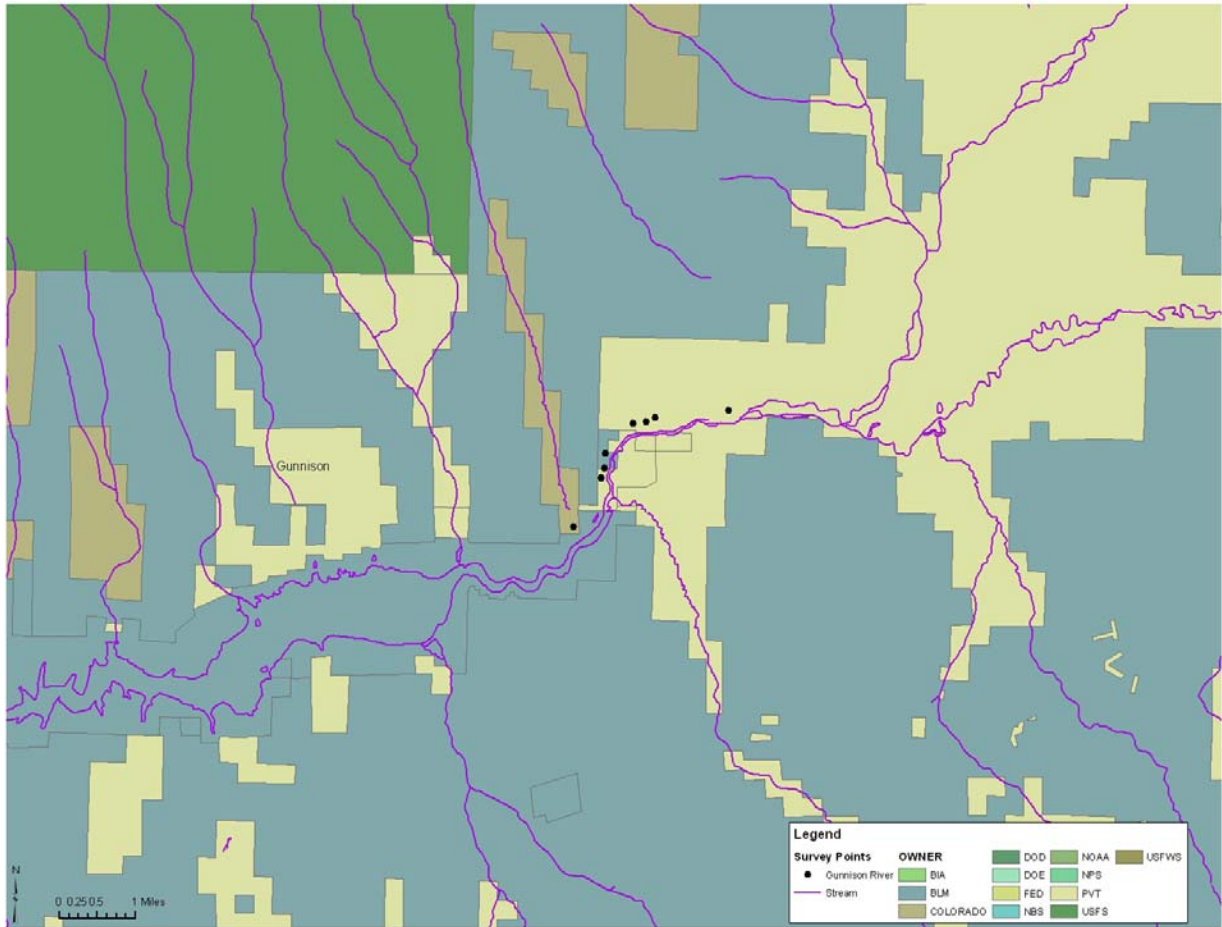


Figure 4. Locations of Yellow-billed Cuckoo survey points in the Gunnison River Drainage, 2008.

North Fork of the Gunnison River Drainage

We conducted 252 tape-playback surveys (48.4% of all surveys) in the North Fork drainage between the dates of 15 June and 31 July 2008 (Figure 5; Table 1). Cuckoos were detected at six locations during 2008 surveys and we also received incidental reports from two locations in the North Fork drainage. On 21 July 2008 during nest-searching efforts for this project, we confirmed breeding by the Yellow-billed Cuckoo near Hotchkiss. We found a nest containing two nestlings where Leroux Creek flows into the North Fork River on land managed by the City of Hotchkiss (5300 feet [1616 m] elevation). On 18 July, a pair of Yellow-billed Cuckoos was observed copulating at another survey location (1.4 miles from the nest site). The suitable habitat for the Yellow-billed Cuckoo in the North Fork valley occurs at 5300 to 5900 feet (1616 to 1799 m) elevation.

We recorded the following plant species, listed most to least abundant, in the overstory during surveys in the North Fork drainage: narrowleaf cottonwood, Fremont cottonwood, Siberian elm, hybrid cottonwood, box elder, (*Acer negundo*), silver maple, ash (*Fraxinus* spp.), juniper, and blue spruce (*Picea pungens*) (Table 2). Plants we recorded in the understory in the North Fork River drainage area were Russian olive, skunkbush, willow, Gambel oak, Siberian elm, narrowleaf cottonwood, big sagebrush, chokecherry (*Prunus virginiana*), wild rose, Fremont cottonwood, box elder, and buffaloberry (*Shepherdia Canadensis*) (Table 3).

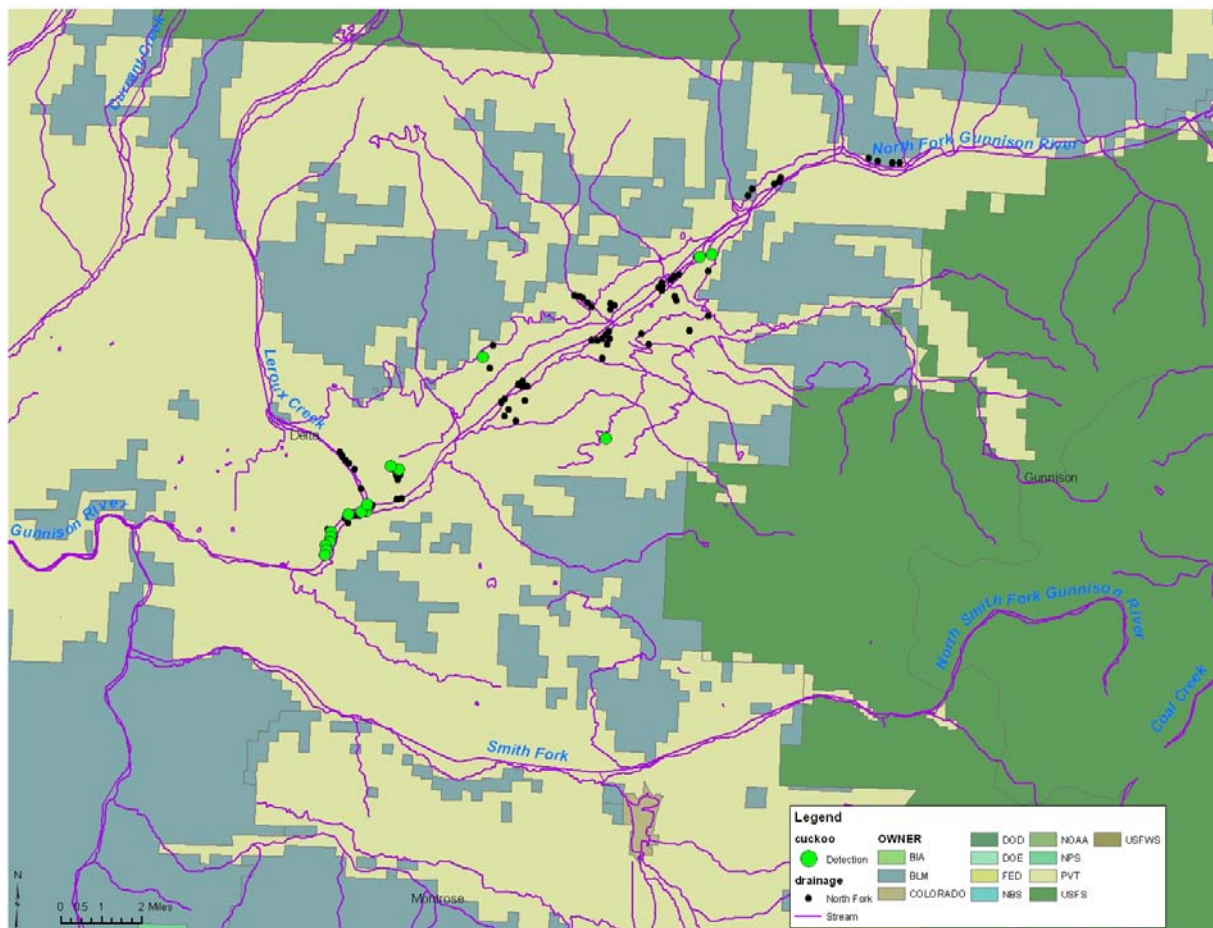


Figure 5. Locations of survey points and Yellow-billed Cuckoo detections in the North Fork of the Gunnison River Drainage, 2008.

Plateau Creek Drainage

We conducted 19 tape-playback surveys (3.6% of all surveys) between the dates of 28 June and 11 July 2008 in the Plateau Creek drainage (Mesa County) (Table 1). The volunteer that surveyed Plateau Creek did not own a GPS unit and we are unable to make a map of survey locations for this drainage. In 2008, a cuckoo was reported along Buzzard Creek on 10 June, just before our survey period. Surveys after 15 June in this drainage did not produce additional detections. We surveyed suitable habitat for the Yellow-billed Cuckoo in this drainage from approximately 6000 to 7200 feet (1829 to 2195 m) elevation.

We recorded the following plant species, listed most to least abundant, in the overstory during surveys in the Plateau Creek drainage: cottonwood, narrowleaf cottonwood, box elder, silver maple, and willow (Table 2). We recorded willow in the understory in the Gunnison River drainage area (Table 3).

San Miguel River Drainage

We conducted 42 call-playback surveys (8.1% of all surveys) between the dates of 21 June and 30 July 2008 in the San Miguel River drainage (Montrose County) (Figure 6; Table 1). In 2008, a cuckoo was detected on 6 July on private land near Nucla. We surveyed suitable habitat for the Yellow-billed Cuckoo from approximately 5300 to 7300 feet (1616 to 2226 m) elevation in this drainage.

We recorded the following plant species, listed most to least abundant, in the overstory during surveys in the San Miguel River drainage: narrowleaf cottonwood, Fremont cottonwood, Siberian elm, Russian olive, apple (*Malis pumila*), blue spruce, and skunkbush (Table 2). Plants we recorded in the understory in the San Miguel River drainage area were willow spp., Russian olive, skunkbush, wild rose, juniper spp., ponderosa pine (*Pinus ponderosa*), Siberian elm, and box elder (Table 3).

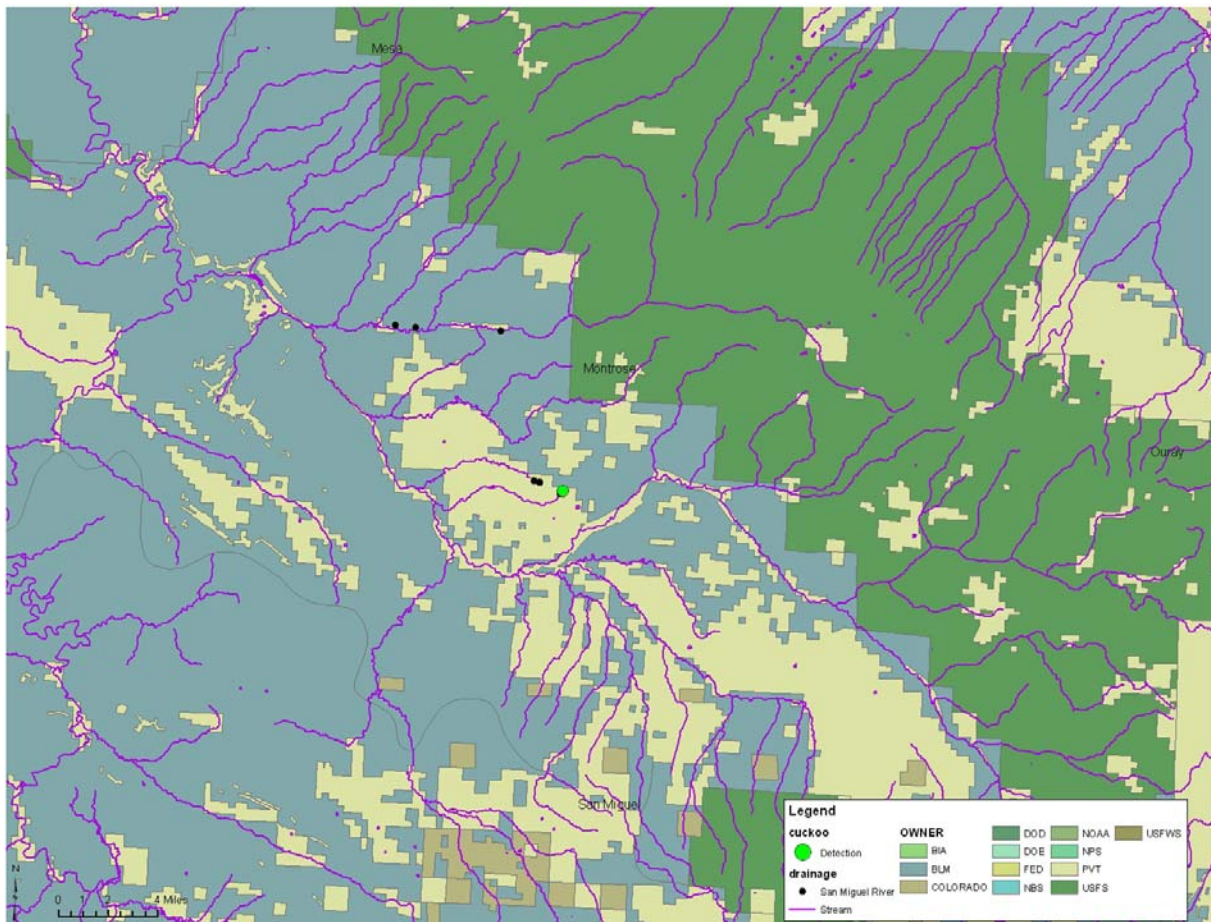


Figure 6. Locations of survey points and Yellow-billed Cuckoo detections in the San Miguel River Drainage, 2008.

Uncompahgre River Drainage

We conducted 24 call-playback surveys (4.6% of all surveys) between the dates of 25 June and 31 July 2008 in the Uncompahgre River drainage (Figure 7; Table 1). We did not record Cuckoos in this area in 2008. We surveyed suitable habitat for the Yellow-billed Cuckoo from approximately 5400 to 6800 feet (1646 to 2073 m) elevation in this drainage.

We recorded the following plant species, listed most to least abundant, in the overstory during surveys in the Uncompahgre River drainage: narrowleaf cottonwood, Fremont cottonwood, Siberian elm, Russian olive, apple (*Malis pumila*), and box elder (Table 2). Plants we recorded in the understory in the Uncompahgre River drainage area were willow spp., Russian olive, skunkbush, greasewood, skunkbush, narrowleaf cottonwood, buffaloberry, tamarisk, rabbitbrush, wild rose, Siberian elm, box elder, big sagebrush, and Fremont cottonwood (Table 3).

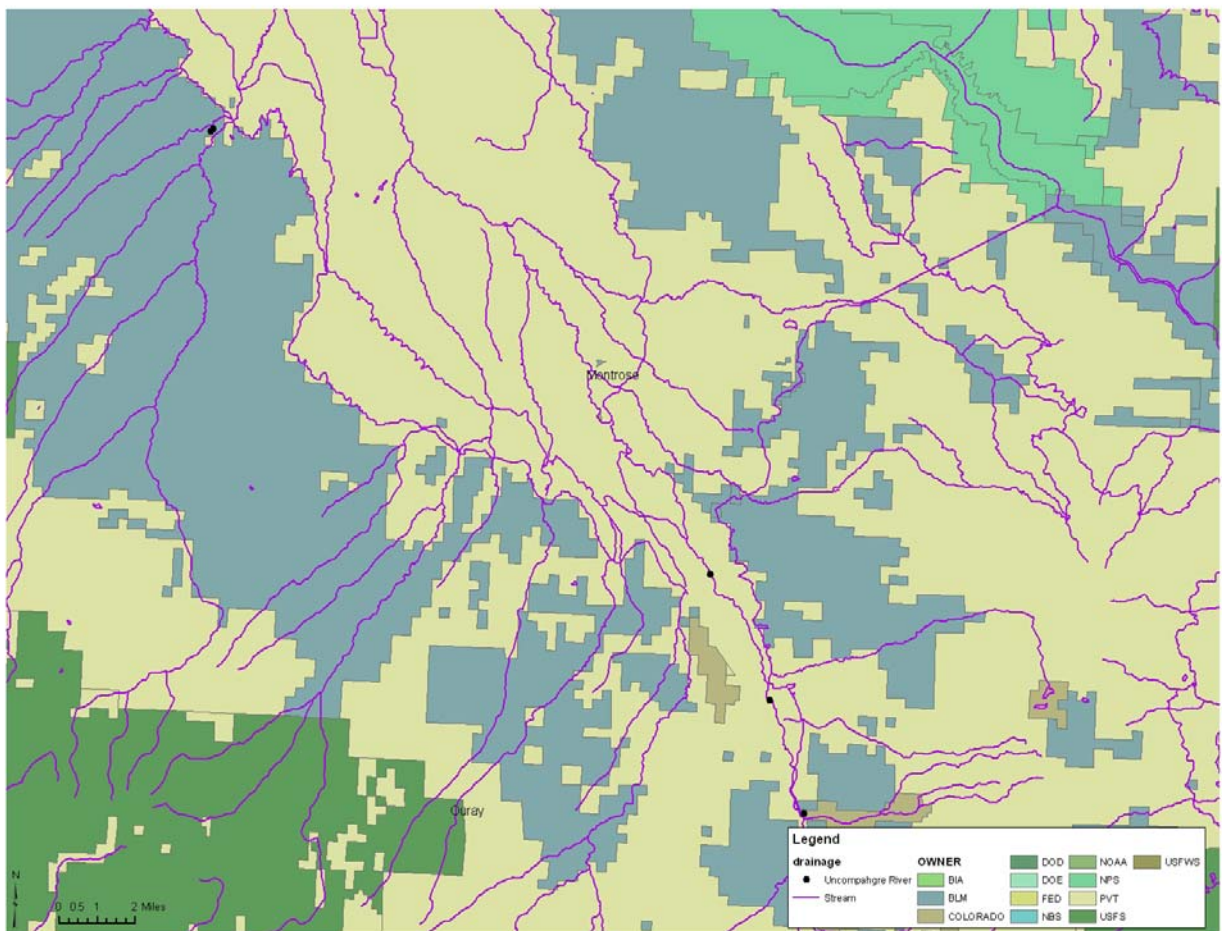


Figure 7. Locations of Yellow-billed Cuckoo survey points in the Uncompahgre River Drainage, 2008.

Yampa River Drainage

We conducted 64 call-playback surveys (12.3% of all surveys) between the dates of 16 June and 26 July on the Yampa River (Moffat County) (Figure 8; Table 1). In 2008, two detections of Yellow-billed Cuckoo were recorded on the Yampa River near Craig which is downstream (approximately 17.7 miles) of the historic detection. We surveyed suitable habitat for the Yellow-billed Cuckoo between 6200 and 6800 feet (1890 to 2073 m) elevation in this drainage.

We recorded the following plant species, listed most to least abundant, in the overstory during surveys on the Yampa River: cottonwood spp., box elder, and willow spp. (Table 2). Plants we recorded in the understory in the Yampa River drainage area were box elder, hawthorne spp., cottonwood spp., willow spp., red-osier dogwood, and alder spp. (*Alnus* spp.) (Table 3).

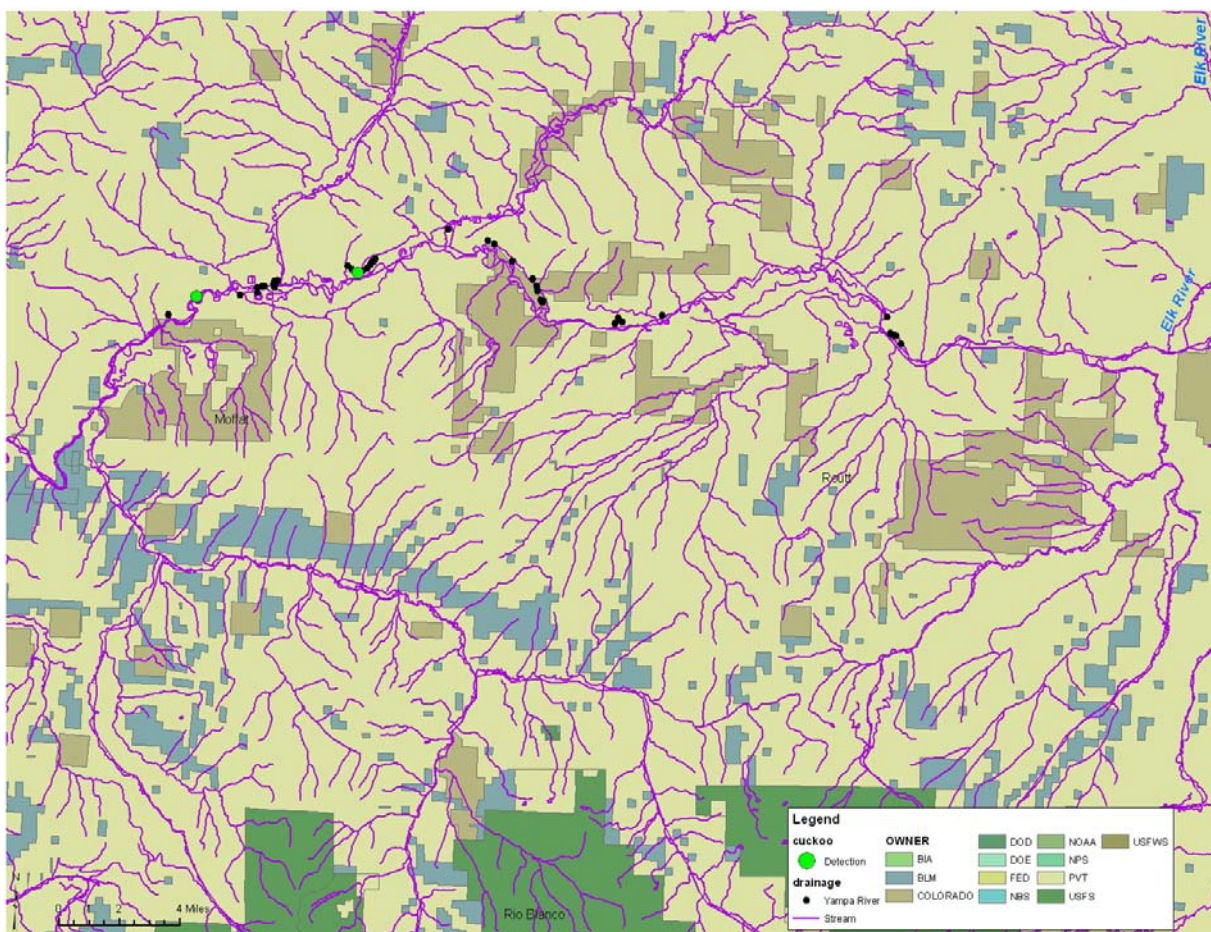


Figure 8. Locations of survey points and Yellow-billed Cuckoo detections in the Yampa River Drainage, 2008.

San Luis Valley Incidental Reports

The San Luis Valley (the Rio Grande drainage) lies within the range of the Western DPS of the Yellow-billed Cuckoo even though it is not on the western slope of Colorado. RMBO received reports of Yellow-billed Cuckoos from two locations in the San Luis Valley in the summer of 2008. Cuckoos were reported by BLM biologists on land managed by the BLM at Pikes Stockade (McIntire Springs) in Conejos County on the Conejos River (Jill Lucero, pers. comm.). In 2008, cuckoos were also detected at a new location on the Rio Grande, near Del Norte in Rio Grande County (Terry Ireland, pers. comm.).

Other Species of Interest

During cuckoo surveys, we also recorded observations of other species of interest. This summer we recorded Cooper's Hawk (n = 8), Band-tailed Pigeon (n = 5), Great Horned Owl (n = 4), Black Swift (n = 1), Lewis's Woodpecker (n = 3), Willow Flycatcher (n = 1), Least Flycatcher (n = 3), and Yellow-breasted Chat (n = 48) at survey points (Appendix B).

Discussion and Recommendations

Surveys we conducted in 2008 showed that Yellow-billed Cuckoos were present and more abundant in western Colorado than previously believed. Suitable habitat for the Yellow-billed Cuckoo exists throughout western Colorado and in the San Luis Valley. We hope, the success of this project will result in an increase in the number of cuckoo surveys taking place in western Colorado, and this increased effort will result in the discovery of more occupied areas.

The Yellow-billed Cuckoo is a species that requires special effort to locate. A majority of riparian bird species are most vocal, and thus detectable, well before cuckoos arrive on their breeding grounds. Therefore, surveys conducted in late May and early June, intended to most efficiently sample bird species in riparian habitat, fail to detect cuckoos. Furthermore, Yellow-billed Cuckoos are secretive and do not vocalize to advertise territorial boundaries (Jennifer Holmes, pers. comm.). Additionally, the amount of area required by a pair of breeding cuckoos is large compared to other riparian bird species (Hughes 1999). Research along the lower Colorado River in Arizona and California has shown that a pair of breeding cuckoos requires at least 4 ha (10 acres) (Laymon and Halterman 1989).

Even though cuckoo-specific surveys take place after peak activity of other bird species, other CDOW and USFWS species of interest that are often found in or near riparian areas are detectable during this time of year. RMBO chose to record the following species during 2008 surveys: all raptors (except American Kestrel and Red-tailed Hawk), Band-tailed Pigeon, all swifts, Lewis's Woodpecker, Willow Flycatcher, Least Flycatcher, and Yellow-breasted Chat. We recommend that other cuckoo surveyors in

YELLOW-BILLED CUCKOO: 2008

Colorado also record these species during cuckoo surveys.

The call-playback survey protocol used in 2008 by RMBO was effective at locating Yellow-billed Cuckoos. Quality call playback equipment can be economical, easy to use in the field, and broadcast cuckoo calls 100 meters without distortion. This equipment should be able to endure multiple seasons of use. We recommend three repeat surveys at each point per season (with one week between visits), because in some cases we detected cuckoos only on the second or third visit to a location. We also recommend that the Yellow-billed Cuckoo surveys be conducted without an all species point-count. Originally, we intended to conduct point counts (recording all birds present) during each survey; however, when practicing the protocol before the field season, we realized that is not possible to record all birds present and at the same time scan effectively for cuckoos.

Yellow-billed Cuckoos have previously been considered a low-elevation riparian species (Johnsgard 1996); however in Colorado cuckoos have been located in the San Luis Valley for eight years consecutively at 7500 feet (2287 m) elevation. This is potentially the highest elevation reported for breeding Yellow-billed Cuckoos within their range (Matt Johnson, pers. comm.). Another interesting finding is the detections of Yellow-billed Cuckoos in forested residential areas up to two miles from riparian corridors during the 2008 breeding season, which, if substantiated with future observations, could suggest broader habitat use patterns than previously known.

Another topic that deserves attention is the fact that Russian olive was a dominant plant species in the understory in the North Fork valley where Yellow-billed Cuckoos were detected most frequently and at the one location where a cuckoo nest was documented in 2008. Many land management agencies are currently placing much effort to control or eliminate Russian olive, an exotic species, from the landscape. We recommend that research be conducted to determine if Russian olive may provide some benefit to Yellow-billed Cuckoos.

Because Yellow-billed Cuckoos were detected in three distinct locations ranging from northern to southern parts of western Colorado, the species appears to be more widely distributed in this area than previously thought. We believe continued survey efforts over the next few years would help resolve questions about the status of the DPS of the Yellow-billed Cuckoo population within the state.

Literature Cited

- Cariveau, A. and J. Lucero. 2004. Yellow-billed Cuckoos in Southern Colorado. Colorado Birds: The Colorado Field Ornithologists' Quarterly, Colorado.
- Halterman, M. D. 1991. Distribution and Habitat Use of the Yellow-Billed Cuckoo (*Coccyzus americanus occidentalis*) on the Sacramento River, California, 1987-90, MS Thesis: California State University: Chico, CA.
- Hughes, J. M. 1999. Yellow-billed Cuckoo. In The Birds of North America, no. 418 (A. Poole and F. Gill, eds.). Acad. Nat. Sci., Philadelphia, and Am. Ornithol. Union, Washington, D.C.
- Johnsgard, P. A. 1986. Birds of the Rocky Mountains with particular reference to national parks in the Northern Rocky Mountain region. Colorado Associated University Press, Boulder. xi + 504 pp.
- Johnson, M. J., J. A. Holmes, C. Calvo, I. Samuels, S. Krantz, and M. K. Sogge. 2007. Yellow-billed cuckoo distribution, abundance, and habitat use along the lower Colorado and tributaries, 2006 annual report: U.S. Geological Survey Open-File Report 2007-1097, 219 p. Retrieved August 14, 2008, from the World Wide Web: <http://pubs.usgs.gov/of/2007/1097/>
- Johnson, M. J., S. L. Durst, C. M. Calvo, L. Stewart, M. K. Sogge, G. Bland, and T. Arundel. 2008. Yellow-billed Cuckoo distribution, abundance, and habitat use along the lower Colorado River and its tributaries, 2007 Annual Report: U.S. Geological Survey Open-File Report 2008-1177, 274 p. Retrieved August 14, 2008, from the World Wide Web: <http://pubs.usgs.gov/of/2008/1177/>
- Kingery, H. E., ed. 1998. Colorado Breeding Bird Atlas. Colorado Breeding Bird Atlas Partnership and Colorado Division of Wildlife. Denver, Co. 636 pp.
- Laymon, S. A. and M. D. Halterman. 1989. A proposed habitat management plan for Yellow-billed Cuckoos in California. Pages 272-277 in USDA Forest Service Gen. Tech. Rep. PSW-110.
- Nelson, D. and T. Leukering. 2007. Manual on Use of Breeding Codes v 1.0. Colorado Breeding Bird Atlas Partnership. Denver, Co. 44 pp.
- Righter, R., R. Levad, C. Dexter, and K. Potter. 2004. Birds of Western Colorado Plateau and Mesa Country. Grand Valley Audubon Society. 214 pp.
- U.S. Fish and Wildlife Service. 2001. Endangered and Threatened Wildlife and Plants; 12-month Finding for a Petition To List the Yellow-billed Cuckoo (*Coccyzus americanus*) in the Western Continental United States. Federal Register 66: 38611-38626.

YELLOW-BILLED CUCKOO: 2008

Appendix A. Locations of historic Yellow-billed Cuckoo detections in western Colorado and the San Luis Valley.

Site Name	Land Ownership	County	River/Stream	Most Recent Detection	UTM Zone	UTM Easting	UTM Northing	Surveyed in 2008
Axial Basin	BLM and Private	Moffat	Milk Creek	1978		*		no
Beason Residence	Private	Delta	North Fork Gunnison	2007	13	272402	4303607	yes
Brown's Park State Wildlife Area - Beaver Creek Unit	State of Colorado	Moffat	Beaver Creek	1989		*		no
Clifton - 32 1/2 Rd and D Rd	Private	Mesa	Unknown	1991		*		no
Colorado River State Park (Corn Lake)	State of Colorado	Mesa	Colorado	1998, breeding	12	719276	4326040	yes
Connected Lakes area - South Redlands Rd	Private	Mesa	Colorado	2002	12	706683	4328486	yes
Dagget Residence	Private	Delta	Residential	2007	13	275681	4304156	yes
Delta - Fred Wild's residence	Private	Delta	Residential	1988		*		no
Delta - Gunnison/Uncompahgre River confluence	Private/State of Colorado	Delta	Gunnison/Uncompahgre	1980s		*		no
Delta - Mark Janos residence	Private	Delta	Residential	1982		*		no
Durango	Unknown	La Plata	Residential	1988		*		no
Durango - nest found in 1981	Unknown	La Plata	Unknown	1981		*		no
Eagle River State Wildlife Area	State of Colorado	Eagle	Eagle River	late 1980s		*		no
Grand Junction - 30 Rd and B Rd	Private	Mesa	Residential	1993		*		no
Grand Junction (Fruitvale) - 31 Rd and F	Private	Mesa	Residential	1994		*		no
Grand Junction - Helen Traylor residence	Private	Mesa	Residential	1986		*		no
Grand Junction - nest found in 1958	Private	Mesa	Unknown	1958		*		no
Grand Junction - Panorama Village	Private	Mesa	Residential	1992	12	702848	4329964	yes
Grand Junction - South Broadway & Donaldson Rd	Private	Mesa	Gunnison	2001	12	708910	4325624	yes
Gunnison - Gunnison River	Private	Gunnison	Gunnison River	2007		*		yes
Meeker	Private	Rio Blanco	Sulphur Creek	1979		*		no
Meeker	Private	Rio Blanco	Residential	1980		*		no
Nucla	Private	Montrose	San Miguel	2005	13	714959	4238304	yes
Olathe	Private	Delta	Uncompahgre	1997		*		no
Orchard Mesa - 34 Rd and C Rd	Private	Mesa	Residential	2002	12	723030	4325318	yes
Orchard Mesa Wildlife Area	Bureau of Reclamation	Mesa	Colorado	2006	12	717440	4326176	yes
Palisade	Private	Mesa	Colorado	1950s & 1960s		*		yes
Pike's Stockade (McIntire Springs)	BLM	Conjegos	Conejos	2007	13	428900	4128000	yes
Plateau City	Private	Mesa	Plateau Creek	2005	13	243195	4347436	yes
Redlands Mesa, Grand Junction	Private	Mesa	Residential	1985	12	702790	4326769	yes
Redlands Mesa, Grand Junction - South Rim Dr and Pinnacle Ct	Private	Mesa	Colorado	2002	12	705707	4328581	yes
Redlands Mesa, Grand Junction - Stigen/Barr residence	Private	Mesa	Residential	1987	12	707887	4326204	yes
Ridgway	Unknown	Ouray	Uncompahgre	1985		*		no
Robinson Residence	Private	Delta	North Fork Gunnison	2007	13	264163	4298402	yes
South Beach Landing	Private	Moffat	Yampa River	2007	13	278865	4484845	yes
The Preserve, Grand Junction	private	Mesa	Residential	1991	12	701188	4329664	yes
Yampa River	The Nature Conservancy	Routt	Yampa River	1988, breeding	13	317267	4484716	yes

*exact location unknown

YELLOW-BILLED CUCKOO: 2008

Appendix B. Yellow-billed Cuckoo survey points (in alphabetical order) with associated Drainage/Geographical Location, UTM coordinates, county and species of interest detected.

Site Name	Drainage / Geographic Location	Point	# Visits	UTM Zone	UTM Easting	UTM Northing	County	Species of Interest
37.25 Road	North Fork	1	3	13	268776	4300538	Delta	Yellow-breasted Chat
59051 Peninsula Road	Plateau Creek	1	2		*		Mesa	none
5941 Peninsula Road	Plateau Creek	1	2		*		Mesa	none
Audubon Trail/Connected Lakes State Park	Grand Junction Area	1	1	12	708012	4326498	Mesa	none
Audubon Trail/Connected Lakes State Park	Grand Junction Area	2	1	12	708413	4326946	Mesa	none
Audubon Trail/Connected Lakes State Park	Grand Junction Area	3	1	12	708033	4327142	Mesa	none
Audubon Trail/Connected Lakes State Park	Grand Junction Area	4	1	12	707801	4327213	Mesa	none
Audubon Trail/Connected Lakes State Park	Grand Junction Area	5	1	12	707629	4327366	Mesa	none
Audubon Trail/Connected Lakes State Park	Grand Junction Area	6	1	12	707481	4327457	Mesa	none
Audubon Trail/Connected Lakes State Park	Grand Junction Area	7	1	12	707387	4327549	Mesa	none
Audubon Trail/Connected Lakes State Park	Grand Junction Area	8	1	12	707272	4327649	Mesa	none
Beason Residence	North Fork	1	3	13	272402	4303607	Delta	none
Beason Residence	North Fork	2	3	13	272499	4303813	Delta	none
Beaver Creek	Gunnison River	1	1	13	322788	4262694	Gunnison	none
Bell Creek Road	North Fork	1	3	13	268492	4300988	Delta	Yellow-breasted Chat
Bell Creek Road	North Fork	2	3	13	268328	4300755	Delta	none
Bell Ranch	North Fork	1	3	13	261765	4299333	Delta	none
Bell Ranch	North Fork	2	3	13	261861	4299157	Delta	none
Bell Ranch	North Fork	3	3	13	261990	4299000	Delta	Cooper's Hawk
Bell Ranch	North Fork	4	3	13	262135	4298864	Delta	none
Bell Ranch	North Fork	5	3	13	262360	4298627	Delta	none
Bethlehem Cemetery	North Fork	1	3	13	272528	4305006	Delta	Yellow-breasted Chat
Bethlehem Cemetery	North Fork	2	3	13	272704	4305142	Delta	Cooper's Hawk
Bethlehem Cemetery	North Fork	3	3	13	272523	4305206	Delta	Yellow-breasted Chat
Billy Creek	Uncompahgre River	1	1	13	258408	4241377	OURAY	none
Black Bridge	North Fork	1	3	13	275932	4307085	Delta	none
Black Bridge	North Fork	2	3	13	276112	4307084	Delta	Yellow-billed Cuckoo
BLM 1	North Fork	1	3	13	278181	4309785	Delta	Yellow-breasted Chat
BLM 1	North Fork	2	3	13	278008	4309542	Delta	none
BLM 2	North Fork	1	3	13	282805	4311004	Delta	none
BLM 2	North Fork	2	3	13	283177	4310893	Delta	none
BLM 2	North Fork	3	3	13	283756	4310831	Delta	Yellow-breasted Chat
BLM 2	North Fork	4	3	13	284045	4310826	Delta	none
Bone Mesa	North Fork	1	1	13	272213	4303030	Delta	none
Bowie	North Fork	1	3	13	279058	4309995	Delta	none
Bowie	North Fork	2	3	13	279233	4310070	Delta	Yellow-breasted Chat
Bowie	North Fork	3	1	13	279320	4310235	Delta	Yellow-breasted Chat

ROCKY MOUNTAIN BIRD OBSERVATORY
Conserving birds and their habitats

YELLOW-BILLED CUCKOO: 2008

Site Name	Drainage / Geographic Location	Point	# Visits	UTM Zone	UTM Easting	UTM Northing	County	Species of Interest
Brush Creek	Plateau Creek	1	2		*		Mesa	none
Buckhorn Road	Uncompahgre River	1	1	13	256944	4246177	Montrose	none
Buzzard Creek Bridge	Plateau Creek	1	2		*		Mesa	Willow Flycatcher
Carpenter Ranch	Yampa River	1	1	13	317267	4484716	Routt	none
Cooper Ranch	Gunnison River	1	1	13	323465	4264250	Gunnison	none
Cooper Ranch	Gunnison River	2	1	13	323436	4263934	Gunnison	none
Cooper Ranch	Gunnison River	3	1	13	323380	4263730	Gunnison	none
Corn Lake State Park	Grand Junction Area	1	1	12	719244	4326182	Mesa	none
Corn Lake State Park	Grand Junction Area	2	1	12	719267	4326049	Mesa	none
Cottonwood Creek	Uncompahgre River	1	3	12	741139	4280743	Montrose	none
Cottonwood Creek	Uncompahgre River	2	3	12	741040	4280547	Montrose	none
Cottonwood Creek	Uncompahgre River	3	3	12	740710	4279603	Montrose	none
Cottonwood Creek	Uncompahgre River	4	3	12	740643	4279811	Montrose	none
Craig Water Treatment Plant	Yampa River	1	2	13	284477	4486487	Moffat	none
Craig Water Treatment Plant	Yampa River	2	2	13	284530	4486348	Moffat	none
Craig Water Treatment Plant	Yampa River	3	2	13	284574	4486454	Moffat	none
Craig Water Treatment Plant	Yampa River	4	2	13	284704	4486682	Moffat	none
Craig Water Treatment Plant	Yampa River	5	2	13	284536	4486651	Moffat	none
Cross River	North Fork	1	3	13	271786	4303755	Delta	Yellow-breasted Chat, Great Horned Owl
Cross River	North Fork	2	3	13	272011	4303771	Delta	none
Cross River	North Fork	3	3	13	272202	4303833	Delta	Great Horned Owl
Cross River	North Fork	4	3	13	272349	4303970	Delta	none
Cross River	North Fork	5	3	13	272481	4304128	Delta	none
Crystal Creek	Gunnison River	1	2	13	282378	4270734	Montrose	none
Crystal Creek	Gunnison River	2	2	13	280176	4270161	Montrose	none
Crystal Creek	Gunnison River	3	2	13	279748	4270048	Montrose	none
Crystal Creek	Gunnison River	4	2	13	279520	4269990	Montrose	none
Crystal Creek	Gunnison River	5	2	13	280444	4270038	Montrose	none
Crystal Creek	Gunnison River	6	2	13	280633	4270036	Montrose	none
Daggett Residence	North Fork	1	3	13	275681	4304156	Delta	none
Dava Residence	North Fork	1	3	13	276442	4304717	Delta	Yellow-breasted Chat, Band-tailed Pigeon
Delta County Fairgrounds	North Fork	1	3	13	264228	4297476	Delta	none
Delta County Fairgrounds	North Fork	2	3	13	264035	4297423	Delta	none
Dry Creek	Uncompahgre River	1	3	12	756280	4269889	Montrose	Yellow-breasted Chat
Dry Creek	Uncompahgre River	2	3	12	756375	4270015	Montrose	none
Elkhead River at Hwy 40	Yampa River	1	2	13	293815	4489433	Moffat	none
Friends Church	North Fork	1	3	13	276413	4306502	Delta	Yellow-breasted Chat, Band-tailed Pigeon
Friends Church	North Fork	2	3	13	275262	4306371	Delta	none
Friends Church	North Fork	3	3	13	275079	4306287	Delta	Yellow-breasted Chat

YELLOW-BILLED CUCKOO: 2008

Site Name	Drainage / Geographic Location	Point	# Visits	UTM Zone	UTM Easting	UTM Northing	County	Species of Interest
Friends Church	North Fork	4	3	13	274923	4306160	Delta	Yellow-breasted Chat, Band-tailed Pigeon
Friends Church	North Fork	5	3	13	274578	4306071	Delta	Band-tailed Pigeon
Gateway	Dolores River	1	1	12	674545	4283675	Mesa	Yellow-breasted Chat
Gateway	Dolores River	2	1	12	674380	4283983	Mesa	Yellow-breasted Chat
Gateway	Dolores River	3	1	12	674381	4283760	Mesa	Yellow-breasted Chat
Gateway	Dolores River	4	1	12	674450	4283574	Mesa	none
Gateway	Dolores River	5	1	12	674659	4283576	Mesa	none
Gateway	Dolores River	6	1	12	673701	4284252	Mesa	Yellow-breasted Chat
GJ - Bill's Pond	Grand Junction Area	3	1	12	707323	4327462	Mesa	none
GJ - Connected Lakes SP	Grand Junction Area	4	1	12	707092	4327830	Mesa	none
GJ - Donaldson Rd/Redlands	Grand Junction Area	2	1	12	708927	4325425	Mesa	none
GJ - Redlands Canal Dam	Grand Junction Area	1	2	12	711068	4322702	Mesa	none
GJ Wildlife Area	Grand Junction Area	1	1	12	709833	4325550	Mesa	none
Harrison Creek	Plateau Creek	1	2		*		Mesa	none
Horsethief State Wildlife Area	Grand Junction Area	1	1	12	691391	4336629	Mesa	Yellow-breasted Chat
Horsethief State Wildlife Area	Grand Junction Area	2	1	12	691316	4336726	Mesa	none
Horsethief State Wildlife Area	Grand Junction Area	3	1	12	691272	4336989	Mesa	Yellow-breasted Chat
Horsethief State Wildlife Area	Grand Junction Area	4	1	12	691028	4337350	Mesa	Yellow-breasted Chat
Horsethief State Wildlife Area	Grand Junction Area	5	1	12	690719	4337534	Mesa	Yellow-breasted Chat
Horsethief State Wildlife Area	Grand Junction Area	6	1	12	690401	4337774	Mesa	Yellow-breasted Chat
Horsethief State Wildlife Area	Grand Junction Area	7	1	12	690236	4337839	Mesa	none
Horsethief State Wildlife Area	Grand Junction Area	8	1	12	690008	4337970	Mesa	Yellow-breasted Chat
Horsethief State Wildlife Area	Grand Junction Area	9	1	12	689748	4338030	Mesa	none
Horsethief State Wildlife Area	Grand Junction Area	10	1	12	689581	4338055	Mesa	Yellow-breasted Chat
Horsethief State Wildlife Area	Grand Junction Area	11	1	12	689639	4327666	Mesa	none
Horsethief State Wildlife Area	Grand Junction Area	12	1	12	691745	4336600	Mesa	Yellow-breasted Chat
Horsethief State Wildlife Area	Grand Junction Area	13	1	12	691968	4336460	Mesa	Yellow-breasted Chat
Hotchkiss Cemetery	North Fork	1	2	13	262622	4297875	Delta	none
Kannah Creek	Gunnison River	1	1	12	725722	4312715	Mesa	none
Kannah Creek	Gunnison River	2	1	12	728061	4312394	Mesa	none
Kannah Creek	Gunnison River	3	1	12	729454	4312749	Mesa	none
Kannah Creek	Gunnison River	4	1	12	731300	4312412	Mesa	none
Kannah Creek	Gunnison River	5	1	12	733576	4313477	Mesa	none
Kannah Creek	Gunnison River	6	1	12	733483	4313238	Mesa	none
Kannah Creek	Gunnison River	7	1	12	734447	4314160	Mesa	none
Kannah Creek	Gunnison River	8	1	12	734511	4314263	Mesa	none
Kannah Creek	Gunnison River	9	1	12	736436	4315117	Mesa	none
Kannah Creek	Gunnison River	10	1	12	740042	4316152	Mesa	none
Kannah Creek	Gunnison River	11	1	12	733589	4314204	Mesa	none

YELLOW-BILLED CUCKOO: 2008

Site Name	Drainage / Geographic Location	Point	# Visits	UTM Zone	UTM Easting	UTM Northing	County	Species of Interest
Loudy-Simpson Park	Yampa River	1	2	13	283598	4486302	Moffat	none
Loudy-Simpson Park	Yampa River	2	2	13	283591	4486034	Moffat	none
Loudy-Simpson Park	Yampa River	3	2	13	282687	4485915	Moffat	none
Mitchell Residence	North Fork	1	3	13	268186	4301294	Delta	none
Mitchell Residence	North Fork	2	3	13	268335	4301425	Delta	none
Neversink	Gunnison River	1	1	13	324049	4264889	Gunnison	none
Neversink	Gunnison River	2	1	13	324327	4264924	Gunnison	none
Neversink	Gunnison River	3	1	13	324525	4265011	Gunnison	none
New Hotchkiss Sewage Lagoon	North Fork	1	3	13	262838	4296998	Delta	Yellow-billed Cuckoo
New Hotchkiss Sewage Lagoon	North Fork	2	3	13	262637	4296967	Delta	Yellow-billed Cuckoo, Great Horned Owl
New Hotchkiss Sewage Lagoon	North Fork	3	3	13	262536	4296791	Delta	none
New Hotchkiss Sewage Lagoon	North Fork	4	3	13	262330	4296775	Delta	none
New Hotchkiss Sewage Lagoon	North Fork	5	3	13	262149	4296860	Delta	Yellow-billed Cuckoo
New Hotchkiss Sewage Lagoon	North Fork	6	3	13	261982	4296708	Delta	none
New Hotchkiss Sewage Lagoon	North Fork	7	3	13	262112	4296503	Delta	none
Nicholoff/Fire Mountain Canal	North Fork	1	3	13	267869	4303550	Delta	none
Nicholoff/Fire Mountain Canal	North Fork	2	3	13	267475	4303095	Delta	LEWO
Nicholoff/Fire Mountain Canal	North Fork	3	3	13	267741	4302645	Delta	LEWO
Nucla	San Miguel River	1	3	12	715203	4238635	Montrose	Yellow-breasted Chat
Nucla	San Miguel River	2	3	12	715595	4238523	Montrose	none
Olathe - Gunnison Road	Uncompahgre River	1	3	12	241012	4273697	Montrose	none
Olathe - Gunnison Road	Uncompahgre River	2	3	12	240933	4273981	Montrose	none
Olathe - Gunnison Road	Uncompahgre River	3	3	12	240770	4274669	Montrose	none
Olathe - Gunnison Road	Uncompahgre River	4	3	12	240709	4274989	Montrose	Black Swift
Olathe - Gunnison Road	Uncompahgre River	5	3	12	240680	4275208	Montrose	none
Old Fish Hatchery/Littlefield	North Fork	1	3	13	261465	4296157	Delta	Yellow-billed Cuckoo, Cooper's Hawk
Old Fish Hatchery/Littlefield	North Fork	2	3	13	261427	4295958	Delta	Yellow-billed Cuckoo
Old Fish Hatchery/Littlefield	North Fork	3	3	13	261379	4295765	Delta	Yellow-billed Cuckoo
Old Fish Hatchery/Littlefield	North Fork	4	3	13	261234	4295626	Delta	Yellow-billed Cuckoo
Old Fish Hatchery/Littlefield	North Fork	5	3	13	261270	4295426	Delta	Yellow-billed Cuckoo, Great Horned Owl
Old Fish Hatchery/Littlefield	North Fork	6	3	13	261194	4295236	Delta	Yellow-billed Cuckoo
Old Fish Hatchery/Littlefield	North Fork	7	3	13	261276	4296243	Delta	none
Old Hotchkiss Sewage Lagoon	North Fork	1	3	13	262875	4297243	Delta	Yellow-billed Cuckoo, Cooper's Hawk
Old Hotchkiss Sewage Lagoon	North Fork	2	3	13	263072	4297204	Delta	Cooper's Hawk
Orchard Mesa Wildlife Area - A	Grand Junction Area	1	1	12	715561	4324810	Mesa	none
Orchard Mesa Wildlife Area - A	Grand Junction Area	2	1	12	717381	4325383	Mesa	Yellow-breasted Chat
Orchard Mesa Wildlife Area - A	Grand Junction Area	3	1	12	717459	4325510	Mesa	Yellow-breasted Chat
Orchard Mesa Wildlife Area - A	Grand Junction Area	4	1	12	717615	4325486	Mesa	none
Orchard Mesa Wildlife Area - B	Grand Junction Area	1	1	12	716516	4325044	Mesa	Yellow-breasted Chat

YELLOW-BILLED CUCKOO: 2008

Site Name	Drainage / Geographic Location	Point	# Visits	UTM Zone	UTM Easting	UTM Northing	County	Species of Interest
Orchard Mesa Wildlife Area - B	Grand Junction Area	2	1	12	716884	4325231	Mesa	none
Orchard Mesa Wildlife Area - B	Grand Junction Area	3	1	12	717114	4325251	Mesa	Yellow-breasted Chat
Orchard Mesa Wildlife Area - B	Grand Junction Area	4	1	12	717599	4325356	Mesa	Yellow-breasted Chat
Paonia City Park	North Fork	1	3	13	275179	4305355	Delta	none
Paonia City Park	North Fork	2	3	13	275101	4305510	Delta	none
Paonia Ditch	North Fork	1	3	13	273779	4304008	Delta	Least Flycatcher
Paonia Ditch	North Fork	2	3	13	274071	4303601	Delta	none
Paonia High School	North Fork	1	3	13	274629	4305943	Delta	Band-tailed Pigeon
Paonia High School	North Fork	2	3	13	274443	4305878	Delta	none
Paonia High School	North Fork	3	3	13	274566	4305748	Delta	none
Parks Residence	North Fork	1	3	13	269026	4302140	Delta	none
Parks Residence	North Fork	2	3	13	268862	4302017	Delta	none
Parks Residence	North Fork	3	3	13	269033	4301906	Delta	Yellow-breasted Chat
Parks Residence	North Fork	4	3	13	269240	4301956	Delta	Yellow-breasted Chat
Plateau City - Kimball Creek Road	Plateau Creek	1	2		*		Mesa	none
Plateau City - Rainbow Motel	Plateau Creek	1	2		*		Mesa	none
Plateau City - Salt Bridge	Plateau Creek	1	2		*		Mesa	none
Redlands Mesa - A	Grand Junction Area	1	1	12	705771	4328377	Mesa	none
Redlands Mesa - A	Grand Junction Area	2	1	12	706771	4328281	Mesa	none
Redlands Mesa - A	Grand Junction Area	3	1	12	708456	4326393	Mesa	none
Redlands Mesa - A	Grand Junction Area	4	1	12	708855	4325625	Mesa	none
Redlands Mesa - A	Grand Junction Area	5	1	12	706040	4323063	Mesa	Cooper's Hawk
Redlands Mesa - A	Grand Junction Area	6	1	12	705651	4328576	Mesa	none
Redlands Mesa - A	Grand Junction Area	7	1	12	707951	4326542	Mesa	none
Redlands Mesa - A	Grand Junction Area	8	1	12	703896	4328777	Mesa	none
Redlands Mesa - A	Grand Junction Area	9	1	12	702847	4329966	Mesa	none
Redlands Mesa - B	Grand Junction Area	1	1	12	707952	4326540	Mesa	none
Redlands Mesa - B	Grand Junction Area	2	1	12	707722	4326735	Mesa	none
Redlands Mesa - B	Grand Junction Area	3	1	12	707642	4326915	Mesa	none
Redlands Mesa - B	Grand Junction Area	4	1	12	707401	4326951	Mesa	none
Redlands Mesa - B	Grand Junction Area	5	1	12	706965	4327148	Mesa	none
Redlands Mesa - B	Grand Junction Area	6	1	12	706211	4327246	Mesa	none
Redlands Mesa - B	Grand Junction Area	7	1	12	704753	4323348	Mesa	none
River Ridge	Yampa River	1	1	13	280218	4485863	Moffat	none
River Ridge	Yampa River	2	1	13	280398	4485870	Moffat	Yellow-billed Cuckoo
River Ridge	Yampa River	3	1	13	280507	4485912	Moffat	Least Flycatcher
Riverbend Park	Grand Junction Area	1	1	12	728149	4331363	Mesa	none
Riverway	Gunnison River	1	1	13	326085	4265159	Gunnison	none
Roaring Judy	Gunnison River	1	1	13	338999	4286466	Gunnison	none

YELLOW-BILLED CUCKOO: 2008

Site Name	Drainage / Geographic Location	Point	# Visits	UTM Zone	UTM Easting	UTM Northing	County	Species of Interest
Roaring Judy	Gunnison River	2	1	13	339021	4286192	Gunnison	none
Roaring Judy	Gunnison River	3	1	13	338941	4285877	Gunnison	none
Roatcap Creek	North Fork	1	3	13	271780	4305101	Delta	Yellow-breasted Chat, Cooper's Hawk
Roatcap Creek	North Fork	2	3	13	271639	4305248	Delta	Yellow-breasted Chat
Roatcap Creek	North Fork	3	3	13	271444	4305437	Delta	Yellow-breasted Chat
Roatcap Creek	North Fork	4	3	13	271311	4305498	Delta	Yellow-breasted Chat
Roatcap Creek	North Fork	5	3	13	271113	4305555	Delta	Yellow-breasted Chat
Robinsong Residence	North Fork	1	3	13	264152	4298623	Delta	Yellow-billed Cuckoo
Robinsong Residence	North Fork	2	3	13	264163	4298402	Delta	none
Robinsong Residence	North Fork	3	3	13	264080	4298222	Delta	LEWO
Robinsong Residence	North Fork	4	3	13	264007	4298406	Delta	none
Robinsong Residence	North Fork	5	3	13	263957	4298598	Delta	none
Robinsong Residence	North Fork	6	3	13	263819	4298751	Delta	Yellow-billed Cuckoo
Rough Creek	Grand Junction Area	1	1	12	732165	4334781	Mesa	Yellow-breasted Chat
Seely Pond	Yampa River	1	1	13	283877	4486385	Moffat	none
Seely Pond	Yampa River	2	1	13	283998	4486367	Moffat	none
Slate Point Road	North Fork	1	3	13	269132	4301360	Delta	none
Smith Creek	Gunnison River	1	1	13	274331	4287347	Delta	Yellow-breasted Chat
Smith Creek	Gunnison River	2	1	13	273574	4286839	Delta	none
Smith Creek	Gunnison River	3	1	13	270666	4286805	Delta	none
South Beach	Yampa River	1	2	13	278865	4484845	Moffat	none
South Beach	Yampa River	2	1		*		Moffat	none
South Beach	Yampa River	3	1		*		Moffat	none
South Beach	Yampa River	4	1		*		Moffat	none
South Mamm Atlas Block	Plateau Creek	1	2		*		Mesa	none
South Mamm Atlas Block II	Plateau Creek	1	2		*		Mesa	none
Tabeguache Creek	San Miguel River	1	3	12	712411	4248243	Montrose	Yellow-breasted Chat
Tabeguache Creek	San Miguel River	2	3	12	706904	4248071	Montrose	none
Tabeguache Creek	San Miguel River	3	3	12	705540	4248156	Montrose	Yellow-breasted Chat
The Grange	North Fork	1	3	13	276591	4307194	Delta	Yellow-billed Cuckoo, Yellow-breasted Chat
Uncompahgre Road	Uncompahgre River	1	1	13	254425	4251496	Montrose	none
Upper San Miguel River	San Miguel River	1	3	12	755185	4212837	San Miguel	none
Upper San Miguel River	San Miguel River	2	3	12	753688	4213112	San Miguel	none
Upper San Miguel River	San Miguel River	3	3	12	753158	4213121	San Miguel	none
West Orchard Mesa	Grand Junction Area	1	1	12	709376	4326960	Mesa	none
West Orchard Mesa	Grand Junction Area	2	1	12	710572	4324696	Mesa	none
West Orchard Mesa	Grand Junction Area	3	1	12	710486	4324319	Mesa	none
West Orchard Mesa	Grand Junction Area	4	1	12	710174	4324583	Mesa	none
West Orchard Mesa	Grand Junction Area	5	1	12	710465	4323728	Mesa	none

YELLOW-BILLED CUCKOO: 2008

Site Name	Drainage / Geographic Location	Point	# Visits	UTM Zone	UTM Easting	UTM Northing	County	Species of Interest
West Orchard Mesa	Grand Junction Area	6	1	12	710856	4323302	Mesa	none
West Orchard Mesa	Grand Junction Area	7	1	12	711072	4322707	Mesa	none
Whitewater - Gunnison River	Grand Junction Area	1	1	12	720795	4318572	Mesa	none
Whitewater - Gunnison River	Grand Junction Area	2	1	12	720697	4318785	Mesa	none
Whitewater - Gunnison River	Grand Junction Area	3	1	12	720553	4318417	Mesa	none
Wyman Museum - Craig	Yampa River	1	2	13	289757	4487677	Moffat	none
Wyman Museum - Craig	Yampa River	2	2	13	289642	4487547	Moffat	none
Wyman Museum - Craig	Yampa River	3	2	13	289508	4487352	Moffat	none
Wyman Museum - Craig	Yampa River	4	2	13	289240	4487218	Moffat	none
Wyman Museum - Craig	Yampa River	5	2	13	289989	4487134	Moffat	Yellow-billed Cuckoo
Wyman Museum - Craig	Yampa River	6	2	13	288683	4487291	Moffat	none
Wyman Museum - Craig	Yampa River	7	2	13	288440	4487458	Moffat	none
Wyman Museum - East	Yampa River	1	1	13	289853	4487715	Moffat	none
Wyman Museum - East	Yampa River	2	1	13	289926	4487834	Moffat	none
Yampa River Preserve	Yampa River	1	1		*		Routt	none
Yampa River Preserve	Yampa River	2	1	13	317423	4483844	Routt	none
Yampa River Preserve	Yampa River	3	1	13	317577	4483769	Routt	none
Yampa River Preserve	Yampa River	4	1	13	317765	4483705	Routt	none
Yampa River Preserve	Yampa River	5	1	13	318027	4483261	Routt	none
Yampa River State Park Boat Launch	Yampa River	1	1	13	305250	4484823	Routt	none
Yampa River SWA - East	Yampa River	1	1	13	302890	4484666	Routt	none
Yampa River SWA - East	Yampa River	2	1	13	302933	4484548	Routt	none
Yampa River SWA - East	Yampa River	3	1	13	303130	4484436	Routt	none
Yampa River SWA - East	Yampa River	4	1	13	302725	4484351	Routt	none
Yampa River SWA - Middle	Yampa River	1	1	13	298913	4485601	Routt	none
Yampa River SWA - Middle	Yampa River	2	1	13	298834	4485487	Routt	none
Yampa River SWA - Middle	Yampa River	3	1	13	298769	4485639	Routt	none
Yampa River SWA - West	Yampa River	1	1	13	298598	4486099	Routt	none
Yampa River SWA - West	Yampa River	2	1	13	298542	4486355	Routt	none
Yampa River SWA - West	Yampa River	3	1	13	298337	4486744	Routt	Least Flycatcher
Yampa River SWA - West	Yampa River	4	1	13	297257	4487704	Routt	none
Yampa River SWA - West	Yampa River	5	1	13	296264	4488645	Routt	none
Yampa River SWA - West	Yampa River	6	1	13	295913	4488811	Routt	none
Zimmerman Residence	San Miguel River	1	3	12	717064	4238129	Montrose	Yellow-breasted Chat
Zimmerman Residence	San Miguel River	2	3	12	717015	4238159	Montrose	Yellow-breasted Chat
Zimmerman Residence	San Miguel River	3	3	12	717162	4238101	Montrose	Yellow-billed Cuckoo, Cooper's Hawk
Zimmerman Residence	San Miguel River	4	3	12	717091	4238038	Montrose	none
Zimmerman Residence	San Miguel River	5	3	12	717112	4237885	Montrose	Yellow-breasted Chat
Zimmerman Residence	San Miguel River	6	3	12	716974	4237881	Montrose	Yellow-breasted Chat

*GPS unit not available or not functioning at this point