

# 2011 YELLOW-BILLED CUCKOO SURVEYS IN WESTERN COLORADO



January 2012





# ROCKY MOUNTAIN BIRD OBSERVATORY

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Yellow-billed Cuckoo near Hotchkiss, Colorado on 13 August, 2011 by Jackson Trappett. Used with permission.

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## Executive Summary

The Rocky Mountain Bird Observatory conducted surveys for the Western Distinct Population Segment (WDPS) of the Yellow-billed Cuckoo in western Colorado for the fourth consecutive year in 2011. This year, locations with historical detections and sites with suitable habitat in Delta, Mesa, Moffat, and Routt counties in west-central and northwest Colorado were surveyed. We completed four visits to each of 19 transects from 15 June through 12 August. The Western Yellow-billed Cuckoo Working Group protocol developed in 2009 was strictly adhered to for all surveys.

We detected Yellow-billed Cuckoos during surveys at three transects in Delta and Mesa Counties in 2011. Incidental (non-survey) detections of cuckoos were also recorded from three locations in the range of the WDPS of the Yellow-billed Cuckoo in Conejos, Montrose, and Rio Grande Counties. The Bureau of Land Management reported two of these incidental detections along the Conejos River and the Rio Grande in south-central Colorado at locations with historical records. The incidental detection in Montrose County occurred at the same location as a 2009 observation near the Uncompahgre River. At the Old Hotchkiss Water Treatment Plant (Delta County) a cuckoo was seen carrying food during informal surveys on 12 August confirming breeding at this location in 2011. This is the same location where an active nest was located on 21 July, 2008 and where incidental detections of cuckoos were recorded in 2009 and 2010. A pair of cuckoos was present throughout the summer of 2011 at the Robinsong residence near Hotchkiss (Delta County) where cuckoos have been detected annually since 2003.

The Rocky Mountain Bird Observatory recorded the following species of interest during surveys: Band-tailed Pigeon (*Patagioenas fasciata*), Common Nighthawk (*Chordeiles minor*), Least Flycatcher (*Empidonax minimus*), Red-eyed Vireo (*Vireo olivaceus*), Veery (*Catharus fuscescens*), Swainson's Thrush (*Catharus ustulatus*), Fox Sparrow (*Passerella iliaca*), Summer Tanager (*Piranga rubra*), and Evening Grosbeak (*Coccothraustes vespertinus*).

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## Introduction

Populations of the Yellow-billed Cuckoo have declined precipitously since the early 20<sup>th</sup> century in western North America (Hughes 1999). The U.S. Fish and Wildlife Service (USFWS) designated the WDPS 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). Yellow-billed Cuckoos have been extirpated from British Columbia, Washington, Oregon, and reduced to a small fraction of their historical range in California (Hughes 1999).

It is difficult to locate information regarding the historical distribution of the Yellow-billed Cuckoo in western Colorado. In the 1950s and 1960s, Yellow-billed Cuckoos were found annually in Palisade along the Colorado River east of Grand Junction (Mesa County) (Righter et al. 2004). Cuckoos were regularly detected as recently as the mid-1980s along the Uncompahgre and Gunnison Rivers near Delta (Delta County) (Rich Levad, pers. comm.). However, during the first Colorado Breeding Bird Atlas (1987-1994), only three cuckoos were recorded on the western slope (Colorado Breeding Bird Atlas Partnership 1998). Of these three atlas records, one confirmed cuckoos breeding on the Yampa River near Hayden (Routt County) in 1988. In 1998, a focused survey for Yellow-billed Cuckoos in western Colorado funded by the Bureau of Land Management (BLM) resulted in just one pair being discovered near Clifton (near Grand Junction) along the Colorado River (Coen Dexter, unpublished report). This pair was observed carrying nesting material and this observation represents the most recent cuckoo breeding confirmation before Rocky Mountain Bird Observatory (RMBO) surveys in 2008.

Since the turn of the century, few Yellow-billed Cuckoos have been detected in western Colorado. Some reports from the Grand Junction area (Mesa County) have been recorded and the most recent occurred in July 2006 when more than one cuckoo was reported at Orchard Mesa Wildlife Area (Dave Wright, pers. comm.). There were cuckoo detections from Connected Lakes State Park along the Colorado River and the surrounding Grand Junction residential area (Redlands Mesa) in 2001 and 2002 (Larry Arnold, pers. comm.). Also in Mesa County, a Yellow-billed Cuckoo was reported on two dates in late-May 2005 and in early June 2008 near Plateau City along Plateau Creek (Larry Arnold, pers. comm.). In late-July of 2009, one cuckoo was seen and heard calling south of Montrose (Montrose County) near the Uncompahgre River (Shawn Conner, pers. comm.). In 2007, a cuckoo was reported along the Gunnison River just west of Gunnison (Gunnison County) (Tyler Hicks, pers. comm.). In 2008, cuckoos were detected during surveys by a RMBO volunteer at two locations near Craig and in 2007 a report came from just downstream of Craig along the Yampa River (Moffat County). In 2008, a calling cuckoo was heard near the town of Nucla during a RMBO survey and in 2005 reports came from two locations in Nucla (Montrose County) (Coen Dexter, pers. comm.). However, consistent cuckoo observations in the past decade have been recorded at only two locations within the range of the WDPS of the Yellow-billed Cuckoo in Colorado. On lands managed by the BLM in the San Luis Valley of south-central Colorado (Conejos County), cuckoos have been detected annually since 2003 (Banks and Lucero 2004, Lucero, pers. comm.). Breeding by cuckoos is suspected at



this location but has not been confirmed. At the second location, in the North Fork of the Gunnison River (North Fork River) valley near the towns of Hotchkiss and Paonia (Delta County) of west-central Colorado, cuckoos have been detected annually since 2003. In 2008, during RMBO nest-searching efforts, breeding was confirmed near Hotchkiss. This represents all known Yellow-billed Cuckoo observations for western Colorado since 2000.

In western Colorado, Yellow-billed Cuckoos have historically occupied extensive Fremont cottonwood (*Populus deltoides*) and narrowleaf cottonwood (*Populus angustifolia*) riparian forests (Richter et al. 2004). During surveys in 2008 in western Colorado, cuckoos were located in riparian areas with Fremont and narrowleaf cottonwood-dominated overstory and a dense understory containing both native and exotic shrub species. In California, where the Western Distinct Population Segment (WDPS) 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 (Halterman 1991). Telemetry research in Arizona indicated an average home range of 39 hectares (96.3 acres) for 28 adult cuckoos (Halterman 2009).

Verifying the presence of the Yellow-billed Cuckoo (*Coccyzus americanus*) in the western U.S. presents several challenges. Yellow-billed Cuckoos do not vocalize frequently to announce territory or to attract mates in the manner of typical riparian birds, therefore point-count surveys are not an effective method for determining presence. Current survey methods targeting cuckoos rely on call-playback to determine presence; however, a response rate of only 32% has been observed using this methodology (Halterman 2009). Additionally, the erratic breeding cycle of the Yellow-billed Cuckoo does not correspond with other songbirds and surveys that take place when the majority of riparian bird species are most detectable end about the time cuckoos arrive at breeding sites. A large percentage of the prime riparian habitat in western Colorado is privately owned because of the desirable resources that are available along rivers. Therefore, obtaining access to riparian stretches requires permission from private landowners and this can result in a lack of information for locations with suitable habitat when permission is denied. Currently, accurate Geographic Information System (GIS) data does not exist for riparian habitat in western Colorado making it very difficult to identify where most extensive riparian habitat exists. RMBO surveys targeting the Yellow-billed Cuckoos in 2011 revealed that a focused survey methodology can be effective for locating the species. The 2008 and 2011 surveys and the 2009 and 2010 incidental detections also confirm that cuckoos occupy western Colorado, but at a low density on the landscape.

Because land managers are interested in the health of riparian areas on lands they manage, and the WDPS of the Yellow-billed Cuckoo is a candidate for listing under the ESA, we have compiled available historical information regarding this species along with the results of our surveys in western Colorado. Information about the distribution of the Yellow-billed Cuckoo in western Colorado will assist land managers and other conservation partners concerned with recovering viable populations of the species at the state and regional level.

## Methods

### Terminology

The words used to define places where cuckoo surveys occur and the methodology being used need to be clarified in order to understand how surveys were completed. We use definitions found in the Western Yellow-billed Cuckoo Working Group Standard Operating Procedure #3 (SOP). This cuckoo-specific survey protocol was first implemented in 2009 throughout the western United States.

Broadcast-point count: The act of broadcasting the recorded “kowlp” call five times, after a one-minute listening period and with a minute of silence between each broadcast. The number and type(s) of Yellow-billed Cuckoo detections are recorded. A transect consists of one or more broadcast-point counts where detections are recorded. The counts are placed 100 meters apart in suitable habitat.

Location: A specific and precise place where a Yellow-billed Cuckoo was detected historically or where a broadcast-point count was conducted.

Site: An area where cuckoos surveys occur. A site may include more than one transect (i.e., an area of riparian vegetation that is very wide and requires multiple transects for adequate coverage).

Survey: 1. A year’s effort (during the breeding season) conducting broadcast-point counts along transects to determine presence, absence, or estimate number of cuckoos within a given area.  
2. The act of conducting broadcast-point counts for Yellow-billed Cuckoo detections.

Transect: One or more points where broadcast-point counts are conducted in a survey visit; transects need not be linear.

Visit #: A set of consecutive numbers that represents the number of times a particular site and transect has been visited within a year (i.e., directly prior to, and/or during one breeding season), including both survey visits and non-survey follow-up visits. Only one survey visit is required per survey period, but depending on survey objectives, multiple survey visits can be made (as long as they are not conducted within the required minimum number of days between surveys).

### Site Selection

Before the field season, RMBO consulted with USFWS personnel to select survey sites. Northwest Colorado and West-central Colorado, where Yellow-billed Cuckoo historical records exist, were not surveyed during the past 2 years. Three locations in northwest Colorado and 18 locations in west-central Colorado have records for cuckoos in the past decade (Appendices A & B). After the decision was made to focus 2011 surveys in northwest and west-central Colorado,

RMBO contacted biologists and land managers familiar with the areas to locate the most extensive riparian forests in the region. We also used Google Earth™ to identify and measure large sections of riparian habitat in the region. In northwest Colorado, we established surveys on the Yampa River. In west-central Colorado, we established surveys on the Colorado, Gunnison, North Fork of the Gunnison, and San Miguel Rivers along and Plateau Creek. We distributed transects throughout the chosen sites at elevations consistent with those where cuckoos have been detected in the past decade (between 4,500 and 7,900 feet [1,372 and 2,408 meters] elevation). Transects were established (going southwest to northeast) near Nucla (along or near the San Miguel River), near Grand Junction (near the confluence of the Colorado and Gunnison Rivers), near Hotchkiss and Paonia (along the North Fork of the Gunnison River), near Plateau City (along Plateau Creek), near Craig and Hayden (along the Yampa River) (Table 1; Appendices C through L). Transects were conducted on both public and private property.

## 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). In 2010, the SOP developed by the Yellow-billed Cuckoo Working Group in 2009 (Johnson, unpublished document) was strictly adhered to for all surveys. Broadcast-point count survey locations were established in or near (within 49 feet [15 m] of habitat edge) appropriate habitat and spaced at least 328 feet [100 m] apart. Playback equipment projected the calls at least 328 feet [100 m] without distortion. We avoided unsuitable habitat (i.e., a monoculture of young tamarisk or an extensive areas without trees) if the unsuitable habitat was at least 984 feet [300 m] in extent). We conducted broadcast-point counts between 15 June and 15 August, the time period chosen to minimize detections of migrating cuckoos. All transects selected in 2011 were surveyed four times during time periods specified in the Western Yellow-billed Cuckoo Standard Operating Procedure. If cuckoos were detected at a broadcast point-count, surveyors moved at least 984 feet (300 m) before conducting another count in order to minimize disturbance to potentially nesting cuckoos. RMBO hired one experienced field biologist conducted the surveys.

Each survey began with a one-minute silent period to listen for spontaneously calling cuckoos. If no cuckoos were heard during the one-minute period, a Yellow-billed Cuckoo “*kowlp*” call was broadcast once (approximately six seconds in duration), followed by one minute of silence to listen for a response. 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. The cuckoo call was broadcast using a FoxPro™ wildlife caller (NX3 Model) or using a small mp3 player with portable battery-powered speakers.

At each broadcast-point count survey location we recorded UTM coordinates using a Global Positioning System (GPS). We estimated percent canopy cover and species composition of the

canopy (>5 meters high) and percent cover of understory and species composition of understory (<5 meters high) before each broadcast-point count survey.

RMBO recorded the following additional species of interest during surveys: Band-tailed Pigeon, Common Nighthawk, Least Flycatcher, Red-eyed Vireo, Veery, Swainson's Thrush, Fox Sparrow, Summer Tanager, and Evening Grosbeak. These species were chosen because they are indicators of high-quality riparian habitat, and because of their low density on the landscape.

## Results

We conducted a total of 500 broadcast-point count surveys at 125 locations at 19 sites between 15 June and 12 August, 2011 (Table 1). The surveys lasted at least seven minutes per broadcast-point count (>3,500 total survey minutes). In 2011, cuckoos were detected during broadcast-point count surveys at two locations near Hotchkiss (Delta County) and one location near Grand Junction (Mesa County). We received incidental reports of cuckoos from three locations (one on the Conejos River [Conejos County], one near the Uncompahgre River [Montrose County], and one on the Rio Grande [Rio Grande County]) during the officially recognized cuckoo breeding season (15 June through 15 August). One pair of Yellow-billed Cuckoos was reported near the North Fork of the Gunnison River at Hotchkiss throughout the summer at the Robinsong residence and at the Old Hotchkiss Water Treatment Plant by the landowner. These observations most likely indicate at least two breeding pair in the Hotchkiss area. Breeding was confirmed at the Old Hotchkiss Water Treatment Plant on 12 August when an adult cuckoo was seen carrying food. The BLM recorded detections at the Pikes Stockade (McIntire Springs) in the San Luis Valley. Incidental observations were also reported from private property along the Rio Grande. Even though the San Luis Valley is east of the continental divide (in the Rio Grande drainage) it is within the designated range of the WDPS of the Yellow-billed Cuckoo.

## Yellow-billed Cuckoo Surveys in Western Colorado: 2011 Annual Report

Table 1. Number of Yellow-billed Cuckoo broadcast-point counts conducted, percent of all surveys, first date of survey, and last date of survey at each survey site in Colorado, 2011.

Survey Site	Number of Points	Percent of Total	Date of First Survey	Date of Last Survey
Bethlehem Cemetery	20	4%	24 June	6 August
Black Bridge	4	1%	24 June	6 August
Carpenter Ranch	24	5%	30 June	10 August
Colorado/Gunnison River Confluence	48	10%	22 June	8 August
Crystal Creek	16	3%	24 June	6 August
Friends Church Property	20	4%	29 June	12 August
Hall Residence	20	4%	29 June	10 August
Holy Terror Farm	20	4%	29 June	12 August
Meiklejohn Residence	20	4%	27 June	9 August
New Hotchkiss Water Treatment Plant	48	10%	21 June	7 August
Nucla	40	8%	15 June	5 August
Old Hotchkiss Water Treatment Plant	24	5%	21 June	7 August
Orchard Mesa Wildlife Area	32	6%	22 June	8 August
Plateau City	40	8%	27 June	9 August
Rain Crow Farm	12	2%	29 June	12 August
Robinson Residence	24	5%	24 June	6 August
San Miguel River	32	6%	15 June	5 August
The Grange	12	2%	24 June	6 August
Wyman Museum	44	9%	30 June	10 August

### **Bethlehem Cemetery**

We conducted 20 broadcast-point counts (4% of all surveys) at Bethlehem Cemetery near Paonia and the North Fork of the Gunnison River between 24 June and 6 August, 2011 (Delta County) (Table 1; Appendix D). Historical cuckoo detections exist on private property (Hall Residence) adjacent to Bethlehem Cemetery and suitable habitat exists at this location. We detected no cuckoos during our surveys at the Bethlehem Cemetery in 2011. Survey points at this location were at 5,800 feet (1768 m).

### **Black Bridge**

We conducted four broadcast-point counts (1% of all surveys) near Paonia along the North Fork of the Gunnison River (Delta County) between 24 June and 6 August 2011 (Table 1; Appendix D). We recorded cuckoos at this site during surveys in 2008; however no cuckoos were detected in 2011. The elevation at this site was approximately 5,700 feet (1737 m).

### **Carpenter Ranch**

We conducted 24 broadcast-point counts (5% of all surveys) near Hayden along the Yampa River (Routt County) between 30 June and 10 August, 2011 (Table 1; Appendix E). This is the only locations where cuckoos were documented breeding during the first Colorado Breeding Bird Atlas in 1988; however no cuckoos have been detected here since then and none were recorded in 2011. Survey points occurred at approximately 6,400 feet (1951 m) elevation.

### **Colorado/Gunnison River Confluence**

We conducted 48 broadcast-point counts (10% of all surveys) between 22 June and 8 August, 2011 near Grand Junction at the Confluence of the Colorado and Gunnison Rivers (Mesa County) (Table 1; Appendix E). Several historical detections exist from the Grand Junction area; however the most recent was 2006 at the Orchard Mesa Wildlife Area. One cuckoo was detected during surveys in 2011 on 27 July at this location. The riparian habitat in this area is the result of a restoration project during which Fremont cottonwoods were planted only 12 years ago. Survey points occurred at approximately 4,600 feet (1402 m) elevation.

### **Crystal Creek**

We conducted 16 broadcast-point counts (3% of all surveys) along Crystal Creek in the Gunnison River drainage between 24 June and 6 August, 2011 (Montrose County) (Table 1; Appendix G). Prior to the beginning of surveys in 2011 we received a report of a cuckoo that was most likely a migrant in aspen/oak habitat near this location. This is why we chose this area for surveys in 2011. We detected no cuckoos during our surveys; however habitat is appropriate at this location. The broadcast-point counts occurred at approximately 8,000 feet (2438 m) elevation.

### **Friends Church Property**

We conducted 20 broadcast-point counts (4% of all surveys) between 29 June and 12 August, 2011 near Paonia along the North Fork of the Gunnison River (Delta County) (Table 1; Appendix D). No historical cuckoo detections exist for this area and none were recorded in 2011; however appropriate habitat exists at this location. We surveyed suitable habitat at approximately 5,700 feet (1737 m) elevation in 2011.

### **Hall Residence**

We conducted 20 broadcast-point counts (4% of all surveys) between 29 June and 10 August, 2011 on private property near Paonia along the North Fork of the Gunnison River (Delta County) (Table 1; Appendix D). Historical incidental cuckoo detections exist for this location; however no cuckoos were detected here in 2011. We surveyed suitable habitat at approximately 5,600 feet (1707 m) elevation at this location.

### **Holy Terror Farm**

We conducted 20 broadcast-point counts (4% of all surveys) between 29 June and 12 August, 2011 on private property near Paonia along Terror Creek and near the North Fork of the Gunnison River (Delta County) (Table 1; Appendix D). No historical cuckoo detections exist for this location; however suitable habitat exists. We conducted surveys at approximately 5,900 feet (1798 m) elevation at this location.

### **Meiklejohn Residence**

We conducted 20 broadcast-point counts (4% of all surveys) between 27 June and 9 August, 2011 on private property near Plateau City near the Plateau Creek (Mesa County) (Table 1; Appendix H). No historical cuckoo detections exist for this location; however cuckoos have been reported near here in 2005 and 2008 in late May and suitable habitat exists in the area. We conducted surveys at approximately 6,000 feet (1829 m) elevation at this location.

### **New Hotchkiss Water Treatment Plant**

We conducted 48 broadcast-point counts (10% of all surveys) between 21 June and 7 August, 2011 on property owned by the City of Hotchkiss along the North Fork of the Gunnison River (Delta County) (Table 1; Appendix I). Cuckoos were detected here during RMBO surveys in 2008 and incidental detections were recorded in 2010. We conducted surveys at approximately 5,300 feet (1615 m) elevation at this location.

### **Nucla**

We conducted 40 broadcast-point counts (8% of all surveys) between 15 June and 5 August, 2011 on private property in and near the town of Nucla near the San Miguel River (Montrose County) (Table 1; Appendix J). Cuckoos were detected here during RMBO surveys in 2008 and

an incidental detection was recorded in 2005. We conducted surveys at approximately 5,900 feet (1798 m) elevation at this location.

### **Old Hotchkiss Water Treatment Plant**

We conducted 24 broadcast-point counts (5% of all surveys) between 21 June and 7 August, 2011 on property owned by the City of Hotchkiss along the North Fork of the Gunnison River (Delta County) (Table 1; Appendix I). Cuckoos were detected here during RMBO surveys in 2008 and incidental detections were recorded in 2009 and 2010. In 2008, an active nest with two nestlings was discovered on 21 July. On 12 August 2011 during informal nest searching surveys we witnessed one adult carrying food which confirms that cuckoos bred at this site again. We conducted surveys at approximately 5,300 feet (1615 m) elevation at this location.

### **Orchard Mesa Wildlife Area**

We conducted 32 broadcast-point counts (6% of all surveys) between 22 June and 8 August, 2011 on property managed by the Bureau of Reclamation along the Colorado River (Mesa County) (Table 1; Appendix K). One incidental detection was recorded at this location in 2006 and suitable habitat exists. We conducted surveys at approximately 4,600 feet (1402 m) elevation at this location.

### **Plateau City**

We conducted 40 broadcast-point counts (8% of all surveys) between 27 June and 9 August, 2011 on private property along or near Plateau Creek (Mesa County) (Table 1; Appendix H). Incidental detections were recorded near this location in 2005 and 2008. We conducted surveys at approximately 6,000 feet (1829 m) elevation at this location.

### **Rain Crow Farm**

We conducted 12 broadcast-point counts (2% of all surveys) between 29 June and 12 August, 2011 on private property along the North Fork of the Gunnison River (Delta County) (Table 1; Appendix D). Incidental detections were recorded at this location 2005 through 2010. We conducted surveys at approximately 5,600 feet (1707 m) elevation at this location.

### **Robinsong Residence**

We conducted 24 broadcast-point counts (5% of all surveys) between 24 June and 6 August, 2011 on private property near the North Fork of the Gunnison River in Hotchkiss (Delta County)



(Table 1; Appendix I). Cuckoos were detected here during RMBO surveys in 2008 and incidental detections often comprised of more than one cuckoo were recorded at this location in 2003 through 2010. We conducted surveys at approximately 5,400 feet (1646 m) elevation at this location.

### **San Miguel River**

We conducted 32 broadcast-point counts (6% of all surveys) between 15 June and 5 August, 2011 on private property along the San Miguel River (Montrose County) (Table 1; Appendix L). No Cuckoos have been detected here; however the incidental detections from Nucla were recorded nearby. We conducted surveys at approximately 5,000 feet (1524 m) elevation at this location.

### **The Grange**

We conducted 12 broadcast-point counts (2% of all surveys) between 24 June and 6 August, 2011 on private property near the North Fork of the Gunnison River (Delta County) (Table 1; Appendix D). Cuckoos were detected here during RMBO surveys in 2008 and incidental detections were also recorded that year. We conducted surveys at approximately 5,700 feet (1737 m) elevation at this location.

### **Wyman Museum**

We conducted 44 broadcast-point counts (9% of all surveys) between 30 June and 10 August, 2011 on private property along the Yampa River (Moffat County) (Table 1; Appendix E). Cuckoos were detected here during RMBO surveys in 2008. We conducted surveys at approximately 6,200 feet (1890 m) elevation at this location.

### **Other Species of Interest**

During cuckoo surveys we recorded observations of other species of interest at survey locations (Table 4).

Table 4. Species of interest detected during Yellow-billed Cuckoo surveys and location of detection, 2011.

Species	Location
Band-tailed Pigeon	Friends Church Property
Common Nighthawk	Hall Residence, Old Hotchkiss Water Treatment Plant, Plateau City
Least Flycatcher	Hall Residence, Plateau City, Wyman Museum
Red-eyed Vireo	Friends Church
Veery	Carpenter Ranch

Species	Location
Swainson's Thrush	Carpenter Ranch, Mieklejohn Residence, Plateau City
Fox Sparrow	Carpenter Ranch, Friends Church, Meikejohn Residence, Plateau City
Summer Tanager	Nucla
Evening Grosbeak	Bethlehem Cemetery, Nucla

## Project Summary

2011 was the fourth year RMBO conducted surveys for the WDPS of the Yellow-billed Cuckoo (surveys have occurred 2008 through 2011). In 2008, cuckoos were detected at nine locations during surveys and we discovered an active nest at one of those locations. In 2009 and 2010, we detected no cuckoos during surveys, but incidental detections in the range of the WDPS of the Yellow-billed Cuckoo were recorded. In 2011, cuckoos were recorded at three locations during surveys and incidental detections were recorded at three locations. In total, Yellow-billed Cuckoos were recorded at a total of 11 locations during all four years of this project (Appendix L). In total, 739 broadcast-point counts survey locations were surveyed and 2,031 broadcast-point counts were conducted across all years of the project.

## Discussion and Recommendations

The results of RMBO Yellow-billed Cuckoo surveys confirm that the species is rare and difficult to locate in western Colorado. Despite the fact that surveys for cuckoos have yielded few detections in the four years surveys have taken place, we feel the number of cuckoo surveys should be increased in western Colorado in order to better document the distribution of Yellow-billed Cuckoos in western Colorado. The total area surveyed by RMBO during the three years of this project represents a low percentage of the available riparian habitat in western Colorado. Combining all surveys during the three years, we have surveyed approximately 54% of the locations in Colorado with historical detections of the Yellow-billed Cuckoo that occur within the range of the WDPS. If sufficient funding can be located, we feel that all locations occupied by cuckoos during the past decade should be surveyed in 2012 to determine if cuckoos continue to occupy those areas and to gain a better understanding of the population size in western Colorado. If the current level of effort surveying for cuckoos is continued, we will not be able to estimate with confidence the population size in western Colorado. Surveying all of historical locations is also important for determining site fidelity of the species.

Yellow-billed Cuckoos are considered to be a low-elevation riparian species (Johnsgard 1986). However, in Colorado, cuckoos have been located in the San Luis Valley at 7,900 feet (2408 m) elevation and have been detected near Gunnison at 7,700 feet (2,348 m) elevation. This is the highest elevation occupied by potentially breeding Yellow-billed Cuckoos throughout their range (Matt Johnson, pers. comm.). Another unexpected behavior we have noted since 2008 has been the presence of Yellow-billed Cuckoos in forested residential areas away from riparian corridors during the breeding season. These observations suggest broader habitat use patterns than previously known for the WDPS of the Yellow-billed Cuckoo.

RMBO recorded observations of the following species of interest during 2011 surveys: Band-tailed Pigeon, Common Nighthawk, Least Flycatcher, Red-eyed Vireo, Veery, Swainson's Thrush, Fox Sparrow, Summer Tanager, and Evening Grosbeak. We recommend that other cuckoo surveyors in Colorado also record these species during surveys because evidence exists that their populations are decreasing (i.e., Evening Grosbeak) and some are expanding their range into western Colorado (i.e., Least Flycatcher and Summer Tanager).

The riparian habitat along the North Fork River near Hotchkiss and Paonia is the only location where breeding has been confirmed during our surveys and seems to be a last refuge for the species in western Colorado. During our surveys we have recorded Russian olive as the dominant understory shrub in this drainage. Given the current interest in eradication of invasive plants from the landscape, it is wise for land managers in western Colorado to consider this information when large scale invasive plant removal projects are initiated. Unless habitat cleared of Russian olive is quickly replanted with native vegetation it could be argued that this process is actually harmful to Yellow-billed Cuckoos and other riparian birds because of the loss of cover. This is especially true if large stands of Russian olive are removed in a short time period. A safe option would be the incremental removal of Russian olive and immediate transplanting and nurturing of native species. We recommend that cuckoo surveyors record understory vegetation types and densities during cuckoo surveys to determine which plant species are being utilized by cuckoos and if there are minimum thresholds of cover that the species will tolerate. We also recommend that research be conducted to determine if the presence of Russian olive may somehow benefit Yellow-billed Cuckoos. Research needs to be conducted to determine the best way for land managers to control Russian olive while at the same time considering bird species occupying areas where restoration takes place in western Colorado.

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## Yellow-billed Cuckoo Surveys in Western Colorado: 2011 Annual Report

### Appendix A. Locations of all known historical Yellow-billed Cuckoo detections in western Colorado<sup>1</sup>.

Site Name	Land Ownership	County	River/Stream	Most Recent Detection	UTM Zone	UTM Easting	UTM Northing	Surveyed in 2011?
Axial Basin	BLM and Private	Moffat	Milk Creek	1978		*		no
Black Bridge	Private	Delta	North Fork <sup>2</sup>	2008	13	276112	4307084	yes
Brown's Park State Wildlife Area - Beaver Creek Unit	State of Colorado	Moffat	Beaver Creek	1989		*		no
Carpenter Ranch – Colorado Breeding Bird Atlas report	The Nature Conservancy	Routt	Yampa	1988		*		yes
Clifton – 32 1/2 Rd and D Rd	Private	Mesa	Colorado	1991		*		no
Colorado River State Park (Corn Lake)	State of Colorado	Mesa	Colorado	1998	12	719276	4326040	no
Connected Lakes area - South Redlands Rd	Private	Mesa	Colorado	2002	12	706683	4328486	no
Dagget Residence	Private	Delta	Residential	2007	12	275681	4304156	no
Del Norte	Private	RioGrande	Rio Grande	2011	13	376649	4172281	yes <sup>3</sup>
Delta - Fred Wild's residence	Private	Delta	Gunnison	1998	12	754262	4293633	no
Delta - Gunnison/Uncompahgre River confluence	City of Delta	Delta	Gunnison	1980s	12	752930	4293793	no
Delta - Mark Janos residence	Private	Delta	Gunnison	1982		*		no
Durango	Unknown	La Plata	Animas	1988		*		no
Durango - nest found in 1981	Unknown	La Plata	Animas	1981		*		no
Eagle River State Wildlife Area	State of Colorado	Eagle	Eagle	late 1980s		*		no
Grand Junction - 30 Rd and B Rd	Private	Mesa	Colorado	1993		*		no
Grand Junction (Fruitvale) - 31 Rd and F	Private	Mesa	Colorado	1994		*		no
Grand Junction - Helen Traylor residence	Private	Mesa	Colorado	1986		*		no
Grand Junction - Panorama Village	Private	Mesa	Colorado	1992	12	702848	4329964	no
Grand Junction - South Broadway & Donaldson Rd	Private	Mesa	Gunnison	2001	12	708910	4325624	no
Meeker	Private	Rio Blanco	White River	1979		*		no
Meeker	Private	Rio Blanco	White River	1980		*		no
New Hotchkiss Water Treatment Plant	City of Hotchkiss	Delta	North Fork <sup>2</sup>	2010	13	262838	4296998	yes
Montezuma County	Unknown	Montezuma	Unknown	~1900		*		no
Montrose	Private	Montrose	Uncompahgre	2011	13	251397	4257564	no <sup>4</sup>
Nucla	Private	Montose	San Miguel	2005	13	714959	4238304	yes
Olathe	Private	Delta	Uncompahgre	1997		*		no
Old Hotchkiss National Fish Hatchery	US Fish and Wildlife Service	Delta	North Fork <sup>2</sup>	2008	13	261465	4296157	no

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Site Name	Land Ownership	County	River/Stream	Most Recent Detection	UTM Zone	UTM Easting	UTM Northing	Surveyed in 2011?
Old Hotchkiss Water Treatment Plant	City of Hotchkiss	Delta	North Fork <sup>2</sup>	2011	13	262875	4297243	yes
Orchard Mesa - 34 Rd and C Rd	Private	Mesa	Colorado	2002	12	723030	4325318	no
Orchard Mesa Wildlife Area	Bureau of Reclamation	Mesa	Colorado	2006	12	716963	4325440	yes
Palisade	Private	Mesa	Colorado	1950s & 1960s		*		no
Pike's Stockade (McIntire Springs)	BLM	Conejos	Conejos	2007	13	428900	4128000	yes <sup>3</sup>
Plateau City	Private	Mesa	Plateau Creek	2008	13	243195	4347436	yes
Rain Crow Farm	Private	Delta	North Fork <sup>2</sup>	2010	13	272402	4303607	yes
Redlands Mesa, Grand Junction	Private	Mesa	Residential	1985	12	702790	4326769	no
Redlands Mesa, Grand Junction – South Rim Dr and Pinnacle Ct	Private	Mesa	Colorado	2002	12	705707	4328581	no
Redlands Mesa, Grand Junction – Stigen/Barr residence	Private	Mesa	Residential	1987	12	707887	4326204	no
Ridgway	Unknown	Ouray	Uncompahgre	1985		*		no
River Ridge	Private	Moffat	Yampa	2008	13	280398	4485870	no
Robinson Residence	Private	Delta	North Fork <sup>2</sup>	2011	13	264163	4298402	yes
South Beach Landing	Private	Moffat	Yampa	2007	13	278865	4484845	no
The Grange	Private	Delta	North Fork <sup>2</sup>	2008	13	276591	4307194	yes
The Preserve, Grand Junction	Private	Mesa	Residential	1991	12	701188	4329664	no
West Gunnison - Gunnison River	Private	Gunnison	Gunnison	2007		*		no
Wyman Museum	Private	Moffat	Yampa	2008	13	288989	4487134	yes
Zimmerman Property	Private	Montrose	Residential	2008	12	717162	4238101	yes

<sup>1</sup>The range of the WDPS of the Yellow-billed Cuckoo in Colorado includes the Rio Grande Drainage even though it is east of the continental divide.

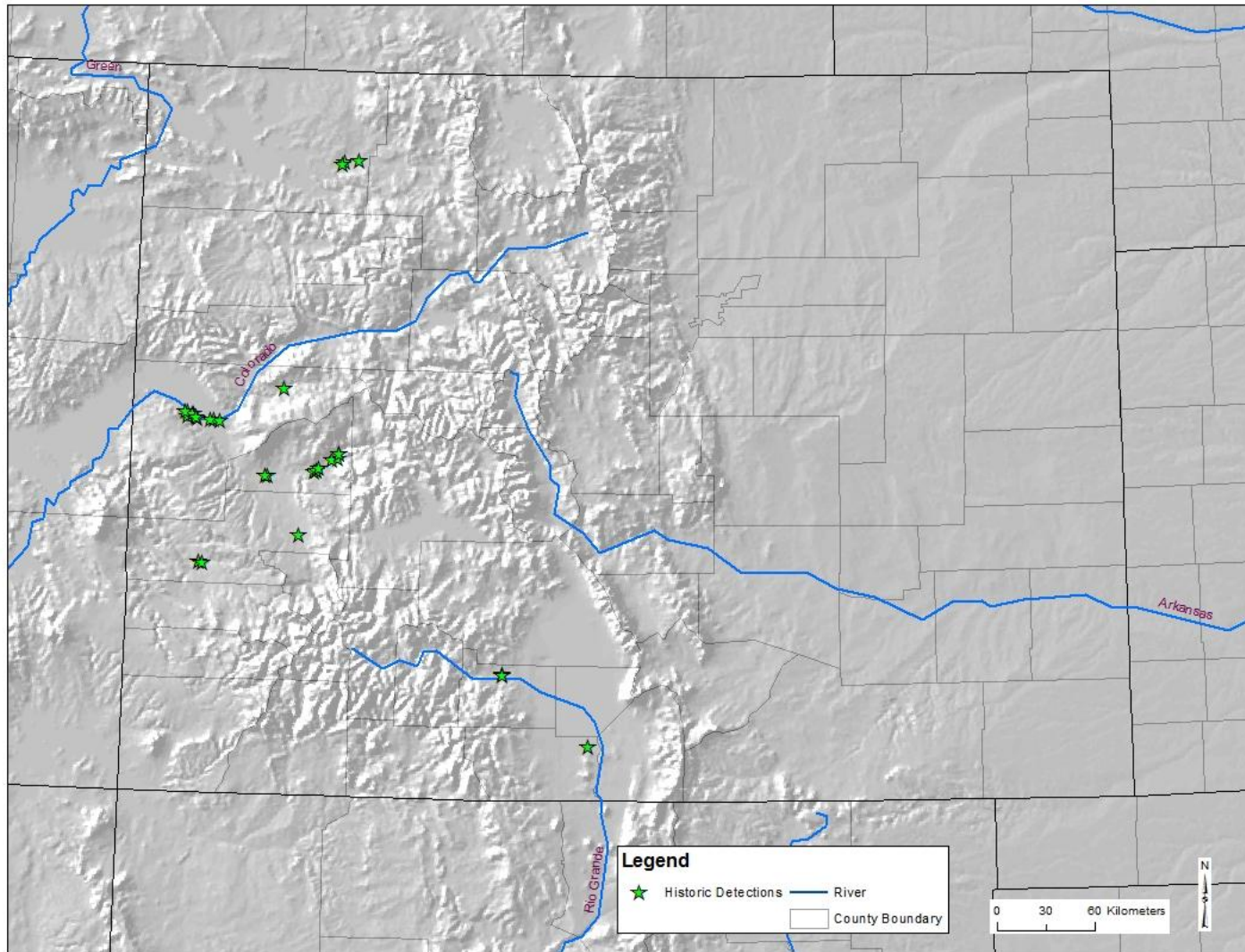
<sup>2</sup>The North Fork in this table is the North Fork of the Gunnison River.

<sup>3</sup>Surveys conducted by the BLM at this location in 2011.

<sup>4</sup>Surveys not conducted at this location but an incidental detection was recorded.

\*exact location unknown.

**Appendix B. Map showing locations of all known historical Yellow-billed Cuckoo detections in western Colorado.**



**Appendix C. 2011 Yellow-billed Cuckoo broadcast-point count survey locations (in alphabetical order) with associated Drainage/Geographical Location, UTM coordinates\*, and County.**

Location	Drainage	Point Number	Zone	Easting	Northing	County
Bethlehem Cemetery	North Fork of the Gunnison River	Point 1	13	272522	4305006	Delta
		Point 2	13	272542	4304901	Delta
		Point 3	13	272605	4305029	Delta
		Point 4	13	272702	4305140	Delta
		Point 5	13	272562	4305133	Delta
Black Bridge	North Fork of the Gunnison River	Point 1	13	276046	4307283	Delta
Carpenter Ranch	Yampa River	Point 1	13	316708	4484710	Routt
		Point 2	13	316843	4484637	Routt
		Point 3	13	316929	4484590	Routt
		Point 4	13	317006	4484523	Routt
		Point 5	13	317097	4484404	Routt
		Point 6	13	317166	4484317	Routt
Colorado/Gunnison River Confluence	Colorado River	Point 1	12	709787	4325807	Mesa
		Point 2	12	709686	4325805	Mesa
		Point 3	12	709583	4325803	Mesa
		Point 4	12	709587	4325918	Mesa
		Point 5	12	709698	4325927	Mesa
		Point 6	12	709887	4325765	Mesa
		Point 7	12	710045	4325218	Mesa
		Point 8	12	710155	4325232	Mesa
		Point 9	12	710273	4325233	Mesa
		Point 10	12	710173	4325134	Mesa
		Point 11	12	710075	4325100	Mesa
		Point 12	12	710016	4325618	Mesa
Crystal Creek	Gunnison River	Point 1	13	280272	4270143	Montrose
		Point 2	13	280352	4270074	Montrose



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Location	Drainage	Point Number	Zone	Easting	Northing	County
Friends Church Property	North Fork of the Gunnison River	Point 3	13	280460	4270040	Montrose
		Point 4	13	280565	4270026	Montrose
		Point 1	13	274691	4306115	Delta
		Point 2	13	274764	4306187	Delta
		Point 3	13	274823	4306277	Delta
Hall Residence	North Fork of the Gunnison River	Point 4	13	274907	4306415	Delta
		Point 5	13	274716	4306293	Delta
		Point 1	13	272427	4304331	Delta
		Point 2	13	272367	4304246	Delta
		Point 3	13	272328	4304153	Delta
Holy Terror Farm	North Fork of the Gunnison River	Point 4	13	272249	4304081	Delta
		Point 5	13	272166	4304006	Delta
		Point 1	13	277612	4309095	Delta
		Point 2	13	277510	4309148	Delta
		Point 3	13	277429	4309217	Delta
Meiklejohn Residence	Colorado River	Point 4	13	277435	4309420	Delta
		Point 5	13	277488	4309326	Delta
		Point 1	13	241474	4346742	Mesa
		Point 2	13	241360	4346755	Mesa
		Point 3	13	241272	4346703	Mesa
New Hotchkiss Water Treatment Plant	North Fork of the Gunnison River	Point 4	13	241169	4346684	Mesa
		Point 5	13	241068	4346656	Mesa
		Point 1	13	262840	4297085	Delta
		Point 2	13	262774	4297009	Delta
		Point 3	13	262679	4296953	Delta
		Point 4	13	262590	4296907	Delta
		Point 5	13	262486	4296907	Delta
Point 6	13	262404	4296965	Delta		
		Point 7	13	262321	4297024	Delta

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Location	Drainage	Point Number	Zone	Easting	Northing	County
Nucla	San Miguel River	Point 8	13	262217	4297020	Delta
		Point 9	13	262138	4296957	Delta
		Point 10	13	262235	4296918	Delta
		Point 11	13	262726	4296864	Delta
		Point 12	13	262659	4296777	Delta
		Point 1	12	715163	4238647	Montrose
		Point 2	12	715152	4238760	Montrose
		Point 3	12	715597	4238689	Montrose
		Point 4	12	715551	4238505	Montrose
		Point 5	12	717015	4238029	Montrose
Old Hotchkiss Water Treatment Plant	North Fork of the Gunnison River	Point 6	12	717092	4237965	Montrose
		Point 7	12	716941	4237895	Montrose
		Point 8	12	716997	4238133	Montrose
		Point 9	12	716719	4238153	Montrose
		Point 10	12	716838	4237908	Montrose
		Point 1	13	262880	4297374	Delta
		Point 2	13	262956	4297312	Delta
		Point 3	13	262872	4297220	Delta
		Point 4	13	262969	4297193	Delta
		Point 5	13	263086	4297200	Delta
Orchard Mesa Wildlife Area	Colorado River	Point 6	13	263189	4297218	Delta
		Point 1	12	717434	4325323	Mesa
		Point 2	12	717369	4325425	Mesa
		Point 3	12	717283	4325483	Mesa
		Point 4	12	717174	4325483	Mesa
		Point 5	12	717072	4325461	Mesa
		Point 6	12	716966	4325462	Mesa
		Point 7	12	716833	4325458	Mesa
Point 8	12	717440	4325503	Mesa		

Yellow-billed Cuckoo Surveys in Western Colorado: 2011 Annual Report

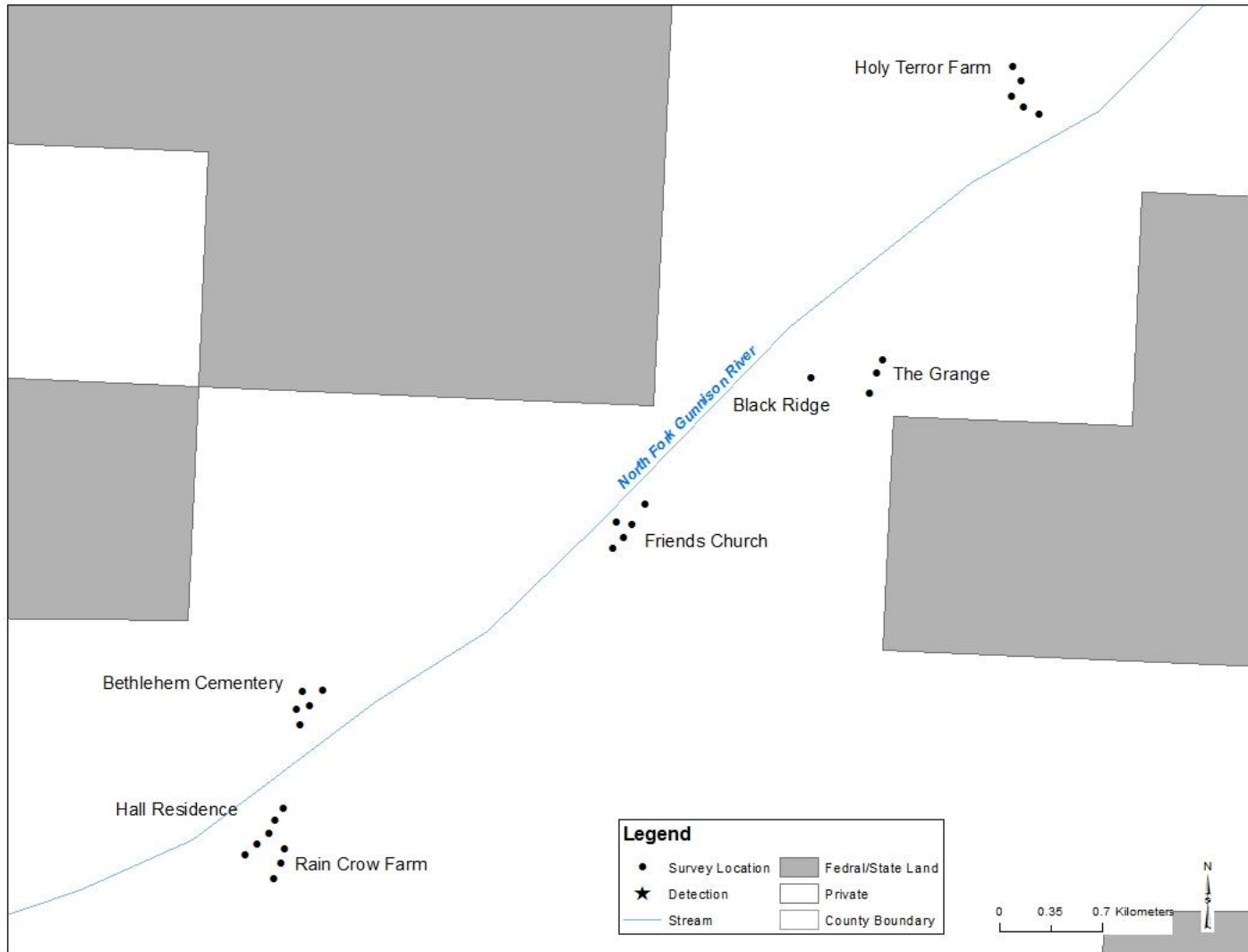
Location	Drainage	Point Number	Zone	Easting	Northing	County
Plateau City	Colorado River	Point 1	13	243193	4347331	Mesa
		Point 2	13	243074	4347330	Mesa
		Point 3	13	242969	4347327	Mesa
		Point 4	13	242891	4347269	Mesa
		Point 5	13	243302	4347320	Mesa
		Point 6	13	243409	4347293	Mesa
		Point 7	13	243503	4347394	Mesa
		Point 8	13	243615	4347427	Mesa
		Point 9	13	243728	4347432	Mesa
		Point 10	13	243848	4347429	Mesa
Rain Crow Farm	North Fork of the Gunnison River	Point 1	13	272439	4304051	Delta
		Point 2	13	272415	4303950	Delta
		Point 3	13	272366	4303846	Delta
Robinsong Residence	North Fork of the Gunnison River	Point 1	13	264129	4298600	Delta
		Point 2	13	264046	4298658	Delta
		Point 3	13	263967	4298589	Delta
		Point 4	13	263950	4298707	Delta
		Point 5	13	263909	4298808	Delta
		Point 6	13	263840	4298898	Delta
San Miguel River	San Miguel River	Point 1	12	701074	4245274	Montrose
		Point 2	12	701029	4245376	Montrose
		Point 3	12	700838	4245686	Montrose
		Point 4	12	700800	4245816	Montrose
		Point 5	12	700518	4246983	Montrose
		Point 6	12	700362	4247036	Montrose
		Point 7	12	699257	4248242	Montrose
		Point 8	12	699339	4248129	Montrose
The Grange	North Fork of the Gunnison River	Point 1	13	276543	4307407	Delta
		Point 2	13	276504	4307314	Delta

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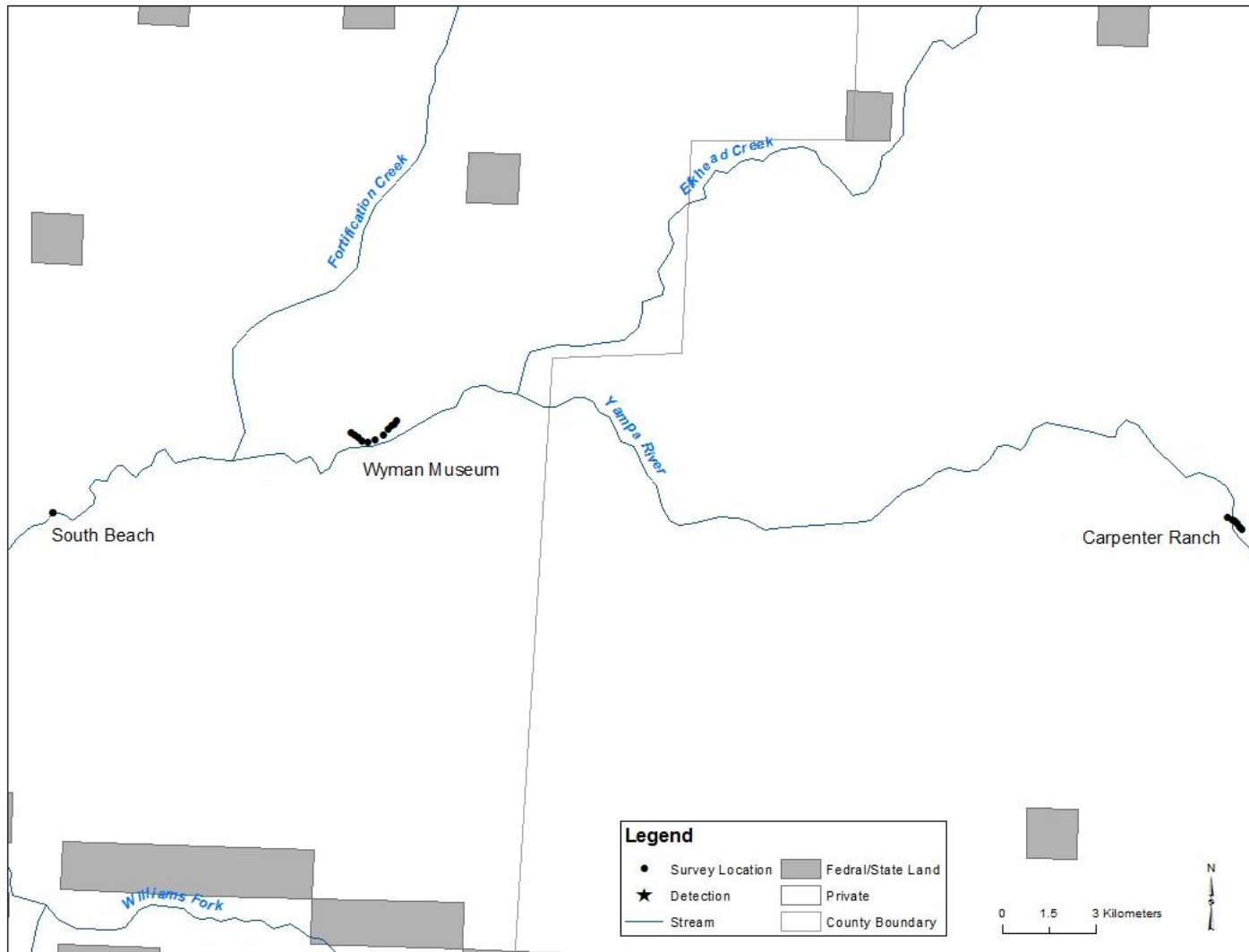
Location	Drainage	Point Number	Zone	Easting	Northing	County
Wyman Museum	Yampa River	Point 3	13	276449	4307182	Delta
		Point 1	13	289757	4487677	Moffat
		Point 2	13	289642	4487547	Moffat
		Point 3	13	289508	4487352	Moffat
		Point 4	13	289240	4487218	Moffat
		Point 5	13	288989	4487134	Moffat
		Point 6	13	288683	4487291	Moffat
		Point 7	13	288440	4487458	Moffat
		Point 8	13	289853	4487715	Moffat
		Point 9	13	289926	4487834	Moffat
		Point 10	13	288560	4487380	Moffat
Point 11	13	288790	4487176	Moffat		

\*UTM coordinates in NAD 83 projection

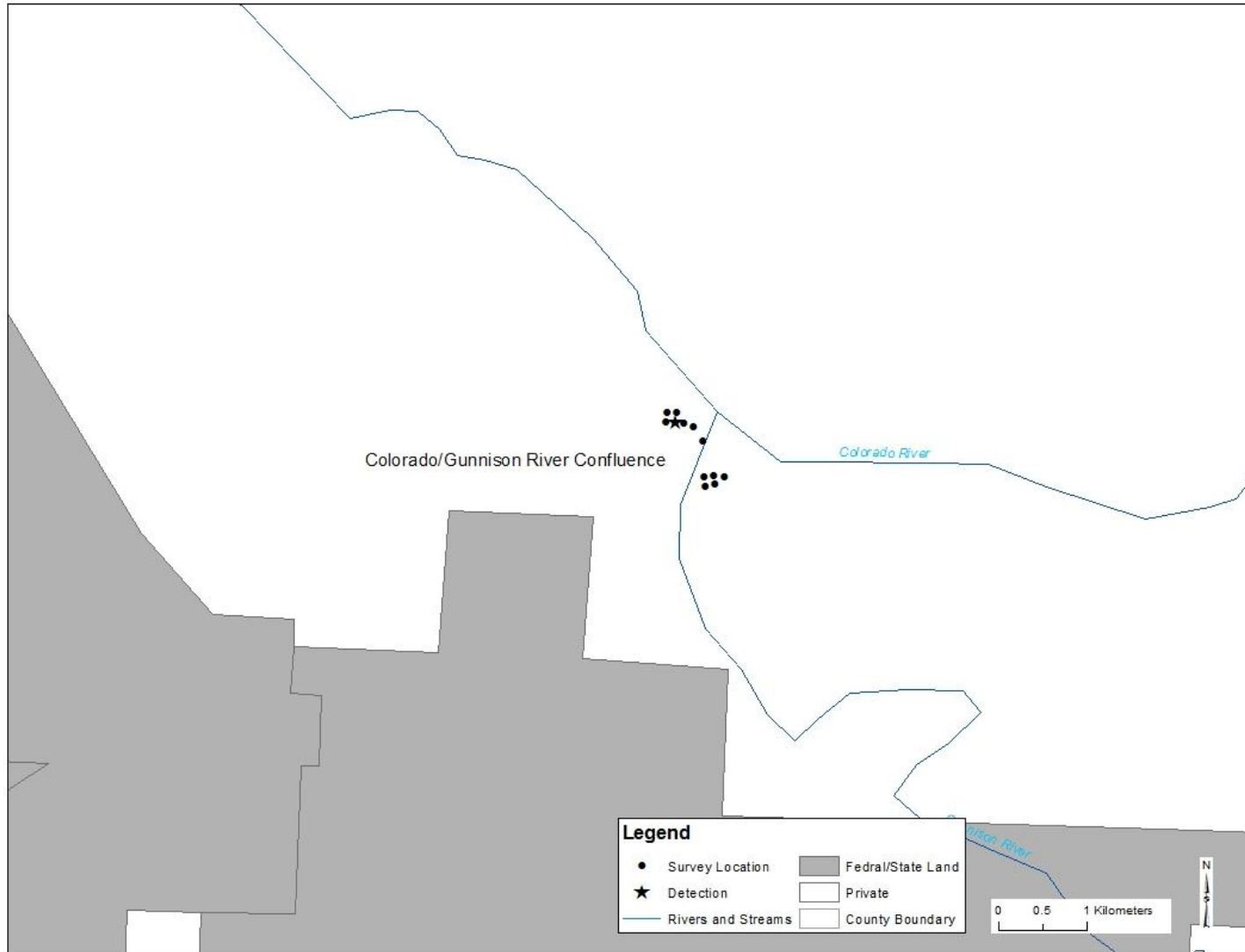
**Appendix D. Yellow-billed Cuckoo broadcast-point count survey locations near Paonia along or near the North Fork of the Gunnison River, 2011.**



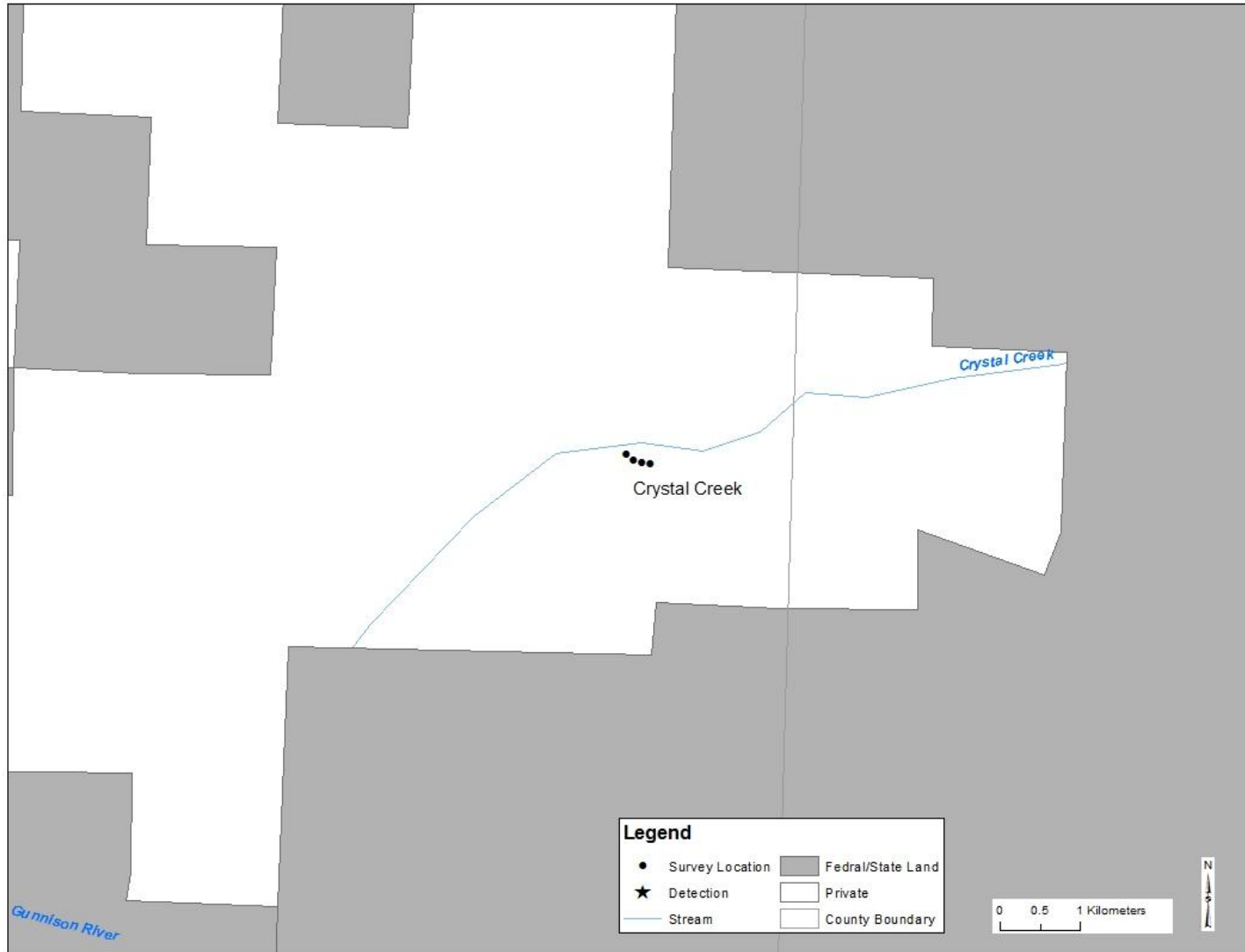
**Appendix E. Yellow-billed Cuckoo broadcast-point count survey locations at Carpenter Ranch and Wyman Museum along the Yampa River, 2011.**



**Appendix F. Yellow-billed Cuckoo broadcast-point count survey locations at the Colorado and Gunnison River confluence, 2011.**

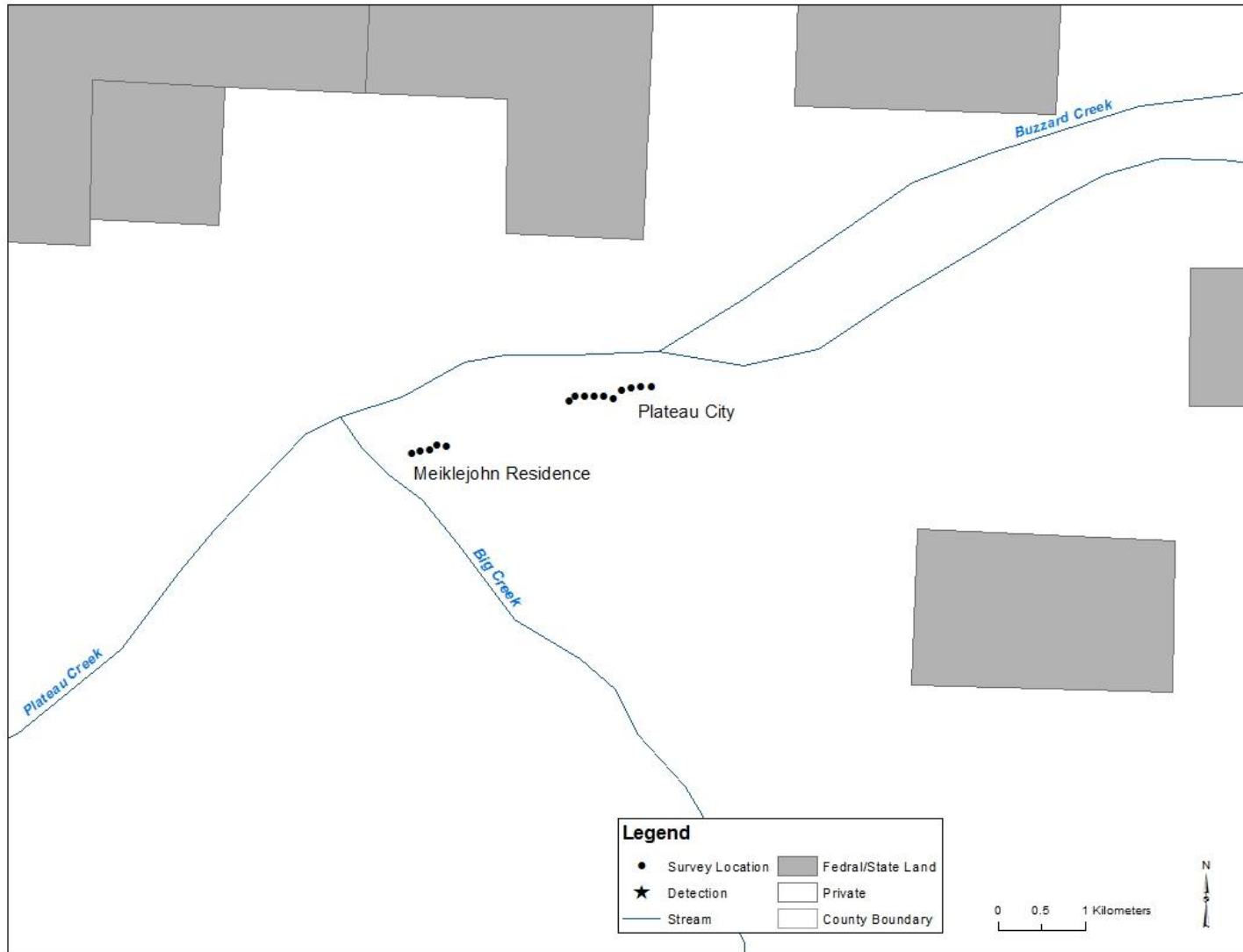


**Appendix G. Yellow-billed Cuckoo broadcast-point count survey locations along Crystal Creek, 2011.**

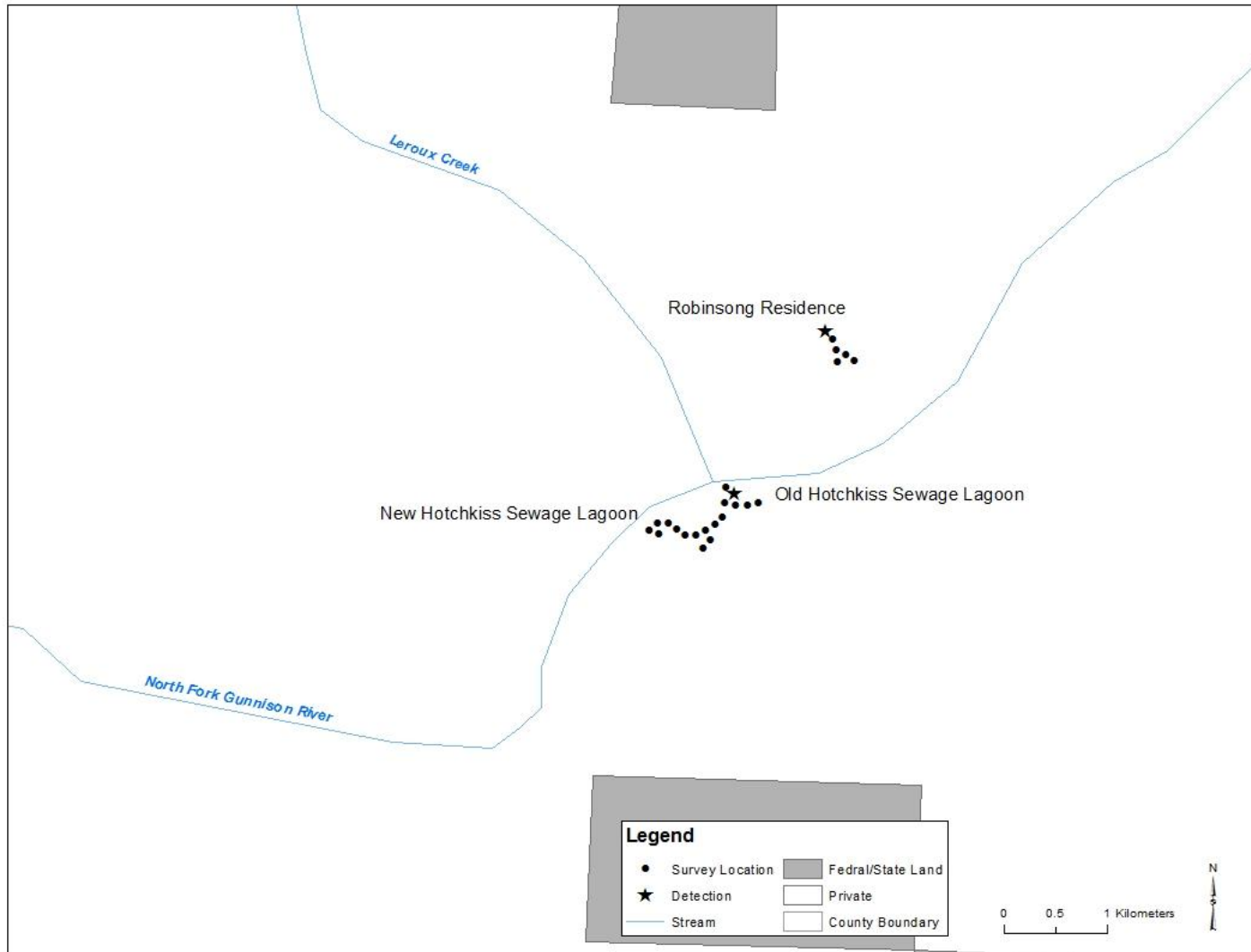




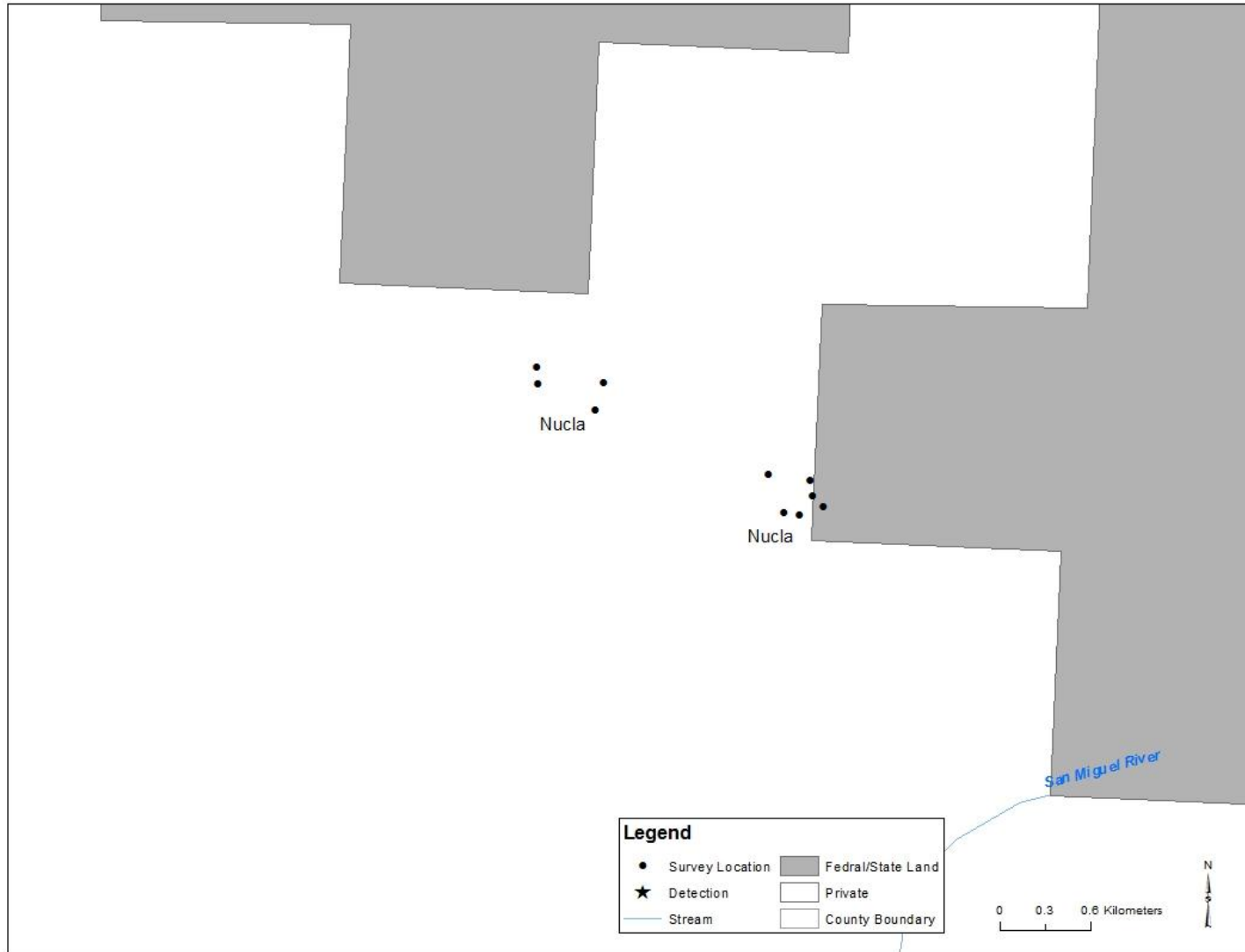
**Appendix H. Yellow-billed Cuckoo broadcast-point count survey locations at Plateau Creek near Plateau Creek, 2011.**



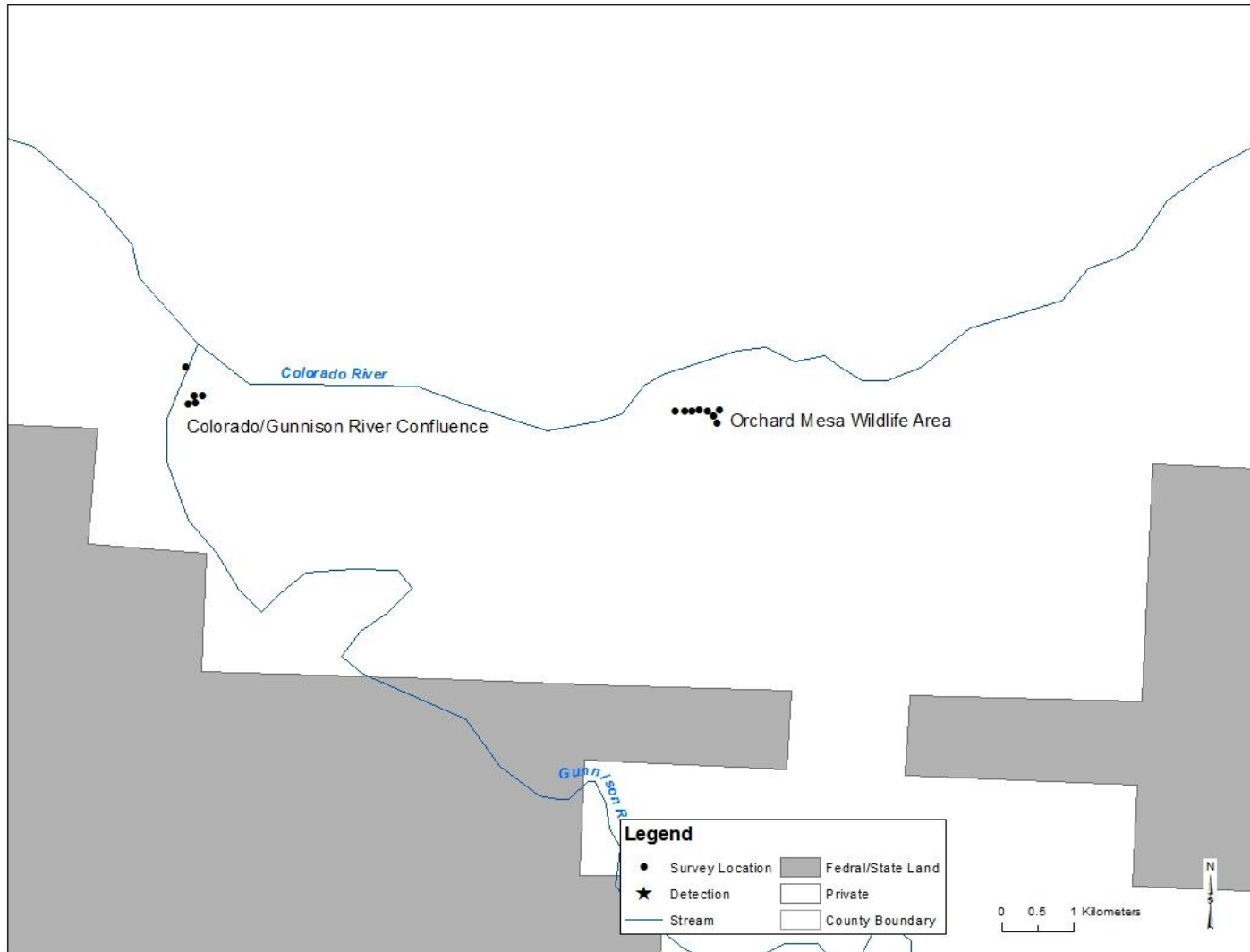
**Appendix I. Yellow-billed Cuckoo broadcast-point count survey locations near Hotchkiss along or near the North Fork of the Gunnison River, 2011.**



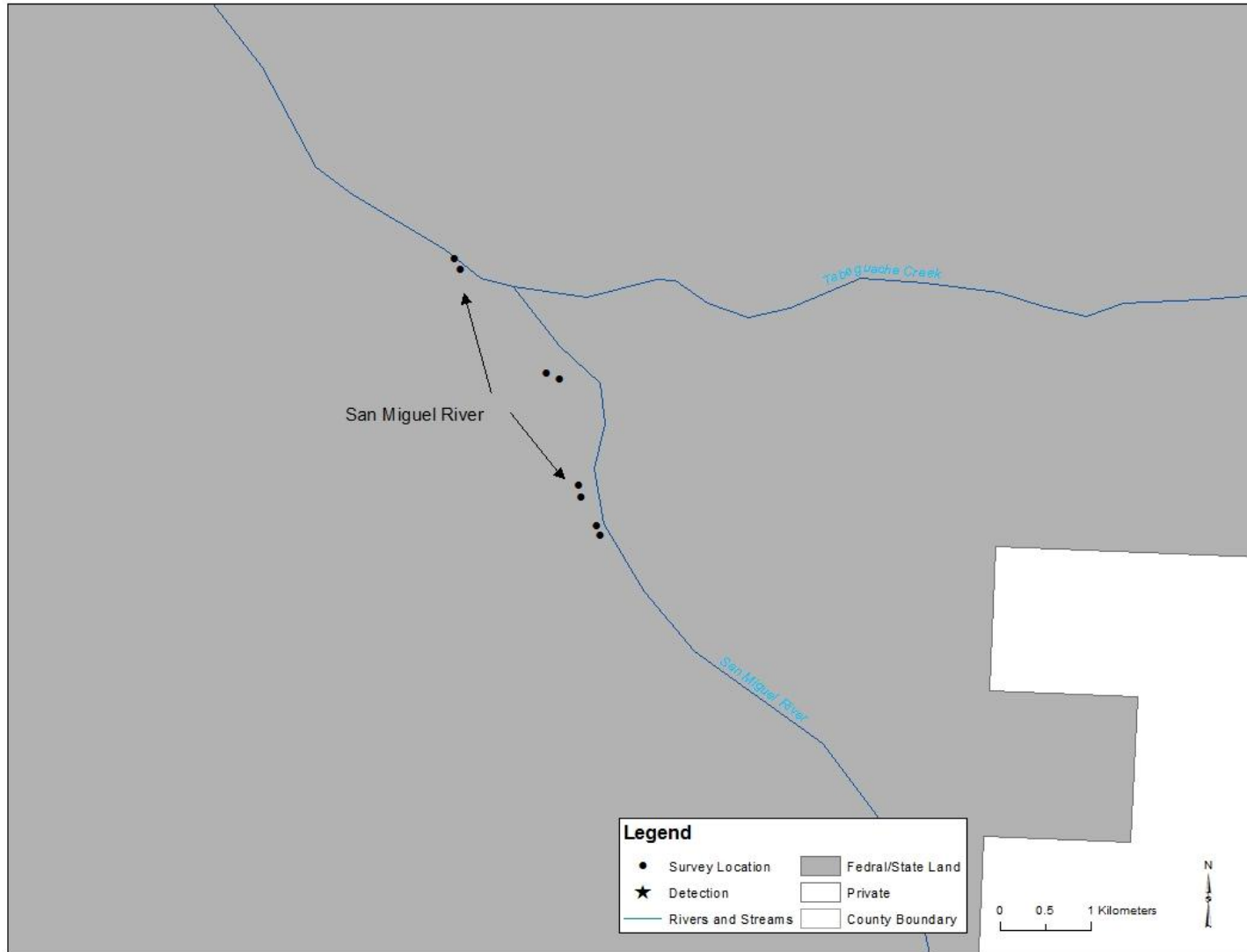
**Appendix J. Yellow-billed Cuckoo broadcast-point count survey locations in and near Nucla near the San Miguel River, 2011.**



**Appendix K. Yellow-billed Cuckoo broadcast-point count survey locations at the Orchard Mesa Wildlife Area along the Colorado River, 2011.**



**Appendix L. Yellow-billed Cuckoo broadcast-point count survey locations along the San Miguel River, 2011.**



**Appendix M. Locations of broadcast-point count surveys and detections of Yellow-billed Cuckoos in the range of the Western Distinct Population Segment of the Yellow-billed Cuckoo in western Colorado and northeastern Utah, 2008-2010.**

