Survey for Raptors and Sensitive Bird Species on the Ridgway Trails System for the Uncompahgre Field Office of the Bureau of Land Management

October 2010

ROCKY MOUNTAIN BIRD OBSERVATORY

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***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.*

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Cooper's Hawk by Bill Schmoker. Used with permission.

Contact Information:

Jason Beason jason.beason@rmbo.org

Rocky Mountain Bird Observatory

39405 Lund Road

Paonia, Colorado 81428

970.527.4625

Executive Summary

Rocky Mountain Bird Observatory conducted surveys for nesting raptors and other Bureau of Land Management sensitive bird species from mid-May through mid-June of 2010 near Ridgway, Colorado. A total of 18 days of field work were conducted for the project. Surveys occurred on a parcel of land managed by the Uncompahgre Field Office of the Bureau of Land Management. The need for these surveys was created by a Bureau of Land Management trail construction and improvement project.

During our surveys no active raptor nests were located in the study area. For this project, non-systematic surveys were conducted which involved hiking existing trails while watching and listening for bird species of interest. The target species for our surveys was the Cooper's Hawk since this species nested in the study area in 2009. Call playback surveys for Cooper's Hawks were conducted on an opportunistic basis in an attempt to increase likelihood of detection. Considering the amount of effort put forth in the study area, we believe that raptors did not nest in the area of interest in 2010. In total, we observed seven species of raptors and six species of other Bureau of Land Management sensitive bird species during the 2010 breeding season in the study area.

Acknowledgements

I sincerely thank Charlie Sharp, Missy Siders, and David Sinton of the Bureau of Land Management for making this project possible and for support before, during, and after the project. I am grateful to Larry Arnold and Christine Avena for conducting surveys. I am also appreciative of Nancy Drilling, Charlie Sharp, and Chris White for their careful review of this report.

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Introduction

In 1998 the Rocky Mountain Bird Observatory (RMBO) initiated the Monitoring Colorado's Birds program. The original goal of this program was to monitor populations of breeding birds in Colorado. Many of the species that breed in Colorado can be monitored through statistical analysis of data collected during point-count surveys; however, for some species these techniques will not work. For species that cannot be monitored via point count surveys, the Special Species program was created. The Special Species program has collected information for several of Colorado's low-density species including some raptor species (i.e., Osprey), but information for other raptor species (i.e., Cooper's Hawk or American Kestrel) is not easily obtained and requires a focused survey effort.

During the spring of 2010, RMBO conducted surveys for nesting raptors and other sensitive bird species on a parcel of land managed by the Uncompahgre Field Office (UFO) of the Bureau of Land Management (BLM). This survey was a part of a baseline evaluation for a trail project for the BLM. In the project area, near Ridgway, Colorado, locations of existing trails are being evaluated and new trails are being constructed so that the area will better meet the established management requirements. Raptors have been known to nest in this area; however, exact nesting locations vary from year to year. Other BLM sensitive bird species (i.e., Brewer's Sparrow) and U.S. Fish and Wildlife Service (USFWS) Migratory Birds of Conservation Concern (i.e., Gray Vireo, Pinyon Jay, Juniper Titmouse, Brewer's Sparrow, and Cassin's Finch) occupy the study area and it is important to track their populations to determine if recreational activities are influencing their presence. Protecting these species will ensure the BLM complies with existing laws protecting wildlife on lands they manage and that populations of these species remain stable.

The habitat in the study area is dominated by pinyon-juniper; however, other habitats are also present. Vegetative characteristics of pinyon-juniper habitat vary throughout the American Southwest. In the study area near Ridgway, Colorado, this habitat is at its upper elevation limits (approximately 7000 feet to 7800 feet elevation). As typical in this habitat at higher elevations, pinyon pine is more abundant than juniper and overall the forest forms more closed-canopied stands unlike pinyon-juniper at lower elevations. These high-elevation pinyon-juniper forests also exhibit an increase in understory shrub species density and diversity similar to other high-elevation coniferous forests. Other habitats present in the study area were sage shrubland and montane shrubland.

Methods

Site Selection

The BLM selected the entire parcel of land where trail construction and improvement were scheduled to occur as the study area to be surveyed (approximately 1400 acres). Maps showing the boundary of the study area and locations of existing trails in the study area were given to RMBO prior to the field season. The BLM requested that surveys take place along existing trails in the study area because of concerns about potential impacts from recreationists (primarily mountain bikers).

Protocol

We conducted non-systematic surveys for this project. Field workers hiked existing trails while watching and listening for raptor species and other BLM sensitive bird species. If a raptor was detected, at least 30 minutes was spent searching the area in the vicinity of the detection for a nest. The amount of funding available for this project allowed for a total of 18 days of field work to be completed.

After a half-day of training in the study area on 29 March, surveys began on 12 may and ended on 16 June. These dates correspond well with the peak of the breeding season for the majority of the bird species of the area. For the project RMBO maintained a list of bird species detected in the study area (Appendix 1).

Two field technicians with prior bird survey experience were hired to conduct surveys. Technicians took part in a one-day training session held in the study area where survey techniques were discussed and practiced. At the training session, field workers were familiarized with the study area and necessary equipment.

One Cooper's Hawk nest was located in the study area in 2009. As a result, field technicians were targeting this species in 2010. Call playback surveys were conducted for this species in 2010 throughout the survey area, especially near the 2009 nesting location.

Results

In this section we provide species accounts for raptors, BLM sensitive bird species, and other species of interest detected during the survey. Several raptor species were detected in the study area during our surveys; however, no active nests were located. Other BLM sensitive bird species and USFWS Birds of Conservation Concern were detected in the study area and some of them could be considered abundant (please see Appendix 2 for location information). We also identify species selected by the Colorado Division of Wildlife as a Species of Greatest Conservation Need in the Colorado Wildlife Action Plan. Some bird species are included in this report because their populations are declining or because we feel surveys to determine their presence in the study area should continue.

Sharp-shinned Hawk

We recorded five detections of Sharp-shinned Hawks during surveys (Figure 1). Sharp-shinned Hawks nest from approximately 7,500 feet to 10,500 feet elevation in western Colorado (Righter et al. 2004). Nests of this species can be difficult to since they are placed in dense foliage. The presence of other bird species that typically breed at similar elevations and in similar habitats (i.e., Olive-sided Flycatcher and Cassin's Finch) indicates that this species could breed in the study area. Cooper's Hawk is a raptor species that nests more frequently in pinyon-juniper habitat and at elevations consistent with those found in the study area. Differentiating between Cooper's and Sharp-shinned Hawk is difficult and all biologists conducting surveys for these raptor species should exercise caution when identifying these species.

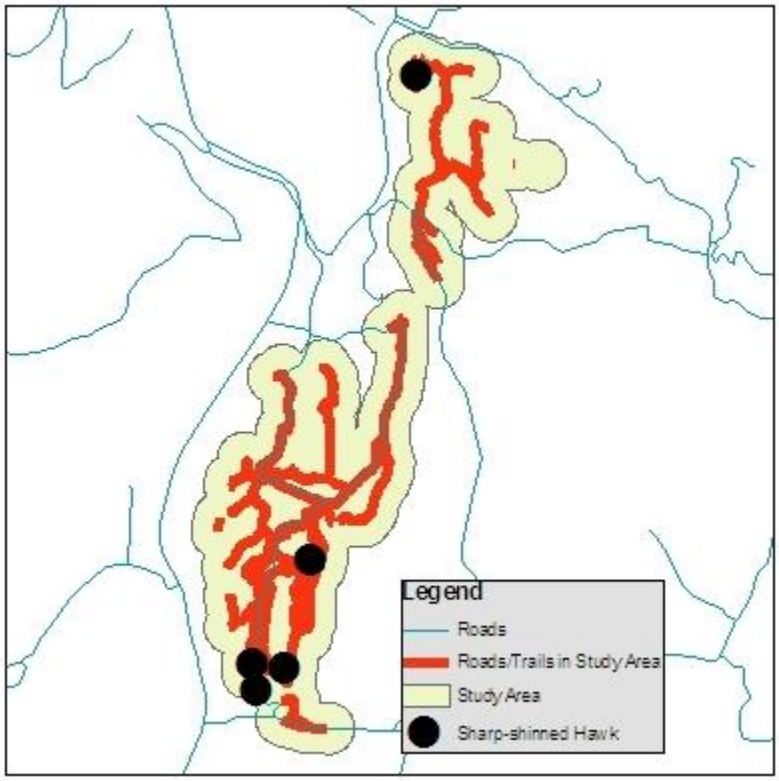

Figure 1. Locations of Sharp-shinned Hawk detections during 2010 surveys.

Cooper's Hawk

One active Cooper's Hawk nest was located in the study area in 2009. We recorded a single detection of this species in 2010, but an active nest was not located (Figure 2). Cooper's Hawks build stick nests in a tree well off the ground and are typically easy to see. We feel that if nesting by this species had occurred in the study area in 2010 the nest would have been located given the level of effort. Call playback surveys were conducted in 2010 for this species, but did not yield detections.

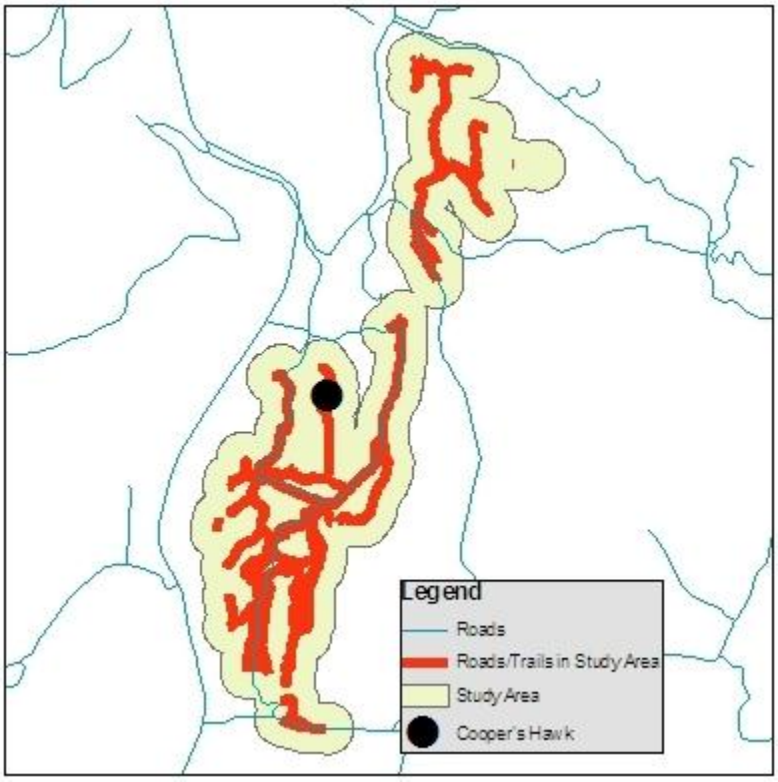

Figure 2. Location of Cooper's Hawk detection during 2010 surveys.

Red-tailed Hawk

We recorded six detections of Red-tailed Hawk in the study area in 2010, but an active nest was not located (Figure 3). At least one of the detections was a juvenile Red-tailed Hawk at the end of the breeding season indicating that there could have been a nest near the study site. Red-tailed Hawks will build large stick nests placed in a tree or on a cliff that are not difficult to find. We feel that given the level of effort placed into surveying the study site a nest would have been located if present.

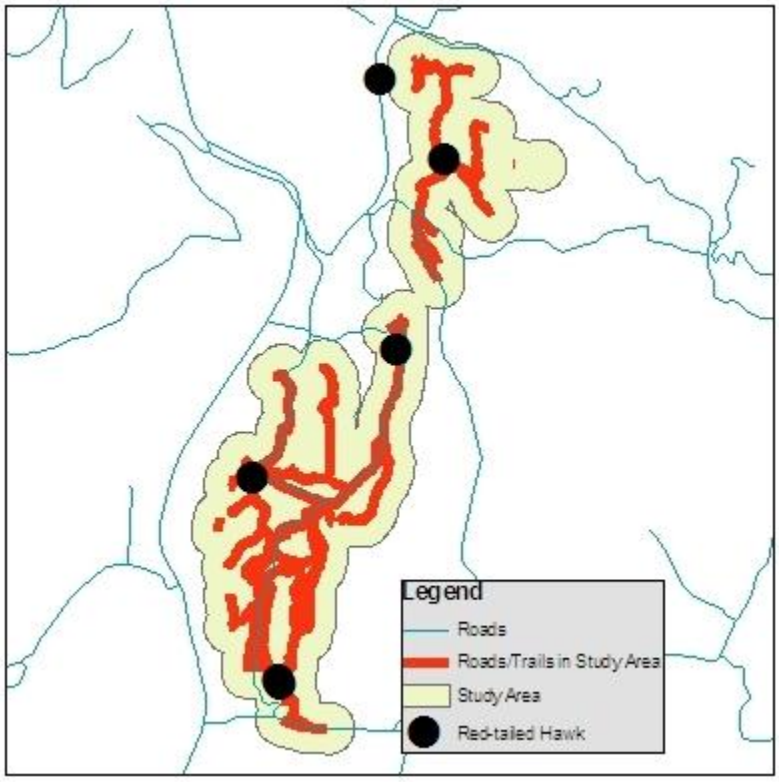

Figure 3. Locations of Red-tailed Hawk detections during 2010 surveys.

American Kestrel

One American Kestrel detection was recorded in the study area in 2010 (Figure 4). American Kestrels nest in natural cavities or those made by large woodpeckers or in small niches on rocky ledges on cliffs in western Colorado. We feel that if this species was nesting in the study area in 2010 the nest would have been located.

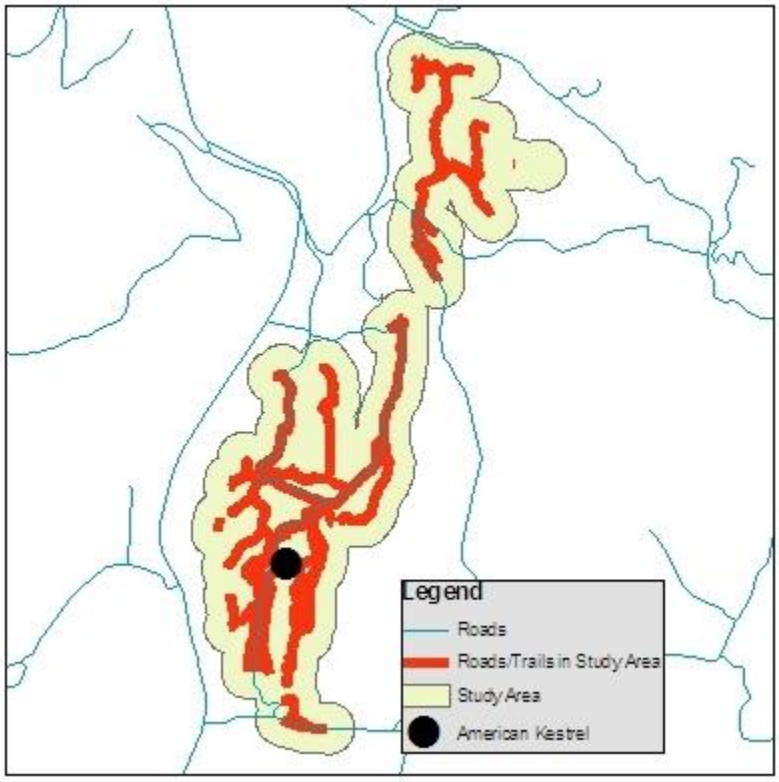

Figure 4. Location of American Kestrel detection during 2010 surveys.

Great Horned Owl

A single detection of Great Horned Owl was recorded in 2010 in the study area (Figure 5). A field worker encountered this adult owl while hiking in the study area in the daylight hours. Great Horned Owls do not build their own nests, but will instead use old hawk or raven nests or ledges on cliffs. Nesting by this species was not documented during our surveys; however, it is possible that they could have been nesting away from established trails. Great Horned Owls begin their nesting period very early in the year (often in December or January) and it is unlikely that summer trail activity would interfere with their nesting success. During the time of peak trail use in the study area the fledgling owls would most likely be capable of flying.

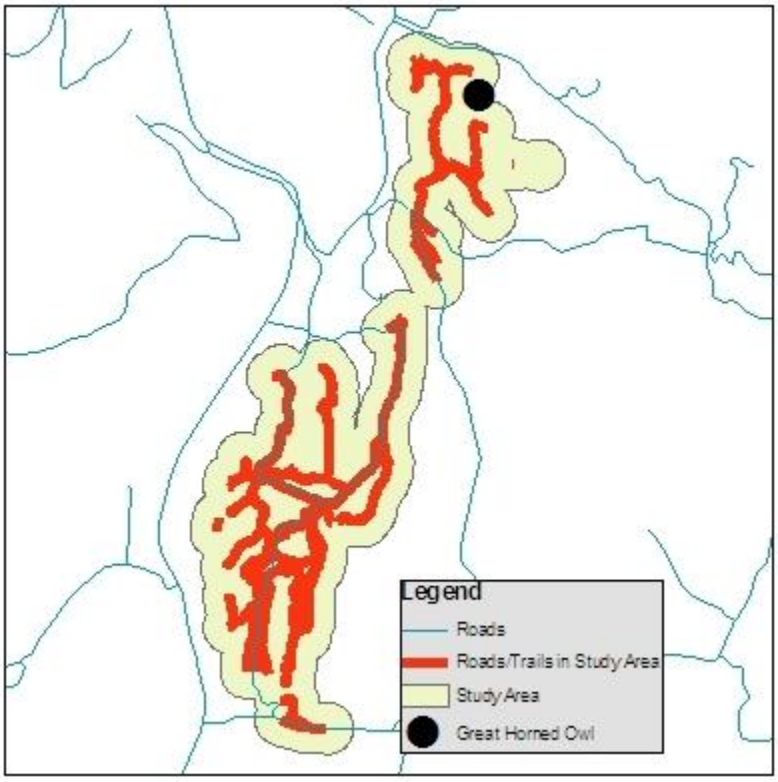

Figure 5. Location of Great Horned Owl detection during 2010 surveys.

Northern Pygmy-Owl

One detection of Northern Pygmy-Owl was recorded in 2010 while a field worker was camping in the study area (Figure 6). During the first Colorado Breeding Bird Atlas pinyon-juniper was one of the primary habitats use by this species (Colorado Breeding Bird Atlas Partnership 1998). Northern Pygmy-Owls use natural cavities or those constructed by woodpeckers for nesting. Like other species of small owls that breed in Colorado, there is still much to be learned about their life history.

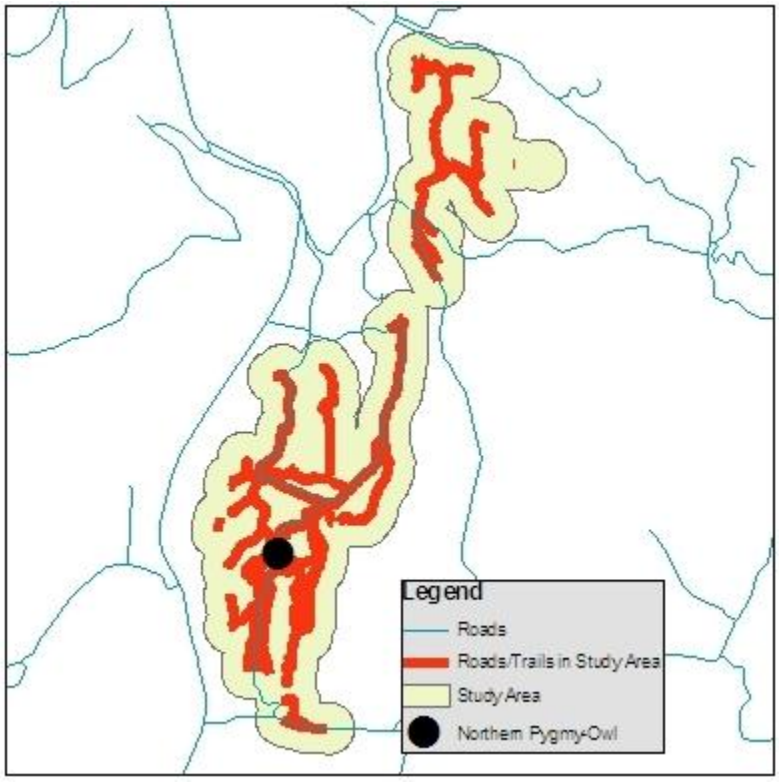

Figure 6. Location of Northern Pygmy-Owl detection during 2010 surveys.

Northern Saw-whet Owl

A field worker heard calling Northern Saw-whet Owls while camping in the study area from 12 May through 19 May (Figure 7). The field worker estimated that there were at least three territorial males in the location marked in Figure 1. We did not confirm breeding; however, it is likely that this species does breed in the study area. During the first Colorado Breeding Bird Atlas pinyon-juniper habitat type was the second most frequently used by Northern Saw-whet Owls (Colorado Breeding Bird Atlas Partnership 1998). Several suitable cavities for nesting exist in the study area.

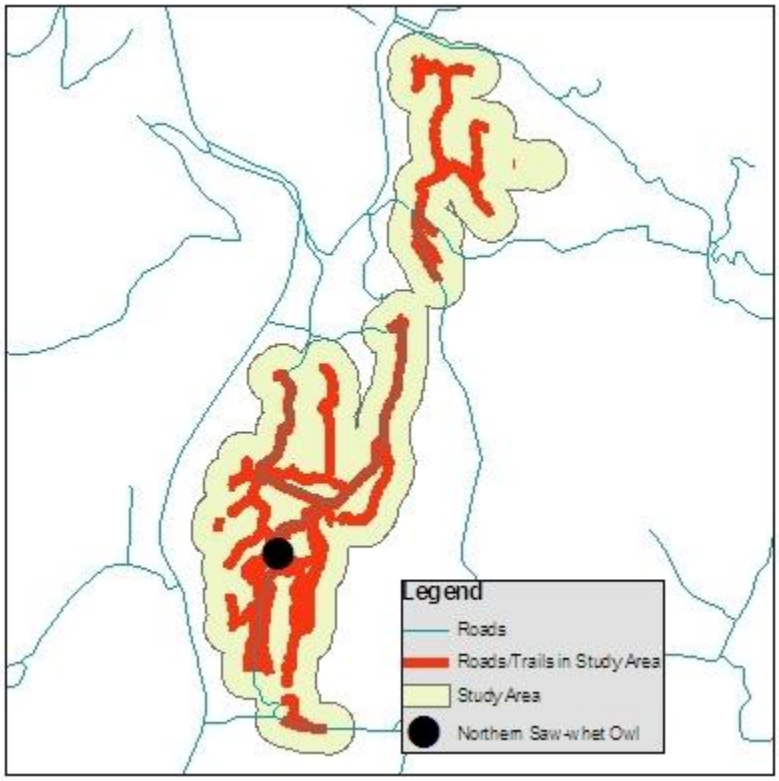

Figure 7. Locations of Northern Saw-whet Owl detections during 2010 surveys.

Olive-sided Flycatcher – CDOW Species of Greatest Conservation Need

Olive-sided Flycatchers were detected at two locations during our surveys and could potentially breed in the study area (Figure 8). Olive-sided Flycatchers are encountered most frequently in high-elevation spruce-fir habitat in Colorado. The species will also nest in high-elevation pinyon-juniper stands where the vegetative structure is similar to other high-elevation forest types.

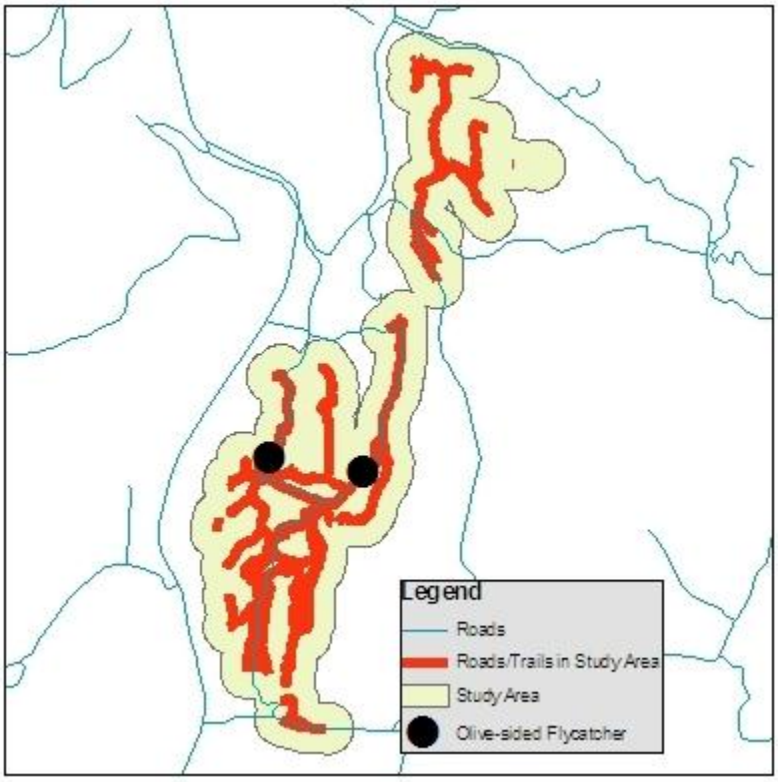

Figure 8. Locations of Olive-sided Flycatcher detections during 2010 surveys.

Gray Vireo – USFWS Bird of Conservation Concern and CDOW Species of Greatest Conservation Need

Gray Vireo is considered to be a pinyon-juniper habitat obligate (Righter et al. 2004). This species was detected twice in the study area in 2010 (Figure 9); however, we believe that these birds were most likely migrating through the area because they were detected early in the nesting season in May but not later in June. During the first Colorado Breeding Bird Atlas (1987-1994), Gray Vireos were found breeding between 4500 feet and 6000 feet elevation (Colorado Breeding Bird Atlas Partnership 1998). Breeding by this species would not be expected at the elevation of the study area.

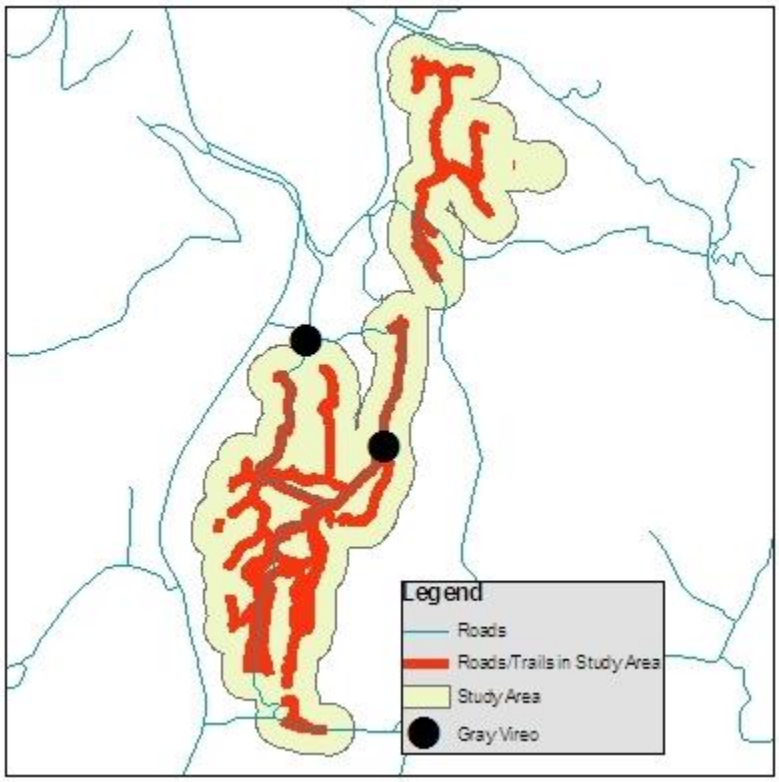

Figure 9. Location of Gray Vireo detections during 2010 surveys.

Pinyon Jay – USFWS Bird of Conservation Concern and CDOW Species of Greatest Conservation Need

Pinyon Jay is a colonially-nesting breeder of pinyon-juniper habitat in Colorado. We recorded Pinyon Jays during two visits to the survey area in 2010 (Figure 10). Nesting by Pinyon Jay was not confirmed in the study area, but it is possible that the species could have nested prior to our surveys or nest sites simply were not discovered. It is believed that this species is declining throughout its range (Cornell Lab of Ornithology 2010).

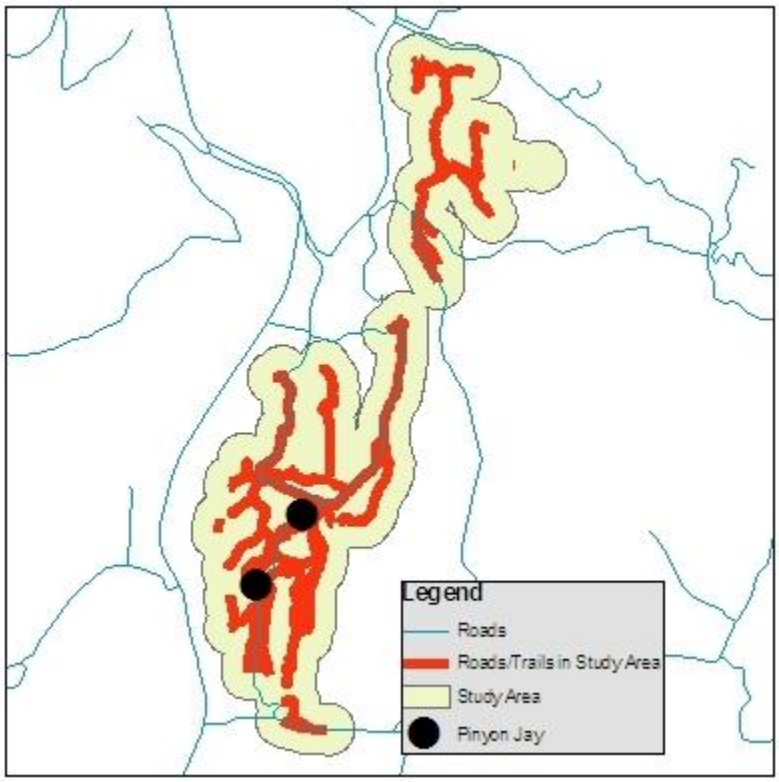

Figure 10. Location of Pinyon Jay detections during 2010 surveys.

Juniper Titmouse – USFWS Bird of Conservation Concern and CDOW Species of Greatest Conservation Need

Juniper Titmouse is a frequently encountered breeding bird species in pinyon-juniper habitat. The species was detected on two visits to the study area in 2010 (Figure 11). It is unlikely that trail activity would negatively impact this species since it nests in well-protected tree cavities. Conservation of this species in the study area will require managing for juniper and pinyon pine large enough to contain cavities for nesting.

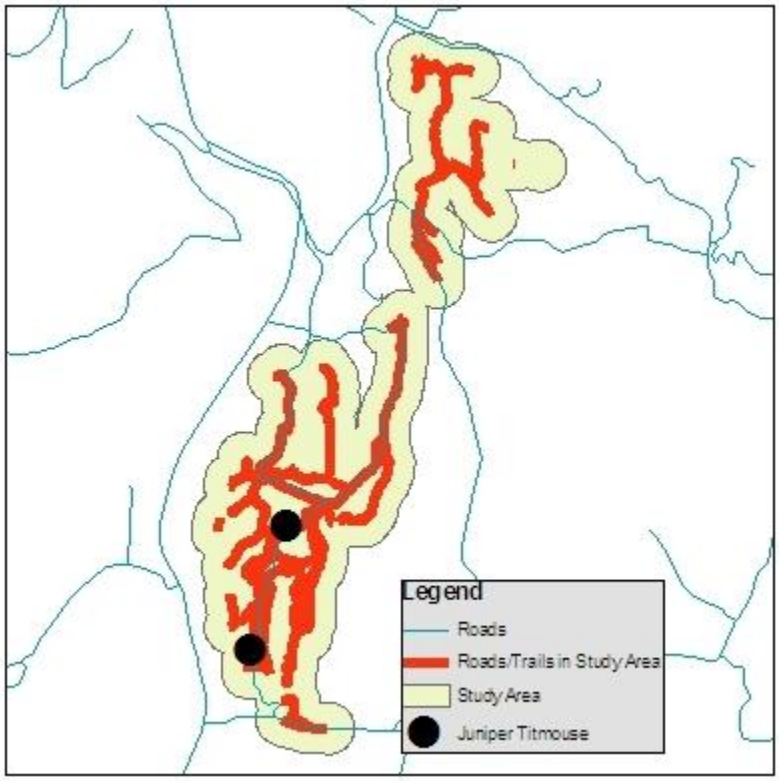

Figure 11. Location of Juniper Titmouse detections during 2010 surveys.

Brewer's Sparrow – BLM Sensitive Species, USFWS Bird of Conservation Concern, and CDOW Species of Greatest Conservation Need

Brewer's Sparrow was detected on two occasions in the same location in the study area (Figure 12). Both observations consisted of aurally detected singing males; however, the species was not confirmed nesting in the area. Brewer's Sparrows rely on sagebrush habitat for nesting. Even though Sagebrush habitat is found on a low percentage of the study area, it is possible that Brewer's Sparrows nest here.

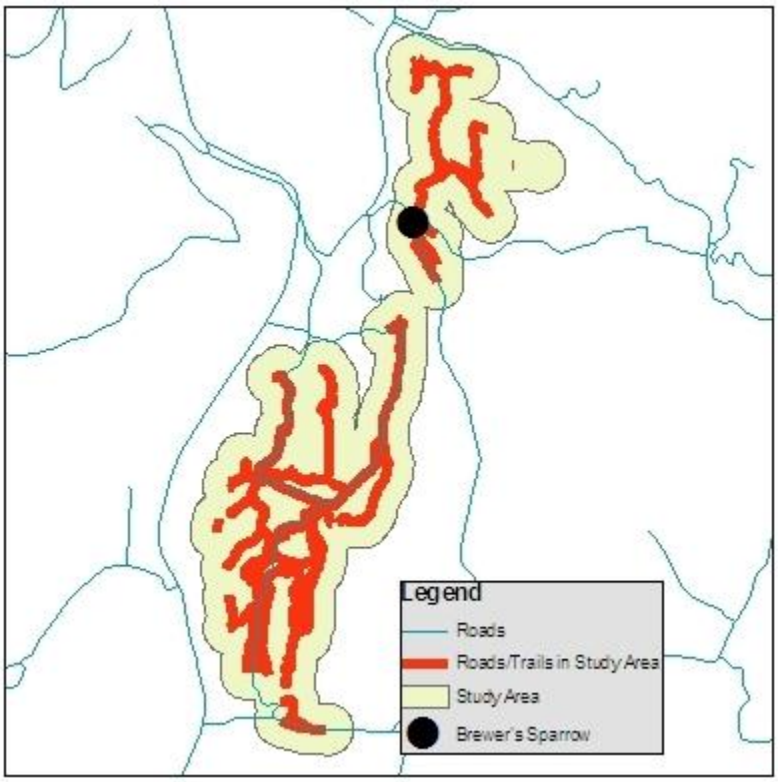

Figure 12. Location of Brewer's Sparrow detection during 2010 surveys.

Cassin's Finch – USFWS Bird of Conservation Concern and CDOW Species of Greatest Conservation Need

Cassin's Finch was recorded at ten locations throughout the survey period in the study area (Figure 13). This species typically nests at higher elevations in other habitats, but as documented in the first Colorado Breeding Bird Atlas, they will nest in pinyon-juniper (Colorado Breeding Bird Atlas Partnership 1998). The best way to find this species is to learn the song of males and the distinctive "chip" note made by both sexes.

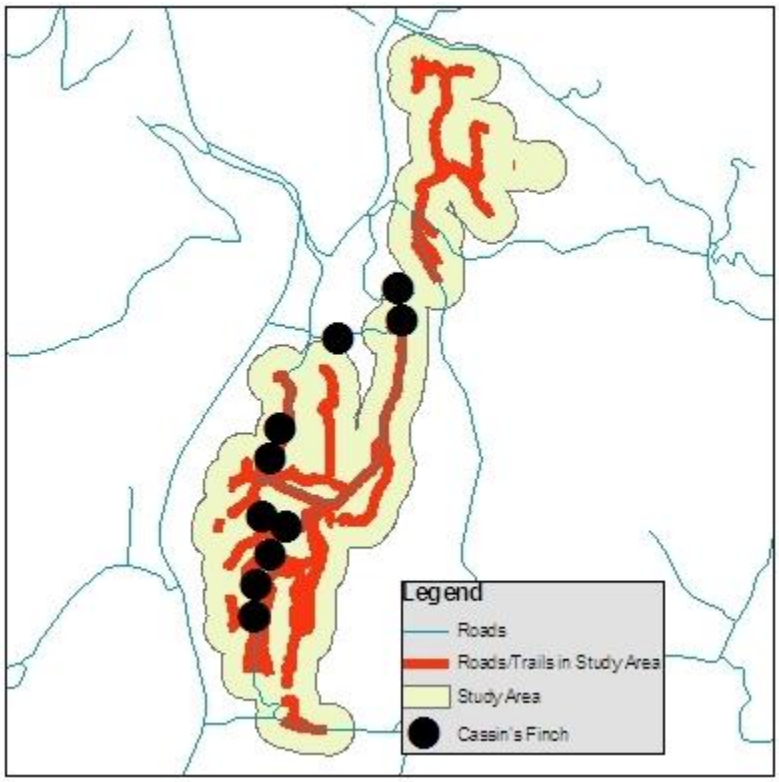

Figure 13. Location of Cassin's Finch detections during 2010 surveys.

Discussion and Recommendations

In order to conserve raptors in the study area we recommend that surveys continue annually along the trails in the study area to determine if active nests are present. Surveys should take place as soon as trails are passable and prior to the time of year of peak recreational trail use. If a nest (or nests) is located a buffer zone of at least 0.25 mile should be placed around the nest and the trails within that buffer should remain closed for the duration of the nesting season. If funding can be secured for continuing surveys in future years for raptor species there will be tremendous long-term benefits towards the conservation of raptors in the study area.

In 2010, three species of nocturnal raptors (owls) were recorded in the study area. Due to their nocturnal habits, the nesting success of these species should not be impacted by recreational activities occurring during daylight hours. We recommend that the UFO continue surveys for all owl species to determine their presence and whether or not recreation activities do influence their presence in the study area. We also recommend that the UFO include the other species mentioned in this report in future survey efforts.

Pinyon Jay is a species that could be impacted by recreational trail use in the study area because they initiate courtship and nest-building activities early in the spring before recreational trail use begins. If the jays are nesting near a trail in the area their nesting success could be negatively impacted once recreationists begin to use the trails. We recommend that if future surveys discover Pinyon Jay nest sites then the portions of trails near nests be closed to recreational activities so that human activities do not influence nesting success of this declining species.

In order to avoid impacts to sagebrush habitat that is present in the study area, we recommend that the BLM use already existing trails for the trails project. Creating new trails through sagebrush would result in less habitat available for Brewer's Sparrow.

Literature Cited

Colorado Breeding Bird Atlas Partnership. 1998. Colorado Breeding Bird Atlas. Denver, Co. 636 pp.

Cornell Lab of Ornithology. All About Birds. "Pinyon Jay". 17 Oct 2010. <http://www.allaboutbirds.org/guide/Pinyon_Jay/lifehistory>

Righter, R., R. Levad, C. Dexter, and K. Potter. 2004. Birds of Western Colorado Plateau and Mesa Country. Grand Valley Audubon Society. 214 pp.

Appendix 1. Complete list of birds detected during Ridgway Trails Project, March – June 2010.

Common Name	Scientific Name
Canada Goose	Branta canadensis
Gambel's Quail	Callipepla gambelii
Turkey Vulture	Cathartes aura
Osprey	Pandion haliaetus
Sharp-shinned Hawk	Accipiter striatus
Cooper's Hawk	Accipiter cooperii
Red-tailed Hawk	Buteo jamaicensis
American Kestrel	Falco sparverius
Killdeer	Charadrius vociferus
Mourning Dove	Zenaida macroura
Northern Pygmy-Owl	Glaucidium gnoma
Northern Saw-whet Owl	Aegolius acadicus
Common Nighthawk	Chordeiles minor
White-throated Swift	Aeronautes saxatalis
Black-chinned Hummingbird	Archilochus alexandri
Broad-tailed Hummingbird	Selasphorus platycercus
Red-naped Sapsucker	Sphyrapicus nuchalis
Downy Woodpecker	Picoides pubescens
Hairy Woodpecker	Picoides villosus
Northern Flicker	Colaptes auratus
Olive-sided Flycatcher	Contopus cooperi
Western Wood-Pewee	Contopus sordidulus
Gray Flycatcher	Empidonax wrightii
Dusky Flycatcher	Empidonax oberholseri
Ash-throated Flycatcher	Myiarchus cinerascens
Western Kingbird	Tyrannus verticalis
Gray Vireo	Vireo vicinior
Plumbeous Vireo	Vireo plumbeus
Warbling Vireo	Vireo gilvus
Steller's Jay	Cyanocitta stelleri
Western Scrub-Jay	Aphelocoma californica
Pinyon Jay	Gymnorhinus cyanocephalus
Clark's Nutcracker	Nucifraga columbiana
Black-billed Magpie	Pica hudsonia
American Crow	Corvus brachyrhynchos
Common Raven	Corvus corax
Tree Swallow	Tachycineta bicolor
Violet-green Swallow	Tachycineta thalassina
Barn Swallow	Hirundo rustica
Black-capped Chickadee	Poecile atricapillus
Mountain Chickadee	Poecile gambeli
Juniper Titmouse	Baeolophus ridgwayi
Bushtit	Psaltriparus minimus

Red-breasted Nuthatch	Sitta canadensis
White-breasted Nuthatch	Sitta carolinensis
Rock Wren	Salpinctes obsoletus
Bewick's Wren	Thryomanes bewickii
House Wren	Troglodytes aedon
Ruby-crowned Kinglet	Regulus calendula
Blue-gray Gnatcatcher	Polioptila caerulea
Western Bluebird	Sialia mexicana
Mountain Bluebird	Sialia currucoides
Townsend's Solitaire	Myadestes townsendi
Hermit Thrush	Catharus guttatus
American Robin	Turdus migratorius
European Starling	Sturnus vulgaris
Orange-crowned Warbler	Vermivora celata
Virginia's Warbler	Vermivora virginiae
Yellow Warbler	Dendroica petechia
Yellow-rumped Warbler	Dendroica coronata
Black-throated Gray Warbler	Dendroica nigrescens
MacGillivray's Warbler	Oporornis tolmiei
Western Tanager	Piranga ludoviciana
Green-tailed Towhee	Pipilo chlorurus
Spotted Towhee	Pipilo maculatus
Chipping Sparrow	Spizella passerina
Brewer's Sparrow	Spizella breweri
Vesper Sparrow	Pooecetes gramineus
Lark Sparrow	Chondestes grammacus
Song Sparrow	Melospiza melodia
Dark-eyed Junco	Junco hyemalis
Black-headed Grosbeak	Pheucticus melanocephalus
Red-winged Blackbird	Agelaius phoeniceus
Western Meadowlark	Sturnella neglecta
Brewer's Blackbird	Euphagus cyanocephalus
Brown-headed Cowbird	Molothrus ater
Bullock's Oriole	Icterus bullockii
Cassin's Finch	Carpodacus cassinii
House Finch	Carpodacus mexicanus
Red Crossbill	Loxia curvirostra
Pine Siskin	Spinus pinus
Lesser Goldfinch	Spinus psaltria
Evening Grosbeak	Coccothraustes vespertinus

Appendix 2. List of Universal Transverse Mercator[1] (UTM) locations recorded for all detections of raptors, BLM sensitive bird species, USFWS Birds of Conservation Concern, and other bird species of interest.

Species	Zone	Easting	Northing
Sharp-shinned Hawk	13	260468	4229076
	13	260667	4229924
	13	260250	4228906
	13	260224	4229102
	13	261494	4233683
Cooper's Hawk	13	260806	4231187
Red-tailed Hawk	13	261212	4233651
	13	261344	4231543
	13	260216	4230548
	13	260421	4228981
	13	260433	4228953
	13	261714	4233030
American Kestrel	13	260489	4229891
Great Horned Owl	13	261994	4233517
Northern Pygmy-Owl	13	260420	4229959
Northern Saw-whet Owl	13	260420	4229959
Olive-sided Flycatcher	13	261097	4230599
	13	260361	4230705
Gray Vireo	13	261241	4230802
	13	260644	4231632
Pinyon Jay	13	260610	4230268
	13	260250	4229738
Juniper Titmouse	13	260207	4229225
	13	260482	4230180
Brewer's Sparrow	13	261485	4232539
Cassin's Finch	13	260240	4229486
	13	260250	4229738
	13	260353	4229965
	13	260482	4230180
	13	261378	4231778
	13	261356	4232026
	13	260895	4231644
	13	260442	4230941
	13	260361	4230705
	13	260297	4230261

[1] UTMs recorded in NAD 83 projection