

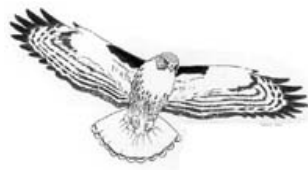
2004 WILLOW FLYCATCHER SURVEYS IN SOUTHERN COLORADO
ANNUAL REPORT

Submitted to:

David S. Klute, Ph.D.
All-bird Conservation Coordinator
Colorado Division of Wildlife
6060 Broadway
Denver, CO 80216
303-291-7320

Submitted by:

Hawks Aloft, Inc.
P.O. Box 10028
Albuquerque, NM 87184
(505) 828-9455
www.hawksaloft.org
mstake@hawksaloft.org



30 September 2004

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
INTRODUCTION	3
STUDY AREA	4
Colorado Division of Wildlife	5
Bureau of Land Management.....	5
USDA Forest Service.....	6
U.S. Fish and Wildlife Service	7
METHODS	8
RESULTS	9
Colorado Division of Wildlife	9
Bureau of Land Management.....	9
USDA Forest Service.....	10
U.S. Fish and Wildlife Service	10
DISCUSSION	11
Colorado Division of Wildlife	12
Bureau of Land Management.....	12
USDA Forest Service.....	13
U.S. Fish and Wildlife Service	13
ACKNOWLEDGMENTS	15
LITERATURE CITED	16

LIST OF TABLES

1. Number of adult Willow Flycatchers detected in southern Colorado during 2004 surveys at sites managed by the Colorado Division of Wildlife (CDOW), the Bureau of Land Management (BLM), the USDA Forest Service (USFS), and the U.S. Fish and Wildlife Service (USFWS). We conducted more than one survey during period 3 at some sites. 18

LIST OF FIGURES

1. 2004 Willow Flycatcher survey sites in southern Colorado 19
2. Willow Flycatcher survey area and locations of Willow Flycatchers at Sego Springs State Wildlife Area, Colorado in 2004. Survey area shown is an enlarged section of the Manassa, Colorado USGS Quad Map 20
3. Willow Flycatcher survey route and locations at La Garita Creek, Colorado in 2004. Survey route shown is an enlarged section of the Twin Mountains SE, Colorado USGS Quad Map. 21
4. Willow Flycatcher survey route in 2004 at Mill Creek, Colorado. Survey route shown is an enlarged section of the Laughlin Gulch, Colorado USGS Quad Map. 22
5. Willow Flycatcher survey route in 2004 at Cat Creek, Colorado. Survey route shown is an enlarged section of the Greenie Mountain, Colorado USGS Quad Map. 23
6. Willow Flycatcher survey route in 2004 at Luder's Creek, Colorado. Survey route shown is an enlarged section of the North Pass, Colorado USGS Quad Map. 24
7. Willow Flycatcher survey routes in 2004 at Elk Creek, Cow Camp, and Spectacle Lake, Colorado. The survey routes shown are an enlarged section of the La Jara Canyon, Colorado and the Spectacle Lake, Colorado USGS Quad Maps 25
8. Willow Flycatcher survey routes and locations at Lil'pop, Alamosa North, and Alamosa South sections of the Rio Grande on the Alamosa National Wildlife Refuge, Colorado. Survey routes shown are an enlarged section of the Alamosa East, Colorado USGS Quad Map 26

APPENDICES

A) Universal Transverse Mercator coordinates for Willow Flycatcher survey routes in southern Colorado in 2004	27
B) Bird species observed during 2004 surveys for Southwestern Willow Flycatcher in southern Colorado. Sites include Lil'pop (LP), Alamosa North (AN), Alamosa South (AS), Cat Creek (CT), La Garita (LG), Sego Springs (SS), Elk Creek (EC), Cow Camp (CW), Spectacle Lake (SL), Luder's Creek (LU), and Mill Creek (MC)...	28
C) Universal Transverse Mercator coordinates and numbers of Willow Flycatchers detected during survey 1 (15-31 May), 2 (1-21 June), and 3 (22 June – 17 July) at 11 sites in southern Colorado in 2004. All UTM coordinates (easting, northing) are in zone 13S North American Datum 27.....	31
D) Data forms for 2004 Willow Flycatcher surveys in areas managed by the Colorado Division of Wildlife, USDA Forest Service, Bureau of Land Management, and U.S. Fish and Wildlife Service	33

EXECUTIVE SUMMARY

The Southwestern Willow Flycatcher (*Empidonax traillii extimus*) is a federally endangered songbird that breeds locally in riparian areas in the southwestern United States, as far north as the San Luis Valley, Colorado. The Colorado Division of Wildlife identified eleven sites in southern Colorado with potential Southwestern Willow Flycatcher habitat. We surveyed some of the sites (i.e., Sego Springs, La Garita Creek, Lil'pop, Alamosa North and Alamosa South) as a continuation of long-term monitoring to document population changes. We surveyed the other sites (i.e., Mill Creek, Cat Creek, Elk Creek, Cow Camp, Spectacle Lake, and Luder's Creek) for the first time in 2004 to document presence or absence of Willow Flycatchers.

We observed Willow Flycatchers at each of the sites monitored in previous years, indicating that these sites continue to provide suitable habitat. Compared to 2003, we observed a similar number of Willow Flycatchers at these sites; however, we observed considerably fewer during the first and third survey periods at the Alamosa National Wildlife Refuge (i.e., Lil'pop, Alamosa North and Alamosa South). The lack of green foliage on willows at the refuge likely affected the number of observations during the first survey. The relative lack of observations during the third survey at the refuge indicates fewer breeding flycatchers in 2004; however, the reason for this apparent decline is unclear. We found Willow Flycatchers at La Garita Creek for the first time in 2004, but only during the first survey period.

We observed no Willow Flycatchers at sites we monitored for the first time in 2004. As required for project-related surveys, we conducted five surveys at Mill Creek, Elk Creek,

Cow Camp, and Spectacle Lake. Because we observed no Willow Flycatchers, we suggest that projects at these sites probably would have little impact on this species.

We recommend annual surveys at Sego Springs, La Garita Creek, Lil'pop, Alamosa North and Alamosa South to further document population changes and evaluate breeding potential for Willow Flycatchers. Because sites at Alamosa National Wildlife Refuge (i.e., Lil'pop, Alamosa North, and Alamosa South) potentially support a sizeable population of Southwestern Willow Flycatcher, we recommend more intense territory monitoring at these sites to better evaluate breeding numbers and determine reproductive success.

INTRODUCTION

Riparian areas provide important habitat for breeding birds in the western United States (Ellis 1995). Although western riparian areas occupy less than one percent of the landscape, many support more breeding bird species than surrounding upland habitats (Stauffer and Best 1980, Knopf et al. 1988, Gates and Giffen 1991, Powell and Steidl 2000). Because riparian areas provide breeding habitat for many bird species, it is important to maintain them. It is especially important to identify and maintain those that host rare and endangered species.

The Southwestern Willow Flycatcher (*Empidonax traillii extimus*) is a federally endangered songbird that breeds locally in riparian areas in the southwestern United States, as far north as the San Luis Valley, Colorado (U.S. Fish and Wildlife Service 1995, 2002). Non-endangered subspecies of Willow Flycatcher breed further north and east, including *E. t. adastus*, *E. t. campestris*, and *E. t. traillii* (Sogge et al. 1997). Prime Southwestern Willow Flycatcher habitat includes areas with dense riparian vegetation greater than 10 m wide, and in close proximity to water or saturated soils (Sogge et al. 1997, Sedgwick 2000, U.S. Fish and Wildlife Service 2002). Breeding habitat varies with four major categories of vegetation: (1) monotypic high-elevation willow (*Salix* spp), (2) monotypic exotic, (3) native broadleaf, and (4) mixed native/exotic (Sogge et al. 1997). Because the Southwestern Willow Flycatcher is a riparian obligate species (Bureau of Land Management 1998), activities that alter habitat along riparian corridors can greatly impact flycatcher populations. Loss and alteration of riparian habitat on the breeding grounds is widely cited as a reason for its endangered status (Sogge et al. 1997, Finch et al. 2000, Marshall and Stoleson 2000).

The Colorado Division of Wildlife identified eleven sites in southern Colorado with potential Southwestern Willow Flycatcher habitat. These sites are managed by the Colorado Division of Wildlife, the Bureau of Land Management, the USDA Forest Service, and the U.S. Fish and Wildlife Service. Southwestern Willow Flycatcher surveys address a variety of objectives, depending on the site. Some surveys are a continuation of long-term monitoring to document population changes. Others are surveys that document presence or absence of flycatchers at a new site. Because of morphological and vocal similarities, it is difficult to distinguish between Southwestern Willow Flycatchers and other, non-endangered subspecies of Willow Flycatcher. However, information on Willow Flycatcher distribution helps determine the potential for Southwestern Willow Flycatcher at a site, and in some cases, the feasibility of management projects. In 2002 and 2003, Hawks Aloft surveyed a variety of sites in southern Colorado to document presence or absence of Willow Flycatchers. In 2004, Hawks Aloft conducted Willow Flycatcher surveys at the eleven sites identified by Colorado Division of Wildlife, some of which we had not previously surveyed. We present Willow Flycatcher numbers at each site and assess the potential suitability of each site for Southwestern Willow Flycatchers.

STUDY AREA

We conducted Willow Flycatcher surveys at eleven sites in Alamosa, Conejos, and Saguache Counties, Colorado (Fig. 1). The Colorado Division of Wildlife manages the Sego Springs site. The Bureau of Land Management manages the La Garita Creek, Mill Creek and Cat Creek sites. The USDA Forest Service manages the Luder's Creek, Elk Creek, Cow Camp, and Spectacle Lake sites. The U.S. Fish and Wildlife Service manages the Lil'pop, Alamosa North, and Alamosa South sites at the Alamosa National Wildlife Refuge.

Colorado Division of Wildlife

Sego Spring State Wildlife Area – This survey area included 1.4 km of the Conejos River, east of Manassa, Colorado in Conejos County (Fig. 2). The elevation at Sego Springs was approximately 2300 m, and dominant vegetation included coyote willow (*Salix exigua*) and narrowleaf cottonwood (*Populus angustifolia*). Part of the survey area bordered two small ponds surrounded by willow and numerous protruding snags. The survey area included patches of flooded willow between the ponds and the Conejos River. We surveyed Sego Springs in 2003.

Bureau of Land Management

La Garita Creek – This survey area included 2.2 km of La Garita Creek, north of Del Norte, Colorado in Saguache County (Fig. 2). The elevation at La Garita was approximately 2400 m, and dominant vegetation included alder (*Alnus* spp.) and patchy willows up to 5 m tall. Alders leafed out sooner than willows in 2004, and La Garita was one of the few sites in the region with green vegetation early in the season. We surveyed La Garita Creek in 2003, and reported that water was confined to a small beaver pond. In 2004, water was relatively plentiful in the creek throughout the survey area.

Mill Creek – This survey area included approximately 0.6 km of Mill Creek, north of Saguache, Colorado in Saguache County (Fig. 3). Mill Creek was a high elevation site (i.e., 2600 m) with a variety of native vegetation, including cottonwood, aspen (*P. tremuloides*), and willow. The site contained a dense patch of vegetation extending along the creek about 200 m. Outside that patch, willows were sparse and widely spaced.

Cat Creek – This survey area included 1.8 km of Cat Creek, south of Monte Vista, Colorado in Conejos County (Fig. 4). Cat Creek was a high elevation site (i.e., 2500 m), and

the dominant vegetation included narrow, but dense, willow patches in a steep-walled canyon. We surveyed a portion of the Cat Creek site in 2002 but not in 2003.

USDA Forest Service

Luder's Creek – This survey area included a total of 1.9 km in three sections, each northwest of Saguache, Colorado in Saguache County (Fig. 5). Luder's Creek was a high elevation site (i.e., 2600 m), and the dominant vegetation included willows averaging 2 m tall along a stream. Willows were relatively dense in the first section but narrow and sparse in the second. The third section was a small patch of dense willows in a forested ravine. We did not conduct flycatcher surveys at Luder's Creek before 2004.

Elk Creek – This survey area included 2.0 km along the Conejos River, west of Antonito, Colorado in Conejos County (Fig. 6). The survey area began near the Elk Creek Campground and continued along the river. Elk Creek was a high elevation site (i.e., 2600 m), and the dominant vegetation included willows near the campground, that were sparse and heavily grazed along the river. We did not conduct flycatcher surveys at Elk Creek before 2004.

Cow Camp – This survey area included 2.8 km along the Conejos River, north of the Elk Creek survey area in Conejos County (Fig. 6). Cow Camp was similar in elevation and vegetation as Elk Creek. We did not conduct flycatcher surveys at Cow Camp before 2004.

Spectacle Lake – This survey area included 3.1 km along the Conejos River in Conejos County, and it was a northwest extension of the Cow Camp survey route (Fig. 6). Spectacle Lake was similar in elevation and vegetation as Elk Creek and Cow Camp. We did not conduct flycatcher surveys at Spectacle Lake before 2004.

U.S. Fish and Wildlife Service

We surveyed approximately 22.8 km of riparian habitat along the Rio Grande in three sections, from just east of Alamosa, Colorado to the eastern border of the Alamosa National Wildlife Refuge (Fig. 7). The elevation along the Rio Grande at the refuge was about 2300 m, and dominant vegetation included patches of willow 4 m tall with scattered cottonwoods.

Lil' Pop – This survey area was recently acquired by the refuge and included the northernmost 6.6 km of the river on the refuge. Lil'pop contained patches of dense willow, as well as several patches of dead willow. We began conducting Willow Flycatcher surveys at Lil'pop in 2003.

Alamosa North – The survey area included approximately 5.4 km of the Rio Grande, connecting the Lil'pop and Alamosa South survey routes. We conducted flycatcher surveys at Alamosa North in 2002, but we extended the route in 2004 to incorporate part of the river that was previously included in Alamosa South. We redefined the survey route boundaries along the Rio Grande to shorten the Alamosa South route, allowing us to survey the entire length of the river on the refuge comfortably in three mornings (i.e., one site per morning).

Alamosa South – The survey route included approximately 10.7 km of the Rio Grande extending from the southern end of Alamosa North to the southeast refuge boundary. This area of the refuge was dominated by isolated patches of coyote willow, narrow-leaf cottonwood, and elm (*Ulmus* spp), with a mean canopy height of about 4 m. Water flowed in the Rio Grande during all three survey periods, but we reported less water at Alamosa South than at Lil'pop and Alamosa North.

METHODS

Southwestern Willow Flycatcher surveys followed the protocol developed by Sogge et al. (1997), in accordance with the Federal Endangered Species Act. We conducted surveys during three periods: 15-31 May, 1-21 June, and 22 June - 17 July 2004. We surveyed each site once during each period; however, we added two extra surveys in the final period at four of the sites. Surveys at Mill Creek, Elk Creek, Cow Camp, and Spectacle Lake were considered to be project-related; therefore, we surveyed these sites five times as required by Southwestern Willow Flycatcher survey protocol (Sogge et al. 1997). We conducted surveys at a site at least five days apart, beginning each within an hour of sunrise and concluding within four hours. Observers walked slowly through the site either along a riparian corridor or in a zig-zag pattern to cover more extensive habitat patches. Observers stopped every 20 to 30 m and listened for flycatcher vocalizations. If none were heard, we played taped vocalizations of a Southwestern Willow Flycatcher for 15 to 30 seconds, followed by one to two minutes of observation. We recorded Universal Transverse Mercator coordinates (North American Datum 27) for each Willow Flycatcher observed. Because several flycatcher species appear similar to Willow Flycatchers (e.g., Dusky Flycatcher, *E. oberholseri*), positive identification of a Willow Flycatcher required that the observer hear the distinctive “fitz-bew” song. In addition to recording the presence or absence of Willow Flycatchers, we also recorded other species seen or heard while conducting surveys (Appendix A). We photographed representative habitat at each site and provide images on a CD attached to this report.

RESULTS

We observed Willow Flycatchers at 5 of 11 sites in southern Colorado in 2004 (Table 1). We recorded 47 Willow Flycatcher locations, representing a minimum of 36 different individuals. Only five individuals were detected during the third survey period. We did not record Willow Flycatchers at any of the sites requiring five surveys. We also did not record Willow Flycatchers at any of the sites at or above 2500 m. Dusky Flycatchers, rather than Willow Flycatchers, were common in riparian habitat at the higher elevation sites.

Colorado Division of Wildlife

We observed two Willow Flycatchers at Sego Springs in 2004. We recorded the first flycatcher during the first survey in the flooded willow patch near the ponds. We added the second flycatcher observation during the third survey, approximately 750 m from where we located the first. It is unknown if these were locations for the same bird. Because we observed one flycatcher in the third survey, we consider that there was a minimum of one flycatcher territory at Sego Springs. We have observed 1-3 flycatchers at Sego Springs each year from 2002-2004.

Bureau of Land Management

We observed six Willow Flycatchers at La Garita Creek in 2004, all during the first survey. We noticed several other flycatchers during this survey, but we were unable to identify them as Willow Flycatchers, because they were silent. Although two Willow Flycatchers engaged in a song duel in the same tree during the first survey, we detected no flycatchers in subsequent surveys. Therefore, it is unlikely there were any breeding Willow Flycatcher territories at La Garita in 2004. We did not observe Willow Flycatchers during any of the surveys in 2003.

We did not observe Willow Flycatchers in five surveys at Mill Creek or in three surveys at Cat Creek in 2004.

USDA Forest Service

We did not observe Willow Flycatchers in three surveys at Luder's Creek or in five surveys at Elk Creek, Cow Camp, and Spectacle Lake in 2004. During the fifth survey at Cow Camp on 12 July, we located a flycatcher nest with several young nearing fledging age. We were unable to identify the species associated with the nest, but it might have belonged to one of several Dusky Flycatcher pairs present at the site.

U.S. Fish and Wildlife Service

We observed 17 Willow Flycatchers at Lil'pop in 2004, representing a minimum of 13 different individuals. We recorded all observations during the first two surveys; therefore, we can not be certain that any breeding Willow Flycatchers were present at the site. We made an effort to locate flycatchers during the third survey, as well as during a subsequent visit, by prolonging observation time at coordinates where Willow Flycatcher were recorded earlier in the season. Although flycatchers were not observed during the third survey, there were more flycatchers found at the site in 2004 (n=17) than in 2003 (n=1).

We observed 11 Willow Flycatchers at Alamosa North in 2004, representing a minimum of 6 different individuals. We recorded three flycatchers during the third survey; therefore, we consider there was a minimum of three territories at the site.

We observed 11 Willow Flycatchers at Alamosa South in 2004, representing a minimum of 10 different individuals. We recorded only one flycatcher during the third survey; therefore, we can not be certain that there was more than one territory at the site.

Although the route was slightly shorter in 2004, we estimated considerably fewer territories at Alamosa South in 2004 ($n=1$) than in 2003 ($n=24$).

Surveying the entire stretch of the Rio Grande at Alamosa National Wildlife Refuge for the first time in 2004 (22.2 km), we observed 39 Willow Flycatchers, representing a minimum of 29 different individuals and 4 territories. Surveying less distance in 2003 (about 20 km), we observed 50 Willow Flycatchers, representing a minimum of 25 different individuals and 24 territories. In 2004, 74% (29 of 39) of the observations at the refuge occurred during the second survey, whereas only 10% (4 of 39) occurred during the third survey. In 2003, 48% (24 of 50) of the observations at the refuge occurred during the third survey.

DISCUSSION AND RECOMMENDATIONS

We observed Willow Flycatchers at 5 of 11 sites in southern Colorado in 2004, indicating that some sites provide habitat conditions suitable for this species. It is unclear, however, if the birds observed were migrant or breeding Willow Flycatchers. It is also unclear if the birds observed were Southwestern Willow Flycatchers or another subspecies. Our lack of observations during the third survey is an indication that perhaps most of the birds were migrants. However, we found many flycatchers during the third survey in 2003, indicating that some sites host a considerable breeding population, at least when conditions (e.g., water availability) allow. We recommend increased territory and nest monitoring at sites where we assumed Willow Flycatcher breeding status in 2003 or 2004. Further study will better quantify the breeding population and provide information on reproductive success.

We observed no Willow Flycatchers during project-related surveys requiring five visits. Habitat patches were small or linear, rendering these sites relatively unsuitable for Willow Flycatchers (Sogge and Marshall 2000). All of these sites were higher in elevation (i.e., about 2600 m) than sites where we observed Willow Flycatchers. Willow Flycatchers are known to breed at this elevation (Sogge and Marshall 2000); however, they may prefer lower elevation sites in southern Colorado. We observed numerous Dusky Flycatchers at the project-related sites (i.e., Mill Creek, Elk Creek, Cow Camp, and Spectacle Lake), as well as at another high elevation site, Luder's Creek. Dusky Flycatchers appeared to fill the niche vacated by Willow Flycatchers at the high elevation sites.

Colorado Division of Wildlife

We observed Willow Flycatchers, including potential breeders, at Sego Springs during the last three years, indicating that this site has habitat conditions worth maintaining. Sego Springs has several dense willow patches that should improve for flycatchers as they mature. In 2004, ample water was present in the Conejos River and the springs, with some runoff in the willows. Maintaining water at Sego Springs should ensure continued use of that site by Willow Flycatchers in the future. We recommend annual surveys at Sego Springs to document future use.

Bureau of Land Management

Conditions at La Garita Creek improved for Willow Flycatchers in 2004, resulting in six observations during the first survey. In 2003, we described habitat at La Garita Creek as marginal, with few willows and limited water availability. In 2004, water was more plentiful in the creek, and many of the willow patches appeared suitable for flycatchers. Our results in 2004 demonstrate the advantage of multi-year surveys at a site to more informatively

evaluate the potential for Willow Flycatchers. Willows throughout our survey area in southern Colorado did not leaf out until the second flycatcher surveys. Unlike many of our sites, La Garita Creek contained a considerable number of alders that had leafed out by the first survey. The presence of dense, green vegetation early in the season at La Garita Creek might have attracted Willow Flycatchers, resulting in more observations during the first survey than at any other site. The flycatchers we observed might have been migrants passing through the region, or they might have been breeders that moved to other sites in the San Luis Valley once the willows at those sites leafed out. Although apparently not a current breeding site, this portion of La Garita Creek might be valuable as a migration stopover site, prompting a need for protection (Finch et al. 2000). We recommend annual surveys at La Garita Creek.

We observed no Willow Flycatchers in five surveys at Mill Creek and three surveys at Creek Creek, indicating these sites were relatively unsuitable. Vegetation might have been too sparse at Mill Creek and too narrow at Cat Creek.

USDA Forest Service

We observed no Willow Flycatchers at USDA Forest Service sites. We surveyed the Conejos River sites five times without observations, indicating that future projects at these sites probably would have little impact on Willow Flycatchers.

U.S. Fish and Wildlife Service

We found a different temporal and spatial distribution of Willow Flycatchers along the Rio Grande in 2004, relative to 2003. Although we found four flycatchers along the river during the third survey, indicating probable breeding, our total was substantially less than the 24 and 19 recorded during the third surveys in 2003 and 2002, respectively. Willow

Flycatchers might become less vocal and less responsive to tape playback as the season progresses, thereby complicating detection in the third survey; however, we surveyed Lil'pop and Alamosa North in the first half of the third survey period in 2004, and detection probability should not have been considerably different from 2003. The flycatcher population along the Rio Grande might reflect the level of habitat saturation elsewhere. For example, if suitable habitat patches are plentiful in southern Colorado, Willow Flycatchers might be less inclined to remain at the Alamosa sites in high density.

In 2004, we observed that Willow Flycatcher locations appeared to shift to Lil'pop and away from the other sections of the river. We considered that Lil'pop contained the most suitable habitat patches at the refuge, whereas observers in 2003 described Lil'pop as poor habitat. Because of this apparent shift, we suggest that Willow Flycatchers might readily abandon sites from previous years and move to sites with better conditions. The relative lack of observations during the first survey at the refuge, where willows had not leafed out, along with the relative abundance at La Garita Creek, where vegetation had leafed out, support the adaptability of Willow Flycatchers. We recommend long-term monitoring along the entire stretch of the river on the refuge, especially during the third survey period, to better assess potential breeding numbers. Because Southwestern Willow Flycatchers have been confirmed at Alamosa National Wildlife Refuge (Owen and Sogge 1997), and the refuge potentially supports a sizable breeding population, we recommend more intense territory monitoring to accurately determine breeding numbers and reproductive success.

ACKNOWLEDGMENTS

The U.S. Fish and Wildlife Service and the Colorado Division of Wildlife provided funding for Willow Flycatcher surveys. We extend special thanks to Kelli Stone and the staff at Alamosa/Monte Vista National Wildlife Refuge for providing housing and logistical support. We also thank Gary Snell (USDA Forest Service, Conejos Peak District), Melissa Scott (Bureau of Land Management), and Dwight Irwin (USDA Forest Service, Saguache) for directions to sites and arranging access. David Klute, Colorado Division of Wildlife, provided logistic support. Aaron Gallagher and Mike Stake conducted Willow Flycatcher surveys. We thank Rick McFarland for assistance with transportation and Lorraine McInnes for GIS assistance. This report was written by Mike Stake and edited by Gail Garber.

LITERATURE CITED

- Bureau of Land Management. 1998. Birds as indicators of riparian vegetation condition in the western U.S. Bureau of Land Management, Partners in Flight, Boise, Idaho. BLM/ID/PT-98/004+6635. Jamestown, ND: Northern Prairie Wildlife Research Center home page.
- Ellis, L. M. 1995. Bird use of saltcedar and cottonwood vegetation in the Middle Rio Grande Valley of New Mexico, USA. *Journal of Arid Environments* 30:339-349.
- Finch, D. M., J. F. Kelley, and J. E. Cartron. 2000. Migration and winter ecology. Pages 71-81 *in* Status, ecology, and conservation of the Southwestern Willow Flycatcher. D. M. Finch and S. H. Stoleson, eds. Gen. Tech. Rep. RMRS-GTR-60. Ogden, UT. USDA, Rocky Mountain Research Station.
- Gates, J. E., and N. R. Giffen. 1991. Neotropical migrant birds and edge effects at a forest-stream ecotone. *Wilson Bulletin* 103:204-217.
- Knopf, F. L., R. R. Johnson, T. Rich, F. B. Samson, and R. C. Szaro. 1988. Conservation of riparian ecosystems in the United States. *Wilson Bulletin* 100:272-284.
- Marshall, R. M., and S. H. Stoleson. 2000. Threats. Pages 13 – 24 *in* Status, ecology, and conservation of the Southwestern Willow Flycatcher. D. M. Finch and S. H. Stoleson, eds. Gen. Tech. Rep. RMRS-GTR-60. Ogden, UT. USDA, Rocky Mountain Research Station.
- Owen, J. C., and M. K. Sogge. 1997. Banding and genetic sampling of Willow Flycatchers in Colorado – 1996 & 1997 summary report. U.S.G.S. Colorado Plateau Field Station/Northern Arizona University Report.
- Powell, B. F., and R. J. Steidl. 2000. Nesting habitat and reproductive success of southwestern riparian birds. *Condor* 102:823-831.
- Sedgwick, J. A. 2000. Willow Flycatcher (*Empidonax traillii*). *In* The birds of North America, no. 533 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, PA, and The American Ornithologists' Union, Washington, D.C.
- Sogge, M. K., and R. M. Marshall. 2000. A survey of current breeding habitats. Pages 43 – 56 *in* Status, ecology, and conservation of the Southwestern Willow Flycatcher. D. M. Finch and S. H. Stoleson, eds. Gen. Tech. Rep. RMRS-GTR-60. Ogden, UT. USDA, Rocky Mountain Research Station.
- Sogge, M., R. M. Marshall, S. J. Sferra, and T. J. Tibbitts. 1997. A Southwestern Willow Flycatcher natural history summary and survey protocol. National Park Service Technical Report NPS/NAUCPRS/NRTR-97/12.

Stauffer, D. F., and L. B. Best. 1980. Habitat selection by birds of riparian communities: evaluating effects of habitat alterations. *Journal of Wildlife Management* 44:1-15.

U.S. Fish and Wildlife Service. 1995. Final rule determining endangered status for the Southwestern Willow Flycatcher. *Federal Register* 60: 10694-10715 (February 27, 1995).

U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico. i –ix + 210 pp.,. Appendices A – O.

Table 1. Number of adult Willow Flycatchers detected in southern Colorado during 2004 surveys at sites managed by the Colorado Division of Wildlife (CDOW), the Bureau of Land Management (BLM), the USDA Forest Service (USFS), and the U.S. Fish and Wildlife Service (USFWS). We conducted more than one survey during period 3 at the sites indicated by an asterisk*.

Survey area	Management agency	Survey length (km)	Survey period		
			1	2	3
Sego Springs State Wildlife Area	CDOW	1.4	1	0	1
La Garita Creek	BLM	2.2	6	0	0
Mill Creek*	BLM	0.6	0	0	0
Cat Creek	BLM	1.8	0	0	0
Luder's Creek	USFS	1.9	0	0	0
Elk Creek*	USFS	2.0	0	0	0
Cow Camp*	USFS	2.8	0	0	0
Spectacle Lake*	USFS	3.1	0	0	0
Lil'pop	USFWS	6.6	4	13	0
Alamosa North	USFWS	5.4	2	6	3
Alamosa South	USFWS	10.7	0	10	1

Figure 1. 2004 Willow Flycatcher survey sites in southern Colorado.

Figure 2. Willow Flycatcher survey area and locations of Willow Flycatchers at Sego Springs State Wildlife Area, Colorado in 2004. Survey area shown is an enlarged section of the Manassa, Colorado USGS Quad Map.

Figure 3. Willow Flycatcher survey route and locations at La Garita Creek, Colorado in 2004. Survey route shown is an enlarged section of the Twin Mountains SE, Colorado USGS Quad Map.

Figure 4. Willow Flycatcher survey route in 2004 at Mill Creek, Colorado. Survey route shown is an enlarged section of the Laughlin Gulch, Colorado USGS Quad Map.

Figure 5. Willow Flycatcher survey route in 2004 at Cat Creek, Colorado. Survey route shown is an enlarged section of the Greenie Mountain, Colorado USGS Quad Map.

Figure 6. Willow Flycatcher survey route in 2004 at Luder's Creek, Colorado. Survey route shown is an enlarged section of the North Pass, Colorado USGS Quad Map.

Figure 7. Willow Flycatcher survey routes in 2004 at Elk Creek, Cow Camp, and Spectacle Lake, Colorado. The survey routes shown are an enlarged section of the La Jara Canyon, Colorado and the Spectacle Lake, Colorado USGS Quad Maps.

Figure 8. Willow Flycatcher survey routes and locations at Lil'pop, Alamosa North, and Alamosa South sections of the Rio Grande on the Alamosa National Wildlife Refuge, Colorado. Survey routes shown are an enlarged section of the Alamosa East, Colorado USGS Quad Map.

Appendix A. Universal Transverse Mercator coordinates for Willow Flycatcher Survey routes in southern Colorado in 2004.

Site	Boundary	Easting	Northing
Alamosa North	Start	430996	4141342
Alamosa North	End	427415	4143884
Alamosa South	Start	433789	4133792
Alamosa South	End	431000	4141226
Cat Creek	Start	389384	4138778
Cat Creek	End	387673	4139105
Cow Camp	Start	375229	4111075
Cow Camp	End	373356	4112978
Elk Creek	Start	378659	4109563
Elk Creek	End	377022	4108812
La Garita	Start	387326	4185924
La Garita	End	385211	4185849
Lil'pop	Start	424736	4146714
Lil'pop	End	427415	4143884
Luder's Creek Reach 1	Start	361977	4226442
Luder's Creek Reach 1	End	362309	4225599
Luder's Creek Reach 2	Start	363523	4222007
Luder's Creek Reach 2	End	364033	4221552
Luder's Creek Reach 3	Start	364469	4220829
Luder's Creek Reach 3	End	364317	4220797
Mill Creek	Start	383171	4218293
Mill Creek	End	382690	4217929
Sego Springs	Start	421309	4116226
Sego Springs	End	422000	4117221
Spectacle Lake	Start	373301	4112999
Spectacle Lake	End	371898	4115415

Appendix B. Bird species observed during 2004 surveys for Willow Flycatcher in southern Colorado. Sites include Lil'pop (LP), Alamosa North (AN), Alamosa South (AS), Cat Creek (CT), La Garita (LG), Sego Springs (SS), Elk Creek (EC), Cow Camp (CW), Spectacle Lake (SL), Luder's Creek (LU), and Mill Creek (MC).

Species	LP	AN	AS	CT	LG	SS	EC	CW	SL	LU	MC
Pied-billed Grebe	X										
American Bittern	X	X	X			X					
Black-crowned Night Heron	X	X			X	X					
Snowy Egret	X	X	X								
Great Blue Heron	X										
White-faced Ibis	X	X	X			X					
Sandhill Crane	X										
Canada Goose	X	X				X	X	X	X		
Mallard	X	X	X	X	X	X	X	X	X		
Gadwall	X	X	X			X			X		
Green-winged Teal							X				
Northern Pintail	X	X									
Nothorn Shoveler		X									
Cinnamon Teal		X	X			X					
Ruddy Duck			X								
Redhead		X	X		X	X					
Common Merganser		X	X			X	X	X	X		
Sora			X								
American Coot		X	X			X					
Killdeer	X	X	X			X			X		
American Avocet		X									
Spotted Sandpiper	X	X			X	X	X	X	X		
Wilson's Phalarope			X								
Common Snipe	X	X	X			X	X				
Black Tern		X									
American Kestrel			X	X	X	X					
Prairie Falcon											X
Northern Harrier			X								
Red-tailed Hawk	X		X		X	X					
Swainson's Hawk		X									
Mourning Dove	X	X	X		X	X				X	X
Rock Pigeon					X						
Great Horned Owl	X	X	X								
White-throated Swift					X						
Broad-tailed Hummingbird				X			X	X	X	X	X
Belted Kingfisher	X				X	X			X		
Northern Flicker	X	X	X	X		X	X	X	X	X	X
Hairy Woodpecker											X
Downy Woodpecker						X				X	
Red-naped Sapsucker							X	X	X	X	X

Appendix B Continued

Species	LP	AN	AS	CT	LG	SS	EC	CW	SL	LU	MC
Say's Phoebe		X									
Western Kingbird	X		X			X					
Eastern Kingbird						X					
Western Wood-Pewee	X	X	X	X	X	X	X	X	X		X
Olive-sided Flycatcher										X	
Dusky Flycatcher				X	X		X	X	X	X	X
Hammond's Flycatcher								X			
Willow Flycatcher	X	X	X		X	X					
Cordilleran Flycatcher					X		X		X	X	
Gray Flycatcher								X			X
Horned Lark	X				X						
Tree Swallow	X	X	X			X	X	X	X		
Violet-green Swallow		X			X	X	X	X	X	X	X
Northern Rough-winged Swallow	X	X	X		X	X					
Cliff Swallow	X	X		X	X						
Bank Swallow						X					
Barn Swallow	X	X	X		X	X					
Black-billed Magpie	X	X		X	X	X	X	X	X		
Steller's Jay									X	X	
Clark's Nutcracker										X	
Common Raven					X		X	X	X	X	
American Crow	X		X		X		X		X		
Black-capped Chickadee	X	X	X				X		X		X
Mountain Chickadee							X		X	X	X
Bushtit				X							
Red-breasted Nuthatch									X	X	
Pygmy Nuthatch										X	
House Wren	X	X	X	X	X	X	X	X	X	X	X
Rock Wren				X	X	X					X
Ruby-crowned Kinglet							X	X	X	X	X
Blue-gray Gnatcatcher											
Western Bluebird									X		X
Mountain Bluebird							X	X		X	X
Townsend's Solitaire									X	X	
Veery							X				
Hermit Thrush								X	X	X	X
American Robin	X	X	X	X	X	X	X	X	X	X	X
Gray Catbird				X	X	X					
Northern Mockingbird											
Cedar Waxwing											
European Starling		X			X	X	X				
Warbling Vireo				X	X		X	X	X	X	X
Orange-crowned Warbler								X	X	X	

Appendix B Continued

Species	LP	AN	AS	CT	LG	SS	EC	CW	SL	LU	MC
Virginia's Warbler				X				X			
Yellow-rumped Warbler		X					X	X	X	X	X
Yellow Warbler	X	X	X	X	X	X	X	X	X		X
MacGillivray's Warbler					X			X	X	X	
Wilson's Warbler	X		X	X	X	X			X		
Common Yellowthroat		X	X		X	X					
Yellow-breasted Chat						X					
Rose-breasted Grosbeak	X			X							
Black-headed Grosbeak	X	X			X	X	X				
Blue Grosbeak	X	X	X			X					
Spotted Towhee						X					
Green-tailed Towhee				X		X	X	X	X	X	X
Vesper Sparrow	X		X		X						
Savannah Sparrow	X	X	X								
Song Sparrow	X	X	X	X	X	X	X	X	X	X	
Sage Sparrow	X		X								
Cassin's Sparrow	X		X								
Chipping Sparrow							X	X	X		
Brewer's Sparrow	X										
Dark-eyed Junco							X	X	X	X	X
White-crowned Sparrow					X	X	X	X	X		
Lincoln's Sparrow				X	X	X	X	X	X	X	
Western Meadowlark	X	X	X		X	X					X
Yellow-headed Blackbird	X	X	X			X					
Red-winged Blackbird	X	X	X		X	X	X	X	X		
Brewer's Blackbird	X	X	X		X		X	X	X		X
Brown-headed Cowbird	X	X	X	X	X	X	X	X	X	X	
Common Grackle		X			X				X		
Great-tailed Grackle	X					X					
Western Tanager				X			X		X		
House Sparrow	X	X									
Bullock's Oriole					X						
American Goldfinch	X	X	X	X	X	X					
Lesser Goldfinch						X					
Pine Siskin							X	X	X	X	X
House Finch	X	X	X							X	
Evening Grosbeak					X						

Appendix C. Universal Transverse Mercator coordinates and numbers of Willow Flycatchers detected during survey 1 (15-31 May), 2 (1-21 June), and 3 (22 June – 17 July) at 11 sites in southern Colorado in 2004. All UTM coordinates (easting, northing) are in zone 13S North American Datum 27.

Site	Survey	Date	Easting	Northing
Alamosa North	1	25 May 04	430482	4142326
Alamosa North	1	25 May 04	430220	4142658
Alamosa North	2	2 June 04	429625	4142921
Alamosa North	2	2 June 04	429819	4142796
Alamosa North	2	2 June 04	430215	4142694
Alamosa North	2	2 June 04	430302	4142679
Alamosa North	2	2 June 04	430872	4142091
Alamosa North	2	2 June 04	430872	4142091
Alamosa North	3	28 June 04	428421	4143273
Alamosa North	3	28 June 04	430234	4142642
Alamosa North	3	28 June 04	430234	4142642
Alamosa South	2	4 June 04	431057	4139716
Alamosa South	2	4 June 04	431153	4137539
Alamosa South	2	4 June 04	431153	4137539
Alamosa South	2	4 June 04	431153	4137539
Alamosa South	2	4 June 04	431469	4137453
Alamosa South	2	4 June 04	431469	4137453
Alamosa South	2	4 June 04	431469	4137191
Alamosa South	2	4 June 04	431760	4136730
Alamosa South	2	4 June 04	431939	4136837
Alamosa South	2	4 June 04	432451	4135092
Alamosa South	3	16 July 04	431811	4136745
La Garita Creek	1	27 May 04	387293	4185928
La Garita Creek	1	27 May 04	386955	4185926
La Garita Creek	1	27 May 04	386532	4185776
La Garita Creek	1	27 May 04	386307	4185849
La Garita Creek	1	27 May 04	386291	4185851
La Garita Creek	1	27 May 04	385724	4185838
Lil'pop	1	24 May 04	425404	4146098
Lil'pop	1	24 May 04	425867	4145147
Lil'pop	1	24 May 04	425867	4145147
Lil'pop	1	24 May 04	426064	4144681
Lil'pop	2	1 June 04	425261	4146656
Lil'pop	2	1 June 04	425205	4146173
Lil'pop	2	1 June 04	425343	4146122
Lil'pop	2	1 June 04	425723	4146171
Lil'pop	2	1 June 04	425410	4145646
Lil'pop	2	1 June 04	425190	4145485
Lil'pop	2	1 June 04	425901	4145153
Lil'pop	2	1 June 04	426047	4144978

Appendix C Continued

Site	Survey	Date	Easting	Northing
Lil'pop	2	1 June 04	426047	4144978
Lil'pop	2	1 June 04	426067	4144569
Lil'pop	2	1 June 04	427123	4144334
Lil'pop	2	1 June 04	427156	4144205
Lil'pop	2	1 June 04	427314	4143760
Sego Springs	1	24 May 04	421127	4116221
Sego Springs	3	29 June 04	421692	4116730

Appendix D. Data forms for 2004 Willow Flycatcher surveys in areas managed by the Colorado Division of Wildlife, USDA Forest Service, Bureau of Land Management, and U.S. Fish and Wildlife Service

Willow Flycatcher Survey and Detection Form (revised April, 2004)

Site Name Sego Springs State CO County Conejos
 USGS Quad Name Manassa Co Elevation 2344 feet / (meters) (circle one)

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? ☒ Yes ☐ No

Site Coordinates: Start: N 4116226 E 0421309 UTM Datum NAD 27 (NAD27 preferred)
 Stop: N 4117221 E 0422000 UTM Zone 13S

**** Fill in additional site information on back of this page ****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N	Cowbirds Detected? Y or N	Presence of Livestock, Recent sign, If Yes, Describe Y or N	Comments about this survey (e.g., bird behavior, evidence of pairs or breeding, number of nests, nest contents or number of fledges seen; potential threats)
1 <u>Mike Stake</u> Date <u>5/24/04</u> Start <u>05:50</u> Stop <u>09:32</u> Total hrs <u>3:40</u>		1	0	0	N	Y	Y	Strong willow potential as willows grow up Burn area? Many snags and cowbirds.
2 <u>Aaron Gallagher</u> Date <u>6/3/04</u> Start <u>06:15</u> Stop <u>09:20</u> Total hrs <u>3</u>		0	0	0	N	Y	Y	Lots of green willow > 12 feet tall Understory in west open. Boggy in east with standing pools of water
3 <u>Aaron Gallagher</u> Date <u>6/29/04</u> Start <u>06:00</u> Stop <u>09:00</u> Total hrs <u>3</u>		1	1	1	N	N	Y	WIFL song detected before tape playback.
4 _____ Date _____ Start _____ Stop _____ Total hrs _____								
5 _____ Date _____ Start _____ Stop _____ Total hrs _____								
Overall Site Summary (Total resident WIFLs only)		Adults	Pairs	Territories	Nests	Were any WIFLs color-banded? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Total survey hrs <u>9:45</u>		1	1	1	0	If yes, report color combination(s) in the comments section on back of form		

Reporting Individual Mike Stake Date Report Completed 7/26/04
 US Fish and Wildlife Service Permit # TE835139-2 AZ Game and Fish Department (or other state) Permit # _____

Submit original form by August 1st. Retain a copy for your records.

2004 Willow Flycatcher Surveys in Southern Colorado

Fill in the following information completely. Submit original form by August 1. Retain a copy for your records.

Reporting Individual Mike Stake Phone # (505) 828-9455
 Affiliation Hawks Aloft, Inc. E-mail mstake@hawksaloft.org
 Site Name Sego Springs Date Report Completed 7/26/04

Did you verify that this site name is consistent with that used in previous years? (Yes) No (circle one)
 If name is different, what name(s) was used in the past? _____
 If site was surveyed last year, did you survey the same general area this year? (Yes) No If no, summarize in comments below.
 Did you survey the same general area during each visit to this site this year? (Yes) No If no, summarize in comments below.

Management Authority for Survey Area (circle one): Federal Municipal/County (State) Tribal Private
 Name of Management Entity or Owner (e.g., Tonto National Forest) Colorado Division of Wildlife

Length of area surveyed: 2 miles (specify units, e.g., miles = mi, kilometers = km, meters = m)

Vegetation Characteristics: Overall, are the species in tree/shrub layer at this site comprised predominantly of (check one):

- ☒ Native broadleaf plants (entirely or almost entirely, includes high-elevation willow)
☐ Mixed native and exotic plants (mostly native)
☐ Mixed native and exotic plants (mostly exotic)
☐ Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: Willow, Cottonwood

Average height of canopy (Do not put a range): 4 meters (specify units)

Was surface water or saturated soil present at or adjacent to site? (Yes) No (circle one)
 Distance from the site to surface water or saturated soil: 0 meters (specify units)

Did hydrological conditions change significantly among visits (did the site flood or dry out)? Yes (No) (circle one)
 If yes, describe in comments section below.

Remember to attach a copy of a USGS quad/topographical map (REQUIRED) of the survey area, outlining the survey site and location of WIFL detections. Also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map. Please include photos of the interior of the patch, exterior of the patch, and overall site and describe any unique habitat features.

Comments (attach additional sheets if necessary)

WIFL Detection Locations:

Date Detected	N UTM	E UTM	Date Detected	N UTM	E UTM
24 May 04	4116221	0421127			
29 June 04	4116730	0421692			

Willow Flycatcher Survey and Detection Form (revised April, 2004)

Site Name La Garita Creek State CO County Saguache
USGS Quad Name Twin Mountains SE, CO Elevation 2382 feet (meters) (circle one)

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? ☒ Yes ☐ No

Site Coordinates: Start: N 4185924 E 0387326 UTM Datum NAD 27 (NAD27 preferred)
Stop: N 4185849 E 0385211 UTM Zone 13S

**** Fill in additional site information on back of this page ****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N	Cowbirds Detected? Y or N	Presence of Livestock, Recent sign, If Yes, Describe Y or N	Comments about this survey (e.g., bird behavior, evidence of pairs or breeding, number of nests, nest contents or number of fledges seen; potential threats)
1 <u>Mike Stake</u>	Date <u>5/27/04</u> Start <u>05:45</u> Stop <u>08:45</u> Total hrs <u>3</u>	<u>6</u>	<u>0</u>	<u>0</u>	<u>N</u>	<u>Y</u>	<u>Y</u>	Alders leafed out but willows not yet. Many suitable clumps of vegetation. Fair water flow.
2 <u>Aaron Gallagher</u>	Date <u>6/11/04</u> Start <u>06:10</u> Stop <u>08:20</u> Total hrs <u>2:10</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>N</u>	<u>N</u>	<u>Y</u>	Willows leafed out
3 <u>Aaron Gallagher</u>	Date <u>7/6/04</u> Start <u>06:00</u> Stop <u>08:30</u> Total hrs <u>2:30</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>N</u>	<u>Y</u>	<u>Y</u>	
4 _____	Date _____ Start _____ Stop _____ Total hrs _____							
5 _____	Date _____ Start _____ Stop _____ Total hrs _____							
Overall Site Summary (Total resident WIFLs only)		Adults	Pairs	Territories	Nests	Were any WIFLs color-banded? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, report color combination(s) in the comments section on back of form		
Total survey hrs <u>7:40</u>		<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>			

Reporting Individual Mike Stake Date Report Completed 7/26/04
US Fish and Wildlife Service Permit # TE835139-2 AZ Game and Fish Department (or other state) Permit # _____

Submit original form by August 1st. Retain a copy for your records.

Fill in the following information completely. Submit original form by August 1. Retain a copy for your records.

Reporting Individual Mike Stake Phone # (505) 828-9455
 Affiliation Hawks Aloft, Inc. E-mail mstake@hawksaloft.org
 Site Name La Garita Creek Date Report Completed 7/26/04

Did you verify that this site name is consistent with that used in previous years? Yes/No (circle one)

If name is different, what name(s) was used in the past?

If site was surveyed last year, did you survey the same general area this year? Yes/No If no, summarize in comments below.

Did you survey the same general area during each visit to this site this year? Yes/No If no, summarize in comments below.

Management Authority for Survey Area (circle one): Federal Municipal/County State Tribal Private
 Name of Management Entity or Owner (e.g., Tonto National Forest) Bureau of Land Management

Length of area surveyed: 2.8 miles (specify units, e.g., miles = mi, kilometers = km, meters = m)

Vegetation Characteristics: Overall, are the species in tree/shrub layer at this site comprised predominantly of (check one):

☒ Native broadleaf plants (entirely or almost entirely, includes high-elevation willow)

☐ Mixed native and exotic plants (mostly native)

☐ Mixed native and exotic plants (mostly exotic)

☐ Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: Alder, Willow

Average height of canopy (Do not put a range): 5 meters (specify units)

Was surface water or saturated soil present at or adjacent to site? Yes/No (circle one)

Distance from the site to surface water or saturated soil: 0 meters (specify units)

Did hydrological conditions change significantly among visits (did the site flood or dry out)? Yes No (circle one)

If yes, describe in comments section below.

Remember to attach a copy of a USGS quad/topographical map (REQUIRED) of the survey area, outlining the survey site and location of WIFL detections. Also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map. Please include photos of the interior of the patch, exterior of the patch, and overall site and describe any unique habitat features.

Comments (attach additional sheets if necessary)

Number of WIFL in first survey seemed to be a conservative estimate of the number present. Other potential WIFL observed but did not sing. Because of alder component, this site had leafed out before most others in the San Luis Valley. First survey song disputes observed.

WIFL Detection Locations:

Date Detected	N UTM	E UTM	Date Detected	N UTM	E UTM
27 May 04	4185928	0387293	27 May 04	4185851	0386291
27 May 04	4185926	0386955	27 May 04	4185838	0385724
27 May 04	4185776	0386532			
27 May 04	4185849	0386307			

Willow Flycatcher Survey and Detection Form (revised April, 2004)

Site Name Mill Creek State CO County Saguache
USGS Quad Name Laughlin Gulch, CO Elevation 2620 feet / meters (circle one)

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? ☒ Yes ☐ No

Site Coordinates: Start: N 4218293 E 0383171 UTM Datum NAD27 (NAD27 preferred)
Stop: N 4217929 E 0382690 UTM Zone 13S

**** Fill in additional site information on back of this page ****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N	Cowbirds Detected? Y or N	Presence of Livestock, Recent sign, If Yes, Describe Y or N	Comments about this survey (e.g., bird behavior, evidence of pairs or breeding, number of nests, nest contents or number of fledges seen; potential threats)
1 <u>Aaron Gallagher</u>	Date <u>5/28/04</u> Start <u>06:00</u> Stop <u>07:50</u> Total hrs <u>2</u>	0	0	0	N	N	N	
2 <u>Aaron Gallagher</u>	Date <u>6/17/04</u> Start <u>06:00</u> Stop <u>07:30</u> Total hrs <u>1:30</u>	0	0	0	N	N	N	A lot of open space; willow mixed with cottonwood. Not a lot of willow. Willow not dense
3 <u>Aaron Gallagher</u>	Date <u>6/24/04</u> Start <u>06:10</u> Stop <u>07:10</u> Total hrs <u>1</u>	0	0	0	N	N	N	
4 <u>Aaron Gallagher</u>	Date <u>7/5/04</u> Start <u>06:00</u> Stop <u>07:30</u> Total hrs <u>1:30</u>	0	0	0	N	N	N	
5 <u>Aaron Gallagher</u>	Date <u>7/11/04</u> Start <u>06:00</u> Stop <u>07:30</u> Total hrs <u>1:30</u>	0	0	0	N	N	N	Willows condensed in about 200 meter length mixed with cottonwood. Willows 10-20% of vegetation
Overall Site Summary (Total resident WIFLs only)		Adults	Pairs	Territories	Nests	Were any WIFLs color-banded? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, report color combination(s) in the comments section on back of form		
Total survey hrs <u>7:30</u>		0	0	0	0			

Reporting Individual Mike Stake Date Report Completed 7/26/04
US Fish and Wildlife Service Permit # TE835139-2 AZ Game and Fish Department (or other state) Permit # _____

Submit original form by August 1st. Retain a copy for your records.

Fill in the following information completely. Submit original form by August 1 . Retain a copy for your records.

Reporting Individual Mike Stake Phone # (505) 828-9455
 Affiliation Hawks Aloft, Inc. E-mail mstake@hawksaloft.org
 Site Name Mill Creek Date Report Completed 7/26/04

Did you verify that this site name is consistent with that used in previous years? Yes/ No (circle one)
 If name is different, what name(s) was used in the past? _____
 If site was surveyed last year, did you survey the same general area this year? Yes/ No If no, summarize in comments below.
 Did you survey the same general area during each visit to this site this year? Yes/ No If no, summarize in comments below.

Management Authority for Survey Area (circle one): Federal Municipal/County State Tribal Private
 Name of Management Entity or Owner (e.g., Tonto National Forest) Bureau of Land Management

Length of area surveyed: 0.25 miles (specify units, e.g., miles = mi, kilometers = km, meters = m)

Vegetation Characteristics: Overall, are the species in tree/shrub layer at this site comprised predominantly of (check one):

- ☒ Native broadleaf plants (entirely or almost entirely, includes high-elevation willow)
☐ Mixed native and exotic plants (mostly native)
☐ Mixed native and exotic plants (mostly exotic)
☐ Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: Aspen, Alder, Willow

Average height of canopy (Do not put a range): 40 feet (specify units)

Was surface water or saturated soil present at or adjacent to site? Yes/ No (circle one)
 Distance from the site to surface water or saturated soil: 1 meter (specify units)

Did hydrological conditions change significantly among visits (did the site flood or dry out)? Yes / No (circle one)
 If yes, describe in comments section below.

Remember to attach a copy of a USGS quad/topographical map (REQUIRED) of the survey area, outlining the survey site and location of WIFL detections. Also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map. Please include photos of the interior of the patch, exterior of the patch, and overall site and describe any unique habitat features.

Comments (attach additional sheets if necessary)

Few willows at the site

WIFL Detection Locations:

Date Detected	N UTM	E UTM	Date Detected	N UTM	E UTM

Willow Flycatcher Survey and Detection Form (revised April, 2004)

Site Name Cat Creek State CO County Conejos
 USGS Quad Name Greenie Mountain, CO Elevation 2540 feet / meters (circle one)

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? ☒ Yes ☐ No

Site Coordinates: Start: N 4138778 E 0389384 UTM Datum NAD 27 (NAD27 preferred)
 Stop: N 4139105 E 0387673 UTM Zone 13 S

**** Fill in additional site information on back of this page ****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N	Cowbirds Detected? Y or N	Presence of Livestock, Recent sign, If Yes, Describe Y or N	Comments about this survey (e.g., bird behavior, evidence of pairs or breeding, number of nests, nest contents or number of fledges seen; potential threats)
1 <u>Aaron Gallagher</u>	Date <u>5/27/04</u> Start <u>06:00</u> Stop <u>08:30</u> Total hrs <u>2:30</u>	0	0	0	N	N	N	Willows dense in patches. Potential habitat Possible WIFL but no song.
2 <u>Aaron Gallagher</u>	Date <u>6/10/04</u> Start <u>06:30</u> Stop <u>09:30</u> Total hrs <u>3</u>	0	0	0	N	Y	N	
3 <u>Aaron Gallagher</u>	Date <u>6/30/04</u> Start <u>06:00</u> Stop <u>07:30</u> Total hrs <u>1:30</u>	0	0	0	N	N	Y	
4 _____	Date _____ Start _____ Stop _____ Total hrs _____							
5 _____	Date _____ Start _____ Stop _____ Total hrs _____							
Overall Site Summary (Total resident WIFLs only)		Adults	Pairs	Territories	Nests	Were any WIFLs color-banded? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, report color combination(s) in the comments section on back of form		
Total survey hrs <u>7</u>		0	0	0	0			

Reporting Individual Mike Stake Date Report Completed 7/26/04
 US Fish and Wildlife Service Permit # TE835139-2 AZ Game and Fish Department (or other state) Permit # _____

Submit original form by August 1st. Retain a copy for your records.

2004 Willow Flycatcher Surveys in Southern Colorado

Fill in the following information completely. Submit original form by August 1. Retain a copy for your records.

Reporting Individual Mike Stake Phone # (505) 828-9455
 Affiliation Hawks Aloft, Inc. E-mail mstake@hawksaloft.org
 Site Name cat Creek Date Report Completed 7/26/04

Did you verify that this site name is consistent with that used in previous years? (Yes) No (circle one)
 If name is different, what name(s) was used in the past? See Comments
 If site was surveyed last year, did you survey the same general area this year? Yes / No If no, summarize in comments below. N/A
 Did you survey the same general area during each visit to this site this year? (Yes) No If no, summarize in comments below.

Management Authority for Survey Area (circle one): (Federal) Municipal/County State Tribal Private
 Name of Management Entity or Owner (e.g., Tonto National Forest) Bureau of Land Management

Length of area surveyed: 1.1 km (specify units, e.g., miles = mi, kilometers = km, meters = m)

Vegetation Characteristics: Overall, are the species in tree/shrub layer at this site comprised predominantly of (check one):

- ☒ Native broadleaf plants (entirely or almost entirely, includes high-elevation willow)
☐ Mixed native and exotic plants (mostly native)
☐ Mixed native and exotic plants (mostly exotic)
☐ Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: Salix exigua, Ericameria sp., Pinus ponderosa

Average height of canopy (Do not put a range): 2.5 meters (specify units)

Was surface water or saturated soil present at or adjacent to site? (Yes) No (circle one)
 Distance from the site to surface water or saturated soil: 0 meters (specify units)

Did hydrological conditions change significantly among visits (did the site flood or dry out)? Yes (No) (circle one)
 If yes, describe in comments section below.

Remember to attach a copy of a USGS quad/topographical map (REQUIRED) of the survey area, outlining the survey site and location of WIFL detections. Also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map. Please include photos of the interior of the patch, exterior of the patch, and overall site and describe any unique habitat features.

Comments (attach additional sheets if necessary)
Part of this area surveyed in 2002

WIFL Detection Locations:

Date Detected	N UTM	E UTM	Date Detected	N UTM	E UTM

Willow Flycatcher Survey and Detection Form (revised April, 2004)

Site Name Luder's Creek State CO County Saguache
 USGS Quad Name North Pass, CO Elevation 2590 feet (meters) (circle one)

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? ☒ Yes ☐ No

Site Coordinates: Start: N 4226442 E 0361977 UTM* Datum NAD27 (NAD27 preferred)
 Stop: N 4225599 E 0362309 UTM* Zone 13S

**** Fill in additional site information on back of this page ****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N	Cowbirds Detected? Y or N	Presence of Livestock, Recent sign, If Yes, Describe Y or N	Comments about this survey (e.g., bird behavior, evidence of pairs or breeding, number of nests, nest contents or number of fledges seen; potential threats)
1 <u>Mike Stake</u>	Date <u>5/28/04</u> Start <u>05:56</u> Stop <u>09:01</u> Total hrs <u>3</u>	0	0	0	N	Y (1)	Y	Willows not much taller than 2 m. Small stream.
2 <u>Aaron Gallagher</u>	Date <u>6/8/04</u> Start <u>06:30</u> Stop <u>10:30</u> Total hrs <u>4</u>	0	0	0	N	N	Y	Willows leafed out.
3 <u>Aaron Gallagher</u>	Date <u>7/15/04</u> Start <u>06:50</u> Stop <u>10:00</u> Total hrs <u>3:10</u>	0	0	0	N	N	N	
4 _____	Date _____ Start _____ Stop _____ Total hrs _____							
5 _____	Date _____ Start _____ Stop _____ Total hrs _____							
Overall Site Summary (Total resident WIFLs only)		Adults	Pairs	Territories	Nests	Were any WIFLs color-banded? Yes <u>(No)</u> If yes, report color combination(s) in the comments section on back of form		
Total survey hrs <u>10:10</u>		0	0	0	0			

Reporting Individual Mike Stake Date Report Completed 7/26/04
 US Fish and Wildlife Service Permit # TE835139-2 AZ Game and Fish Department (or other state) Permit # _____

Submit original form by August 1st. Retain a copy for your records.

* Also ... reach 2 start 4222007-363523 stop 4221552-364033
 reach 3 start 4220829-364469 stop 4220797-364317

2004 Willow Flycatcher Surveys in Southern Colorado

Fill in the following information completely. Submit original form by August 1. Retain a copy for your records.

Reporting Individual Mike Stake Phone # (505) 828-9455
 Affiliation Hawks Aloft, Inc. E-mail mstake@hawksaloft.org
 Site Name Luder's Creek Date Report Completed 7/26/04

Did you verify that this site name is consistent with that used in previous years? Yes / No (circle one) NA

If name is different, what name(s) was used in the past? _____

If site was surveyed last year, did you survey the same general area this year? Yes / No If no, summarize in comments below. NA

Did you survey the same general area during each visit to this site this year? (Yes) / No If no, summarize in comments below.

Management Authority for Survey Area (circle one): (Federal) Municipal/County State Tribal Private

Name of Management Entity or Owner (e.g., Tonto National Forest) U.S. Forest Service

Length of area surveyed: 1.3 miles (specify units, e.g., miles = mi, kilometers = km, meters = m)

Vegetation Characteristics: Overall, are the species in tree/shrub layer at this site comprised predominantly of (check one):

☒ Native broadleaf plants (entirely or almost entirely, includes high-elevation willow)

☐ Mixed native and exotic plants (mostly native)

☐ Mixed native and exotic plants (mostly exotic)

☐ Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: Willow

Average height of canopy (Do not put a range): 2 meters (specify units)

Was surface water or saturated soil present at or adjacent to site? (Yes) / No (circle one)

Distance from the site to surface water or saturated soil: 0 meters (specify units)

Did hydrological conditions change significantly among visits (did the site flood or dry out)? Yes (No) (circle one)

If yes, describe in comments section below.

Remember to attach a copy of a USGS quad/topographical map (REQUIRED) of the survey area, outlining the survey site and location of WIFL detections. Also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map. Please include photos of the interior of the patch, exterior of the patch, and overall site and describe any unique habitat features.

Comments (attach additional sheets if necessary)

Stream running through thin line of willows

WIFL Detection Locations:

Date Detected	N UTM	E UTM	Date Detected	N UTM	E UTM

Willow Flycatcher Survey and Detection Form (revised April, 2004)

Site Name Elk Creek State CO County Conejos
 USGS Quad Name LaJara Canyon, CO Elevation 2590 feet (meters) (circle one)

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? ☒ Yes ☐ No

Site Coordinates: Start: N 4109563 E 0378659 UTM Datum NAD 27 (NAD27 preferred)
 Stop: N 4108812 E 0377022 UTM Zone 13S

**** Fill in additional site information on back of this page ****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N	Cowbirds Detected? Y or N	Presence of Livestock, Recent sign, If Yes, Describe Y or N	Comments about this survey (e.g., bird behavior, evidence of pairs or breeding, number of nests, nest contents or number of fledges seen; potential threats)
1 <u>Aaron Gallagher</u>	Date <u>5/31/04</u> Start <u>06:00</u> Stop <u>10:30</u> Total hrs <u>4:30</u>	0	0	0	N	Y	Y	
2 <u>Aaron Gallagher</u>	Date <u>6/14/04</u> Start <u>06:00</u> Stop <u>08:30</u> Total hrs <u>2:30</u>	0	0	0	N	Y	Y	No willow habitat along Elk Creek outside Elk Creek campground
3 <u>Aaron Gallagher</u>	Date <u>6/21/04</u> Start <u>07:00</u> Stop <u>09:30</u> Total hrs <u>2:30</u>	0	0	0	N	N	Y	Most willow habitat centered around confluence at Conejos river and Elk Creek. Zig-zag route
4 <u>Aaron Gallagher</u>	Date <u>7/1/04</u> Start <u>06:00</u> Stop <u>08:30</u> Total hrs <u>2:30</u>	0	0	0	N	N	Y	
5 <u>Aaron Gallagher</u>	Date <u>7/8/04</u> Start <u>06:10</u> Stop <u>08:10</u> Total hrs <u>2</u>	0	0	0	N	Y	Y	
Overall Site Summary (Total resident WIFLs only)		Adults	Pairs	Territories	Nests	Were any WIFLs color-banded? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Total survey hrs <u>14</u>		0	0	0	0	If yes, report color combination(s) in the comments section on back of form		

Reporting Individual Mike Stake Date Report Completed 7/26/04
 US Fish and Wildlife Service Permit # TE835139-2 AZ Game and Fish Department (or other state) Permit # _____

Submit original form by August 1st. Retain a copy for your records.

Fill in the following information completely. Submit original form by August 1. Retain a copy for your records.

Reporting Individual Mike Stake Phone # (505) 828-9455
 Affiliation Hawks Aloft, Inc. E-mail mstake@hawksaloft.org
 Site Name Elk Creek Date Report Completed 7/26/04

Did you verify that this site name is consistent with that used in previous years? Yes / No (circle one) NA

If name is different, what name(s) was used in the past? _____

If site was surveyed last year, did you survey the same general area this year? Yes / No If no, summarize in comments below. NA

Did you survey the same general area during each visit to this site this year? (Yes) No If no, summarize in comments below.

Management Authority for Survey Area (circle one): (Federal) Municipal/County State Tribal Private
 Name of Management Entity or Owner (e.g., Tonto National Forest) Rio Grande National Forest

Length of area surveyed: 1 mile (specify units, e.g., miles = mi, kilometers = km, meters = m)

Vegetation Characteristics: Overall, are the species in tree/shrub layer at this site comprised predominantly of (check one):

☒ Native broadleaf plants (entirely or almost entirely, includes high-elevation willow)

☐ Mixed native and exotic plants (mostly native)

☐ Mixed native and exotic plants (mostly exotic)

☐ Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: Willow

Average height of canopy (Do not put a range): 3 meters (specify units)

Was surface water or saturated soil present at or adjacent to site? (Yes) No (circle one)

Distance from the site to surface water or saturated soil: 3-70 meters (specify units)

Did hydrological conditions change significantly among visits (did the site flood or dry out)? Yes / (No) (circle one)

If yes, describe in comments section below.

Remember to attach a copy of a USGS quad/topographical map (REQUIRED) of the survey area, outlining the survey site and location of WIFL detections. Also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map. Please include photos of the interior of the patch, exterior of the patch, and overall site and describe any unique habitat features.

Comments (attach additional sheets if necessary)

WIFL Detection Locations:

Date Detected	N UTM	E UTM	Date Detected	N UTM	E UTM

Willow Flycatcher Survey and Detection Form (revised April, 2004)

Site Name Cow Camp State CO County Conejos
 USGS Quad Name Spectacle Lake, CO Elevation 2592 feet / meters (circle one)

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? ☒ Yes ☐ No

Site Coordinates: Start: N 4111075 E 0375229 UTM Datum NAD 27 (NAD27 preferred)
 Stop: N 4112978 E 0373356 UTM Zone 13S

**** Fill in additional site information on back of this page ****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N	Cowbirds Detected? Y or N	Presence of Livestock, Recent sign, If Yes, Describe Y or N	Comments about this survey (e.g., bird behavior, evidence of pairs or breeding, number of nests, nest contents or number of fledges seen; potential threats)
1 <u>Aaron Gallagher</u>	Date <u>5/26/04</u> Start <u>06:00</u> Stop <u>09:20</u> Total hrs <u>3:20</u>	0	0	0	N	Y	Y	
2 <u>Aaron Gallagher</u>	Date <u>6/15/04</u> Start <u>06:05</u> Stop <u>08:30</u> Total hrs <u>2:25</u>	0	0	0	N	N	Y	Willows leafed out.
3 <u>Aaron Gallagher</u>	Date <u>6/22/04</u> Start <u>06:30</u> Stop <u>09:30</u> Total hrs <u>3</u>	0	0	0	N	N	Y	
4 <u>Aaron Gallagher</u>	Date <u>7/2/04</u> Start <u>06:15</u> Stop <u>08:30</u> Total hrs <u>2:15</u>	0	0	0	N	N	Y	
5 <u>Aaron Gallagher</u>	Date <u>7/12/04</u> Start <u>06:30</u> Stop <u>08:30</u> Total hrs <u>2</u>	0	0	0	N	Y	Y	Found nest of a flycatcher (unknown species) with 2-3 almost fledged young 4111055 - 0374912
Overall Site Summary (Total resident WIFLs only)		Adults	Pairs	Territories	Nests	Were any WIFLs color-banded? Yes <input checked="" type="checkbox"/> No		
Total survey hrs <u>13</u>		0	0	0	0	If yes, report color combination(s) in the comments section on back of form		

Reporting Individual Mike Stake Date Report Completed 7/26/04
 US Fish and Wildlife Service Permit # TE035139-2 AZ Game and Fish Department (or other state) Permit # _____

Submit original form by August 1st. Retain a copy for your records.

Fill in the following information completely. Submit original form by August 1 . Retain a copy for your records.

Reporting Individual Mike Stake Phone # (505) 828-9455
 Affiliation Hawks Aloft, Inc. E-mail mstake@hawksaloft.org
 Site Name Cow Camp Date Report Completed 7/26/04

Did you verify that this site name is consistent with that used in previous years? Yes / No (circle one) NA

If name is different, what name(s) was used in the past? _____

If site was surveyed last year, did you survey the same general area this year? Yes / No If no, summarize in comments below. NA

Did you survey the same general area during each visit to this site this year? (Yes) / No If no, summarize in comments below.

Management Authority for Survey Area (circle one): (Federal) Municipal/County State Tribal Private
 Name of Management Entity or Owner (e.g., Tonto National Forest) Rio Grande National Forest

Length of area surveyed: 1.5 miles (specify units, e.g., miles = mi, kilometers = km, meters = m)

Vegetation Characteristics: Overall, are the species in tree/shrub layer at this site comprised predominantly of (check one):

☒ Native broadleaf plants (entirely or almost entirely, includes high-elevation willow)

☐ Mixed native and exotic plants (mostly native)

☐ Mixed native and exotic plants (mostly exotic)

☐ Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: Willow

Average height of canopy (Do not put a range): 3.0 meters (specify units)

Was surface water or saturated soil present at or adjacent to site? (Yes) / No (circle one)

Distance from the site to surface water or saturated soil: 3-70 meters (specify units)

Did hydrological conditions change significantly among visits (did the site flood or dry out)? Yes (No) (circle one)

If yes, describe in comments section below.

Remember to attach a copy of a USGS quad/topographical map (REQUIRED) of the survey area, outlining the survey site and location of WIFL detections. Also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map. Please include photos of the interior of the patch, exterior of the patch, and overall site and describe any unique habitat features.

Comments (attach additional sheets if necessary)

WIFL Detection Locations:

Date Detected	N UTM	E UTM	Date Detected	N UTM	E UTM

Willow Flycatcher Survey and Detection Form (revised April, 2004)

Site Name Spectacle Lake State CO County Conejos
 USGS Quad Name Spectacle Lake, CO Elevation 2674 feet / (meters) (circle one)

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? ☒ Yes ☐ No

Site Coordinates: Start: N 4112999 E 0373301 UTM Datum NAD27 (NAD27 preferred)
 Stop: N 4115415 E 0371898 UTM Zone 13S

**** Fill in additional site information on back of this page ****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N	Cowbirds Detected? Y or N	Presence of Livestock, Recent sign, If Yes, Describe Y or N	Comments about this survey (e.g., bird behavior, evidence of pairs or breeding, number of nests, nest contents or number of fledges seen; potential threats)
1 <u>Mike Stake</u>	Date <u>5/26/04</u> Start <u>06:00</u> Stop <u>09:58</u> Total hrs <u>4</u>	0	0	0	N	Y	Y	A couple of thick willow patches. Willows not leafed out yet. Many DUFL
2 <u>Aaron Gallagher</u>	Date <u>6/16/04</u> Start <u>06:05</u> Stop <u>09:05</u> Total hrs <u>3</u>	0	0	0	N	N	Y	Willows leafed out.
3 <u>Aaron Gallagher</u>	Date <u>6/23/04</u> Start <u>06:05</u> Stop <u>09:00</u> Total hrs <u>3</u>	0	0	0	N	N	Y	
4 <u>Aaron Gallagher</u>	Date <u>7/3/04</u> Start <u>06:30</u> Stop <u>08:30</u> Total hrs <u>2</u>	0	0	0	N	N	Y	
5 <u>Aaron Gallagher</u>	Date <u>7/13/04</u> Start <u>06:00</u> Stop <u>09:00</u> Total hrs <u>3</u>	0	0	0	N	N	Y	
Overall Site Summary (Total resident WIFLs only)		Adults	Pairs	Territories	Nests	Were any WIFLs color-banded? Yes <u>No</u> If yes, report color combination(s) in the comments section on back of form		
Total survey hrs <u>15</u>		0	0	0	0			

Reporting Individual Mike Stake Date Report Completed 7/26/04
 US Fish and Wildlife Service Permit # TE835139-2 AZ Game and Fish Department (or other state) Permit # _____

Submit original form by August 1st. Retain a copy for your records.

Fill in the following information completely. Submit original form by August 1. Retain a copy for your records.

Reporting Individual Mike Stake Phone # (505) 828-9455
 Affiliation Hawks Aloft, Inc. E-mail mstake@hawksaloft.org
 Site Name Spectacle Lake Date Report Completed 7/26/04

Did you verify that this site name is consistent with that used in previous years? Yes / No (circle one) NA

If name is different, what name(s) was used in the past? _____

If site was surveyed last year, did you survey the same general area this year? Yes / No If no, summarize in comments below. NA

Did you survey the same general area during each visit to this site this year? Yes / No If no, summarize in comments below.

Management Authority for Survey Area (circle one): Federal Municipal/County State Tribal Private
 Name of Management Entity or Owner (e.g., Tonto National Forest) Rio Grande National Forest

Length of area surveyed: 2.6 miles (specify units, e.g., miles = mi, kilometers = km, meters = m)

Vegetation Characteristics: Overall, are the species in tree/shrub layer at this site comprised predominantly of (check one):

☒ Native broadleaf plants (entirely or almost entirely, includes high-elevation willow)

☐ Mixed native and exotic plants (mostly native)

☐ Mixed native and exotic plants (mostly exotic)

☐ Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: Willow, Alder

Average height of canopy (Do not put a range): 5.5 meters (specify units)

Was surface water or saturated soil present at or adjacent to site? Yes / No (circle one)

Distance from the site to surface water or saturated soil: 0 meters (specify units)

Did hydrological conditions change significantly among visits (did the site flood or dry out)? Yes / No (circle one)

If yes, describe in comments section below.

Remember to attach a copy of a USGS quad/topographical map (REQUIRED) of the survey area, outlining the survey site and location of WIFL detections. Also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map. Please include photos of the interior of the patch, exterior of the patch, and overall site and describe any unique habitat features.

Comments (attach additional sheets if necessary)

WIFL Detection Locations:

Date Detected	N UTM	E UTM	Date Detected	N UTM	E UTM

Willow Flycatcher Survey and Detection Form (revised April, 2004)

Site Name Lil' pop State CO County Alamosa
 USGS Quad Name Alamosa East, CO Elevation 2306 feet / (meters) (circle one)

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? ☒ Yes ☐ No

Site Coordinates: Start: N 4146714 E 0424736 UTM Datum NAD27 (NAD27 preferred)
 Stop: N 4143884 E 0427415 UTM Zone 13S

**** Fill in additional site information on back of this page ****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N	Cowbirds Detected? Y or N	Presence of Livestock, Recent sign, If Yes, Describe Y or N	Comments about this survey (e.g., bird behavior, evidence of pairs or breeding, number of nests, nest contents or number of fledges seen; potential threats)
1 <u>Aaron Gallagher</u>	Date <u>5/24/04</u> Start <u>06:30</u> Stop <u>11:30</u> Total hrs <u>5</u>	<u>4</u>	<u>0</u>	<u>0</u>	<u>N</u>	<u>N</u>	<u>N</u>	
2 <u>Aaron Gallagher</u>	Date <u>6/1/04</u> Start <u>06:00</u> Stop <u>11:00</u> Total hrs <u>5</u>	<u>13</u>	<u>0</u>	<u>0</u>	<u>N</u>	<u>Y</u>	<u>Y</u>	Willows at least 10 feet tall. WIFL in areas near standing marsh Willows leafing out
3 <u>Aaron Gallagher</u>	Date <u>6/25/04</u> Start <u>06:10</u> Stop <u>09:30</u> Total hrs <u>3:20</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>N</u>	<u>Y</u>	<u>Y</u>	Willows leafed out. Patches of dead willow throughout transect.
4 _____	Date _____ Start _____ Stop _____ Total hrs _____							
5 _____	Date _____ Start _____ Stop _____ Total hrs _____							
Overall Site Summary (Total resident WIFLs only)		Adults	Pairs	Territories	Nests	Were any WIFLs color-banded? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Total survey hrs <u>13:20</u>		<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	If yes, report color combination(s) in the comments section on back of form		

Reporting Individual Mike Stake Date Report Completed 7/26/04
 US Fish and Wildlife Service Permit # TE835139-2 AZ Game and Fish Department (or other state) Permit # _____

Fill in the following information completely. Submit original form by August 1. Retain a copy for your records.

Reporting Individual Mike Stake Phone # (505) 828-9455
 Affiliation Hawks Aloft, Inc. E-mail mstake@hawksaloft.org
 Site Name Lil'pop Date Report Completed 7/26/04

Did you verify that this site name is consistent with that used in previous years? (Yes) No (circle one)

If name is different, what name(s) was used in the past?

If site was surveyed last year, did you survey the same general area this year? (Yes) No If no, summarize in comments below.

Did you survey the same general area during each visit to this site this year? (Yes) No If no, summarize in comments below.

Management Authority for Survey Area (circle one): (Federal) Municipal/County State Tribal Private
 Name of Management Entity or Owner (e.g., Tonto National Forest) Alamosa National Wildlife Refuge

Length of area surveyed: 3.3 miles (specify units, e.g., miles = mi, kilometers = km, meters = m)

Vegetation Characteristics: Overall, are the species in tree/shrub layer at this site comprised predominantly of (check one):

☒ Native broadleaf plants (entirely or almost entirely, includes high-elevation willow)

☐ Mixed native and exotic plants (mostly native)

☐ Mixed native and exotic plants (mostly exotic)

☐ Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: Willow, Cottonwood

Average height of canopy (Do not put a range): 4 meters (specify units)

Was surface water or saturated soil present at or adjacent to site? (Yes) No (circle one)

Distance from the site to surface water or saturated soil: 0 meters (specify units)

Did hydrological conditions change significantly among visits (did the site flood or dry out)? Yes (No) (circle one)

If yes, describe in comments section below.

Remember to attach a copy of a USGS quad/topographical map (REQUIRED) of the survey area, outlining the survey site and location of WIFL detections. Also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map. Please include photos of the interior of the patch, exterior of the patch, and overall site and describe any unique habitat features.

Comments (attach additional sheets if necessary)

1 June 04 4145646-0425410 1 June 04 4144205-0427156
 1 June 04 4145485-0425190 1 June 04 4143760-0427314
 1 June 04 4145153-0425901
 1 June 04 4144978-0426047
 1 June 04 4144978-0426047
 1 June 04 4144569-0426067
 1 June 04 4144334-0427123

WIFL Detection Locations:

Date Detected	N UTM	E UTM	Date Detected	N UTM	E UTM
24 May 04	4146098	0425404	1 June 04	4146656	0425261
24 May 04	4145147	0425867	1 June 04	4146173	0425205
24 May 04	4145147	0425867	1 June 04	4146122	0425343
24 May 04	4144681	0426064	1 June 04	4146171	0425723

WIFL UTMs continue in Comments (above)

Willow Flycatcher Survey and Detection Form (revised April, 2004)

Site Name Alamosa North State CO County Alamosa
 USGS Quad Name Alamosa East, CO Elevation 2286 feet / meters (circle one)

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? ☒ Yes ☐ No

Site Coordinates: Start: N 4141342 E 0430996 UTM Datum NAD27 (NAD27 preferred)
 Stop: N 4143884 E 0427415 UTM Zone 13S

**** Fill in additional site information on back of this page ****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N	Cowbirds Detected? Y or N	Presence of Livestock, Recent sign, If Yes, Describe Y or N	Comments about this survey (e.g., bird behavior, evidence of pairs or breeding, number of nests, nest contents or number of fledges seen; potential threats)
1 <u>Mike Stake</u>	Date <u>5/25/04</u> Start <u>06:03</u> Stop <u>09:31</u> Total hrs <u>3:30</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>N</u>	<u>Y</u>	<u>N</u>	Willows not leafed out yet A third WIFL perhaps but did not sing-at 4143455-0428772
2 <u>Aaron Gallagher</u>	Date <u>6/2/04</u> Start <u>06:10</u> Stop <u>10:30</u> Total hrs <u>4:20</u>	<u>6</u>	<u>0</u>	<u>0</u>	<u>N</u>	<u>Y</u>	<u>N</u>	Willows leafing in choppy patches Much of route still dry twigs.
3 <u>Aaron Gallagher</u>	Date <u>6/28/04</u> Start <u>06:00</u> Stop <u>09:30</u> Total hrs <u>3:30</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>N</u>	<u>Y</u>	<u>N</u>	SWFL counter- singing. Habitat very dry where birds were singing
4 _____	Date _____ Start _____ Stop _____ Total hrs _____							
5 _____	Date _____ Start _____ Stop _____ Total hrs _____							
Overall Site Summary (Total resident WIFLs only)		Adults <u>3</u>	Pairs <u>3</u>	Territories <u>3</u>	Nests <u>0</u>	Were any WIFLs color-banded? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, report color combination(s) in the comments section on back of form		
Total survey hrs <u>11:20</u>								

Reporting Individual Mike Stake Date Report Completed 7/26/04
 US Fish and Wildlife Service Permit # TE835139-2AZ Game and Fish Department (or other state) Permit # _____

Submit original form by August 1st. Retain a copy for your records.

Fill in the following information completely. Submit original form by August 1. Retain a copy for your records.

Reporting Individual Mike Stake Phone # (505) 828-9455
 Affiliation Hawks Aloft, Inc. E-mail mstake@hawksaloft.org
 Site Name Alamosa North Date Report Completed 7/26/04

Did you verify that this site name is consistent with that used in previous years? (Yes) No (circle one)
 If name is different, what name(s) was used in the past? See Comments Below
 If site was surveyed last year, did you survey the same general area this year? Yes / No If no, summarize in comments below. NA
 Did you survey the same general area during each visit to this site this year? (Yes) No If no, summarize in comments below.

Management Authority for Survey Area (circle one): (Federal) Municipal/County State Tribal Private
 Name of Management Entity or Owner (e.g., Tonto National Forest) Alamosa National Wildlife Refuge

Length of area surveyed: 3.8 miles (specify units, e.g., miles = mi, kilometers = km, meters = m)

Vegetation Characteristics: Overall, are the species in tree/shrub layer at this site comprised predominantly of (check one):

- ☒ Native broadleaf plants (entirely or almost entirely, includes high-elevation willow)
☐ Mixed native and exotic plants (mostly native)
☐ Mixed native and exotic plants (mostly exotic)
☐ Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: Cottonwood, Willow

Average height of canopy (Do not put a range): 5 meters (specify units)

Was surface water or saturated soil present at or adjacent to site? (Yes) No (circle one)
 Distance from the site to surface water or saturated soil: 0 meters (specify units)

Did hydrological conditions change significantly among visits (did the site flood or dry out)? Yes (No) (circle one)
 If yes, describe in comments section below. See Comments Below

Remember to attach a copy of a USGS quad/topographical map (REQUIRED) of the survey area, outlining the survey site and location of WIFL detections. Also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map. Please include photos of the interior of the patch, exterior of the patch, and overall site and describe any unique habitat features.

Comments (attach additional sheets if necessary)

Alamosa North surveyed in 2002 with different south boundary. We extended route to south at canal. This extension surveyed as "Alamosa South" in 2003. River flow/depth decreased during the season.

28 June 04 4143273-0428421 28 June 04 4142642-0430234
28 June 04 4142642-0430234

WIFL Detection Locations:

Date Detected	N UTM	E UTM	Date Detected	N UTM	E UTM
25 May 04	4142326	0430482	2 June 04	4142694	0430215
25 May 04	4142658	0430220	2 June 04	4142679	0430302
2 June 04	4142921	0429625	2 June 04	4142091	0430872
2 June 04	4142796	0429819	2 June 04	4142091	0430872

WIFL UTMs continue in Comments (above)

Willow Flycatcher Survey and Detection Form (revised April, 2004)

Site Name Alamosa South State CO County Alamosa
 USGS Quad Name Alamosa East, CO Elevation 2286 feet / meters (circle one)

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? ☒ Yes ☐ No

Site Coordinates: Start: N 4133792 E 0433789 UTM Datum NAD27 (NAD27 preferred)
 Stop: N 4141226 E 0431000 UTM Zone 13S

**** Fill in additional site information on back of this page ****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N	Cowbirds Detected? Y or N	Presence of Livestock, Recent sign, If Yes, Describe Y or N	Comments about this survey (e.g., bird behavior, evidence of pairs or breeding, number of nests, nest contents or number of fledges seen; potential threats)
1 <u>Aaron Gallagher</u>	Date <u>5/25/04</u> Start <u>05:45</u> Stop <u>11:40</u> Total hrs <u>6</u>	0	0	0	N	Y	N	
2 <u>Aaron Gallagher</u>	Date <u>6/4/04</u> Start <u>06:00</u> Stop <u>10:30</u> Total hrs <u>4:30</u>	10	0	0	N	Y	Y (about 60)	Willows about 12-15 feet. willows 40% leafed out
3 <u>Aaron Gallagher</u>	Date <u>7/16/04</u> Start <u>06:30</u> Stop <u>09:30</u> Total hrs <u>3</u>	1	1	1	N	Y	Y (80)	
4 _____	Date _____ Start _____ Stop _____ Total hrs _____							
5 _____	Date _____ Start _____ Stop _____ Total hrs _____							
Overall Site Summary (Total resident WIFLs only)		Adults	Pairs	Territories	Nests	Were any WIFLs color-banded? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Total survey hrs <u>13:30</u>		1	1	1	0	If yes, report color combination(s) in the comments section on back of form		

Reporting Individual Mike Stake Date Report Completed 7/26/04
 US Fish and Wildlife Service Permit # TE835139-2 AZ Game and Fish Department (or other state) Permit # _____

Submit original form by August 1st. Retain a copy for your records.

2004 Willow Flycatcher Surveys in Southern Colorado

Fill in the following information completely. Submit original form by August 1. Retain a copy for your records.

Reporting Individual Mike Stake Phone # (505) 828-9455
 Affiliation Hawks Aloft, Inc. E-mail mstake@hawksaloft.org
 Site Name Alamosa South Date Report Completed 7/26/04

Did you verify that this site name is consistent with that used in previous years? Yes/No (circle one)
 If name is different, what name(s) was used in the past? See Comments Below
 If site was surveyed last year, did you survey the same general area this year? Yes/No If no, summarize in comments below.
 Did you survey the same general area during each visit to this site this year? Yes/No If no, summarize in comments below.

Management Authority for Survey Area (circle one): Federal Municipal/County State Tribal Private
 Name of Management Entity or Owner (e.g., Tonto National Forest) Alamosa National Wildlife Refuge

Length of area surveyed: 8 miles (specify units, e.g., miles = mi, kilometers = km, meters = m)

Vegetation Characteristics: Overall, are the species in tree/shrub layer at this site comprised predominantly of (check one):

- ☒ Native broadleaf plants (entirely or almost entirely, includes high-elevation willow)
☐ Mixed native and exotic plants (mostly native)
☐ Mixed native and exotic plants (mostly exotic)
☐ Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: Cottonwood, Willow, Rabbitbrush

Average height of canopy (Do not put a range): 3.5 meters (specify units)

Was surface water or saturated soil present at or adjacent to site? Yes/No (circle one)
 Distance from the site to surface water or saturated soil: 0 meters (specify units)

Did hydrological conditions change significantly among visits (did the site flood or dry out)? Yes/No (circle one)
 If yes, describe in comments section below.

Remember to attach a copy of a USGS quad/topographical map (REQUIRED) of the survey area, outlining the survey site and location of WIFL detections. Also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map. Please include photos of the interior of the patch, exterior of the patch, and overall site and describe any unique habitat features.

Comments (attach additional sheets if necessary)

Changed north boundary after 2003 moving it to canal, thereby shortening the route. The remainder is now part of Alamosa North.

4 June 04 4136837-0431939
4 June 04 4135092-0432451
16 July 04 4136745-0431811

WIFL Detection Locations:

Date Detected	NUTM	EUTM	Date Detected	NUTM	EUTM
4 June 04	4139716	0431057	4 June 04	4137453	0431469
4 June 04	4137539	0431153	4 June 04	4137453	0431469
4 June 04	4137539	0431153	4 June 04	4137191	0431469
4 June 04	4137539	0431153	4 June 04	4136730	0431760

WIFL UTMs continue in Comments (above)