

2006 WILLOW FLYCATCHER SURVEYS AT
ORILLA VERDE, RIO TRUCHAS, AND SANTA FE RIVER, NEW MEXICO



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EXECUTIVE SUMMARY

The Southwestern Willow Flycatcher (*Empidonax traillii extimus*) is a federally endangered migrant songbird breeding locally in riparian areas of New Mexico. The Bureau of Land Management (BLM), Taos Field Office, manages several riparian sites in northern New Mexico containing potential Southwestern Willow Flycatcher habitat. BLM has contracted Hawks Aloft, Inc., to conduct annual Willow Flycatcher surveys at Orilla Verde Recreation Area and Rio Truchas since 1998 and at a Santa Fe River site since 2005. In 2006, we observed 10 Willow Flycatchers, all at Orilla Verde. Because all observations occurred during the first survey (24 and 25 May), and no birds were observed during four subsequent surveys, nor during two breeding bird point count surveys, we consider these Willow Flycatchers to be migrants, and not necessarily the Southwestern subspecies. Although we have observed Willow Flycatchers in eight of the last nine years at Orilla Verde, with at least six observations in each of the last four years, seasonal patterns of use are less predictable. Continued monitoring is needed to document breeding at Orilla Verde and to provide BLM with the most current information possible on patch occupancy by apparent migrants or territorial birds. Because of the consistent lack of observations at Rio Truchas (one Willow Flycatcher observed in the last nine years), BLM might consider reducing the future survey effort, unless a change in habitat management becomes imminent. We observed no Willow Flycatchers at Santa Fe River, but six observations in 2005 indicates that this site could be regularly used. Continued monitoring is needed at Santa Fe River to better understand annual and seasonal Willow Flycatcher presence.

INTRODUCTION

Riparian corridors provide important habitat for breeding birds in arid regions of the western United States (Knopf and Samson 1994). Although western riparian areas occupy less than one percent of the landscape, many support more breeding bird species than surrounding upland habitats (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 maintain riparian areas that host rare or endangered species.

The Southwestern Willow Flycatcher (*Empidonax traillii extimus*) is a federally endangered migrant songbird breeding locally in riparian areas of New Mexico (U.S. Fish and Wildlife Service 1995, Moore and Ahlers 2005). 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). Habitat sometimes includes exotic woody plants, such as saltcedar (*Tamarix* spp.) or Russian olive (*Elaeagnus angustifolia*) (Sogge et al. 2003).

Because of morphological and vocal similarities, it is difficult to distinguish between Southwestern Willow Flycatchers and other migrant subspecies of Willow Flycatcher. However, territorial Willow Flycatchers found late in the season in New Mexico are probably the Southwestern subspecies, because migrants are not expected during this time (Sogge et al. 1997). Therefore, surveys documenting Willow Flycatcher presence can provide an indication of local Southwestern Willow Flycatcher presence.

The Bureau of Land Management (BLM), Taos Field Office, manages riparian sites in northern New Mexico with potential Southwestern Willow Flycatcher habitat. BLM contracted Hawks Aloft, Inc., to conduct annual Willow Flycatcher surveys at three of these sites: Orilla Verde and Rio Truchas, starting in 1998, and Santa Fe River, starting in 2005. We have previously documented Willow Flycatchers at all sites, most frequently at Orilla Verde, where observations late in the 2005 season might have included territorial Southwestern Willow Flycatchers. Further monitoring was needed at Orilla Verde in 2006 to more fully understand the breeding potential of Southwestern Willow Flycatchers at this site. We have observed probable migrant Willow Flycatchers at Rio Truchas and Santa Fe River from 1998-2005, indicating that this site could host birds in some years. Surveys in 2006 at Rio Truchas and Santa Fe River were important to update current status of Willow Flycatchers and identify any potential management concerns. In this report, we provide locations of all Willow Flycatcher observations at Orilla Verde, Rio Truchas, and Santa Fe River in 2006. We also indicate any potential Southwestern Willow Flycatcher presence based on the seasonal timing of observations.

STUDY AREA

We conducted Willow Flycatcher surveys at three riparian sites on BLM land within the Taos Resource Area: Orilla Verde, Rio Truchas, and Santa Fe River (Fig. 1). We conduct additional annual breeding bird point count surveys at each site. The Santa Fe River Willow Flycatcher site is the same as the La Cienega breeding bird site. We briefly summarize habitat and conditions at each site below.

Orilla Verde

We conducted Willow Flycatcher surveys along approximately 7.0 km of the Rio Grande at the Orilla Verde Recreation Area, in Taos County, New Mexico (Fig. 2). Orilla Verde lies within a steep-walled canyon that receives a substantial amount of recreational (e.g., boating, fishing, camping) activity. Vegetation along the canyon slopes consisted of sage (*Artemisia* spp.), pinyon pine (*Pinus edulis*), juniper (*Juniperus* spp.), and grasses. Dominant riparian vegetation included dense patches of saltcedar and stands of willow and New Mexico Olive (*Foresteria neomexicana*). Riparian vegetation also included Fremont cottonwood (*P. fremontii*). Several patches of willow and saltcedar have been identified as potential Willow Flycatcher habitat. These areas consisted of dense riparian vegetation, 3-7 m tall and 5 – 60 m² in size.

Rio Truchas

We surveyed approximately 2.5 km along the Rio de Truchas in Rio Arriba County, New Mexico (Fig. 3). Scattered patches of cottonwood, willow, and alder characterized the riparian area along Rio Truchas. Dense patches of willow occurred near the northwestern end of the survey area, and three of these areas have been identified as potential Willow Flycatcher habitat. Cattle exclosures were constructed around sections of Rio Truchas in 1998. Although cattle have been observed within the exclosures during some years, we have not observed cattle during surveys at Rio Truchas since 2002. Spring snowmelt results in relatively high water flow early in the season at Rio Truchas; water flow usually decreases markedly as the season progresses. High water flow limited access to the site early in 2005, but water flow did not affect our 2006 survey effort.

Santa Fe River

We surveyed approximately 1.5 km of the Santa Fe River in Santa Fe County, near La Cienega, New Mexico (Fig. 4). The survey area began near the Santa Fe Horse Park entrance along Highway 56. We surveyed south and west along the Santa Fe River, until the river reached the BLM property boundary just south of the highway crossing. Riparian vegetation consisted of a mixture of native and exotic plants with several dense patches. We noted that the water level in the Santa Fe River was low, relative to our first year of surveys at the site in 2005. Rainfall late in the 2006 season raised the water level somewhat during the third survey period.

METHODS

Southwestern Willow Flycatcher surveys followed the protocol developed by Sogge et al. (1997), in accordance with the Federal Endangered Species Act. All observers were trained to follow this protocol and certified to conduct Willow Flycatcher surveys under Hawks Aloft's Federal Fish and Wildlife Permit (TE835139-0). We used two observers for all surveys at Orilla Verde and Rio Truchas in 2006. We used a third observer at Santa Fe River, and this observer conducted all surveys in 2005 and 2006.

We conducted surveys during three survey periods: 15-31 May, 1-21 June, and 22 June-10 July. At Rio Truchas, we conducted one survey per site in each of the three survey periods, as recommended by Sogge et al. (1997). Based on revised protocol by the U.S. Fish and Wildlife Service (2000), prescribing at least five visits for project-related surveys, BLM requested an additional two surveys per site during the third survey period

at Orilla Verde and Santa Fe River (for a total of five). We conducted consecutive surveys at a site at least five days apart, beginning each within a half-hour of sunrise and concluding within four hours. Because Orilla Verde is a relatively large site, we took two mornings to complete each survey there. We completed each survey at the other sites within one morning.

During surveys, observers walked slowly through the site, stopping every 20 to 30 m, or as needed to adequately cover habitat patches. At each stop, surveyors listened for flycatcher vocalizations. If none were heard, we played a tape of Southwestern Willow Flycatcher vocalizations to solicit a response and increase our chances of detecting birds that might be present. We recorded Universal Transverse Mercator (UTM) coordinates (Zone 13, 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 (Sogge et al. 1997). We concluded that Willow Flycatchers observed in the third survey period were likely Southwestern Willow Flycatchers, because migrating Willow Flycatchers were not expected during this time (Sogge et al. 1997). Flycatchers observed during the first two survey periods might be Southwestern Willow Flycatchers, but the possible presence of the migrating *E. adastus* subspecies makes identification uncertain during this time. We report the number and locations of Willow Flycatchers observed at each site and indicate probable Southwestern Willow Flycatchers, based on the seasonal timing of observations. We also recorded other species seen or heard while conducting surveys (Appendix 1), and we provide copies of original data forms in Appendix 2.

RESULTS

We recorded 10 Willow Flycatchers in 2006; all observations occurred at Orilla Verde during the first survey period (Table 1, next page). On 24 and 25 May, we recorded eight and two singing Willow Flycatchers, respectively (Table 2, next page). Willow Flycatchers were found in narrow patches of willows along the Rio Grande (see Appendix 3), but some sites also contained saltcedar. Upon discovery that Willow Flycatchers were numerous during the first survey, BLM expressed concern that some occupied patches might be disturbed during upcoming filming of a motion picture at the site in June. This concern was alleviated somewhat after our second survey on 2 June (before the arrival of the filming crew) yielded no Willow Flycatchers. At BLM's request, we returned to Orilla Verde for an extra survey during the second survey period (6 and 9 June) to further update Willow Flycatcher site occupancy at the height of the activity and recommend any measures to help BLM ensure protection of this species. We did not observe Willow Flycatchers during this week of activity, or during three subsequent visits during the third survey period and two breeding bird point count surveys. In 2005, we reported two patches where Willow Flycatchers were found late in the season, and considered them potential Southwestern Willow Flycatcher territories; one of the patches near the Petaca Campground did not appear occupied during 2006 surveys, whereas the other, more northerly, patch was occupied during our first 2006 survey. Our total 2006 survey time at Orilla Verde was 26:10 (hr:min).

We did not observe Willow Flycatchers at Rio Truchas or Santa Fe River in 2006. We have observed only one Willow Flycatcher at Rio Truchas since 1998, whereas we observed as many as six Willow Flycatchers during our first year of surveys at Santa Fe

River in 2005. Among the 76 bird species observed at the three sites was a roosting Barn Owl (*Tyto alba*) at Santa Fe River. Plentiful barns and stalls in the vicinity might offer suitable nesting habitat for this species. Our total 2006 survey time at Rio Truchas and Santa Fe River was 8:45 and 12:15, respectively.

Table 1. Number of Willow Flycatchers detected at Orilla Verde (OV), Rio Truchas (RT), and Santa Fe River (SF), New Mexico from 1998-2006. Period 1 surveys were conducted 15-31 May. Period 2 surveys were conducted 1-21 June. Period 3 surveys were conducted from 22 June-10 July. A dash (-) indicates that surveys were not conducted. An asterisk (*) indicates that three surveys were completed during the survey period, rather than one.

		Number of Willow Flycatchers Detected								
		1998	1999	2000	2001	2002	2003	2004	2005	2006
OV	Period 1	1	0	2	0	1	5	7	1	10
	Period 2	0	1	0	0	0	1	0	4	0
	Period 3	0	0	0	0	0	0	0	2	0*
RT	Period 1	0	0	0	0	0	0	0	-	0
	Period 2	0	0	1	0	0	0	0	0	0
	Period 3	0	0	0	0	0	0	0	0	0
SF	Period 1	-	-	-	-	-	-	-	4	0
	Period 2	-	-	-	-	-	-	-	2	0
	Period 3	-	-	-	-	-	-	-	0*	0*

Table 2. Willow Flycatcher locations at Orilla Verde Recreation Area, in Taos County, New Mexico in 2006. Each row represents one Willow Flycatcher. No Willow Flycatchers were found at the Rio Truchas or Santa Fe River site in 2006. All Universal Transverse Mercator coordinates were recorded in North American Datum 27.

Site	Date	Easting	Northing	Side of River
Orilla Verde	24 May 2006	433804	4021157	West
Orilla Verde	24 May 2006	433746	4021078	East
Orilla Verde	24 May 2006	433471	4020900	East
Orilla Verde	24 May 2006	433293	4020830	West
Orilla Verde	24 May 2006	432875	4020370	West
Orilla Verde	24 May 2006	432675	4019997	West
Orilla Verde	24 May 2006	432097	4019372	East
Orilla Verde	24 May 2006	431970	4019352	West
Orilla Verde	25 May 2006	431375	4018500	East
Orilla Verde	25 May 2006	431648	4018890	East

DISCUSSION

Representing three separate counties and river channels, the Orilla Verde, Rio Truchas, and Santa Fe River sites each offer different habitat quality and conditions for Willow Flycatchers. Based on our observations from 1998-2006, the potential for these sites to host migrating or breeding Willow Flycatchers varies by site. Our conclusions and recommendations vary accordingly by site and will be presented separately.

Orilla Verde

Our observation of ten Willow Flycatchers in the first survey, and no birds in all subsequent surveys, is not unusual. We observed six singing male Willow Flycatchers in a BLM-managed alder-dominated riparian site in Colorado (La Garita) during the first survey in 2004, only to find the site unoccupied in all subsequent visits (Hawks Aloft 2004). At Orilla Verde, we observed seven Willow Flycatchers during the first survey in 2004 and none in subsequent surveys. Because the ten Willow Flycatchers in 2006 were apparently gone before the second survey, we consider that these birds were migrants, and that these birds were not affected by the unusually high activity at the site by filming crews during the second survey period.

The presence of Willow Flycatchers at Orilla Verde is annually predictable but seasonally unpredictable. We have recorded at least one Willow Flycatcher at Orilla Verde in eight of the last nine years, and at least six observations in each of the last four years (Table 1). Although we can already predict future presence of Willow Flycatchers at Orilla Verde, continued monitoring is needed to better understand seasonal presence. In 2005, we reported evidence of territorial Southwestern Willow Flycatchers at Orilla

Verde. Most of the other observations from 1998-2006 have been apparent migrant Willow Flycatchers. Surveys in 2007 could document migrants, breeders, or both. Because of substantial recreational use at Orilla Verde, at least five surveys annually are justified to provide BLM with the most current information possible on patch use and potential management concerns. Maintaining multiple visits at Orilla Verde could help ensure that occupied patches are adequately protected; extra nest searching efforts could be provisioned for documenting breeding activity in occupied patches.

Regardless of breeding or migrant status, maintaining the structure and density of riparian patches is important for the continued existence of Willow Flycatchers at Orilla Verde. We have observed Willow Flycatchers in dense patches of either native willow or exotic saltcedar. Saltcedar stands might be inferior to willow stands for some songbirds, including Willow Flycatcher, because they might provide a reduced prey base for insectivores (DeLoach et al. 2000). Despite potential prey limitations in saltcedar, however, Owen et al. (2005) found no evidence that flycatchers breeding in saltcedar habitats exhibit poorer nutritional condition. The dense structure and abundance of perching or nesting substrates increase the value of saltcedar for Willow Flycatchers, especially in areas where native vegetation is sparse or unavailable. Managers frequently attempt to restore riparian areas by removing saltcedar and planting native vegetation. We support restoration projects that promote the long-term health of riparian areas, but Willow Flycatchers might respond negatively to any short-term loss of vegetation structure if previously occupied patches are altered. We encourage BLM to be mindful of recently occupied patches, regardless of vegetation type, when considering management projects at Orilla Verde.

Rio Truchas

The annual absence of Willow Flycatchers at Rio Truchas is as predictable as the annual presence at Orilla Verde. We have recorded a Willow Flycatcher during only one of the last nine years (Table 1). Despite the lack of Willow Flycatcher observations, Rio Truchas offers valuable habitat for a variety of other riparian species, such as Yellow Warbler (*Dendroica petechia*) and Yellow-breasted Chat (*Icteria virens*) (Appendix 1). BLM has at least two options for monitoring the persistence of riparian species and the future potential of Willow Flycatchers at Rio Truchas. The first option is to continue three annual Willow Flycatcher surveys at Rio Truchas. The second option is to discontinue Willow Flycatcher surveys at Rio Truchas and use the results of our twice-annual breeding bird point count surveys to evaluate potential site occupancy for Willow Flycatchers and other riparian specialists. If Willow Flycatcher surveys are discontinued at Rio Truchas, we recommend that BLM reinstitute the surveys before engaging in any management plans that affect the structure or configuration of habitat patches.

Santa Fe River

Continued monitoring of the Santa Fe River site is needed to better understand annual and seasonal patterns of Willow Flycatcher occupancy. Nine years of monitoring have helped us understand patterns of use at Orilla Verde and Rio Truchas, but our two years of monitoring have proven insufficient for determining the same patterns at Santa Fe River. Six observations during the first two surveys in 2005 offered promise that the site might be regularly used, at least during migration. Our lack of observations in five Willow Flycatcher surveys and two breeding bird point count surveys in 2006 offers a

different prognosis. Nevertheless, the locally dense habitat patches, the close proximity of the site to the potential migration corridor of the Rio Grande (Yong and Finch 1997), and the annual presence of water makes this a potential site for migrant or territorial Willow Flycatchers.

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Figure 1. Location of 2006 Willow Flycatcher survey sites at Orilla Verde, Rio Truchas, and Santa Fe River, New Mexico.

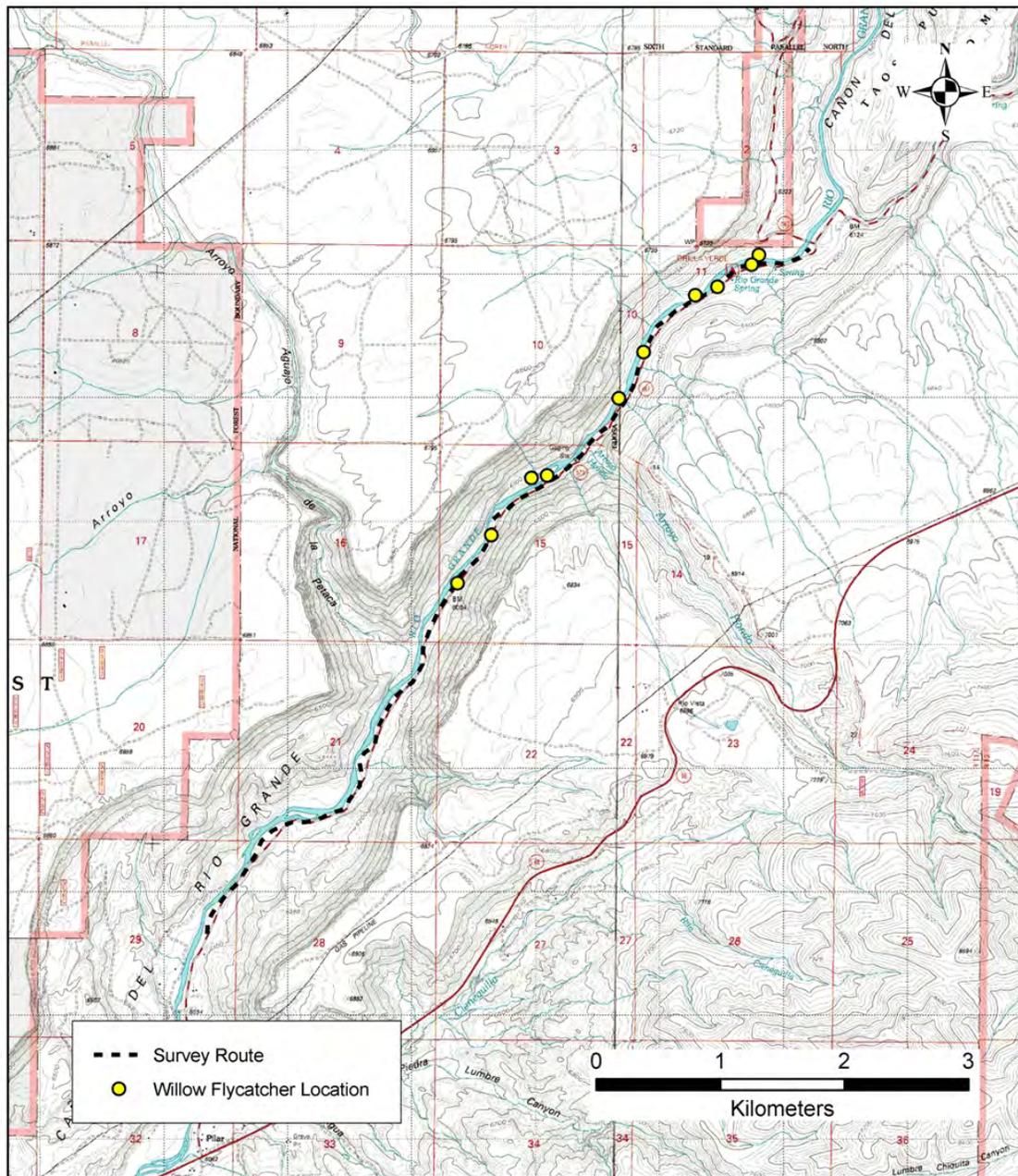


Figure 2. Willow Flycatcher survey route and 2006 Willow Flycatcher observations at Orilla Verde, Taos County, New Mexico. Survey route shown is an enlarged section of the Carson and Taos, New Mexico USGS Quad Maps.

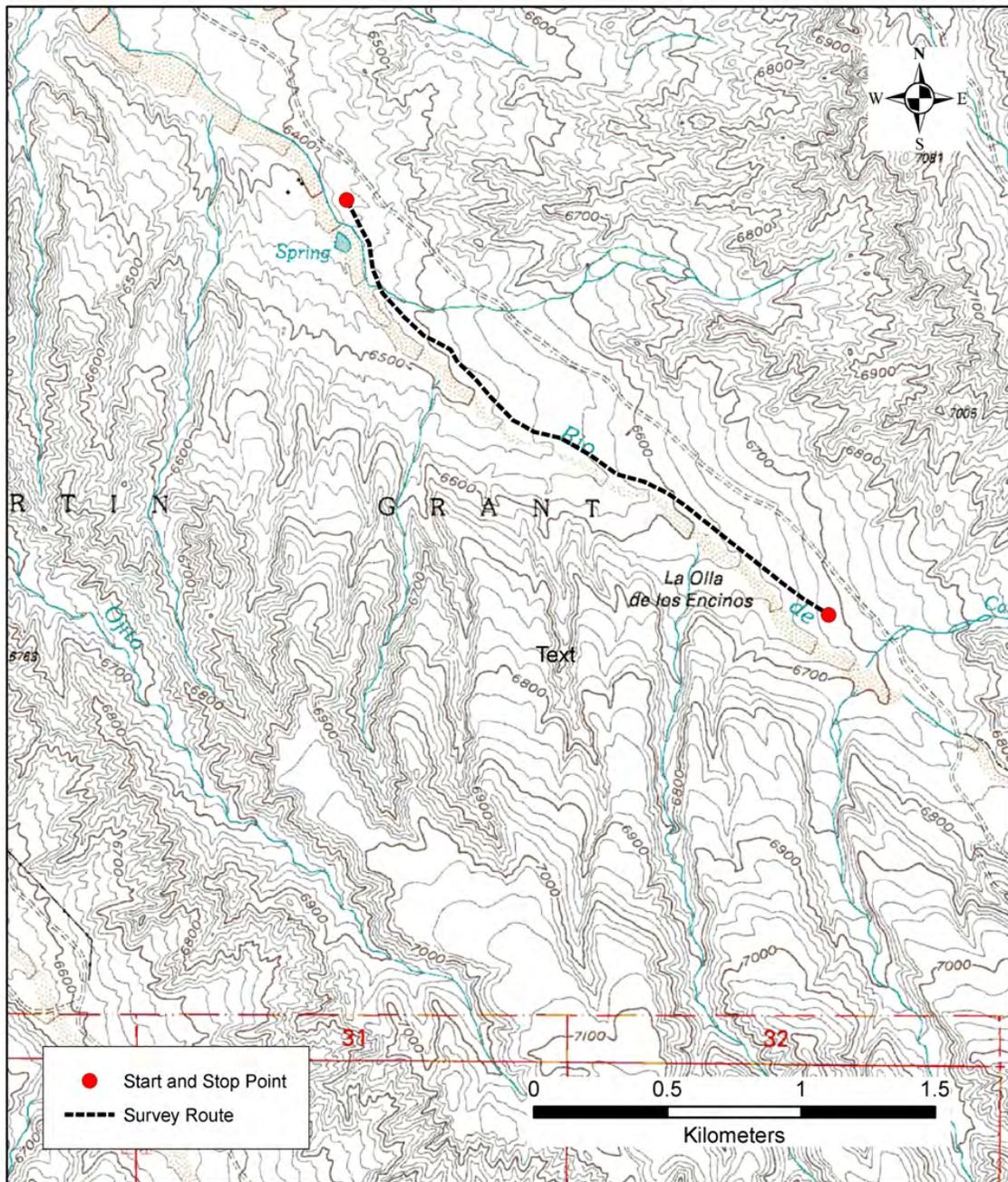


Figure 3. Willow Flycatcher survey route at Rio Truchas, Rio Arriba County, New Mexico. Survey route shown is an enlarged section of the Chimayo, New Mexico USGS Quad Map.

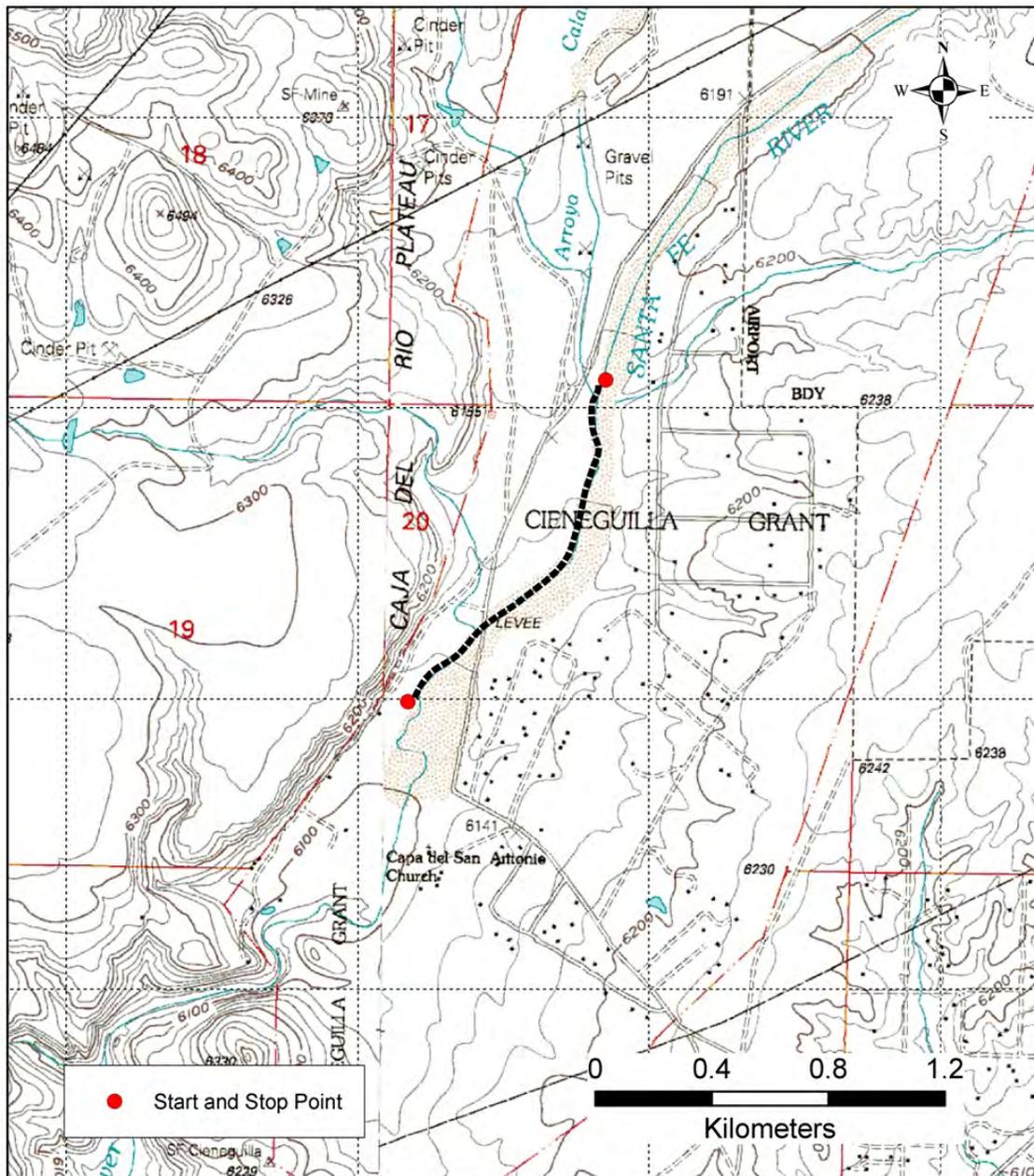


Figure 4. Willow Flycatcher survey route at Santa Fe River, Santa Fe County, New Mexico. Survey route shown is an enlarged section of the Turquoise Hill and Tetilla Peak, New Mexico USGS Quad Maps.

Appendix 1. List of 76 bird species observed during 2006 Willow Flycatcher surveys at Orilla Verde (OV), Rio Truchas (RT), and Santa Fe River (SF), New Mexico.

Species	Scientific Name	OV	RT	SF
American Coot	<i>Fulica americana</i>	X		
American Crow	<i>Corvus brachyrhynchos</i>	X	X	X
American Kestrel	<i>Falco sparverius</i>			X
American Robin	<i>Turdus migratorius</i>	X	X	X
American Wigeon	<i>Anas americana</i>	X		
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>	X	X	X
Barn Owl	<i>Tyto alba</i>			X
Barn Swallow	<i>Hirundo rustica</i>			X
Belted Kingfisher	<i>Ceryle alcyon</i>	X		
Bewick's Wren	<i>Thryomanes bewickii</i>			X
Black Phoebe	<i>Sayornis nigricans</i>	X		X
Black-capped Chickadee	<i>Poecile atricapillus</i>			X
Black-chinned Hummingbird	<i>Archilochus alexandri</i>	X	X	X
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	X		
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>	X	X	X
Black-throated Gray Warbler	<i>Dendroica nigrescens</i>		X	
Blue Grosbeak	<i>Guiraca caerulea</i>	X	X	X
Blue-gray Gnatcatcher	<i>Poliophtila caerulea</i>	X	X	
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	X		
Broad-tailed Hummingbird	<i>Selasphorus platycercus</i>	X	X	X
Brown-headed Cowbird	<i>Molothrus ater</i>	X	X	X
Bullock's Oriole	<i>Icterus bullockii</i>	X		X
Bushtit	<i>Psaltriparus minimus</i>	X	X	X
Canada Goose	<i>Branta canadensis</i>	X		
Canyon Towhee	<i>Pipilo fuscus</i>	X		
Canyon Wren	<i>Catherpes mexicanus</i>	X		
Cassin's Kingbird	<i>Tyrannus vociferans</i>	X		X
Chipping Sparrow	<i>Spizella passerina</i>	X	X	
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	X		
Common Nighthawk	<i>Chordeiles minor</i>	X		X
Common Raven	<i>Corvus corax</i>	X	X	X
Common Yellowthroat	<i>Geothlypis trichas</i>	X		X
Downy Woodpecker	<i>Picoides pubescens</i>			X
Gambel's Quail	<i>Callipepla gambelii</i>			X
Golden Eagle	<i>Aquila chrysaetos</i>	X		
Gray Catbird	<i>Dumetella carolinensis</i>	X		
Gray Flycatcher	<i>Empidonax wrightii</i>		X	

Species	Scientific Name	OV	RT	SF
Great Blue Heron	<i>Ardea herodias</i>	X		
Green-tailed Towhee	<i>Pipilo chlorurus</i>	X	X	
Hairy Woodpecker	<i>Picoides villosus</i>		X	
House Finch	<i>Carpodacus mexicanus</i>	X	X	X
Juniper Titmouse	<i>Baeolophus griseus</i>		X	
Lark Sparrow	<i>Chondestes grammacus</i>			X
Lazuli Bunting	<i>Passerina amoena</i>	X		
Lesser Goldfinch	<i>Carduelis psaltria</i>	X		X
Mallard	<i>Anas platyrhynchos</i>	X		X
Mountain Bluebird	<i>Sialia currucoides</i>			X
Mourning Dove	<i>Zenaida macroura</i>	X	X	X
Northern Flicker	<i>Colaptes auratus</i>			X
Northern Mockingbird	<i>Mimus polyglottos</i>	X	X	X
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	X	X	X
Orange-crowned Warbler	<i>Vermivora celata</i>			X
Pinyon Jay	<i>Gymnorhinus cyanocephalus</i>	X	X	X
Plumbeous Vireo	<i>Vireo plumbeus</i>	X	X	
Red-tailed Hawk	<i>Buteo jamaicensis</i>	X	X	
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	X	X	X
Rock Wren	<i>Salpinctes obsoletus</i>	X	X	X
Ruby-crowned Kinglet	<i>Regulus calendula</i>			X
Say's Phoebe	<i>Sayornis saya</i>		X	X
Song Sparrow	<i>Melospiza melodia</i>		X	
Spotted Sandpiper	<i>Actitis macularia</i>	X		
Spotted Towhee	<i>Pipilo maculatus</i>	X	X	X
Turkey Vulture	<i>Cathartes aura</i>			X
Violet-green Swallow	<i>Tachycineta thalassina</i>	X	X	
Virginia's Warbler	<i>Vermivora virginiae</i>		X	X
Western Bluebird	<i>Sialia mexicana</i>			X
Western Meadowlark	<i>Sturnella neglecta</i>			X
Western Scrub-Jay	<i>Aphelocoma californica</i>		X	
Western Tanager	<i>Piranga ludoviciana</i>	X	X	
Western Wood-Pewee	<i>Contopus sordidulus</i>	X	X	
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	X		
White-winged Dove	<i>Zenaida asiatica</i>			X
Willow Flycatcher	<i>Empidonax traillii</i>	X		
Yellow Warbler	<i>Dendroica petechia</i>	X	X	X
Yellow-breasted Chat	<i>Icteria virens</i>	X	X	X
Yellow-rumped Warbler	<i>Dendroica coronata</i>			X

Appendix 2. Data forms for 2006 Willow Flycatcher surveys at Orilla Verde, Rio Truchas, and Santa Fe River, New Mexico.

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

Site Name Orilla Verde Recreation Area State NM County Taos
 USGS Quad Name Carson / Taos Elevation 1850 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 4015681 E 429362 UTM Datum NAD 27 (NAD27 preferred)
 Stop: N 4021157 E 434202 UTM Zone 13

**** 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>Bard Edrington</u>	Date <u>5/24/06</u> <u>5/25/06</u>	8	0	0	N	Y	N	
	Start <u>0550</u> <u>0550</u>				N	Y	N	
	Stop <u>0910</u> <u>0830</u>	2	0	0	N	Y	N	
	Total hrs <u>6.00</u>							
2 <u>Bard Edrington</u>	Date <u>6/2/06</u>	0	0	0	N	Y	N	* Extra visit in 2nd survey period not included here see comments on next page.
	Start <u>0600-0745</u>	0	0	0	N	Y	N	
<u>Mike Stake</u>	Stop <u>0545-0900</u> <u>0545-0900</u>	0	0	0	N	Y	N	
	Total hrs <u>5.00</u>							
3 <u>Bard Edrington</u>	Date <u>6/22/06</u> <u>6/23/06</u>	0	0	0	N	Y	N	
	Start <u>0545</u> <u>0545</u>	0	0	0	N	Y	N	
	Stop <u>0830</u> <u>0840</u>	0	0	0	N	Y	N	
	Total hrs <u>5.75</u>							
4 <u>Bard Edrington</u>	Date <u>6/29/06</u> <u>6/30/06</u>	0	0	0	N	Y	N	
	Start <u>0600</u> <u>0600</u>	0	0	0	N	Y	N	
	Stop <u>0830</u> <u>0800</u>	0	0	0	N	Y	N	
	Total hrs <u>4.50</u>							
5 <u>Bard Edrington</u>	Date <u>7/6/06</u> <u>7/7/06</u>	0	0	0	N	Y	N	Late start during one of the days due to rain
	Start <u>0600</u> <u>0800</u>	0	0	0	N	Y	N	
	Stop <u>0930</u> <u>0930</u>	0	0	0	N	Y	N	
	Total hrs <u>5.00</u>							
Overall Site Summary (Total resident WIFLs only)		Adults	Pairs	Territories	Nests	Were any WIFLs color-banded? Yes No <u>Unknown</u>		
Total survey hrs <u>26:10</u>		10	0	0	0	If yes, report color combination(s) in the comments section on back of form		

Reporting Individual Mike M. Stake Date Report Completed 7/17/06
 US Fish and Wildlife Service Permit # TE835139-0 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 1st. Retain a copy for your records.

Reporting Individual Mike M. Stake Phone # (505) 828-9455
 Affiliation Hawks Aloft Inc. E-mail mstake@hawksaloft.org
 Site Name Orilla Verde Recreation Area Date Report Completed 7/17/06

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: 5 mi (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, Salt Cedar, New Mexico Olive

Average height of canopy (Do not put a range): 4 m (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: 7-10 m (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)

Motion picture crew near habitat during part of second survey period but site did not appear to be occupied by flycatchers just prior or during activity. During the activity, we scheduled an extra survey, not included on previous page. Karen Epperson visited on 6/6/06 and Bard Edrington visited on 6/9/06. Both surveyed during morning hours from Taos Junction Bridge downstream to the Petaca Campground. Neither observer detected Willow Flycatchers. Below, we indicate if Willow Flycatchers in first survey were on "east" or "west" side of the river.

WIFL Detection Locations:

Date Detected	N UTM	E UTM	Date Detected	N UTM	E UTM
5/24/06	4021157	433804 west	5/24/06	4020370	432875 west
5/24/06	4021078	433746 east	5/24/06	4019997	432675 west
5/24/06	4020900	433471 east	5/24/06	4019372	432097 east
5/24/06	4020830	433293 west	5/24/06	4019352	431970 west
5/25/06	4018500	431375 east			
5/25/06	4018890	431648 east			

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

Site Name Rio Truchas State NM County Rio Arriba
 USGS Quad Name Chimayo Elevation 2010 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 3995700 E 419000 UTM Datum NAD27 (NAD27 preferred)
 Stop: N 3997250 E 417200 UTM Zone 13

**** 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>5/19/06</u> Start <u>0600</u> Stop <u>0915</u> Total hrs <u>3.25</u>	0	0	0	N	Y	N	
2 <u>Bard Edrington</u>	Date <u>6/15/06</u> Start <u>0600</u> Stop <u>0830</u> Total hrs <u>2.50</u>	0	0	0	N	Y	N	
3 <u>Bard Edrington</u>	Date <u>7/5/06</u> Start <u>0600</u> Stop <u>0900</u> Total hrs <u>3.00</u>	0	0	0	N	Y	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>8:45</u>		0	0	0	0			

Reporting Individual Mike M. Stake Date Report Completed 7/17/06
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Fill in the following information completely. Submit original form by August 1st. Retain a copy for your records.

Reporting Individual Mike M. Stake Phone # (505) 828-9455
 Affiliation Hawks Aloft, Inc. E-mail mstake@hawksaloft.org
 Site Name Rio Truchas Date Report Completed 7/17/06

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: 1.5 mi (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, Russian Olive

Average height of canopy (Do not put a range): 5 m (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: 0-10 m (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 Santa Fe River - La Cienega State NM County Santa Fe
 USGS Quad Name Turquoise Hill Elevation Unknown 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 3941100 E 398856 UTM Datum NAD 27 (NAD27 preferred)
 Stop: N 3939994 E 398176 UTM Zone 13

**** 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>Jenny Lisignoli</u>	Date <u>5/15/06</u> Start <u>0600</u> Stop <u>0745</u> Total hrs <u>1.75</u>	0	0	0	N	Y	N	Water very low compared to 2005
2 <u>Jenny Lisignoli</u>	Date <u>6/10/06</u> Start <u>0630</u> Stop <u>0900</u> Total hrs <u>2.50</u>	0	0	0	N	Y	N	
3 <u>Jenny Lisignoli</u>	Date <u>6/23/06</u> Start <u>0535</u> Stop <u>0835</u> Total hrs <u>3.00</u>	0	0	0	N	Y	N	
4 <u>Jenny Lisignoli</u>	Date <u>6/29/06</u> Start <u>0540</u> Stop <u>0815</u> Total hrs <u>2.50</u>	0	0	0	N	N	N	Water is up from previous survey due to beginning of monsoons.
5 <u>Jenny Lisignoli</u>	Date <u>7/8/06</u> Start <u>0550</u> Stop <u>0815</u> Total hrs <u>2.50</u>	0	0	0	N	N	N	Water up since it rained a few days prior to survey
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>12:15</u>		0	0	0	0	If yes, report color combination(s) in the comments section on back of form		

Reporting Individual Mike M. Stake Date Report Completed 7/17/06
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Submit original form by August 1st. Retain a copy for your records.

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

Reporting Individual Mike M. Stake Phone # (505) 828-9455
 Affiliation Hawks Aloft, Inc. E-mail mstake@hawkaloft.org
 Site Name Santa Fe River - La Ciénega Date Report Completed 7/17/06

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: 1 mi (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: Russian Olive, Willow, Salt Cedar

Average height of canopy (Do not put a range): 4 m (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: 0-5 m (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)
Site surveyed in 2005 in two separate reaches. We surveyed only the northern reach in 2006.

WIFL Detection Locations:

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

Appendix 3. Photographs of select Willow Flycatcher locations at Orilla Verde in 2006.



A Willow Flycatcher was observed here on 25 May 2006 (east side, 431375-4018500).



A Willow Flycatcher was observed here on 24 May 2006 (west side, 431970-4019352).



A Willow Flycatcher was observed here on 24 May 2006 (west side, 432675-4019997).



A Willow Flycatcher was observed here on 24 May 2006 (east side, 433471-4020900).