

2006 WILLOW FLYCATCHER SURVEYS AT  
BLUEWATER CANYON, LOST VALLEY, AND SAN YSIDRO, NEW MEXICO



Submitted To:

**Bureau of Land Management**  
Albuquerque Field Office  
435 Montano Rd NE  
Albuquerque, New Mexico 87107

Prepared By:

**Hawks Aloft, Inc.**  
P.O. Box 10028  
Albuquerque, New Mexico 87184  
(505) 828-9455  
Website: [www.hawksaloft.org](http://www.hawksaloft.org)  
E-mail Contact: [mstake@hawksaloft.org](mailto:mstake@hawksaloft.org)



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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), Albuquerque Field Office, manages several sites containing potential Southwestern Willow Flycatcher habitat. In 2006, they funded five surveys each at three central New Mexico sites: Bluewater Canyon, Lost Valley, and San Ysidro. Hawks Aloft, Inc., has conducted annual surveys at each site since 1998. As in 2004 and 2005, we observed Willow Flycatchers (three singing males on 19 May) only at San Ysidro in 2006. As in previous years, we observed no Willow Flycatchers during the third survey period, an indication that territorial Southwestern Willow Flycatchers were likely not present. At each site, we have observed a small number of Willow Flycatchers in some years, but only during the first or second survey periods. These probable migrants might have been Southwestern Willow Flycatchers or another, non-endangered subspecies. Because apparent migrant flycatchers have been observed in some years, and territorial Southwestern Willow Flycatchers could occur in future years, BLM should continue to maintain and improve conditions at Bluewater Canyon, Lost Valley, and San Ysidro. Because of more consistent observations at San Ysidro, as well as this site's closer proximity to a probable migration corridor (i.e., the Rio Grande), we consider that San Ysidro has greater potential than Bluewater or Lost Valley for hosting Willow Flycatchers in the future. We recommend continued surveys at each site to document the presence of Willow Flycatchers and temporal changes in habitat conditions or occupancy.

## INTRODUCTION

Riparian areas provide important habitat for breeding birds in arid regions of 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 (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 or improve them to the best possible condition. It is especially important to maintain those 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 salt cedar (*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, in some regions, the timing of Willow Flycatcher observations can assist with identification. In central New Mexico, for example, Willow Flycatchers found late in the season (i.e., after 21 June) are probably territorial birds of the Southwestern subspecies, because migrants are not expected here during this time (Sogge et al. 1997).

Therefore, surveys documenting Willow Flycatcher presence can provide an indication of local Southwestern Willow Flycatcher status.

The Bureau of Land Management (BLM), Albuquerque Field Office, manages three sites in central New Mexico with potential Southwestern Willow Flycatcher habitat: Bluewater Canyon, Lost Valley, and San Ysidro. These sites contain patches of native and/or exotic vegetation adjacent to river channels. Hawks Aloft, Inc., began conducting annual Willow Flycatcher surveys at Bluewater Canyon, Lost Valley, and San Ysidro in 1998. We have documented small numbers of Willow Flycatchers using one or more of the sites each year, but our consistent lack of observations late in the season indicates that these birds were probably migrant Willow Flycatchers (subspecies unknown) and not territorial Southwestern Willow Flycatchers. Continued monitoring is important to document Southwestern Willow Flycatcher territories, if they occur, and further evaluate patterns of use by migrants. Here, we provide results of 2006 surveys at Bluewater Canyon, Lost Valley, and San Ysidro, including locations of all Willow Flycatchers observed and documentation of any apparent territorial Southwestern Willow Flycatchers encountered.

Objectives In Brief:

- Document presence of Willow Flycatcher at Bluewater Canyon, Lost Valley, and San Ysidro, if any
- Evaluate status (migrant or breeding) of any Willow Flycatchers, based on observation dates

## STUDY AREA

### *Bluewater Canyon*

The Bluewater Canyon survey area included approximately 4 km of Bluewater Creek in Cibola County, New Mexico (Fig. 1, 2). Bluewater Creek flows through a steep-walled canyon with linear patches of mostly native vegetation. Dominant vegetation included coyote willow (*Salix exigua*), narrowleaf cottonwood (*Populus angustifolia*), cliffrose (*Cowania mexicana*), candelabra cholla (*Opuntia imbricata*), rubber rabbitbrush (*Chrysothamnus nauseosus*), and juniper (*Juniperus* spp.). Recent beaver (*Castor canadensis*) activity has reduced the number of cottonwoods, thereby reducing the canopy. Water flow in Bluewater Canyon is controlled by a dam located upstream from the site. Water is present in most years, and high enough during some years to restrict access to narrow portions of the canyon. We encountered a moderate water level in the canyon throughout the 2006 monitoring season.

### *Lost Valley*

The Lost Valley survey area included two sections totaling approximately 2.5 km along the Rio Puerco in Sandoval County near San Luis, New Mexico (Fig. 1, 3). Habitat consisted of mostly exotic vegetation, including salt cedar and Russian olive, as well as native Fremont cottonwood (*P. fremonti*) and willow. Water levels in the Rio Puerco varied dramatically between years. In most years, there is at least some water flow in the Rio Puerco early in the survey season, followed by a considerable reduction in flow late in the survey season. This pattern occurred in 2006, and Lost Valley contained little or no water during the second half of the monitoring season.



The Rio Puerco contained flowing water at Lost Valley through the first and second surveys. The site contained little or no water later in the season.

### *San Ysidro*

San Ysidro included 1 km of the Rio Salado adjacent to the Perea Nature Trail near San Ysidro, in Sandoval County, New Mexico (Fig. 1, 4). This site contained shrubby riparian habitat, as well as a marsh. Dominant vegetation included Russian olive, salt cedar, and bulrush (*Scirpus* spp.). Water levels in the Rio Salado changed between years and survey periods. In most years, water levels in the Rio Salado decreased as the survey season progressed. After a relatively wet year in 2005, water levels underwent the usual decrease in 2006 as the season progressed. Beaver activity has altered water flow into the marsh by creating dams in at least three locations in the upstream portions of the creek. This has greatly reduced water levels in the marsh and created new, shallow ponds

to the north of the marsh in grazed pastures. Cattle grazing has limited the growth of vegetation in this part of the creek.

## 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: the first observer conducted all surveys at Bluewater Canyon and Lost Valley, and the second observer conducted all surveys at San Ysidro. Because of difficult terrain and unpredictable water levels, the first observer was accompanied by another biologist for safety reasons. The first observer has conducted all surveys at Bluewater Canyon and Lost Valley since 2005, whereas the second observer has conducted all surveys at San Ysidro since 2000. We conducted surveys during three survey periods: 15-31 May, 1-21 June, and 22 June – 10 July. From 1998-2004, we conducted one survey per site in each of the three survey periods. In 2005 and 2006, we added two surveys per site in the third survey period, for a total of five surveys per site, as encouraged by Sogge et al. (1997). We conducted consecutive surveys at a site at least five days apart, beginning each within a half-hour after sunrise and concluding within four hours.

During surveys, observers walked slowly through the survey area, stopping every 20-30 m, or as necessary to cover potential habitat patches. At each stop, surveyors listened for flycatcher vocalizations. If none were heard, taped vocalizations of a Southwestern Willow Flycatcher were played for 15 to 30 seconds, followed by one or

two minutes of observation. We recorded Universal Transverse Mercator (UTM) coordinates (North American Datum 27) for each Willow Flycatcher observed. Because several species of flycatchers 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. To distinguish Southwestern Willow Flycatchers from other subspecies that issue a similar song, we concluded that Willow Flycatchers observed in the third survey period were Southwestern Willow Flycatchers, because migrating Willow Flycatchers were not expected during this time (Sogge et al. 1997). Flycatchers observed only during the first two survey periods might be Southwestern Willow Flycatchers, but the possible presence of the migrating *adastus* subspecies makes identification uncertain during this time. We present locations and dates for all Willow Flycatchers observed, as well as a list of all bird species recorded during surveys (Appendix 1). We provide a copy of original data forms in Appendix 2.

## RESULTS

As in 2004 and 2005, we observed Willow Flycatchers only at San Ysidro in 2006. We recorded three flycatchers during the first survey period (29 May) at San Ysidro (Table 1, next page), but we did not record any during the second or third survey periods. This was the third consecutive year that we observed three Willow Flycatchers during the first survey at San Ysidro without observing Willow Flycatchers during subsequent surveys (Table 2). Since 1998, we have observed a small number of flycatchers at one or more of the sites each year (Table 2). However, we have not observed Willow Flycatchers during surveys at Bluewater Canyon and Lost Valley since

2002 and 2003, respectively. All Willow Flycatcher observations from 1998 through 2006 occurred during the first or second survey periods (i.e., before 22 June).

Table 1. Universal Transverse Mercator coordinates (North American Datum 27) for Willow Flycatchers detected at San Ysidro, New Mexico in 2006. We observed no Willow Flycatchers at Bluewater Canyon or Lost Valley in 2006.

| Site       | Date        | Number of Flycatchers | Zone | Easting | Northing |
|------------|-------------|-----------------------|------|---------|----------|
| San Ysidro | 19 May 2006 | 1                     | 13S  | 0338096 | 3935044  |
| San Ysidro | 19 May 2006 | 1                     | 13S  | 0337976 | 3935056  |
| San Ysidro | 19 May 2006 | 1                     | 13S  | 0337938 | 3935135  |

Table 2. Number of Willow Flycatchers detected at Bluewater Canyon, Lost Valley, and San Ysidro, New Mexico during survey periods 1 (15-31 May), 2 (1-21 June) and 3 (22 June – 10 July) from 1998 through 2006. We conducted three surveys per site during the third survey period in 2005 and 2006; we conducted one per site during the third survey period in all other years.

|             | Number of Willow Flycatchers detected |      |      |      |      |      |      |      |      |  |
|-------------|---------------------------------------|------|------|------|------|------|------|------|------|--|
|             | 1998                                  | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |  |
| Bluewater   |                                       |      |      |      |      |      |      |      |      |  |
| Survey 1    | 0                                     | 0    | 0    | 0    | 1    | 0    | 0    | 0    | 0    |  |
| Survey 2    | 0                                     | 0    | 1    | 0    | 0    | 0    | 0    | 0    | 0    |  |
| Survey 3    | 0                                     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |  |
| Lost Valley |                                       |      |      |      |      |      |      |      |      |  |
| Survey 1    | 0                                     | 0    | 0    | 0    | 0    | 1    | 0    | 0    | 0    |  |
| Survey 2    | 0                                     | 3    | 1    | 0    | 0    | 2    | 0    | 0    | 0    |  |
| Survey 3    | 0                                     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |  |
| San Ysidro  |                                       |      |      |      |      |      |      |      |      |  |
| Survey 1    | 1                                     | 0    | 0    | 0    | 5    | 0    | 3    | 3    | 3    |  |
| Survey 2    | 1                                     | 0    | 0    | 2    | 0    | 0    | 0    | 0    | 0    |  |
| Survey 3    | 0                                     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |  |

## DISCUSSION

Our surveys offer no indication that Southwestern Willow Flycatchers breed at Bluewater Canyon, Lost Valley, or San Ysidro. At central New Mexico riparian sites like

these, the presence of singing Willow Flycatchers during the third survey period (i.e., 22 June through 10 July) is strongly indicative of Southwestern Willow Flycatchers (Sogge et al. 1997). Although we have recorded 27 Willow Flycatchers from 1998-2006 at the three sites (Table 2), none have occurred during a total of 33 third-period surveys. Therefore, Bluewater Canyon, Lost Valley, and San Ysidro might be more valuable as a migration stopover site than a breeding site.

Migrant Willow Flycatchers in central New Mexico could be Southwestern Willow Flycatchers passing through or another, non-endangered, subspecies. The migration routes used by Southwestern Willow Flycatchers are not well documented (U.S. Fish and Wildlife Service 2002). Yong and Finch (1997) suggested that the Middle Rio Grande provides important stopover habitat for Southwestern Willow Flycatchers to replenish energy stores. The proximity of our sites to the Middle Rio Grande, especially San Ysidro, might make them candidates for hosting migrant flycatchers in some years. The U.S. Fish and Wildlife Service (2002) advised that even riparian patches unsuitable for breeding (e.g., too small or too sparse) might be important resources affecting flycatcher survival. Although we have not documented breeding Southwestern Willow Flycatchers, our observations of Willow Flycatchers during some years support the possibility that Bluewater Canyon, Lost Valley, and San Ysidro might be included among the important stopover sites.

The potential for Bluewater Canyon, Lost Valley, and San Ysidro to host breeding Southwestern Willow Flycatchers is unclear. Habitat along Bluewater Creek, the Rio Puerco (i.e., Lost Valley), and the Rio Salado (i.e., San Ysidro) includes potentially suitable riparian vegetation of native or mixed native and exotic vegetation. In

most years, the primary component lacking along the Rio Puerco and the Rio Salado has been the persistence of year-round water and saturated soils. However, water levels were relatively high in 2005, and we still did not observe Willow Flycatchers late in the season. More consistent water flow among years might improve the likelihood of Willow Flycatchers remaining at Lost Valley and San Ysidro throughout the breeding season. Bluewater Canyon usually provides at least some water flow throughout the breeding season, but most willow patches are narrow. Suitability for Southwestern Willow Flycatchers at Bluewater Canyon might improve with further maturation of willow patches, although the narrow width of the canyon might limit the spatial extent of habitat patches.

When and if conditions at our sites become suitable, a Southwestern Willow Flycatcher population might not immediately be established. Birds must disperse from a source population. At least 250 Southwestern Willow Flycatcher territories have been identified in New Mexico since 1993, most of which occur in the Gila River floodplain and the Rio Grande (Sogge et al. 2003). The large Gila River population is in southern New Mexico (Grant County), and flycatchers there use boxelder (*Acer negundo*) and nest relatively high above the ground (Stoleson and Finch 2003). Our sites are a considerable distance from this population (more than 250 km), and have dissimilar habitat, perhaps reducing the probability of dispersal. Recent monitoring by the Bureau of Reclamation indicates a sizeable Rio Grande population that might be expanding (R. Doster, Bureau of Reclamation, personal communication). Most of the Rio Grande territories occur south of Socorro, New Mexico (Moore and Ahlers 2005). Although closer than the Gila River, and with more similar vegetation types, the most populated Rio Grande sites are still a

considerable distance from our sites, perhaps limiting dispersal.

Because apparent migrant flycatchers have been observed in some years, and territorial Southwestern Willow Flycatchers could occur in future years, BLM should continue to maintain and improve conditions at Bluewater Canyon, Lost Valley, and San Ysidro. We suggest that San Ysidro should receive the highest priority for management and restoration efforts because we consistently find a small number of Willow Flycatchers early in the season. We recommend continued surveys at each site to document the presence of Willow Flycatchers and temporal changes in habitat conditions or occupancy.

#### ACKNOWLEDGMENTS

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Figure 1. Location of Bluewater Canyon, Lost Valley, and San Ysidro, New Mexico, where Hawks Aloft conducted Willow Flycatcher surveys in 2006.

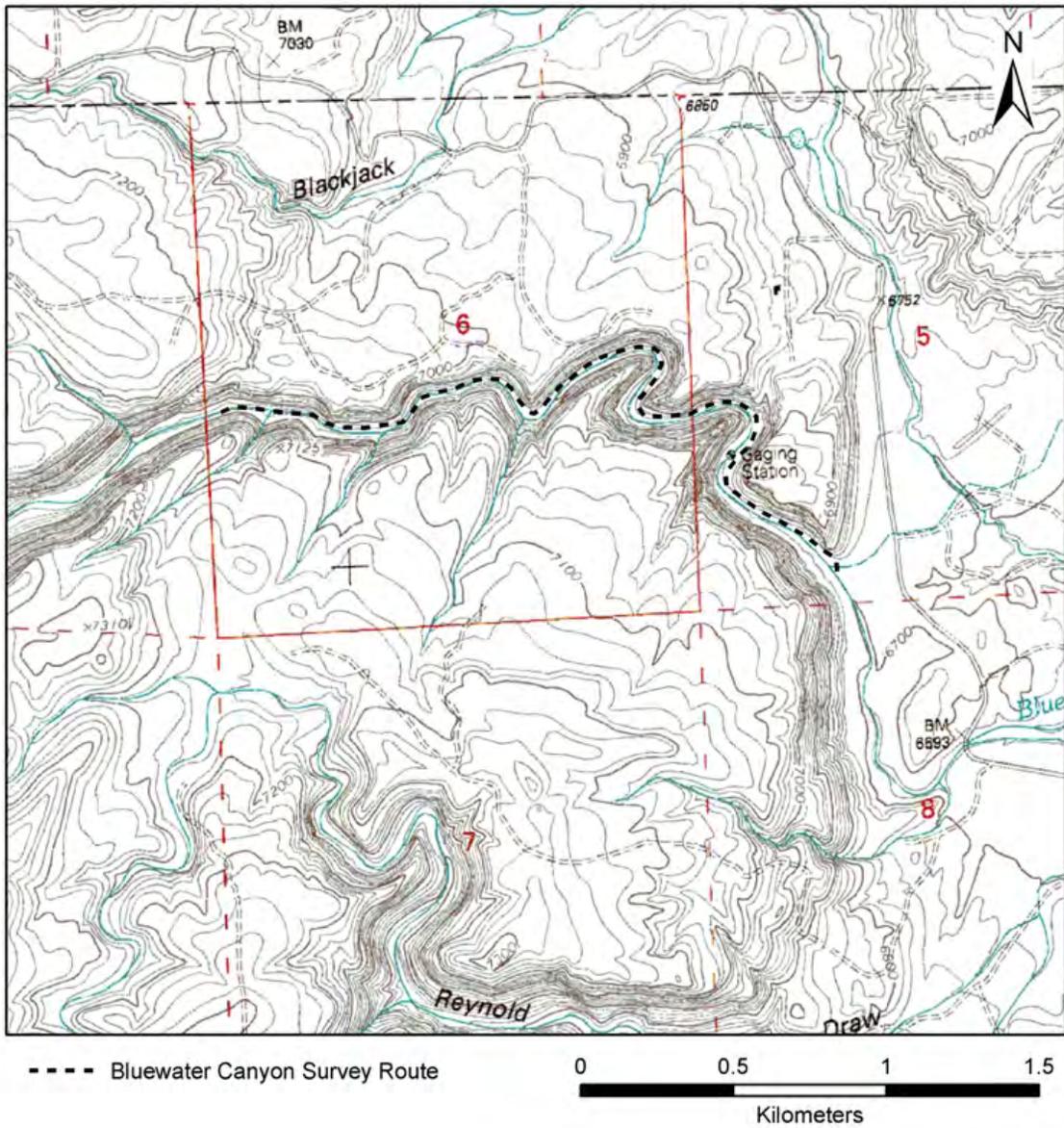


Figure 2. Willow Flycatcher survey route in Bluewater Canyon, Cibola County, New Mexico. Survey route shown is an enlarged section of the Prewitt, New Mexico USGS Quad Map.

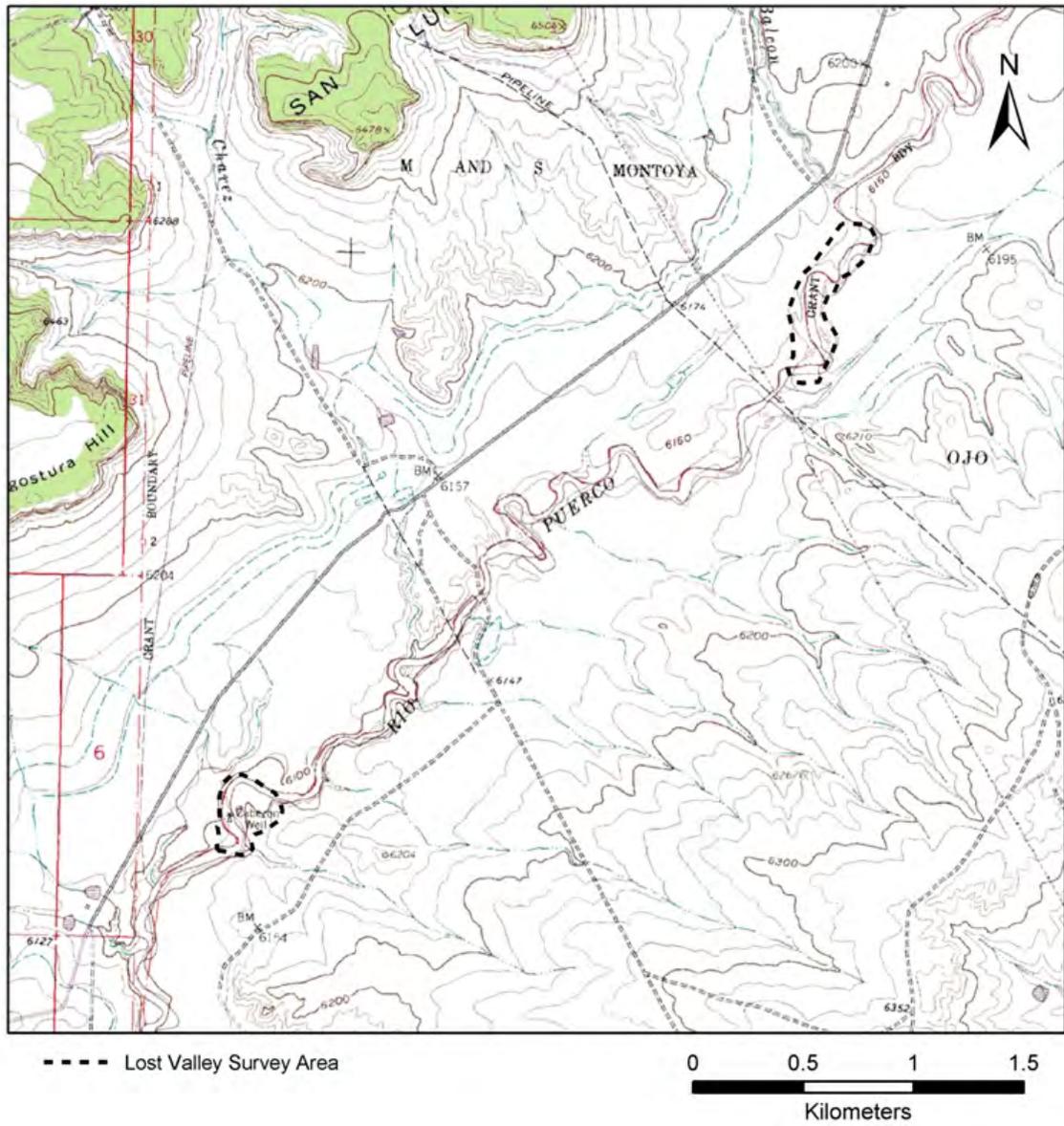


Figure 3. Willow Flycatcher survey area in Lost Valley, Sandoval County, New Mexico. Survey route shown is an enlarged section of the San Luis, New Mexico USGS Quad Map.

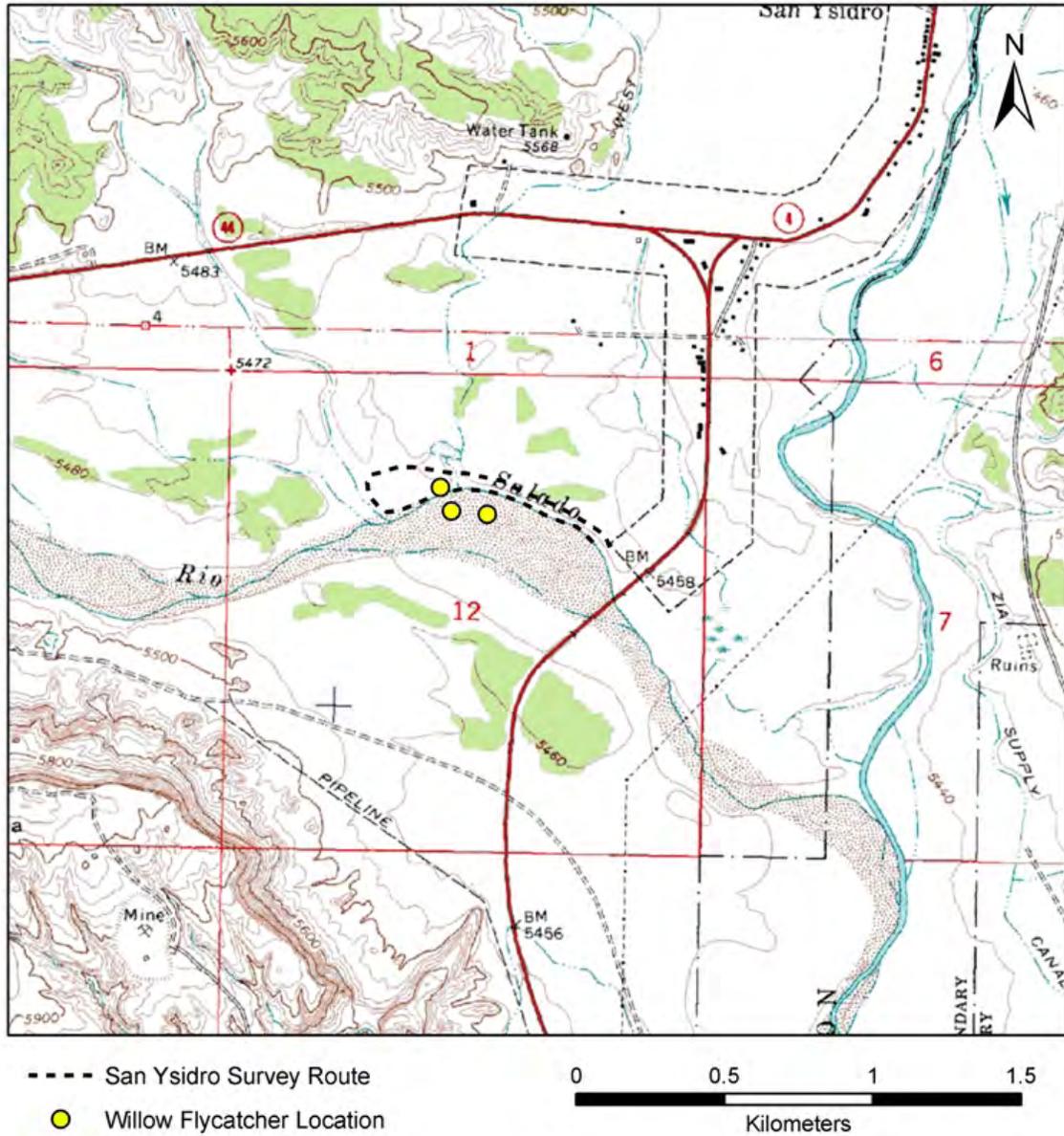


Figure 4. Willow Flycatcher survey area and 2006 Willow Flycatcher locations in San Ysidro, Sandoval County, New Mexico. Survey area shown is an enlarged section of the San Ysidro, New Mexico USGS Quad Map.

Appendix 1. List of 62 bird species observed during Willow Flycatcher surveys at Bluewater Canyon (BC), Lost Valley (LV), and San Ysidro (SY), New Mexico in 2006. We indicate observations of a species at a site with an “X”.

| Species                   | Scientific Name                  | BC | LV | SY |
|---------------------------|----------------------------------|----|----|----|
| American Crow             | <i>Corvus brachyrhynchos</i>     | X  | -  | -  |
| American Kestrel          | <i>Falco sparverius</i>          | -  | X  | X  |
| American Robin            | <i>Turdus migratorius</i>        | X  | -  | -  |
| Ash-throated Flycatcher   | <i>Myiarchus cinerascens</i>     | X  | X  | X  |
| Bewick’s Wren             | <i>Thryomanes bewickii</i>       | -  | X  | -  |
| Black Phoebe              | <i>Sayornis nigricans</i>        | X  | -  | -  |
| Black-chinned Hummingbird | <i>Archilochus alexandri</i>     | X  | -  | X  |
| Black-headed Grosbeak     | <i>Pheucticus melanocephalus</i> | X  | X  | X  |
| Blue Grosbeak             | <i>Guiraca caerulea</i>          | X  | X  | X  |
| Broad-tailed Hummingbird  | <i>Selasphorus platycercus</i>   | X  | -  | -  |
| Brown-headed Cowbird      | <i>Molothrus ater</i>            | X  | X  | X  |
| Bullock’s Oriole          | <i>Icterus bullockii</i>         | X  | X  | X  |
| Bushtit                   | <i>Psaltriparus minimus</i>      | X  | X  | X  |
| Canyon Wren               | <i>Catherpes mexicanus</i>       | X  | -  | -  |
| Cassin’s Kingbird         | <i>Tyrannus vociferans</i>       | X  | X  | X  |
| Cliff Swallow             | <i>Petrochelidon pyrrhonota</i>  | X  | X  | X  |
| Common Nighthawk          | <i>Chordeiles minor</i>          | -  | X  | -  |
| Common Raven              | <i>Corvus corax</i>              | X  | X  | X  |
| Common Yellowthroat       | <i>Geothlypis trichas</i>        | X  | -  | X  |
| Cooper’s Hawk             | <i>Accipiter cooperii</i>        | X  | -  | -  |
| Cordilleran Flycatcher    | <i>Empidonax occidentalis</i>    | X  | -  | -  |
| Downy Woodpecker          | <i>Picoides pubescens</i>        | X  | -  | -  |
| Great Blue Heron          | <i>Ardea herodias</i>            | X  | -  | -  |
| Great Horned Owl          | <i>Bubo virginianus</i>          | X  | -  | -  |
| House Finch               | <i>Carpodacus mexicanus</i>      | X  | X  | X  |
| Killdeer                  | <i>Charadrius vociferus</i>      | -  | -  | X  |
| Ladder-backed Woodpecker  | <i>Picoides scalaris</i>         | X  | -  | -  |
| Lark Sparrow              | <i>Chondestes grammacus</i>      | -  | X  | X  |
| Lazuli Bunting            | <i>Passerina amoena</i>          | -  | -  | X  |
| Lesser Goldfinch          | <i>Carduelis psaltria</i>        | X  | -  | X  |
| MacGillivray’s Warbler    | <i>Oporornis tolmiei</i>         | X  | -  | -  |
| Mallard                   | <i>Anas platyrhynchos</i>        | X  | -  | -  |
| Mountain Bluebird         | <i>Sialia currucoides</i>        | X  | X  | -  |
| Mourning Dove             | <i>Zenaida macroura</i>          | X  | X  | X  |
| Northern Flicker          | <i>Colaptes auratus</i>          | X  | X  | -  |
| Northern Mockingbird      | <i>Mimus polyglottos</i>         | X  | X  | X  |

| Species                       | Scientific Name                   | BC | LV | SY |
|-------------------------------|-----------------------------------|----|----|----|
| Northern Rough-winged Swallow | <i>Stelgidopteryx serripennis</i> | -  | X  | -  |
| Pinyon Jay                    | <i>Gymnorhinus cyanocephalus</i>  | X  | -  | -  |
| Plumbeous Vireo               | <i>Vireo plumbeus</i>             | X  | -  | -  |
| Red-tailed Hawk               | <i>Buteo jamaicensis</i>          | X  | -  | -  |
| Red-winged Blackbird          | <i>Agelaius phoeniceus</i>        | -  | -  | X  |
| Rock Wren                     | <i>Salpinctes obsoletus</i>       | X  | X  | -  |
| Savannah Sparrow              | <i>Passerculus sandwichensis</i>  | -  | -  | X  |
| Scaled Quail                  | <i>Callipepla squamata</i>        | -  | -  | X  |
| Say's Phoebe                  | <i>Sayornis saya</i>              | X  | X  | X  |
| Spotted Towhee                | <i>Pipilo maculatus</i>           | -  | X  | X  |
| Swainson's Hawk               | <i>Buteo swainsoni</i>            | X  | -  | -  |
| Summer Tanager                | <i>Piranga rubra</i>              | -  | X  | -  |
| Turkey Vulture                | <i>Cathartes aura</i>             | X  | -  | -  |
| Vesper Sparrow                | <i>Poocetes gramineus</i>         | -  | -  | X  |
| Violet-green Swallow          | <i>Tachycineta thalassina</i>     | X  | -  | -  |
| Virginia's Warbler            | <i>Vermivora virginiae</i>        | 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  | -  | -  |
| Western Wood-Pewee            | <i>Contopus sordidulus</i>        | X  | X  | -  |
| White-breasted Nuthatch       | <i>Sitta carolinensis</i>         | X  | -  | -  |
| White-throated Swift          | <i>Aeronautes saxatalis</i>       | X  | -  | -  |
| Willow Flycatcher             | <i>Empidonax trailii</i>          | -  | -  | X  |
| Yellow Warbler                | <i>Dendroica petechia</i>         | X  | X  | -  |
| Yellow-breasted Chat          | <i>Icteria virens</i>             | X  | X  | X  |

Appendix 2. Data forms from 2006 Willow Flycatcher surveys in Bluewater Canyon, Lost Valley, and San Ysidro, New Mexico.

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

Site Name Bluewater State NM County Cibola  
 USGS Quad Name Prewitt Elevation 2110 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 3909199 E 770479 UTM Datum NAD 27 (NAD27 preferred)  
 Stop: N 3909707 E 768610 UTM Zone 12

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

| Survey #<br>Observer(s)<br>(Full Name)              | Date (m/d/y)<br>Survey time  | Number<br>of Adult<br>WIFLs | Estimated<br>Number<br>of Pairs | Estimated<br>Number of<br>Territories | Nest(s)<br>Found?<br>Y or N | Cowbirds<br>Detected?<br>Y or N   | Presence of<br>Livestock,<br>Recent sign,<br>If Yes, Describe<br>Y or N | Comments about this survey<br>(e.g., bird behavior, evidence of<br>pairs or breeding, number of<br>nests, nest contents or number of<br>fledges seen; potential threats) |
|---|--|-----------------------------|---------------------------------|---------------------------------------|-----------------------------|---|---|--|
| 1 Jenny<br>Lisignoli                                | Date<br>5/29/06<br>Start<br>0550<br>Stop<br>0940<br>Total hrs 4.00 | 0                           | 0                               | 0                                     | N                           | Y   | N   | Water much lower<br>than previous year.<br>Beavers have<br>changed flow of<br>water in canyon.   |
| 2 Jenny<br>Lisignoli                                | Date<br>6/12/06<br>Start<br>0545<br>Stop<br>0850<br>Total hrs 3.00 | 0                           | 0                               | 0                                     | N                           | Y   | N   | Water still low. Fresh<br>mountain lion tracks<br>(female with 1 or 2<br>cubs). New beaver<br>sign.  |
| 3 Jenny<br>Lisignoli                                | Date<br>6/24/06<br>Start<br>0530<br>Stop<br>0915<br>Total hrs 3.75 | 0                           | 0                               | 0                                     | N                           | N   | N   |  |
| 4 Jenny<br>Lisignoli                                | Date<br>7/4/06<br>Start<br>0540<br>Stop<br>0930<br>Total hrs 3.75  | 0                           | 0                               | 0                                     | N                           | N   | N   | Water is up from<br>previous visits  |
| 5 Jenny<br>Lisignoli                                | Date<br>7/9/06<br>Start<br>0545<br>Stop<br>0915<br>Total hrs 3.50  | 0                           | 0                               | 0                                     | N                           | N   | N   | Water is up from<br>7/4/06   |
| Overall Site Summary<br>(Total resident WIFLs only) |  | Adults                      | Pairs                           | Territories                           | Nests                       | Were any WIFLs color-banded? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/><br>If yes, report color combination(s) in the comments section on back of form |   |  |
| Total survey hrs                                    | 18:00  | 0                           | 0                               | 0                                     | 0                           |   |   |  |

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 1<sup>st</sup>. Retain a copy for your records.**

Fill in the following information completely. Submit original form by August 1<sup>st</sup>. 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 Bluewater 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: 2 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, Cottonwood, Juniper

Average height of canopy (Do not put a range): 7 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 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 Lost Valley State NM County Sandoval  
 USGS Quad Name San Luis Elevation 1878 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 3948911 E 313663 UTM Datum NAD 27 (NAD27 preferred)  
 Stop: N 3946074 E 310832 UTM Zone 13

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

| Survey #<br>Observer(s)<br>(Full Name)              | Date (m/d/y)<br>Survey time  | Number<br>of Adult<br>WIFLs | Estimated<br>Number<br>of Pairs | Estimated<br>Number of<br>Territories | Nest(s)<br>Found?<br>Y or N | Cowbirds<br>Detected?<br>Y or N   | Presence of<br>Livestock,<br>Recent sign,<br>If Yes, Describe<br>Y or N | Comments about this survey<br>(e.g., bird behavior, evidence of<br>pairs or breeding, number of<br>nests, nest contents or number of<br>fledges seen; potential threats) |
|---|--|-----------------------------|---------------------------------|---------------------------------------|-----------------------------|---|---|--|
| 1 Jenny<br><u>Lisignoli</u>                         | Date<br><u>5/31/06</u><br>Start<br><u>0538</u><br>Stop<br><u>0840</u><br>Total hrs <u>3.00</u>           | 0                           | 0                               | 0                                     | N                           | Y   | Y   | Very little water present - basically two puddles. Lots of cow tracks, cows present.   |
| 2 Jenny<br><u>Lisignoli</u>                         | Date<br><u>6/15/06</u><br>Start<br><u>0540-0733</u><br>Stop<br><u>0805-0908</u><br>Total hrs <u>2.75</u> | 0                           | 0                               | 0                                     | N                           | N   | Y   | Cows present.  |
| 3 Jenny<br><u>Lisignoli</u>                         | Date<br><u>6/22/06</u><br>Start<br><u>0537-0750</u><br>Stop<br><u>0810-0850</u><br>Total hrs <u>3.00</u> | 0                           | 0                               | 0                                     | N                           | Y   | Y   | Cows Present.  |
| 4 Jenny<br><u>Lisignoli</u>                         | Date<br><u>6/28/06</u><br>Start<br><u>0537-0725</u><br>Stop<br><u>0801-0905</u><br>Total hrs <u>3.00</u> | 0                           | 0                               | 0                                     | N                           | Y   | Y   | Cows in Lost Valley Water running in drain due to last night's rain.   |
| 5 Jenny<br><u>Lisignoli</u>                         | Date<br><u>7/6/07</u><br>Start<br><u>0545-0715</u><br>Stop<br><u>0750-0833</u><br>Total hrs <u>2.25</u>  | 0                           | 0                               | 0                                     | N                           | N   | Y   | Cows in drainage. Water not running but very muddy.  |
| Overall Site Summary<br>(Total resident WIFLs only) |  | Adults                      | Pairs                           | Territories                           | Nests                       | Were any WIFLs color-banded? Yes <input checked="" type="checkbox"/> No     |   |  |
| Total survey hrs <u>14:00</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  
 US Fish and Wildlife Service Permit # TE835139-0 AZ Game and Fish Department (or other state) Permit # \_\_\_\_\_

*Submit original form by August 1<sup>st</sup>. Retain a copy for your records.*

Fill in the following information completely. Submit original form by August 1<sup>st</sup>. 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 Lost Valley 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: Russian Olive, Salt Cedar, Cottonwood

Average height of canopy (Do not put a range): 8 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 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 San Ysidro State NM County Sandoval  
 USGS Quad Name San Ysidro Elevation 1626 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 3934934 E 338507 UTM Datum NAD 27 (NAD27 preferred)  
 Stop: N 3935182 E 337714 UTM Zone 13

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

| Survey #<br>Observer(s)<br>(Full Name)              | Date (m/d/y)<br>Survey time  | Number<br>of Adult<br>WIFLs | Estimated<br>Number<br>of Pairs | Estimated<br>Number of<br>Territories | Nest(s)<br>Found?<br>Y or N | Cowbirds<br>Detected?<br>Y or N   | Presence of<br>Livestock,<br>Recent sign,<br>If Yes, Describe<br>Y or N | Comments about this survey<br>(e.g., bird behavior, evidence of<br>pairs or breeding, number of<br>nests, nest contents or number of<br>fledges seen; potential threats) |
|---|--|-----------------------------|---------------------------------|---------------------------------------|-----------------------------|---|---|--|
| 1 Gail<br>Garber                                    | Date<br>5/19/06<br>Start<br>0610<br>Stop<br>0752<br>Total hrs 1.75 | 3                           | 0                               | 0                                     | N                           | Y   | Y   |  |
| 2 Gail<br>Garber                                    | Date<br>6/9/06<br>Start<br>0607<br>Stop<br>0750<br>Total hrs 1.75  | 0                           | 0                               | 0                                     | N                           | Y   | Y   |  |
| 3 Gail<br>Garber                                    | Date<br>6/27/06<br>Start<br>0606<br>Stop<br>0730<br>Total hrs 1.50 | 0                           | 0                               | 0                                     | N                           | Y   | Y   |  |
| 4 Gail<br>Garber                                    | Date<br>7/8/06<br>Start<br>0558<br>Stop<br>0730<br>Total hrs 1.50  | 0                           | 0                               | 0                                     | N                           | Y   | Y   |  |
| 5 Gail<br>Garber                                    | Date<br>7/13/06<br>Start<br>0555<br>Stop<br>0720<br>Total hrs 1.50 | 0                           | 0                               | 0                                     | N                           | Y   | Y   |  |
| Overall Site Summary<br>(Total resident WIFLs only) |  | Adults                      | Pairs                           | Territories                           | Nests                       | Were any WIFLs color-banded? Yes No <u>Unknown</u><br>If yes, report color combination(s) in the comments section on back of form |   |  |
| Total survey hrs                                    | <u>7:45</u>  | 0                           | 0                               | 0                                     | 0                           |   |   |  |

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

Fill in the following information completely. Submit original form by August 1<sup>st</sup>. 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 San Ysidro 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: 0.7 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, Salt Cedar, Cottonwood

Average height of canopy (Do not put a range): 6 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 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)

At this site, which is a marsh from which cattle are excluded, cattle are grazing in adjacent pastures. In 2006, water levels were the lowest observed since surveys began at this site in 1998. Soil was saturated for the first two survey periods. In survey period 3, water was flowing in the Rio Salado due to a rain event. The final two surveys were dry.

WIFL Detection Locations:

| Date Detected | N UTM   | E UTM  | Date Detected | N UTM | E UTM |
|---------------|---------|--------|---------------|-------|-------|
| 5/19/06       | 3935044 | 338016 |               |       |       |
| 5/19/06       | 3935056 | 337976 |               |       |       |
| 5/19/06       | 3935135 | 337938 |               |       |       |