Topock Project Executive Abstract					
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2017 Southwestern Willow Flycatcher Presence/Absence Surveys for the PG&E Topock Compressor Station	Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other) PG&E				
Final Document? 🛛 Yes 🗌 No					
Priority Status: HIGH MED K LOW Is this time critical? Yes No Ves Memo Type of Document: Letter Memo Memo Oraft Report Letter Memo Other / Explain: Memo Memo Memo	Action Required: ☐ Information Only ☐ Review & Comment Return to: By Date: ☐ Other / Explain:				
What does this information pertain to? Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA) RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment) Corrective Measures Study (CMS)/Feasibility Study (FS) Corrective Measures Implementation (CMI)/Remedial Action California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR) Interim Measures Other / Explain: Programmatic Biological Assessment	Is this a Regulatory Requirement? ☑ Yes ☐ No If no, why is the document needed?				
What is the consequence of NOT doing this item? What is the consequence of DOING this item? This report is required by the approved Programmatic Biological Assessment (PBA) and Bird Impact Avoidance and Minimization Plan (BIO-2a of the FEIR). Not performing the survey and preparing this report constitute non-compliance with the PBA and the FEIR.	Other Justification/s:				
SWFL were observed during the 2017 survey. More transient SV lack of detections in current study was potentially attributable to infestation by Tamarisk leaf beetles. However the reemergence and the SWFL could establish nests in this habitat. There is a po- continued SWFL surveys are recommended.	d July 2017 in areas near the PG&E Topock Compressor Station. No VFL were observed in 2014 than any of the previous surveys. The				
Written by: PG&E Recommendations:					
This report is for information only. How is this information related to the Final Remedy or Regulatory Requ	uirements:				
The survey and this report fulfill the requirement of General Managem Impact Avoidance and Minimization Plan	ent Measure 27 of the PBA, Species-Specific Mitigation Measure in the Bird				
Other requirements of this information? None.					

Legend Version 10 RFA/PA – RCRA Facility Assessment/Preliminary Assessment RFI/RI – RCRA Facility Investigation/CERCLA Remedial Investigation (including Risk Assessment) CMS/FS – RCRA Corrective Measure Study/CERCLA Feasibility Study CEQA/EIR – California Environmental Quality Act/Environmental Impact Report



SOUTHWESTERN WILLOW FLYCATCHER PRESENCE / ABSENCE SURVEYS FOR THE PG&E TOPOCK COMPRESSOR STATION





PREPARED BY:

CH2M *and* Garcia and Associates 2601 Mission Street, Suite 600 San Francisco, California 94110 2017 Southwestern Willow Flycatcher Presence/Absence Surveys for the PG&E Topock Compressor Station

Prepared by:

Garcia and Associates

Prepared for:

CH2M HILL, Inc. and

Pacific Gas & Electric Co.

October 2017

Table of Contents

Introduction	1
Site Description	1
Vegetation and Habitat Quality	4
Habitat Quality	4
Survey Methods	5
Results	6
Incidental Species	6
Conclusions	8
References	8

Figures

Figure 1. California survey sites CA-2, CA-3, CA-4, CA-5, CA-6 and CA-7	2
Figure 2. Arizona survey sites AZ-1, AZ-3, AZ-4 and AZ-5.	3
Figure 3. Incidental Species Detections and Past SWFL Detections	7

Appendices

Appendix A: Photo Log Appendix B: Incidental Plant, Vertebrate and Avian Species Appendix C: Survey Forms Appendix D: Incidental Species UTM Coordinates

Introduction

Under contract to CH2M HILL, Garcia and Associates (GANDA) conducted a protocol survey for the southwestern willow flycatcher (SWFL) (*Empidonax traillii extimus*) for Pacific Gas and Electric (PG&E) near the Topock Compressor Station Groundwater Remediation Project, 15 miles southeast of Needles, California. The purpose of the survey was to determine the presence or absence of SWFL, which are listed as endangered by the Arizona Game and Fish Department (AZGFD) and threatened by the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS). Surveys were conducted following the survey protocol outlined in *A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher* (Sogge *et al.* 2010). In addition to this year's survey, GANDA conducted previous SWFL surveys in this area annually between 2005 and 2010 as prescribed in the 2007 Programmatic Biological Assessment (PBA) prepared for the project (CH2M HILL 2007). Based on these findings, the SWFL survey frequency was reduced with surveys occurring every 2 years between 2010 and 2014. Currently, the survey frequency is every 3 years as prescribed by measure 27 of the 2014 PBA (CH2M HILL 2014), which states:

Riparian areas surrounding the proposed Action Area and subject to influence of operations and maintenance activities shall be surveyed for southwestern willow flycatcher according to the protocol established by the USFWS. These surveys shall be completed every three years by a biologist permitted by the USFWS to carry out flycatcher surveys until the project has been completed and all facilities have been removed. Reports shall be provided to the biologists in the BLM Lake Havasu Field Office and the USFWS's Phoenix, Arizona Ecological Services Field (AESO) Office (2321 West Royal Palm Road, Suite 103, Phoenix, AZ 85021, 602-242-0210) at the end of each survey period.

Site Description

Ten sites have been identified within the Action Area defined in the 2007 and 2014 PBA., Six sites in San Bernardino County, California, and four sites in Mohave County, Arizona. California sites CA-3, CA-4, and CA-6 are located on land managed by the Bureau of Land Management. Site CA-2 is located in Moabi Regional Park. Sites CA-5 and CA-7 are in the California portion of the USFWS Havasu National Wildlife Refuge (Figure 1). All Arizona sites are located in the USFWS Havasu National Wildlife Refuge (Figure 2). The 2017 survey sites total approximately 160 acres and vary in elevation from 300 to 500 feet above sea level. None of the survey sites are located within USFWS designated critical habitat for the SWFL (USFWS 2005). Photographs of the sites are provided in Appendix A.

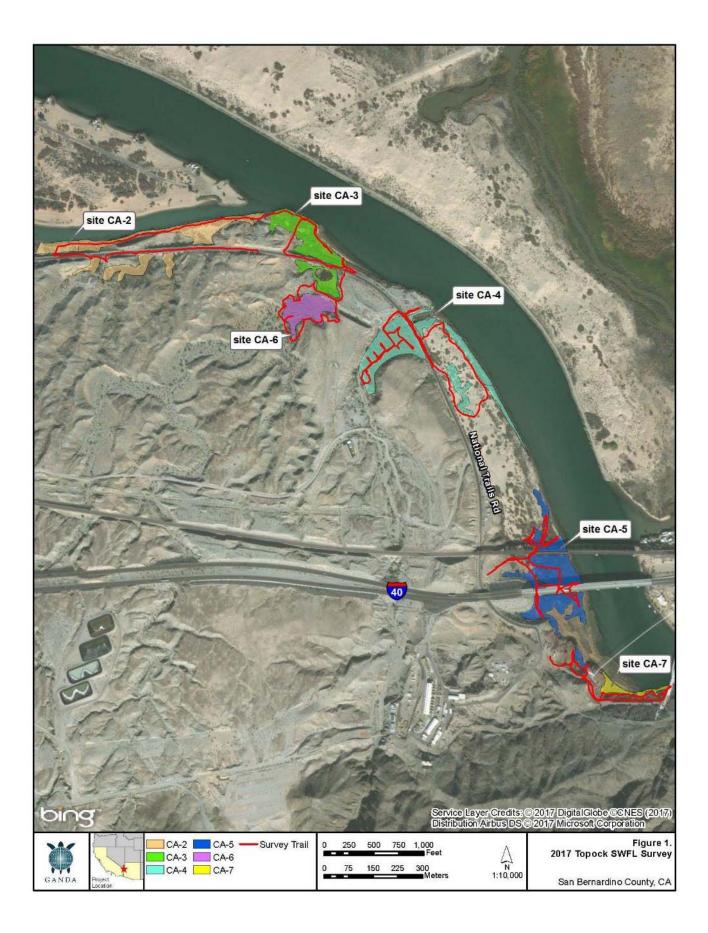
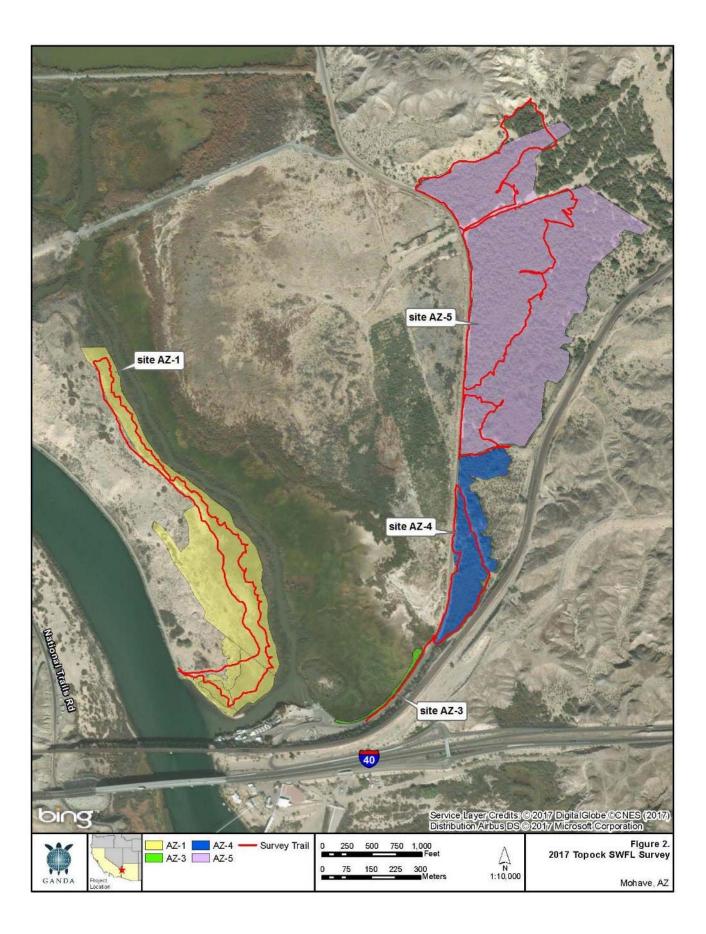


Figure 1. California survey sites CA-2, CA-3, CA-4, CA-5, CA-6 and CA-7.



Vegetation and Habitat Quality

The most abundant plant species in the survey sites include tamarisk (*Tamarix ramosissima* and *Tamarix aphylla*), coyote willow (*Salix exigua*), catclaw acacia (*Senegalia greggii*), arrundo (*Arundo donax*) and arrow weed (*Pluchea sericea*). Tamarisk is the dominant species throughout the survey sites, often forming dense thickets over eight feet in height. A complete list of the plant species observed is included in Appendix B.

Habitat Quality

The habitat quality of the survey sites and the Action Area outlined in the 2007 and 2014 PBA (CH2M HILL 2007 and 2014) has been reassessed each year during the first survey period. The reassessment consists of observing the Action Area and each site for any changes in habitat and vegetation quality. Overall, the survey sites are of moderate habitat quality for SWFL. The Colorado River provides standing surface water throughout the breeding season and includes suitable vegetation composition; however, habitat fragmentation and human disturbance detract from the overall habitat quality. The California sites (Figure 1) are small and geographically isolated by the surrounding desert, National Trails Highway, and the Colorado River. Additionally, the California sites are subject to a high level of human disturbance due to their proximity to Moabi Regional Park, Interstate 40, the Burlington Northern Santa Fe Railway, the Pirate Cove Resort, and the PG&E Topock Compressor Station. Arizona site AZ-1 (Figure 2) is located on a large peninsula between the Colorado River and the Topock Marsh and is bordered by contiguous riparian habitat and bulrush-dominated marsh. However, this site and the other Arizona sites (Figure 2) are also adjacent to the Oatman Topock Highway and the Topock Marina, a community that includes several houses and businesses. Recreational watercraft, frequently observed on the Colorado River and in the Topock Marsh, contribute to regular human disturbance at all locations. In past years there have been additions and subtractions to the survey sites based on changes to the habitat quality. This year no survey sites were added or subtracted. However, habitat quality has been diminished at nearly all sites due to the 2015 and 2016 Topock Fires and damage by the introduced tamarisk leaf beetles (TLB) (*Diorhabda* spp.). Additional reduction in quality was from the installation of temporary access roads to conduct soil sampling in Site CA-3 and from the installation of a construction yard in site AZ-2. Appendix A provides photos representative of each survey site. These additional factors are discussed below.

Tamarisk Leaf Beetles

Tamarisk, the most abundant species in the survey sites, were severely affected by the invasion of TLB, which eat the foliage of tamarisk, turning the vegetation brown and causing the leaves to fall off. This reduces the cover and habitat they can provide for SWFL and other nesting birds. Photos 1 and 2 in Appendix A demonstrate the browning and leafless vegetation associated with TLB. Photo 2 shows a branch at the end of the season when only emergent vegetation could be seen along the branches. Although TLB do not immediately kill tamarisk they can lead to death of the tamarisk over several years, further reducing habitat quality unless supplanted by native vegetation. TLB were released in Colorado and Utah in 2004 as a means of controlling tamarisk but have spread out across the southwest (Tamarisk Coalition 2017). The beetles were first

observed in the Lower Colorado River and Lake Havasu area in 2015 (Tamarisk Coalition 2016). The only site that was not affected by the beetle was AZ-5, which is composed almost entirely of Athel tamarisk. Athel tamarisk is not the preferred host of tamarisk beetles (Lindsey *et al.* 2006). See Appendix A for photos of the beetle damage, including photos from 2014 of sites CA-4, CA-6 and CA-7 for comparison (Photos 19, 26 and 30).

The Topock Fires

In July of 2015, an unnamed fire was accidently started by a BNSF crew working on their tracks above site CA-5. The fire burned a few acres of tamarisk dominated riparian habitat in between the BNSF railroad and Interstate 40. The majority of the vegetation in the burn area was destroyed. Two years after the fire some of the native vegetation is becoming reestablished.

In April of 2016 the Topock Fire (also known as the Pirate Fire in California) burned 2,100 acres (USFS 2017). The fire, the cause of which is still under investigation, burned on both sides of the Colorado River and impacted parts of Havasu Wildlife Refuge, Moabi Regional Park, and Pirates Cove Resort. The fire directly damaged portions of sites AZ-1 and AZ-3. Both sites were severely affected by the fire, with the majority of the mature riparian vegetation in the sites having been destroyed. A year after the fire the native vegetation is starting to become reestablished, particularly along the water's edge. However, the vegetation is still small in both size and density and probably not currently suitable to support breeding willow flycatchers. See Appendix A for photos of the fire damage, including photos 3 and 4 of site AZ-1 from 2014 and 2017 for an example of pre- and post-fire conditions.

Additional Factors

During the survey effort, construction occurred between sites AZ-4 and AZ-5 along the Oatman Topock Highway to prevent the Sacramento Wash from flooding portions of the highway. Although the construction occurred along sites AZ-4 and AZ-5 the impact to the sites was minor. However, to facilitate construction a laydown yard was established within Site AZ-3 that removed a large section of the habitat (Photo 7 in Appendix A).

In early 2017 PG&E conducted soil sampling at site CA-4. In order for equipment to access the sampling locations, temporary access roads were established. These access roads and sampling sites have resulted in a reduction of habitat within the site (Photo 21 in Appendix A).

Survey Methods

Surveys were conducted by GANDA wildlife biologist Jeff Steinman (USFWS Permit #TE-085026-5, AZGFD Permit #SP502602, and CDFW Permit SC-007801). All surveys followed the protocol outlined by Sogge *et al.* (2010). For project-related surveys, the 2010 protocol recommends that five surveys be conducted during three survey periods, with two surveys occurring within each of the last two survey periods. The three survey periods are defined as May 15 to 31, June 1 to 24, and June 25 to July 17. Mr. Steinman conducted the SWFL surveys from May 16 to 19, June 6 to 9, June 20 to 23, June 27 to 30, and July 11 to 14. All surveys were conducted between 5:00 AM and 10:00 AM. Completed survey forms for each site are included in Appendix C.

The survey method consisted of using an MP3 player and speaker system to broadcast SWFL calls every 20 to 30 meters along survey routes through the survey sites. Although not required by the protocol, fixed call points were used in previous years to aid in insuring coverage in sites that were difficult to navigate. Fixed call points were discarded this year as the sites have significantly changed, in both habitat and access, due to the damage from the fires and beetles.

At each survey site, the first 10 minutes were spent listening for the presence of any singing flycatchers. After this initial listening period, SWFL "*fitz-bew*" calls were broadcast for a 30-second period, immediately followed by a 60-second listening period. To reduce bias, start times at each site and the survey starting points were intentionally varied from one visit to the next.

Results

No SWFL were detected during any of the surveys at any of the survey sites. Transient SWFL had been detected during every previous survey year except 2010, when no SWFL were detected. Previously, SWFL were detected in sites CA2 in 2005, CA1 and AZ1 in 2007, AZ1 in 2008, CA4 and AZ5 in 2009, CA4 and AZ5 in 2012 and in CA4, CA6 and AZ1 in 2014. (GANDA 2005, 2006, 2007, 2008, 2009, 2010, 2012 and 2014). The locations of all SWFL observations recorded since 2005 are shown in Figure 3.

Incidental Species

Many additional wildlife species were observed during the SWFL survey. The diversity and abundance of wildlife species encountered are influenced by the proximity of the survey sites to the creosote-dominated desert and the Topock Marsh, a large wetland with abundant wildlife. The most commonly observed non-avian vertebrate species were black-tailed jackrabbit (*Lepus californicus*), burro (*Equus asinus*) and western side-blotched lizard (*Uta stansburiana*). The most commonly observed avian species were great-tailed grackle (*Quiscalus mexicanus*), white-winged dove (*Zenaida asiatica*), and black-tailed gnatcatcher (*Polioptila melanura*). Complete lists of wildlife species observed are included in Appendix B.

Incidental observations of special status species during the 2017 surveys were detections of Arizona Bell's vireo (*Vireo bellii arizonae*), yellow warbler (*Setophaga petechia*), and Ridgeway's Yuma rail (*Rallus obsoletus yumanensis*). Brown-headed cowbird (*Molothrus ater*), a known nest parasite of SWFL, were also observed in almost every survey site. The locations of all special status species observations are shown in Figure 3 and their GPS coordinates are located in Appendix D.

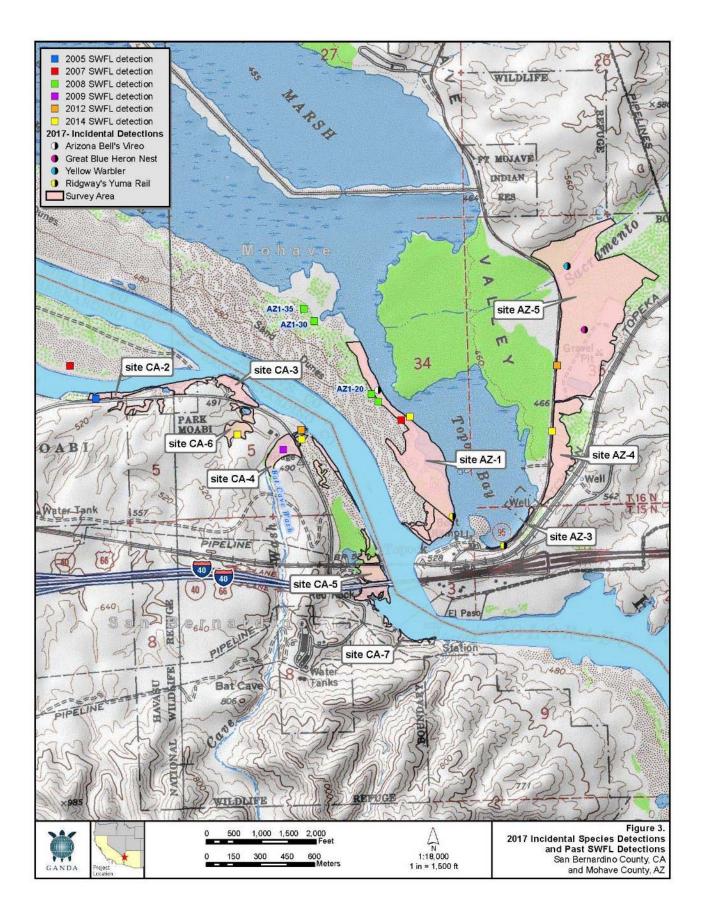


Figure 3. Incidental Species Detections and Past SWFL Detections.

Conclusions

Before the Topock fires and the introduction of the TLB, the habitat within the survey sites and Action Area were continuing to improve. More transient SWFL were observed in 2014 than any of the previous surveys. However, no SWFL were observed during the 2017 survey, which could be contributed to the decline in habitat quality. Fortunately, the reemergence of native vegetation could result in improved habitat in the future. In addition, if TLB continue to impact habitat in other nearby areas, SWFL could move out of those areas and establish nests in the native vegetation that is reemerging within the Action Area.

Coupled with the cumulative detections of SWFL over the years and the presence of suitable habitat (Ellis, *et al.* 2008, SWCA 2004), there is potential for SWFL to breed in the Action Area in the future. Given these conditions, continuing the survey effort is recommended, as agreed to in the 2014 PBA (CH2M HILL 2014). Additionally, given the fire and TLB impacts on habitat in the survey sites, it is recommended to continue to assess habitat quality during future surveys.

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2009. Southwestern Willow Flycatcher Presence/Absence Surveys for the PG&E Topock Compressor Station. September.

2010. Southwestern Willow Flycatcher Presence/Absence Surveys for the PG&E Topock Compressor Station. September.

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Appendix A

Photo Log



Photo 1. Site CA-4 Beetle Damage Tamarisk.



Photo 2. Beetle Damaged Tamarisk.



Photo 3. Site AZ-1 Exterior2014 Before Fire (Facing South).



Photo 4. Site AZ-1 Exterior 2017 After Fire (Facing South).



Photo 5. Site AZ-1 Exterior 2017 (Facing South).



Photo 6. Site AZ-1 Interior 2017 (Facing South).



Photo 7. Site AZ-3 New Laydown Yard for road work 2017 (Facing North).

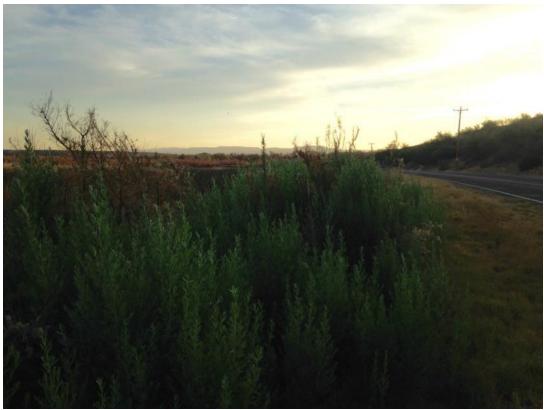


Photo 8. Site AZ-3 Exterior 2017 (Facing East).



Photo 9. Site AZ-3 Interior 2017 (Facing North).



Photo 10. Site AZ-4 Exterior 2017 (Facing East).



Photo 11. Site AZ-4 Interior 2017 (Facing South).



Photo 12. Site AZ-5 Exterior 2017 (Facing West).



Photo 13. Site AZ-5 Interior 2017 (Facing South).



Photo 14. Site CA-2 Exterior 2017 (Facing West).



Photo15. Site CA-2 Interior 2017 (Facing South).



Photo 16. Site CA-3 Exterior 2017 (Facing East).



Photo 17. Site CA-3 Interior 2017 (Facing North).



Photo 18. Site CA-4 Exterior 2014 Before Beetle Damage (Facing North).



Photo 19. Site CA-4 Exterior 2017 After Beetle Damage (Facing North).



Photo 20. Site CA-4 Interior 2017 (Facing East).



Photo 21. Soil Sampling Access Road Site CA-4 2017 (Facing South).



Photo 22. Site CA-5 Exterior 2017 (Facing East).



Photo 23. Site CA-5 Interior 2017 (Facing East).



Photo 25. Site CA-6 Exterior 2017 After Beetle Damage (Facing West).



Photo 26. Site CA-6 Exterior 2014 Before Beetle Damage (Facing West).



Photo 27. Site CA-6 Interior 2017 (Facing South).



Photo 28. Site CA-7 Exterior 2017 (Facing South).



Photo 29. Site CA-7 Interior 2014 Before Beetle Damage (Facing North).



Photo 30. Site CA-7 Interior 2017 After Beetle Damage (Facing North).

Appendix B

Incidental Plant, Vertebrate and Avian Species

Common Name	Latin Name
Arrowweed	Pluchea sericea
Athel Salt Cedar	Tamarix aphylla
Cheesebush	Hymenoclea salsola
Prickly Lettuce	Lactuca serriola
Buckhorn Cholla	Cylindropuntia c.f. achanthocarpa
Silver Cholla	Cylindropuntia echinocarpa
Pencil Cholla	Cylindropuntia ramosissima
California Barrel Cactus	Ferocactus cylindraceus
Beavertail	Opuntia basilaris var. basilaris
Russian Thistle	Salsola tragus
Catclaw Acacia	Senagalia greggii
Screw Bean Mesquite	Prosopis pubescens
Blue Palo Verde	Parkinsonia florida
Salt Cedar	Tamarix ramosissima
Coyote Willow	Salix exigua
Gooding's Willow	Salix gooddingii
Cattail	Typha angustifolia

Incidental Plant Species

Incidental Vertebrate Species

Common Name	Scientific Name
American Bullfrog	Rana catesbeiana
American Badger	Taxidea taxus
Beaver	Castor canadensis
Black-tailed Jackrabbit	Lepus californicus
Burro	Equus asinus
Coyote	Canis latrans
Desert Cottontail	Sylvilagus audubonii
Desert Iguana	Dipsosaurus dorsalis
Feral Hog	Sus scrofa
Gray Fox	Urocyon cinereoargenteus
Western Side-blotched Lizard	Uta stanburiana

Incidental Avian Species

Abert's TowheeMelicane abertiAmerican CootFalca sparveriusAmarisan KestrelFalca sparveriusAnna's HummingbirdCalyate annaArtona Bell's VireoWireo belliAsh-throated FlycatcherMylarchus cherascensBewicks WrenMylarchus cherascensBack Tailed GnatastcherPolioptila melanuraBlack Tailed GnatastcherPolioptila melanuraBlue GrosbeakPaserina caeruleaBrown-headed CowbirdMolathrus aterBushttPastriparus mininusCanada GooseBranta canadensisCanada GooseBranta canadensisCanada GooseBranta canadensisCommon RavenCorvus caraxCommon RavenCorvus caraxCommon PalewthroatPadiceps nigricallisEared GrebePadiceps nigricallisEared GrebePadiceps nigricallisEarada GooseBub virginianusGreat Bue HeronBub virginianusGreat Bue HeronBub virginianusGreat Rue HeronBub virginianusGreat Rue HeronHeamorhous mexicanusGreat Rue HeronDaubtarisGreat Rue HeronNurrenius adarusGreat Rue HeronNurrenius adarusGreat Rue HeronMuerofinausGreat Rue HeronMuerofi	Common Names	Scientific Names
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Arizona Bell's VineoVire belliAsh-throated FlycatcherMyiarchus cherascensBack throated FlycatcherSayornis nigricansBlack TheobeSayornis nigricansBlack TheobePaloptila melonuraBlue GrosbeakPasserina caeruleaBrown-headed CowbirdMolothrus aterBushttPasltriparus minimusCanada GooseBranta canadensisCliff SwallowPetrochelldon purthonotaCommon RavenCorvus coraxCommon YellowthroatGeothlypis trichasDouble-created CormorantPholacotila scanadensisEaread GrebePadiceps nigricallisEaread GrebeStreptopelia decaoctoGambel's QuailCallipepla gambeliiGreat NameGeoccccyx califomianusGreat Arade GrackleQuiscalus mexicanusGreat NameGeoccccyx californianusGreat NadrunnerGeoccccyx californianusGreat NadrunnerChoradrus volercousLang-biled duriewNumenius americanusIdee hacked WoodpeckerPiciades scalarisLade-backed WoodpeckerPiciades scalarisLang-biled curlewNumenius americanusLang-biled curlewMinus jolyaiotosNorthern MackingbirdMinus jolyaiotosNorthern MackingbirdMinus jolyaiotosNorthern Rough-winged SwallowSteiglapptreyx seripennisPianopepiaPholinopepia nitensPied-billed GrebePaliyhynchosSuthwestern Willow FlycatcherEmpiada amerouraNorthern Rough-winged SwallowSte	American Kestrel	Falco sparverius
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Green HeronButorides virecensHouse FinchHaemorhous mexicanusKilldeerCharadrius vociferousLadder-backed WoodpeckerPicoides scalarisLesser NighthawkChordeiles acutipennisLong-billed curlewNumenius americanusLucy's WarblerOreothlypis luciaeMalardAnas platyrhynchosMarsh WrenCistothorus palustrisMourning DoveZenaida macrouraNorthern MockingbirdMimus polyglottosNorthern Rough-winged SwallowStelgidopteryx serripennisPied-billed GrebePodilymbus podicepsSong SparrowMelospiza melodiaSouthwestern Willow FlycatcherEmpidonax traillii extimusTurkey VultureCathartes auraVerdinAuriparus flavicepsWestern KingbirdTyrannus verticalisWestern KingbirdAleronardes saxatalisWilson's WarblerZenoida asiaticaVilson's WarblerZenoida asiaticaYerdinAleronardes saxatalisWestern KingbirdYerannus verticalisWestern KingbirdZenoida sisaticaWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerCardellina pusillaYellow WarblerSetophaga petechi	Greater Roadrunner	Geococcyx californianus
House FinchHaemorhous mexicanusKilldeerCharadrius vociferousLadder-backed WoodpeckerPicoides scalarisLesser NighthawkChordeiles acutipennisLong-billed curlewNumenius americanusLucy's WarblerOreothlypis luciaeMallardAnas platyrhynchosMarsh WrenCistothorus palustrisMourning DoveZenaida macrouraNorthern MockingbirdMimus polyglottosNorthern Rough-winged SwallowStelgidopteryx serripennisPied-billed GrebePodilymbus podicepsSong SparrowMelospiza melodiaSouthwestern Willow FlycatcherEmpidonax traillii extimusTownsend's WarblerCathartes auraVerdinAuriparus flavicepsWestern GrebeAechmorphous occidentalisWestern KingbirdAringarus flavicepsWestern KingbirdAeronautes saxatalisVerdinAeronautes saxatalisWhite-faced IbisPlegadis chihiWhite-turoated SwiftAeronautes saxatalisWhite-turoated SwiftCardellina pusillaWhite-turoated SwiftCardellina pusillaWhite-turoated SwiftSetophaga petechi	Great-tailed Grackle	Quiscalus mexicanus
KilldeerCharadrius vociferousLadder-backed WoodpeckerPicoides scalarisLesser NighthawkChordeiles acutipennisLong-billed curlewNumenius americanusLucy's WarblerOreothlypis luciaeMallardAnas platyrhynchosMarsh WrenCistothorus palustrisMourning DoveZenaida macrouraNorthern MockingbirdMinus polyglottosNorthern Rough-winged SwallowStelgidopteryx serripennisPhainopeplaPhainopepla nitensPied-billed GrebePodilymbus policepsSong SparrowMelospiza melodiaSouthwestern Willow FlycatcherEmpidonax traillii extimusTurkey VultureCathartes auraVerdinAuriparus flavicepsWestern GrebeAechmorphous occidentalisWestern KingbirdPlegadis chihlWhite-faced IbisPlegadis chihlWhite-throated SwiftAeronautes saxatalisWhite-throated SwiftCardellina pusillaWhite-throated SwiftCardellina pusillaWhite-throated SwiftCardellina pusillaWhite-throated SwiftCardellina pusillaWhite-winged DoveZenaida asiaticaWilson's WarblerSetophaga petechi	Green Heron	Butorides virecens
Ladder-backed WoodpeckerPicoides scalarisLesser NighthawkChordeiles acutipennisLong-billed curlewNumenius americanusLucy's WarblerOreothlypis luciaeMallardAnas platyrhynchosMarsh WrenCistothorus palustrisMourning DoveZenaida macrouraNorthern MockingbirdMimus polyglottosNorthern Rough-winged SwallowStelgidopteryx serripennisPiainopeplaPhainopepla nitensPied-billed GrebePodilymbus podicepsSong SparrowMelospiza melodiaSouthwestern Willow FlycatcherEmpidonax traillii extimusTurkey VultureCathartes auraVerdinAuriparus flavicepsWestern GrebeAechmorphous occidentalisWestern KingbirdPilegadis chihiWhite-faced IbisPilegadis chihiWhite-throated SwiftAeronautes saxatalisWhite-throated SwiftCardellina pusillaYellow WarblerZenaida asiaticaYellow WarblerSetophaga petechi	House Finch	Haemorhous mexicanus
Lesser NighthawkChordeiles acutipennisLong-billed curlewNumenius americanusLucy's WarblerOreothlypis luciaeMallardAnas platyrhynchosMarsh WrenCistothorus palustrisMourning DoveZenaida macrouraNorthern MockingbirdMimus polyglottosNorthern Rough-winged SwallowStelgidopteryx serripennisPhainopeplaPhainopepla nitensPied-billed GrebePodilymbus podicepsSong SparrowMelospiza melodiaSouthwestern Willow FlycatcherEmpidonax traillii extimusTownsend's WarblerCathartes auraVerdinAuriparus flavicepsWestern GrebeAechmorphous occidentalisWestern KingbirdPlegadis chihiWhite-faced IbisPlegadis chihiWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerSetophaga petechi	Killdeer	Charadrius vociferous
Long-billed curlewNumenius americanusLucy's WarblerOreothlypis luciaeMallardAnas platyrhynchosMarsh WrenCistothorus palustrisMourning DoveZenaida macrouraNorthern MockingbirdMimus polyglottosNorthern Rough-winged SwallowStelgidopteryx serripennisPhainopeplaPhainopepla nitensPied-billed GrebePodilymbus podicepsSong SparrowMelospiza melodiaSouthwestern Willow FlycatcherEmpidonax traillii extimusTownsend's WarblerSetophaga townsendiTurkey VultureCathartes auraVerdinAuriparus flavicepsWestern KingbirdTyrannus verticalisWestern KingbirdPlegadis chihiWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerSetophaga petechi	Ladder-backed Woodpecker	Picoides scalaris
Lucy's WarblerOreothlypis luciaeMallardAnas platyrhynchosMarsh WrenCistothorus palustrisMourning DoveZenaida macrouraNorthern MockingbirdMimus polyglottosNorthern Rough-winged SwallowStelgidopteryx serripennisPhainopeplaPhainopepla nitensPied-billed GrebePodilymbus podicepsSong SparrowMelospiza melodiaSouthwestern Willow FlycatcherEmpidonax traillii extimusTownsend's WarblerCathartes auraVerdinAuriparus flavicepsWestern GrebeAechmorphous occidentalisWestern KingbirdTyrannus verticalisWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerCardellina pusillaYellow WarblerSetophaga petechi	Lesser Nighthawk	Chordeiles acutipennis
MallardAnas platyrhynchosMarsh WrenCistothorus palustrisMourning DoveZenaida macrouraNorthern MockingbirdMimus polyglottosNorthern Rough-winged SwallowStelgidopteryx serripennisPhainopeplaPhainopepla nitensPied-billed GrebePodilymbus podicepsSong SparrowMelospiza melodiaSouthwestern Willow FlycatcherEmpidonax traillii extimusTownsend's WarblerSetophaga townsendiVerdinAuriparus flavicepsWestern GrebeAechmorphous occidentalisWestern KingbirdTyrannus verticalisWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerCardellina pusillaYellow WarblerSetophaga petechi	Long-billed curlew	Numenius americanus
Marsh WrenCistothorus palustrisMourning DoveZenaida macrouraNorthern MockingbirdMimus polyglottosNorthern Rough-winged SwallowStelgidopteryx serripennisPhainopeplaPhainopepla nitensPied-billed GrebePodilymbus podicepsSong SparrowMelospiza melodiaSouthwestern Willow FlycatcherEmpidonax traillii extimusTownsend's WarblerSetophaga townsendiTurkey VultureCathartes auraVerdinAuriparus flavicepsWestern GrebePelgadis chihiWestern KingbirdTyrannus verticalisWestern KingbirdAeronautes saxatalisWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerCardellina pusillaYellow WarblerSetophaga ptecchi	Lucy's Warbler	Oreothlypis luciae
Mourning DoveZenaida macrouraNorthern MockingbirdMimus polyglottosNorthern Rough-winged SwallowStelgidopteryx serripennisPhainopeplaPhainopepla nitensPied-billed GrebePodilymbus podicepsSong SparrowMelospiza melodiaSouthwestern Willow FlycatcherEmpidonax traillii extimusTownsend's WarblerSetophaga townsendiTurkey VultureCathartes auraVerdinAuriparus flavicepsWestern KingbirdTyrannus verticalisWestern KingbirdPlegadis chihiWhite-faced IbisPlegadis chihiWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerCardellina pusillaYellow WarblerSetophaga petechi	Mallard	Anas platyrhynchos
Northern MockingbirdMimus polyglottosNorthern Rough-winged SwallowStelgidopteryx serripennisPhainopeplaPhainopepla nitensPied-billed GrebePodilymbus podicepsSong SparrowMelospiza melodiaSouthwestern Willow FlycatcherEmpidonax trailii extimusTownsend's WarblerSetophaga townsendiTurkey VultureCathartes auraVerdinAuriparus flavicepsWestern GrebeAechmorphous occidentalisWestern KingbirdTyranus verticalisWhite-faced IbisPlegadis chihiWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerCardellina pusillaYellow WarblerSetophaga petechi	Marsh Wren	Cistothorus palustris
Northern Rough-winged SwallowStelgidopteryx serripennisPhainopeplaPhainopepla nitensPied-billed GrebePodilymbus podicepsSong SparrowMelospiza melodiaSouthwestern Willow FlycatcherEmpidonax traillii extimusTownsend's WarblerSetophaga townsendiTurkey VultureCathartes auraVerdinAuriparus flavicepsWestern KingbirdTyrannus verticalisWhite-faced IbisPlegadis chihiWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerSetophaga petechi	Mourning Dove	Zenaida macroura
PhainopeplaPhainopepla nitensPied-billed GrebePodilymbus podicepsSong SparrowMelospiza melodiaSouthwestern Willow FlycatcherEmpidonax traillii extimusTownsend's WarblerSetophaga townsendiTurkey VultureCathartes auraVerdinAuriparus flavicepsWestern GrebeAechmorphous occidentalisWestern KingbirdTyrannus verticalisWhite-faced IbisPlegadis chihiWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerSetophaga petechi	Northern Mockingbird	Mimus polyglottos
Pied-billed GrebePodilymbus podicepsSong SparrowMelospiza melodiaSouthwestern Willow FlycatcherEmpidonax traillii extimusTownsend's WarblerSetophaga townsendiTurkey VultureCathartes auraVerdinAuriparus flavicepsWestern GrebeAechmorphous occidentalisWestern KingbirdTyrannus verticalisWhite-faced IbisPlegadis chihiWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerSetophaga petechi	Northern Rough-winged Swallow	Stelgidopteryx serripennis
Song SparrowMelospiza melodiaSouthwestern Willow FlycatcherEmpidonax traillii extimusTownsend's WarblerSetophaga townsendiTurkey VultureCathartes auraVerdinAuriparus flavicepsWestern GrebeAechmorphous occidentalisWestern KingbirdTyrannus verticalisWhite-faced IbisPlegadis chihiWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerSetophaga petechi	Phainopepla	Phainopepla nitens
Southwestern Willow FlycatcherEmpidonax traillii extimusTownsend's WarblerSetophaga townsendiTurkey VultureCathartes auraVerdinAuriparus flavicepsWestern GrebeAechmorphous occidentalisWestern KingbirdTyrannus verticalisWhite-faced IbisPlegadis chihiWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerCardellina pusillaYellow WarblerSetophaga petechi	Pied-billed Grebe	Podilymbus podiceps
Townsend's WarblerSetophaga townsendiTurkey VultureCathartes auraVerdinAuriparus flavicepsWestern GrebeAechmorphous occidentalisWestern KingbirdTyrannus verticalisWhite-faced IbisPlegadis chihiWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerSetophaga petechi	Song Sparrow	Melospiza melodia
Turkey VultureCathartes auraVerdinAuriparus flavicepsWestern GrebeAechmorphous occidentalisWestern KingbirdTyrannus verticalisWhite-faced IbisPlegadis chihiWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerCardellina pusillaYellow WarblerSetophaga petechi	Southwestern Willow Flycatcher	Empidonax traillii extimus
VerdinAuriparus flavicepsWestern GrebeAechmorphous occidentalisWestern KingbirdTyrannus verticalisWhite-faced IbisPlegadis chihiWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerCardellina pusillaYellow WarblerSetophaga petechi	Townsend's Warbler	Setophaga townsendi
Western GrebeAechmorphous occidentalisWestern KingbirdTyrannus verticalisWhite-faced IbisPlegadis chihiWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerCardellina pusillaYellow WarblerSetophaga petechi	Turkey Vulture	Cathartes aura
Western KingbirdTyrannus verticalisWhite-faced IbisPlegadis chihiWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerCardellina pusillaYellow WarblerSetophaga petechi	Verdin	Auriparus flaviceps
White-faced IbisPlegadis chihiWhite-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerCardellina pusillaYellow WarblerSetophaga petechi	Western Grebe	Aechmorphous occidentalis
White-throated SwiftAeronautes saxatalisWhite-winged DoveZenaida asiaticaWilson's WarblerCardellina pusillaYellow WarblerSetophaga petechi	Western Kingbird	Tyrannus verticalis
White-winged DoveZenaida asiaticaWilson's WarblerCardellina pusillaYellow WarblerSetophaga petechi	White-faced Ibis	Plegadis chihi
Wilson's WarblerCardellina pusillaYellow WarblerSetophaga petechi	White-throated Swift	Aeronautes saxatalis
Wilson's WarblerCardellina pusillaYellow WarblerSetophaga petechi	White-winged Dove	Zenaida asiatica
Yellow Warbler Setophaga petechi		Cardellina pusilla
	And the second second development of the second s	
Yellow-headed Blackbird Xanthocephalus xanthocephalus		
Yellow-rumper Warbler Setophaga coronata		
Yuma Clapper Rail Rallus obsoletus yumanensis	A A A A A A A A A A A A A A A A A A A	

Appendix C

Survey Forms

Site Name: USGS Quad	Topock A	Topock				State: AZ	County: Elevation:		(meter	(2
Creek, River,			Colorad	Diver			Lacyation.	154	(inclui	
					nd WIFL	sightings attached (as required)?	Yes	X	No	
Survey Coord		Start:		729823			Datum:		2	tructions)
ourrey coor	difficiences.	Stop:	E	730272	- N	3844792 UTM	Zone:	-		(ructions)
т	ferman	vidinataz c		atwaan visit	enter oc	ordinates for each survey in commer	te section.	on back	of this page	
	raditeyedd	A currences c	**Fill	in additio	nal site	information on back of this p	age**	OTTORICK	or una page.	
			Nest(s)		Comments (e.g., bird behavior; evidence of pairs or	GPS Coordinates for WIFL Detections (thi				
Survey # Observer(s) (Full Name)	Date (m/d/y) Survey Time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Y or N If Yes, mumber of nests	breeding:-potential threats [livestock, cowbirds, Diorhabda spp.]). If Diorhabda found, contact USFWS and State WIFL coordinator,	is an optional column for documenting individuals, pairs, or groups of birds found on each survey). Include additional sheets if necessary.			
Survey # 1	Date:			-			# Birds	Sex	UTM E	UTM N
Observer(s): J Steinman	5/17/2017							_		2
) Stemman	Start: 6:01						-			
	Stop: 9:37	0	0	0	NA	BHCO and RIRA observed				
	9.57 Total hrs	8					_			-
	207.0									
Survey # 2 Observer(s):	Date: 6/7/2017						# Birds	Sex	UTME	UTM N
J Steinman	Start:						-		-	
	5:31	0	0	0	NA	RIRA observed				
	Stop: 8:00				MA		-	_		
	Total hrs:							-		
	149.0						# Birds	Carr	UTME	LEENIN
Survey # 3 Observer(s):	Date: 6/20/2017						# Birds	Sex	UIME	UTM N
J Steinman	Start:	1		0						3
	4:30	0	0		NA	RIRA, AZBV and BHCO observed	1	_		
	Stop: 6:55	8								
	Total hrs: 145.0							_		
Survey # 4	Date:		-				# Birds	Sex	UTME	UTMN
Observer(s):	6/27/2017									4
J Steinman	Start: 5:01	2.1								
	Stop: 8:35	0	0	0	NA AZBV observed	AZBV observed				
	8.30 Total hrs:									
	314.0									
Survey # 5	Date: 7/12/2017						# Birds	Sex	UTM E	UTM N
Observer(s). J Steinman	Start:									
	5:05	0	0	0	NA	AZBV observed				
	Stop: 8:09	-					-			
	Total hrs:									
0	184.0									
Overall Site Su Totals do not equal the column. Include only Do not include migran fledglings.	e sum of each reaident adulta	Total Adult Residents	Total Pairs	Total Territories	Total Nests	Were any WIFLs color-banded	? Yes		No X	
Be careful not to doub ndivi duals. Total survey hi		O	O	O	na	If yes, report color co section on back of				
Reporting Indivi				Jeff Steinma	n	Date Report Complet	ed:	y	9/30/2017	8
	life Service Pe	mait 44.		TE-085		State Wildlife Agency Pe			AZ SP79091	И

Willow Flycatcher (WIFL) Survey and Detection Form (revised April, 2010)

Submit form to USFWS and State Wildlife Agency by September 1st. Retain a copy for your records.

Fill in the following information completely. <u>Submit</u> form by September 1st. Retain a copy for your records.

Reporting Individu	al	Jeff Steinman		Phone #	(415) 250-2692
Affiliation	G	arcia and Associates		E-mail	jsteinman@garciaandassociates
Site Name	Topock A			Date report Completed	9/30/2017
Did you verify that the	yed in a previous year? Yes_ iis site name is consistent with the what name(s) was used in the past	it used in previous yrs?	Yes x	No Topack AZ	Not Applicable
	last year, did you survey the same	and the second se	Yes	No X	If no, summarize below.
The second s	ame general area during each visit	•	Yes x	No	If no, summarize below.
Management Author	ity for Survey Area:	Federal <u>x</u> Municip	al/County	State	Tribal Private
Name of Managemer	it Entity or Owner (e.g., Tonto Na	tional Forest)		Havasu National Wildli	fe Refuge
Length of area surve	yed:	1.2	(km)		
]]	ristics: Check (only one) category Native broadleaf plants (entirely o Mixed native and exotic plants (m Mixed native and exotic plants (m Exotic/introduced plants (entirely)	r almost entirely, >90% nat ostly native, 50 - 90% nativ ostly exotic, 50 - 90% exoti	ive) e) c)	ıb foliar layer at this site:	
	ominant tree/shrub species in orde		fic name.	gregii,	
Average height of ca	nopy (Do not include a range):		5	(meters)	
Attach the following	1) copy of USGS quad/topograp	hical map (REQUIRED) of	survey area, out	ining survey site and locat	on of WIFL detections;

2) sketch or aerial photo showing site location, patch shape, survey route, location of any detected WIFLs or their nests;

3) photos of the interior of the patch, exterior of the patch, and overall site. Describe any unique habitat features in Comments.

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features...

Attach additional sheets if necessary.

This survey area was severally damaged by both the Topock Fire and Tamarisk leaf beetles. The remaining stands consisted almost entirely of native vegetation. However some tamarisk had started to regrow by the end of the season.

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM E	UTM N	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)

Attach additional sheets if necessary

USGS Quad	Name:	Topock						Elevation:	141	(meter	s)
Creek, River,			Colorado	River			-			-	1
			ed with su	rvey area a	nd WIFL	sightings attached (a	s required)?	Yes	X	No	
Survey Coord		Start:		730616	N	The Last average of the second	UTM	Datum:	83	3 (See inst	tructions)
ourrey ocorr		Stop:		730773	N		UTM	Zone:	11		(decidence)
T	f survey coo					ordinates for each sur	Sold and a second second				
			Fill i	n additio	nal site	information on ba	ck of this n	age	ar outen	or and Jugor	
	1					I	in of mor	1			
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 If Yes, number of nests	Comments (e.g., bird behavior; breeding;-potential threats [live Diorhabda spp.]). If Diorhabe USFWS and State WIFL coord	stock, cowbirds, la found, contact	groups of bird	column for s found on	documenting indiv	000100700.00
Survey # 1	Date:			2				# Birds	Sex	UTM E	UTM
). Stserver(s):	5/19/2017									o thinks	
Steinman	Start:										
	6:32	565	- 25	12	1.466.00	the second second					
	Stop:	0	0	0	NA	AZBV obser	ved				
	7:05										
	Total hrs:										
	33 min										
Survey # 2	Date:							# Birds	Sex	UTM E	UTM
Observer(s):	6/8/2017										
Steinman	Start:										1
	5:17	0	0	0	NA	RIRA obser	red	4	_		1
	Stop: 5:56							-		_	
	Total hrs:								_		
	39 min								_		
Survey # 3	Date:							# Birds	Sex	UTM E	UTM
Diserver(s):	6/22/2017									CT III I	0.000
Steinman	Start:										
	4:47	0	0								
	Stop:	0	0	0	NA						
	5:11										
	Total hrs								_	[]]	
	24 min										
Survey # 4	Date:							# Birds	Sex	UTM E	UTM
Observer(s). J Steinman	6/29/2017 Start:							-			
	5:02										
	Stop:	0	0	0	NA						
	5:35										
	Total hrs:										
	33 min										
Survey#5	Date:							# Birds	Sex	UTM E	UTM 1
Observer(s):	7/11/2017										
Steinman	Start:										
	8:46	0	0	0	NA						
	Stop:								_	-	
	9:21 Total hrs							-			
	1 otai nrs 35 min							-	_		
Overall Site St				-							
otals de not equal the olumn. Include only De not include migran	e sum of each readent adults.	Total Adult Residents	Total Pairs	Total Territories	Total Nests	Were any W	FLs color-banded	? Yes		No	
le dglings. Se cæeful not to doub ndivi dusls.	de coont	0	0	0	na	lfy	es, report color co	mbination(s)	in the con	nments	
Fotal survey h	rs: 3.0	U	U	0	11a	8	ection on back of	form and repo	rt to USF	WS.	
Reporting Indivi	idual:			Jeff Steinma	n	Da	e Report Complet	ed:		9/30/2017	8
	llife Service Pe	rmit#:		TE-085	5026-5		lildlife Agency Pe	237.22		AZ SP59260	12

Willow Flycatcher (WIFL) Survey and Detection Form (revised April, 2010)

	Jeff Steinman	1	Phone #	(415) 250-2692	
Affiliation	Garcia and Associates		E-mail	jsteinman@garciaandassoc	ciate
Site Name	Topock AZ-3		Date report Completed	9/30/2017	
Was this site surveyed in	· · · · · · · · · · · · · · · · · · ·		2200 000		
	e name is consistent with that used in previous yrs?	Yes	No x	Not Applicable	x
	ame(s) was used in the past?				
	ar, did you survey the same general area this year?	Yes	No	If no, summarize below.	
Did you survey the same g	eneral area during each visit to this site this year?	Yes x	No	If no, summarize below.	
Management Authority for	Survey Area: Federal x Muni	cipal/County	State	Tribal Private	
Name of Management Entity or Owner (e.g., Tonto National Forest) Havas				efuge	
Length of area surveyed:	208 meters	(km)			
Vegetation Characteristics:	Check (only one) category that best describes the p	redominant tree/shr	ub foliar layer at this site:		
• • • • • • • • • • • • • • • • • • •	Check (only one) category that best describes the p broadleaf plants (entirely or almost entirely, > 90%		ub foliar layer at this site:		
Native		native)	ub foliar layer at this site:		
Native Mixed	broadleaf plants (entirely or almost entirely, >90%	native) ntive)	ıb foliar layer at this site:		
Native Native	broadleaf plants (entirely or almost entirely, > 90% native and exotic plants (mostly native, 50 - 90% n	native) ative) colic)	ıb foliar layer at this site:		
Native Mixed X Exotic	broadleaf plants (entirely or almost entirely, > 90% native and exotic plants (mostly native, 50 - 90% m native and exotic plants (mostly exotic, 50 - 90% ex /introduced plants (entirely or almost entirely, > 90% nt tree/shrub species in order of dominance. Use scie	native) ative) (otic) 6 exotie) ntific name.	ıb foliar layer at this site:		
Native Mixed X Exotic	broadleaf plants (entirely or almost entirely, > 90% native and exotic plants (mostly native, 50 - 90% m native and exotic plants (mostly exotic, 50 - 90% ex /introduced plants (entirely or almost entirely, > 90% nt tree/shrub species in order of dominance. Use scie	native) ative) «otic) 6 exotic)	ıb foliar layer at this site:		

Attach the following: 1) copy of USGS quad/topographical map (REQUIRED) of survey area, outlining survey site and location of WIFL detections;

2) sketch or aerial photo showing site location, patch shape, survey route, location of any detected WIFLs or their nests;

3) photos of the interior of the patch, exterior of the patch, and overall site. Describe any unique habitat features in Comments.

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features. Attach additional sheets if necessary.

The habitat quality of this survey area was significantly reduced. It received signicant fire damage from the Topock fire. Additionally it had a large area cleared for a lay down yard for road work along the Sacramento Wash. AZBV were only heard during the first survey round and are assumed to have abandoned the area.

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM E	UTM N	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)
		-				

USGS Quad	Name:	Topock					- 8	Elevation:	143	(meter	s)
Creek, River,			Colorado	River				1.10 v delo11.	110	Incide	
					nd WIFL	sightings attached (a	s required)?	Yes	X	No	
Survey Coord		Start:		730908	N	Teller and prove the	UTM	Datum:	83	5	tructions)
survey coor	diffates.	Stop:		730961	- 13 N		UTM	Zone:	11		utucuons)
т	Fermionov					pordinates for each surv					
1	I survey coc	a dinates c	** U :11 :	additio	s, enter oc	information on ba	ey in commen	is section c	II DACK	or trus page.	
			1 44 1	п аспано		injormation on ba	ch oj mis po	ige			
					Nest(s) Found?	Comments (e.g., bird behavior;	midana of min or	GPS Coordina		W. Datastiana	(
Survey #	Date (m/d/y)	Number of	Estimated	Estimated	Y or N	breeding;-potential threats [live				documenting indiv	
Observer(s) (Full Name)	Survey Time	Adult WIFLs	Number of Pairs	Number of Territories	If Yes,	Diorhabda spp.]). If Diorhaba		groups of birds	found on		
()					number of nests	USFWS and State WIFL coord	nator.	each survey).	Indude ad	ditional sheets if ne	cessary.
Survey # 1	Date:			-	116515			# Birds	Sex	UTM E	UTM
hserver(s):	5/18/2017							# birus	Sex	UTME	CINI
Steinman	-										
	8:25	10.000	25	12.8	Augusta (1	
	Stop:	0	0	0	NA						-
	9:07										
	Total hrs:										
	42 min										
Survey # 2	Date:							# Birds	Sex	UTM E	UTM
Observer(s):	6/9/2017										
Steinman	Start:							1			
	5:26	0	0	0	NA						
	Stop:	1000		1	0.010(0)						
	6:18	1									
	Total hrs:								_		-
Survey # 3	52 min Date:							# Birds	For	UTM E	LTDA
barvey#3	6/22/2017							# Dilus	Sex	UIME	UTM
Steinman	Start:							-			
	5:11			40-1							
	Stop:	0	0	0	NA						
	5:47										1
	Total hrs:										
	36 min										
Survey # 4	Date:					100		# Birds	Sex	UTM E	UTM
Observer(s):	6/29/2017								_		
J Steinman	Start:							-			
	5:36	0	0	0	NA			-	_		-
	Stop: 6:08								_	-	-
	Total hrs:									-	
	32 min								_		
Survey#5	Date:							# Birds	Sex	UTM E	UTM
baerver(s):	7/11/2017										
Steinman	Start:										
	8:08	0	0	0	NA						
	Stop:										
	8:45									-	
	Total hrs 37 min								_		
Overall Site St				-							
otals do not equal th		Total Adult		Total							
dumn. Include only	resident adults.	Residents	Total Pairs	Territories	Total Nests	Were any WI	FLs color-banded	Yes		No	
) o not include migrad edglings.	A									3983 2	_
te cættful not to doub adivi duals.	le count					lfv	es, report color co	mbination(s)	n the con	nments	
rdividuals. Fotal survey h	IS: 3.0	0	0	0	na		ection on back of				
Reporting Indivi				Jeff Steinma	n		e Report Complet	an an an the second		9/30/2017	8
	litife Service Pe	2.0		TE-085			ildlife Agency Pe	STATISTICS IN THE		AZ SP59260	22

Willow Flycatcher (WIFL) Survey and Detection F	Form (revised April, 2010)
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Reporting Individual	Jeff Steinman	Phone #	# (415) 250-2692		
Affiliation	Garcia and Associates		E-mail	jsteinman	@garciaandassociate
Site Name	Topock AZ-4		ate report Completed	l	9/30/2017
Was this site surveyed in a prev Did you verify that this site name i	rious year? Yes No Unknown x s consistent with that used in previous yrs?	Yes	No <u>x</u>	N	t Applicable
f name is different, what name(s)	was used in the past?	<i>0</i> 0			12
lf site was surveyed last year, did y	ou survey the same general area this year?	Yes	No	If no, summa	rize below.
Did you survey the same general ar	ea during each visit to this site this year?	Yes	No	If no, summa	rize below.
Management Authority for Survey	Area: Federal <u>x</u> Municipal/C	ounty	State	Tribal	Private
Name of Management Entity or Ov	vner (e.g., Tonto National Forest)	Н	avasu National Wildl	ife Refuge	
Length of area surveyed:	564 meter	(km)			
Vegetation Characteristics: Check Native broadle Mixed native a Mixed native a	(only one) category that best describes the predomi af plants (entirely or almost entirely, > 90% native) and exotic plants (mostly native, 50 - 90% native) and exotic plants (mostly exotic, 50 - 90% exotic) ced plants (entirely or almost entirely, > 90% exotic	nant tree/shrub 1	ïoliar layer at this site:		
Vegetation Characteristics: Check Native broadle Mixed native a Mixed native a X Exotic/introdu	(only one) category that best describes the predomi af plants (entirely or almost entirely, > 90% native) and exotic plants (mostly native, 50 - 90% native) and exotic plants (mostly exotic, 50 - 90% exotic)	nant tree/shrub f) c) name.	ïoliar layer at this site:		

2) sketch or aerial photo showing site location, patch shape, survey route, location of any detected WIFLs or their nests;

3) photos of the interior of the patch, exterior of the patch, and overall site. Describe any unique habitat features in Comments.

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features.

Attach additional sheets if necessary.

This area was received only minor damage from the Topock Fire and was not effected by the Tamarisk leaf beetles.

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM E	UTM N	Pair Confirmed? Y or N	Nest Found? Y or N	Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)
	6					
		-				

USGS Quad	Name:	Topock					Elevation:	145	(meter	s)
Creek, River,			Colorado	River			1		``	
		2009-000000 C		10.0511008084.073	nd WIFL	sightings attached (as required)?	Yes	X	No	
Survey Coord		Start:		731000	N		Datum:	8	3 (See ins	tructions)
ourrey coor	curinices.	Stop:		731118	- N	The second se	Zone:	1		crucitons)
т	farman					ordinates for each survey in comme	CONCERNMENTS AND ADDRESS			
1	I Survey coc	o dinates c	**Fill i	n addition	nal site	information on back of this p	age**	JI LACK	or uns page.	
	1				Nest(s)	······································	1			
Survey # Observer(s) (Full Name)	Date (m/d/y) Survey Time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Found? Y or N If Yes, mumber of nests	Comments (e.g., bird behavior; evidence of pairs or breeding:-potential threats [livestock, cowbirds, Diorhabda spp.]). If Diorhabda found, contact USFWS and State WIFL coordinator.	is an optional groups of bird	column for s found on	IFL Detections r documenting indiv u dditional sheets if no	
Survey # 1	Date:			-			# Birds	Sex	UTM E	UTM
Aserver(s):	5/18/2017									
Steinman	Start:									
	5:21				1.00					
	Stop:	0	0	0	NA					
	8:25									
	Total hrs:									
min.	184 min									
Survey # 2	Date:						# Birds	Sex	UTM E	UTM Y
Observer(s):	6/8/2017							_		
Steinman	Start:									4
	6:12	0	0	0	NA					
	Stop:	9000 C		100	07845353					
	9:05	8								
	Total hrs:							_		-
min.	172 min			-			di Divela		10001470	1 700 ()
Survey # 3	Date:						# Birds	Sex	UTM E	UTM
>bserver(s): Steinman	6/22/2017 Start:						-			
	5:49							_		-
	Stop:	0	0	0	NA					
	8:22							_		-
	Total hrs	2						-		-
	153 min						-			
Survey # 4	6/29/2017						# Birds	Sex	UTM E	UTM
Observer(s).	6/30/2014						1	-		
J Steinman	Start:									
	6:09	0	0	0	NT.					
	Stop:	U	0	0	NA					
	8:25									
	Total hrs:									
	136 min									
Survey#5	Date:						# Birds	Sex	UTM E	UTM 1
(Section on	7/11/2017						-			
l Steinman	Start: 5:18									
	5:18 Stop:	0	0	0	NA			_		
	Stop: 8:21						-		-	
	Total hrs						-			
	183 min						-			
Overall Site Si				-						
otals do not equal the	e sum of each	Total Adult	and the local	Total						
olumn. Include only Donotinclude migran		Residents	Total Pairs	Territories	Total Nests	Were any WIFLs color-banded	l? Yes		No	
ledglings.	a									
Be careful not to doub	de coont					If yes, report color of	mbination(s)	in the co	mments	
idividuals. Fotal survey hi	rs: 13.5	0	0	0	na	section on back of				
	10. 10.0				U				1779 (* 1981) 1779 (* 1981)	
Reporting Indivi	des et a			Jeff Steinman		Date Report Comple	1. J.		9/30/2017	8.

Willow Flycatcher (WIFL) Survey and Detection Form (revised April, 2010)

Reporting Individual	Jeff Steinman		Phone #	(415) 250-2692	
Affiliation	Garcia and Associates		E-mail	jsteinman@garciaandassociate	
Site Name	Topock AZ-5	Date repor	t Completed	9/30/2017	
	in a previous year? Yes No Unknown x				
	te name is consistent with that used in previous yrs?	Yes	No <u>x</u>	Not Applicable	
	name(s) was used in the past?				
	ear, did you survey the same general area this year?		No	If no, summarize below.	
Did you survey the same j	general area during each visit to this site this year?	Yes	No <u>x</u>	If no, summarize below.	
Management Authority fo	r Survey Area: Federal x Municipal/Cou	nty St	ate	Tribal Private	
Name of Management En	tity or Owner (e.g., Tonto National Forest)	Havasu Na	tional Wildl	ife Refuge	
	- 상				
	879 meters(k s: Check (only one) category that best describes the predomina	.,	at this site:		
Vegetation Characteristic Nativ Mixe X Exoti		nt tree/shrub foliar laye	r at this site:		
Vegetation Characteristic Nativ Mixe X Exoti	s: Check (only one) category that best describes the predomina re broadleaf plants (entirely or almost entirely, > 90% native) d native and exotic plants (mostly native, 50 - 90% native) d native and exotic plants (mostly exotic, 50 - 90% exotic) e/introduced plants (entirely or almost entirely, > 90% exotic)	nt tree/shrub foliar laye	r at this site:		
Nativ Mixe <u>x</u> Exoti Identify the 2-3 predomin	s: Check (only one) category that best describes the predomina re broadleaf plants (entirely or almost entirely, > 90% native) d native and exotic plants (mostly native, 50 - 90% native) d native and exotic plants (mostly exotic, 50 - 90% exotic) e/introduced plants (entirely or almost entirely, > 90% exotic) ant tree/shrub species in order of dominance. Use scientific nan <i>Tamarix spp.</i>	nt tree/shrub foliar laye	at this site:		

2) sketch or aerial photo showing site location, patch shape, survey route, location of any detected WIFLs or their nests;

3) photos of the interior of the patch, exterior of the patch, and overall site. Describe any unique habitat features in Comments.

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features.

Attach additional sheets if necessary.

This survey area was not effected by the Topock Fire or by the Tamarisk leaf beetles.

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM E	UTM N	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)
			-			
	·					
			5			

USGS Quad	Topock C Name:		Iountain			State: CA	Elevation:	146	(meter	s)
Creek, River,	and the straight		Colorado	River						-/
					nd WIFL	sightings attached (as required)?	Yes	X	No	
Survey Coord		Start:		728507	N	• • • •	Datum:	83	1999 A.	ructions)
survey coord	amates.			728921	- N	3845659 UTM	Zone:	11		auctions)
16		Stop:								
IT	survey coor	dinates c				ordinates for each survey in comme		on back	of this page.	
			""I'uu i	п ааашо	nai sue i	information on back of this p	age			
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 If Yes, number of	Comments (e.g., bird behavior; evidence of pairs breeding:potential threats [livestock, cowbirds, Diarbathda sup.]). If Diarbathda found, contact USFWS and State WIFL coordinator.	(this is an op pairs, or grou	ional eolun ps of birds	an for documenting	
Secondary # 1	Date:	-			nests		di Diada	Carr	1 111 4 12	TERA
Survey # 1							# Birds	Sex	UTM E	UTMN
Observer(s). I Steinman	5/19/2017	8						-		
Stenanan	Start:						3			
	7:40	0	0	0	NA	BHCO				
	Stop:	04	AMEST		1000000	- Andrews 17		-		
	8:27 Total hrs:	3					-	-		
	10tal hrs: 47 min									
amaaa # 3	47 min	-			-		# Piede	Ser	UTM E	ITTACA
Survey # 2							# Birds	Sex	UTME	UTM
Observer(s) Steinman	6/6/2017 Start:						1			
Julian	2-10-10263-						-			-
	6:15	0	0	0	NA		-	× ×		
	Stop:						-	-		
	6:45 Total hrs:	2					-			
	30 min						3			
Survey # 3	Date:			-	-		# Birds	Sex	UTME	UTM
Sur vey # 5 Observer(s).							# Dirus	Sex	OIME	UIMI
Steinman	6/23/2017 Start:	8					-	12 12		
ottilili	5:24						-	-		
	Stop:	0	0	0	NA		-			
	6:00						-			
	Total hrs:	8								
	36 min							-		
Survey#4	Date:						# Birds	Sex	UTM E	UTM
)bserver(s)	6/30/2017							GGA	U LILL LI	C. T. M. T
Steinman	Start:	į.								1
	5:05	34	12.005		0005		1			
	Stop:	0	0	0	NA		2			
	5:36									
	Total hrs:									
	31 min									
survey # 5	Date:						# Birds	Sex	UTM E	UTM
Abserver(s)	7/13/2017									
Steinman	Start:	8						1		
	5:45		C.	0						
	Stop:	0	0	0	NA					
	6:20	2								
	Total hrs:	×)			
	35 min	2	5				9			1
Overall Site Su		î	8. B			8				
otals do not equal th		Total Adult	Total Pairs	Total	Total Nests	Wedge Scotting - Alexandratic in the content of the				
olumn. Include only So not include migrad		Residents	1000 1005	Territories	Lotal Ivests	Were any WIFLs color-bande	d? Yes		No	
edglings									11000	
e careful notto doub idividuals.	de count		1000	1	Stance	If yes, report color c	ombination(s)	in the con	nments	
raviouals. Fotal survev hi	2.7	0	0	0	na	section on back of				
		12	4			24-14-14-14-14-14-14-14-14-14-14-14-14-14		0.0000000000000000000000000000000000000	50.0775 ⁻	
teporting Indivi	dual			Jeff Steinmar		Date Report Comple	tad		9/30/2017	

Willow Flycatcher (WIFL) Survey and Detection Form (revised April, 2010)

Reporting Individua	Jeff Steinman	Phone #	(415) 250-2692
Affiliation	Garcia and Associates	E-mail	jsteinman@garciaandassociates
Site Name	Topock CA-2 Date report C	ompleted	9/30/2017
	ed in a previous year? Yes x_No_Unknown site name is consistent with that used in previous yrs? Yes x No	<u></u>	Not Applicable
If name is different, w	at name(s) was used in the past?		
If site was surveyed la	t year, did you survey the same general area this year? Yes No	x	If no, summarize below.
Did you survey the sar	e general area during each visit to this site this year? Yes x No		If no, summarize below.
Management Authority	for Survey Area: Federal Municipal/County x State		Tribal Private
Name of Management	Entity or Owner (e.g., Tonto National Forest) Moabi I	Regional I	Park
Length of area survey	d: 609.0 (km)		
M	tive broadleaf plants (entirely or almost entirely, > 90% native) xed native and exotic plants (mostly native, 50 - 90% native) xed native and exotic plants (mostly exotic, 50 - 90% exotic)		
x Ex	otic/introduced plants (entirely or almost entirely, > 90% exotic)		
Identify the 2-3 predor	inant tree/shrub species in order of dominance. Use scientific name. Cercidium microphyllum, Tamarix spp.		
Average height of can	py (Do not include a range): 4	(meters)	
Attach the following:	l) copy of USGS quad/topographical map (REQUIRED) of survey area, outlining survey s	ite and les	ation of WIEL detectionar
-	o showing site location, patch shape, survey route, location of any detected WIFLs or their		anon of wir is defections,
and an interest of the second second second second	r of the patch, exterior of the patch, and overall site. Describe any unique habitat features i		nte

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features. Attach additional sheets if necessary.

Pirates cove has increached and eliminated the habitat on the north side, cut a trail through the middle of the habitat and cleared a portion on the west. See photos in report.

Territory Number	All Dates Detected	UTM E	UTM N	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)

Territory Summary Table. Provide the following information for each verified territory at your site.

USGS Quad	Topock C	Whale M	lountain			State: CA	- 2	Elevation:		rnardino (meter	(z
Creek, River,			Colorado	River				Like v deteori.	104		
					nd WIFL	sightings attached (a	s required)?	Yes	X	No	
Survey Coord		Start:		729285	N		UTM	Datum:	83		tructions)
ourrey ocor	Carlander.	Stop:		729038	- N		-UTM	Zone:	11	*	ardearone)
I	f survey coc					ordinates for each sur	Sea and a construction				
	r startey ook	A CHI MILLO C				information on ba			IT CHER	or and page.	
	-		1 44 1	l addition		1	ch of his p	*8°			
					Nest(s) Found?	Comments (e.g., bird behavior;	evidence of nairs or	GPS Coordina	tes for WII	T. Detections	()
Survey # Observer(s)	Date (m/d/y)	Number of Adult	Estimated Number of	Estimated Number of	Y or N	breeding; potential threats [live				documenting indiv	
(Full Name)	Survey Time	WIFLS	Pairs	Territories	If Yes,	Diorhabda spp.]). If Diorhaba		groups of bird		PC 11	
					number of nests	USFWS and State WIFL coord	inator.	each survey).	Include ad	ditional sheets if ne	cessary.
Survey # 1	Date:				incitio			# Birds	Sex	UTME	UTM
/bserver(s):	5/16/2017							// Dirus	CON	OTHE	UTIN'
Steinman	Start:										
	5:56	1000	247	100	5-26627					-	
	Stop:	0	0	0	NA						
	6:35										
	Total hrs:										1
	39 min										
Survey # 2	Date:							# Birds	Sex	UTM E	UTM 1
Observer(s):	6/6/2017										
Steinman	Start:	8									
	5:41	0	0	0	NA	BHCO obser					
	Stop:	u	U	u	na	Direct obset	reu	1			
	6:15										
	Total hrs:										
	34 min								-		
Survey # 3	Date:							# Birds	Sex	UTM E	UTM
Abserver(s):	6/23/2017								_		
Steinman	Start:								_		
	6:08	0	0	0	NA						-
	Stop: 6:40								-		
	Total hrs										
	32 min								_		-
Survey # 4	Date:				0			# Birds	Sex	UTM E	UTM
bserver(s).	6/30/2017								- on	011112	
Steinman	Start:										
	5:37										1
	Stop:	0	0	0	NA						
	6:18										
	Total hrs:										
	42 min										
Survey#5	Date:	1						# Birds	Sex	UTM E	UTM
(s): (s):	7/13/2017								_		
Steinman	Start:										
	5:01	0	0	0	NA						
	Stop: 5:44										
	5:44 Total hrs							-			
	43 min							-	-		-
Overall Site St	000070453210			-							-
otals do not equal th	e sum of each	Total Adult	ma tra	Total	Trank No.						
olumn. Include only Do not include migrad		Residents	Total Pairs	Territories	Total Nests	Were any WI	FLs color-banded	Yes		No	
edglings.											-
e careful not to doub (divi duals.	sle coont					Ifv	es, report color co	mbination(s)	in the con	nments	
fotal survey h	TS: 3.0	0	0	0	na		ection on back of f				
eporting Indivi				Jeff Steinma	n	l Dat	e Report Complete	ed:		9/30/2017	8
aboring march		rmit#:			5026-5	174				STOCK AND IN	

Willow Flycatcher (WIFL) Survey and Detection Form (revised April,	2010))
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Reporting Individual	J	eff Steinman				Phone #	(4	415) 250-2692
Affiliation	Garcia and	l Associates				E-mail	jsteinmar	n@garciaandassociate
Site Name Was this site surveyed in a prev	Topock CA-3	Unknown	-		Date report C	ompleted		9/30/2017
Did you verify that this site name i			Yes	x	No		N	lot Applicable
f name is different, what name(s)	was used in the past?	-	-					
If site was surveyed last year, did y	ou survey the same general are	ea this year?	Yes	Х	No		If no, summ	arize below.
Did you survey the same general a	rea during each visit to this site	e this year?	Yes	х	No		If no, summ	arize below.
Management Authority for Survey	Area: Federal	X Municipal/	County		State		Tribal	Private
Name of Management Entity or Ov	wner (e.g., Tonto National For	est)				BLM		
	152 meters		(km)					
Mixed native a		ntirely, > 90% nativ e, 50 - 90% native) c, 50 - 90% exotic)	ninant tree e)	/shrut	o foliar layer at	this site:		
Vegetation Characteristics: Check Vative broadle Mixed native = x Mixed native =	(only one) category that best of eaf plants (entirely or almost en and exotic plants (mostly nativ and exotic plants (mostly exoti cod plants (entirely or almost of	ntirely, > 90% nativ e, 50 - 90% native) e, 50 - 90% exotic) entirely, > 90% exot	ninant tree e) ic) name.		o foliar layer at	this site:		

2) sketch or aerial photo showing site location, patch shape, survey route, location of any detected WIFLs or their nests;

3) photos of the interior of the patch, exterior of the patch, and overall site. Describe any unique habitat features in Comments.

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features.

Attach additional sheets if necessary. This area was damaged by the Tamariskleaf beetle but not the Topock fire.

Territory Summary Table. Provide the following information for each verified territory at your site.

All Dates Detected	UTM E	UTM N	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)
		-			
	All Dates Detected	All Dates Detected UTM E	All Dates Detected UTM E UTM N		All Dates Detected UTME UTMIN Confirmed V or N

USGS Quad	Topock C	Whale M	lountain				Elevation:	134	(meter	(2
Creek, River,			Colorado	River			Lacyation.	154	India	.,
Is com	of USGS m	an marka			nd WIFL	sightings attached (as required)?	Yes	X	No	
Survey Coord		Start:		729537	N		Datum:	8.	S	tructions)
Survey Coor	difficiences.	Stop:		729384	- N		Zone:		<u> </u>	(ructions)
T	fsimulation					ordinates for each survey in comm				
<u></u>	r surrey out	A CHIMICS C	**Fill i	n addition	nal site	information on back of this		on onex	or una page.	
	1		1			I	- I			
					Nest(s) Found?	Comments (e.g., bird behavior; evidence of pairs of	r GPS Coordin	ates for WT	FL Detections	()
Survey # Observer(s)	Date (m/d/y)	Number of Adult	Estimated Number of	Estimated Number of	Y or N	breeding; potential threats [livestock, cowbirds,			documenting indiv	
(Full Name)	Survey Time	WIFLs	Pairs	Territories	If Yes,	Diorhabda spp.]). If Diorhabda found, contact	groups of bird			
					number of nests	USFWS and State WIFL coordinator.	each survey).	Include ad	lditional sheets if ne	cessary.
Survey # 1	Date:			-	incons		# Birds	Sex	UTM E	UTM
/bserver(s):	5/16/2017						in birds	Can	onab	CIN1.
Steinman	Start:									
	6:42			12	1000					
	Stop:	0	0	0	NA					
	7:48									
	Total hrs:							_		
	66 min									
Survey # 2	Date:						# Birds	Sex	UTM E	UTM
Observer(s):	6/6/2017							-		
Steinman	Start:						-			
	6:46	0	0	0	NA	BHCO observed	-			
	Stop: 8:05						-			
	Total hrs:	2					-			
	79 min									
Survey # 3	Date:						# Birds	Sex	UTM E	UTM
Diserver(s):	6/21/2017									
/ Steinman	Start:									
	5:00	0	0	0	NA	BTCN sharred fasting BHCO rooms				
	Stop:	0	v	0	NA	BTGN observed feeding BHCO young				
	6:24									
	Total hrs							_		
	104 min	8								
Survey # 4	Date:						# Birds	Sex	UTM E	UTM
Observer(s). I Steinman	6/28/2017 Start:						-			
	6:47									
	Stop:	0	0	0	NA					
	7:55						-			
	Total hrs:									
	68 min									
Survey#5	Date:	-					# Birds	Sex	UTM E	UTM 1
3bserver(s):	7/13/2017							-		
Steinman	Start:									
	7:01	0	0	0	NA					-
	Stop: 7:49						-			-
	7.49 Total hrs									
	48 min						-	-		-
Overall Site St	0000000000						-		-	
otals do not equal the	e sum of each	Total Adult	Trad to be	Total	Tratel Marco					
olumm. Include only Domotinelude migram		Residents	Total Pairs	Territories	Total Nests	Were any WIFLs color-bande	d? Yes		No	
edglings.										
te careful not to doub adivi duala.	le count		0			If yes, report color	combination(s)	in the co	nments	
Fotal survey h	rs: 7.0	0	0	0	na	section on back	f form and rep	ort to USI	WS.	
Reporting Indivi				Jeff Steinma	1	Date Report Comp	eted:		9/30/2017	8
	llife Service Pe	1. 10		TE-085		State Wildlife Agency			CA -007801	2

Willow Flycatcher	(WIFL) Survey and	Detection Form	(revised April, 2010)
······································	(Detternon z orm	(

Reporting Individual	Jeff Steinman		Pho	ne #	(415) 250-2692
Affiliation	Garcia and Associates		Е-л	nail jstein	man@garciaandassociate
Site Name	Topock CA-4	_	Date report Comp	leted	9/30/2017
Was this site surveyed in a p	revious year? Yes x No Unknown e is consistent with that used in previous yrs?	1 Yes x	No		Not Applicable
f name is different, what name(140		Not Applicable
	d you survey the same general area this year?	Yes	No	x If no. st	mmarize below.
	area during each visit to this site this year?	Yes x	No		munarize below.
Management Authority for Surv	ev Area: Federal x Municir	pal/County	State	 Triba	1 Private
and the second	Owner (e.g., Tonto National Forest)		BLM		
	20 at 26 at				
Length of area surveyed:	249 meters	(km)			
	dleaf plants (entirely or almost entirely, > 90% na	ative)			
x Mixed nativ	re and exotic plants (mostly native, 50 - 90% native, and exotic plants (mostly exotic, 50 - 90% exoluted plants (entirely or almost entirely, > 90% exotor)	tic)			
x Mixed nativ Exotic/intro	we and exotic plants (mostly exotic, $50 - 90\%$ exoluted plants (entirely or almost entirely, $> 90\%$ e	tic) xotic)			
x Mixed nativ Exotic/intro	e and exotic plants (mostly exotic, 50 - 90% exot duced plants (entirely or almost entirely, > 90% e e/shrub species in order of dominance. Use scienti	tie) xxotie) ifie name.			
x Mixed nativ Exotic/intro	e and exotic plants (mostly exotic, 50 - 90% exot duced plants (entirely or almost entirely, > 90% e e/shrub species in order of dominance. Use scienti	tic) xotic)			
x Mixed nativ Exotic/intro	we and exotic plants (mostly exotic, 50 - 90% exot duced plants (entirely or almost entirely, $>$ 90% e e/shrub species in order of dominance. Use scient <i>Tamarix spp.</i>	tie) xxotie) ifie name.	(mete	15)	

 copy of USGS quad/topographical map (REQUIRED) of survey area, outlining survey site and lo on of WIFL detections:

2) sketch or aerial photo showing site location, patch shape, survey route, location of any detected WIFLs or their nests;

3) photos of the interior of the patch, exterior of the patch, and overall site. Describe any unique habitat features in Comments.

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features.

Attach additional sheets if necessary. This area was moderatly effected by the Topock fire but was severaly effected by the beetles.

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM E	UTM N	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)
	0					

USGS Quad	Name:	A-5 Whale N	Iountain			State: CA		Elevation:	1.0.0.000	rnardino (meter	s)
Creek, River,			Colorado	River							
					nd WIFL	sightings attached (as required)?	Yes	X	No	
Survey Coord		Start:		729889	N	The Case of the Party and the	UTM	Datum:	83		tructions)
Survey Coort	diffates.			730025	- N		UTM		11		indections)
	c	Stop:						Zone:			
1	I survey coc	ordinates c	changed be	etween visits	s, enter co	oordinates for each sur	vey in commen	ts section c	n back	of this page.	
			^~FUU 1	n additio	nal site	information on b	ack of this pe	ige**			
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 If Yes, mumber of nests	Comments (e.g., bird behavior breeding; potential threats [liv Diorhabda spp.]). If Diorhab USFWS and State WIFL coor	estock, cowbirds, vda found, contact	groups of birds	column for 5 found on	L Detections documenting indiv ditional sheets if ne	
Survey # 1	Date:				110315			# Birds	Sex	UTM E	UTM
Aserver(s):	5/16/2017							# bit us	Sex	UIME	CINII
Steinman	Start:								_		-
stenunat	8:25								_		
		0	0	0	NA			-			-
	Stop:										
	9:35 Total hrs:	5									
	1 otal nrs: 70 min										
annan # 3	Date:							# Birds	Certi	LTINAT.	I TTT C
Survey # 2								# DIFOS	Sex	UTM E	UTM
Deserver(s): Steinman	6/9/2017 Start:	2						-			
Stemman	7:05								-		
		0	0	0	NA				_		
	Stop: 9:15								_		
	8:15 Total hrs	£									
	70 min								_		
Survey # 3	Date:							# Birds	Carr	LEPAR	LTPAC
baerver(s):	6/21/2017							# birds	Sex	UTME	UTM
Steinman	Start:								_		
	7:05								_		
	Stop:	0	0	0	NA				_		
	7:58								-		
	Total hrs	2									
	53 min								_		
Survey # 4	Date:				0			# Birds	Sex	UTM E	UTM
bserver(s).	6/28/2017							# Dirus	UCA	OTME	CINI
Steinman	Start:								_		
	5:55								_		
	Stop:	0	0	0	NA						
	6:45										
	Total hrs:										
	55 min								_		
Survey#5	Date:							# Birds	Sex	UTM E	UTM 1
bserver(s):	7/14/2017										
Steinman	Start:										
	7:06										
	Stop:	0	0	0	NA						
	7:52	2									
	Total hrs:										
	46 min										1
Overall Site St	ummary							ea			
otals do not equal the		Total Adult	Total Pairs	Total	Total Nests						
olumn. Include only to not include migran		Residents	Lotas Fall 5	Territories	Total Prests	Were any W	/IFLs color-banded?	Yes		No	
edglings.											
te careful not to doub adivi duala.	sle coont					If	yes, report color co	mbination(s)	in the con	uments	
fotal survey h	rs: 5.0	0	0	0	na		section on back of f				
eporting Indivi				Jeff Steinma			ate Report Complete		2010-04954(K)	9/30/2017	8

Willow Flycatcher (WIFL) Sur	vey and Detection Form	(revised April, 2010)
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Reporting Individual	Jef	f Steinman				Phone #	(4	15) 250-2692
Affiliation	Garcia and A	Associates				E-mail	jsteinman	@garciaandassociate
Site Name	Topock CA-5		_		Date report C	ompleted		9/30/2017
Was this site surveyed in a p		Unknown						
	ne is consistent with that used in pre	vious yrs?	Yes	x	- No		. N	ot Applicable
If name is different, what name		a						
	id you survey the same general area		Ycs_	x	and a second second	2.8.52	If no, summa	
Did you survey the same genera	al area during each visit to this site th	us year?	Yes_		No	x	If no, summa	rize below.
Management Authority for Surv	vey Area: Federal	x Municipal	/County		State		Tribal	Private
Name of Management Entity or	Owner (e.g., Tonto National Forest)			-	BLM		
Length of area surveyed:	152 meters		(km)					
	adleaf plants (entirely or almost entir ve and exotic plants (mostly native,							
	ve and exotic plants (mostly exotic, oduced plants (entirely or almost ent	50 - 90% exotic)					
Exotie/intr	oduced plants (entirely or almost ent	50 - 90% exotic irely, >90% exo) otie)					
Exotie/intr	oduced plants (entirely or almost ent	50 - 90% exotic irely, >90% exo ce. Use scientifi) otic) c name.	н				
Exotie/intr	oduced plants (entirely or almost ent	50 - 90% exotic irely, >90% exo) otic) c name.	ii				
Exotie/intr	oduced plants (entirely or almost ent	50 - 90% exotic irely, >90% exo ce. Use scientifi) otic) c name.	ii		(meters)		

Attach the following: 1) copy of USGS quad/topographical map (REQUIRED) of survey area, outlining survey site and location of WIFL detections;

2) sketch or aerial photo showing site location, patch shape, survey route, location of any detected WIFLs or their nests;

3) photos of the interior of the patch, exterior of the patch, and overall site. Describe any unique habitat features in Comments.

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features.

Attach additional sheets if necessary.

This area was severally damaged by the Topock Fire and Tamarisk leaf beetles.

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM E	UTM N	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)
	·					

USGS Quad	Name:	Whale M	Iountain				1	Elevation:	134	(meter	s)
Creek, River,			Colorado	River							-/
					nd WIFL	sightings attached (a	as required)?	Yes	X	No	
Survey Coord		Start:		729163	N	Testan and the fact	UTM	Datum:	83		tructions)
July Cool	difficiences.	Stop:		729249	- N		UTM	Zone:	11		addationsy
т	Fermionov					pordinates for each sur					
1	I survey coc	a dinates c	** U :11 :	addition	s, enter oc	information on b	vey in commen	is section c	IT DACK	or trus page.	
			I'mi	n uuuuioi	-	injormation on o	ack of this p	ige			
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 If Yes,	Comments (e.g., bird behavior breeding;-potential threats [liv Dtorhabda spp.]). If Dtorhab	estock, cowbirds, da found, contact	groups of bird	column for s found on	documenting indiv	
					number of nests	USFWS and State WIFL coor	dinator.	each survey).	Indude ad	ditional sheets if ne	cessary.
Survey # 1	Date:				incos			# Birds	Sex	UTM E	UTM
Abserver(s):	5/16/2017							# Dirus	Dex	OTME	CINT
Steinman	Start:							-			
	5:15								_		
	Stop:	0	0	0	NA			-			
	5:55										
	Total hrs:										
	40 min										
Survey # 2	Date:							# Birds	Sex	UTM E	UTM
Observer(3):	6/6/2017										
Steinman	Start:										
	5:05				12-21						
	Stop:	0	0	0	NA						
	5:40										
	Total hrs:										
	35 min				_						
Survey # 3	Date:							# Birds	Sex	UTM E	UTM
bserver(s):	6/21/2017								_		
Steinman	Start:								_		1
	6:25	0	0	0	NA						
	Stop:	825.03			STREET.						
	6:57	2									
	Total hrs: 32 min							-			_
Survey # 4	Date:							# Diada	6		1773 (3
but vey # 4 Ibserver(s).	6/30/2017							# Birds	Sex	UTM E	UTM
Steinman	Start:							-	_		
	6:19							-	_		
	Stop:	0	0	0	NA						
	6:58										
	Total hrs:							-			
	39 min										
Survey#5	Date:	-						# Birds	Sex	UTM E	UTM 1
/hserver(s):	7/13/2017										
Steinman	Start:										
	6:24	0	0	0	NA						
	Stop:		ŭ	0							
	6:55										
	Total hrs										
11	30min			-							
Overall Site Su otals do not equal the olumn. Include only to not include migrad	e sum of each readent adults.	Total Adult Residents	Total Pairs	Total Territories	Total Nests	Were any W	TFLs color-banded	? Yes		No	
edglings.	A							5		-	
te careful not to doub adivi duala.	ste coont	0	0	0		If	yes, report color co	mbination(s)	in the con	uments	
fotal survey h	rs: 3.0	U	U	U	na		section on back of	form and repo	rt to USF	WS.	
Reporting Indivi				Jeff Steinma	1	D:	ate Report Complet	ed:		9/30/2017	8
, analy		rmit#:		TE-085			Wildlife Agency Pe	579.52		CA -007801	

Willow Flycatche	r (WIFL) Survey	and Detection Form	(revised April, 2010)
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	ıl	Jeff Steinman			Phone #	ŧ(415) 250-2692
Affiliation		Garcia and Associates			E-mail	jsteinma	n@garciaandassociate
Site Name		k CA-6	_	Date	e report Complete	db	9/30/2017
	ved in a previous year? Ye is site name is consistent with			-	No		Not Applicable
3	hat name(s) was used in the		Yes	<u>x</u>	140		voc Applicable
	ist year, did you survey the sa		Yes	x	No	If no summ	narize below.
	me general area during each		Yes	x	No	-	narize below.
			-			-	
Management Authori			al/County	-	State	Tribal	Private
Name of Management	t Entity or Owner (e.g., Tonto	o National Forest)			BLM		
	N.						
		152 0	(Inna)				
Length of area survey	ed:	152.0	(km)				
		152.0 gory that best describes the pred		shrub foli	iar layer at this site:		
Vegetation Characteri	stics: Check (only one) cate	gory that best describes the pred	lominant tree/	shrub foli	iar layer at this site:		
Vegetation Characteri	stics: Check (only one) cate		lominant tree/	shrub foli	iar layer at this site:		
N	stics: Check (only one) cate	gory that best describes the pred	lominant tree/ tive)	shrub foli	iar layer at this site:		
Vegetation Characteri N	stics: Check (only one) cate lative broadleaf plants (entire lixed native and exotic plant	gory that best describes the pred ely or almost entirely, >90% na	lominant tree/ tive) /e)	shrub foli	iar layer at this site:		
Vegetation Characteri N X	stics: Check (only one) cate lative broadleaf plants (entire fixed native and exotic plant fixed native and exotic plant	gory that best describes the pred ely or almost entirely, > 90% na s (mostly native, 50 - 90% nativ s (mostly exotic, 50 - 90% exot	lominant tree/ tive) /e) ic)	shrub foli	iar layer at this site:		
Vegetation Characteri N X	stics: Check (only one) cate lative broadleaf plants (entire fixed native and exotic plant fixed native and exotic plant	gory that best describes the pred ely or almost entirely, > 90% na s (mostly native, 50 - 90% nativ	lominant tree/ tive) /e) ic)	shrub foli	iar layer at this site:		
Vegetation Characteri N N X K E	stics: Check (only one) cate fative broadleaf plants (entire fixed native and exotic plant fixed native and exotic plant totic/introduced plants (entir	gory that best describes the pred ely or almost entirely, > 90% na s (mostly native, 50 - 90% nativ s (mostly exotic, 50 - 90% exot	lominant tree/ tive) re) ic) xotic)	shrub foli	iar layer at this site:		
Vegetation Characteri N X X E	stics: Check (only one) cate fative broadleaf plants (entire fixed native and exotic plant fixed native and exotic plant totic/introduced plants (entir	gory that best describes the pred ely or almost entirely, > 90% na s (mostly native, 50 - 90% nativ s (mostly exotic, 50 - 90% exoti rely or almost entirely, > 90% ex	lominant tree/ tive) re) ic) xotic) fic name.		iar layer at this site:		
Vegetation Characteri N X K K K K K K K K K K K K K K K K K K	stics: Check (only one) cate fative broadleaf plants (entire fixed native and exotic plant fixed native and exotic plant totic/introduced plants (entir	gory that best describes the pred ely or almost entirely, > 90% na s (mostly native, 50 - 90% native s (mostly exotic, 50 - 90% exoti- rely or almost entirely, > 90% ex- order of dominance. Use scienti <u>Acacia gregit</u>	lominant tree/ tive) re) ic) xotic) fic name.		iar layer at this site:		

2) sketch or aerial photo showing site location, patch shape, survey route, location of any detected WIFLs or their nests;

3) photos of the interior of the patch, exterior of the patch, and overall site. Describe any unique habitat features in Comments.

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features.

Attach additional sheets if necessary. This area was not damaged by the Topock Fire but was damaged by the Tamarisk leaf beetles.

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM E	UTM N	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)
	0					

USGS Quad	Topock C Name:		Iountain			State: CA		Elevation:	1	rnardino (meter	s)
Creek, River,		-	Colorado	River				1			2
					nd WIFL	sightings attached (as required)?	Yes	X	No	
Survey Coord	1080	Start:		730283	N	The second s	UTM	Datum:	83		tructions)
50170y (5001	currences.	Stop:		730097	- N		UTM	Zone:	11		aractions)
т	farmentee					pordinates for each sur					
1	I survey coc	s dinates c	** U :11 :	a addition	s, enter co	information on b	rvey in commen	is section c	IT DACK	or this page.	
			- rui	n aaaano	nai sue	information on b	ack of this pe	ige			
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 If Yes, mumber of	Comments (e.g., bird behavior breeding; potential threats [liv Dioritabda spp.]]. If Dioritab USFWS and State WIFL coor	estock, cowbirds, vda found, contact	groups of birds	column for 5 found on	L Detections documenting indiv ditional sheets if ne	
	20.1				nests						
Survey # 1	Date:							# Birds	Sex	UTME	UTM
/bserver(s):	5/16/2017										
Steinman	Start:								_		
	7:50	0	0	0	NA						
	Stop:								_		
	8:20 Tetal hrs										
	30 min										
Survey # 2	Date:							# Birds	Sex	UTM E	UTM
Diserver(3):	6/9/2017							# DIUS	Jex	UIME	UTW1
Steinman	Start:								-		-
	6:30								-		
	Stop:	0	0	0	NA				_		
	7:05										
	Total hrs:										
	35 min										
Survey # 3	Date:			2				# Birds	Sex	UTM E	UTM
/bserver(s):	6/21/2017							· · · · · · · ·		·	
Steinman	Start:										
	8:10								_		1
	Stop:	0	0	0	NA						
	8:43										1
	Total hrs:										
	33 min				0						
Survey # 4	Date:							# Birds	Sex	UTM E	UTM 1
)bserver(s).	6/28/2017										
Steinman	Start:										
	5:06	0	0	0	NA						
	Stop:	1000		002	1.00000						<u></u>
	5:48 Total hrs										
	1 otal hrs: 42 min										
Survey#5	Date:			-				# Birds	Sex	UTME	UTM
haerver(s):	7/13/2017							# 0105	OGA	OTMES	OTM
Steinman	Start:										
	7:50										
	Stop:	0	0	0	NA						
	8:29										1
	Total hrs:										
	39 min										1
Overall Site St								а. — о			
otals do not equal th		Total Adult	Total Pairs	Total	Total Nests						
olumn. Include only to not include migrad		Residents	Long Lans	Territories	Lotal Lindle	Were any W	/IFLs color-banded	Yes		No	
edglings.	A										
e careful not to doub (divi duals.	sle coont	0	0	0		If	yes, report color co	mbination(s)	in the con	uments	
'otal survey h	rs: 3.0	U	0	0	0		section on back of f				
eporting Indivi				Jeff Steinma	1	n	ate Report Complete	ed:		9/30/2017	1

Willow Flycatcher (WIFL) Survey and Detection Form (revised Ap	ril, 2010)	0)
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Reporting Individual	Jeff Steinmar	E	Phone #	(415) 250-2692	
Affiliation	Garcia and Associates		E-mail	jsteinman@garciaandasso	ciate
Site Name	Topock CA-7		Date report Completed	9/30/2017	
Was this site surveyed in a		Second Cheve			
	me is consistent with that used in previous yrs?	Yes	No	Not Applicable	
If name is different, what name	···				
	did you survey the same general area this year?	Yes	No	If no, summarize below.	
Did you survey the same gener	ral area during each visit to this site this year?	Yes X	No	If no, summarize below.	
Management Authority for Sur	rvey Area: Federal Muni	cipal/County	State	Tribal Private	x
Name of Management Entity o	or Owner (e.g., Tonto National Forest)		PG&E		
length of area surveyed:	228 meters	(km)			
vegetation Characteristics: Ci	neck (only one) category that best describes the p	edominant tree/shrut	o foliar layer at this site:		
x Native bro x Mixed nat	badleaf plants (entirely or almost entirely, $>90\%$ tive and exotic plants (mostly native, 50 - 90% na tive and exotic plants (mostly native, 50 - 90% na tive and exotic plants (mostly exotic, 50 - 90% ex roduced plants (entirely or almost entirely, $>90\%$	native) tive) otic)	o foliar layer at this site:		
Native bro x Mixed nat Mixed nat Exotic/intr	coadleaf plants (entirely or almost entirely, > 90% tive and exotic plants (mostly native, 50 - 90% na tive and exotic plants (mostly exotic, 50 - 90% ex roduced plants (entirely or almost entirely, > 90% ree/shrub species in order of dominance. Use science	native) tive) otic) exotic) titlic name.	14000000000000000000000000000000000000		
Native bro x Mixed nat Mixed nat Exotic/intr	coadleaf plants (entirely or almost entirely, > 90% tive and exotic plants (mostly native, 50 - 90% na tive and exotic plants (mostly exotic, 50 - 90% ex roduced plants (entirely or almost entirely, > 90%	native) tive) otic) exotic) titlic name.	14000000000000000000000000000000000000		
Native bro x Mixed nat Mixed nat Exotic/intr	coadleaf plants (entirely or almost entirely, > 90% tive and exotic plants (mostly native, 50 - 90% na tive and exotic plants (mostly exotic, 50 - 90% ex roduced plants (entirely or almost entirely, > 90% ree/shrub species in order of dominance. Use sciet Salix Gooddingii, Aca	native) tive) otic) exotic) titlic name.	14000000000000000000000000000000000000		

Attach the following: 1) copy of USGS quad/topographical map (REQUIRED) of survey area, outlining survey site and location of WIFL detections;

2) sketch or aerial photo showing site location, patch shape, survey route, location of any detected WIFLs or their nests;

3) photos of the interior of the patch, exterior of the patch, and overall site. Describe any unique habitat features in Comments.

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features.

Attach additional sheets if necessary.

This area was damaged by the Tamarisk leaf beetles but not the Topock fire.

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM E	UTM N	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)
	·					

Appendix D

Incidental Species UTM Coordinates

Name	State	Easting	Northing
	Dete	ctions	
RIRA AZ1	AZ	730394	3844925
RIRA AZ3	AZ3 AZ		3844761
YEWA AZ5	AZ	731156	3845961
AZBV AZ1	AZ	729949	3845787
AZBV AZ3	AZ	730839	3844943
GBHE nest	AZ	731132	3845968