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# Survey for Southwestern Willow Flycatchers in 2005 Along Las Vegas Wash, Clark County, Nevada

Prepared for

**Southern Nevada Water Authority**

Prepared by

**SWCA Environmental Consultants**

January 2006



**SURVEY FOR  
SOUTHWESTERN WILLOW FLYCATCHERS  
ALONG LAS VEGAS WASH, CLARK COUNTY, NEVADA**

Submitted to

**Southern Nevada Water Authority, Resources Department**  
1900 East Flamingo, Suite 180  
Las Vegas, Nevada 89119  
(702) 862-3400

Submitted by

**SWCA Environmental Consultants**  
270 East 200 South, Suite 200  
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## EXECUTIVE SUMMARY

Systematic surveys for southwestern willow flycatchers (*Empidonax traillii extimus*) were conducted along Las Vegas Wash in Clark County, Nevada, from May through July, 2005. The survey techniques included playback recordings of the southwestern willow flycatcher in accordance with standardized survey protocol (Sogge et al. 1997). No flycatchers were detected during the surveys. However, one Yuma clapper rail (*Rallus longirostris yumanensis*) was detected on May 23.

Previous survey reports (SWCA 1999, 2000, 2001, 2002, 2003, 2004) have identified losses of potentially suitable flycatcher habitat due to lateral erosion within the active floodplain of the Las Vegas Wash. Habitat losses have continued into 2005 and were primarily associated with ongoing construction of erosion control weirs and bank stabilization structures within the survey area. The construction of these facilities and the continued development of the Las Vegas Wash Nature Center, while causing additional, incremental losses of tamarisk, are likely to lead to long-term improvements in potentially suitable flycatcher habitat, as well as potentially suitable rail and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) habitat. These improvements have already increased the extent of cattail marsh, which amounts to an improvement in rail habitat. However, over the last year this habitat type has become increasingly channelized in the Big Marsh area. Generally, improvements to the riparian habitat are most pronounced in areas where the construction of erosion control weirs has resulted in the creation of emergent marsh. For cuckoos and flycatchers, habitat improvements are likely to be most pronounced in areas that have been revegetated with native cottonwoods and willows.

## RECOMMENDED CITATION

SWCA Environmental Consultants. 2005. Survey for southwestern willow flycatchers along Las Vegas Wash, Clark County, Nevada. Prepared by SWCA Environmental Consultants, Salt Lake City. Final report prepared for the Southern Nevada Water Authority, Las Vegas.

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## 1.0 INTRODUCTION

This study was undertaken in order to further examine the breeding status of the federally endangered southwestern willow flycatcher (*Empidonax traillii extimus*; also referred to as flycatcher) along the Las Vegas Wash (Wash) in Clark County, Nevada. In 1997, as part of the environmental permitting process associated with the proposed development of the Clark County Wetlands Park (Park), it was recognized that potentially suitable southwestern willow flycatcher, Yuma clapper rail (*Rallus longirostris yumanensis*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) habitat existed along the Wash and could be affected by the installation of erosion control structures and other Park facilities. At that time, agency biologists recommended that a systematic survey be undertaken to determine whether or not these species breed within the Park boundary. Initial surveys for the flycatcher were conducted in 1998 (SWCA 1998), and follow-up surveys have been conducted every year, beginning in 1999 (SWCA 1999, 2000, 2001, 2002, 2003, 2004). Systematic surveys for the Yuma clapper rail and western yellow-billed cuckoo were initiated in 2000 and undertaken by San Bernardino County Museum. These surveys were repeated in 2001 (McKernan and Braden 2001, 2002) as well as 2002, 2003, and 2004 (SWCA 2002, 2003, 2004).

The results of the 2005 survey effort for the southwestern willow flycatcher are presented in this report. Western yellow-billed cuckoo and Yuma clapper rail surveys were not conducted in 2005. However, any incidental detections of these two species during the flycatcher surveys were recorded, as were any and all changes in their potential habitat since 2004.

The purpose of this report is twofold:

1. Document the results of the 2005 surveys with respect to the distribution and abundance of southwestern willow flycatchers in Las Vegas Wash, and
2. Qualitatively estimate the utility of existing and future potential habitat to nesting southwestern willow flycatchers and, to a lesser degree, Yuma clapper rails and western yellow-billed cuckoos.

## 2.0 STUDY AREA

The general study area for this survey consists of an approximately 405-ha (1,000-acre) portion of the Wash, dominated by tamarisk (*Tamarix* spp.; Bureau of Reclamation 1988) and contained within the boundaries of the Park (Figure 1). This area is spread along an 11-km (7-mile) reach of the Wash and includes portions of the City of Henderson, as well as private, county, Bureau of Land Management, and Bureau of Reclamation lands. The study area was defined in consultation with Clark County, the Bureau of Reclamation, the Southern Nevada Water Authority (SNWA), and the U.S. Fish and Wildlife Service (USFWS). It includes areas that could be affected by future construction of, and have been affected by past construction of, erosion and grade control structures and other activities associated with the development of the Park.

### 3.0 METHODS

#### 3.1 SOUTHWESTERN WILLOW FLYCATCHER

Within the general study area, flycatcher survey efforts focused on areas containing tamarisk and other species such as Fremont cottonwood (*Populus fremontii*) and Goodding willow (*Salix gooddingii*), which have the proper structure to be potentially suitable for use by flycatchers. For the purposes of the study, potentially suitable habitat was defined as dense woody riparian vegetation greater than 3.0 m (9.8 feet) in height with greater than 75% canopy cover. Areas dominated by desert scrub vegetation and other upland habitats known to be unsuitable for flycatchers were not surveyed as part of this effort.

Surveys for southwestern willow flycatchers were conducted from May through July, 2005, using a tape-recorded playback of flycatcher song and call notes (*fitz-bew* and *britt*) according to the standard protocol described by Sogge et al. (1997). The five-visit protocol described in Braden and McKernan (1998) and currently mandated by the USFWS was also used. The year 2005 was the fifth time that the five-visit protocol was required. Trained observers conducted five surveys of the study area in the three established survey periods: one survey each in the May 15-31 and June 1-21 periods, and three surveys within the June 22-July 17 period. Surveys in 2005 were conducted on the following dates: May 23-24, June 2-3, June 22-23, July 6-7 and July 11-12.

Surveys were initiated approximately 30 minutes before sunrise and were terminated by 10:00 a.m. (Pacific Daylight Time). Observers played tape recordings of flycatcher song at approximately 20-30-m (65-98-foot) intervals in potential flycatcher nesting habitat. Excluded from the surveys were extensive areas of dense cattail (*Typha* spp.), common reed (*Phragmites australis*), and quailbush (*Atriplex lentiformis*), stands of recently burned tamarisk, and large areas of tamarisk that exhibited low stature and less than 75% canopy cover. Survey routes (Figure 2) primarily followed the edges of dense riparian patches and were designed to permit efficient and effective coverage of as large an area as feasible. Survey routes also followed the water's edge; this was not always possible, especially in the portion of the Park downstream of Pabco Road, where the steep, eroded, and high (ca. 10-15 m, or 30-50 feet) banks of the Wash prevent access to the water's edge in some places. Surveys were conducted in this area by walking the "rim" of the Wash and broadcasting taped flycatcher song and call notes to the habitat below.

It should be noted that construction activities, while removing potentially suitable habitat in some locations, have also provided access to the active floodplain and improved our ability to survey these areas. Vegetation clearing has also allowed us to survey areas that formerly had been inaccessible due to impenetrable stands of tamarisk and/or quailbush.

#### 3.2 YUMA CLAPPER RAIL AND WESTERN YELLOW-BILLED CUCKOO DETECTION AND HABITAT OBSERVATIONS

No systematic surveys were done for Yuma clapper rails or western yellow-billed cuckoos in 2005. However, special care was taken to listen and look for these two species while surveying

for southwestern willow flycatchers. Additionally, qualitative observations of the habitat conditions for these two species were recorded.

## **4.0 RESULTS AND DISCUSSION**

### **4.1 SOUTHWESTERN WILLOW FLYCATCHER**

#### **4.1.1 RESULTS**

No flycatcher detections were made during the five 2005 surveys. Since no resident flycatchers were detected, the nest-searching protocol of Martin and Geupel (1993) was not initiated, and nest-monitoring activities were deemed unnecessary.

The detection of no flycatchers during the 2005 surveys, after 18 were detected in 2004, suggests that the 2005 surveys simply missed the migratory wave of flycatchers that may or may not have passed through the Wash en route to active breeding areas elsewhere. A migratory wave occurs as the bulk of a migratory population or species (or in this case, probably subspecies) rises and recedes with the peak of their passage (Pettingill 1970:274).

The 2005 southwestern willow flycatcher survey represents the eighth annual systematic survey for this species within the boundaries of the Park. During the 1998 survey, two flycatchers were detected during the first survey period at a point approximately 2.4 km (1.5 miles) downstream of Pabco Road. It was later concluded that these individuals were migrants due to the fact that they were detected only in the first of the three survey periods. In 1999 and 2001, no flycatchers were detected. Seven flycatchers were detected during the 2000 surveys. However, because no nesting behavior or activity was observed, and no flycatchers were detected on the third and final survey despite special care taken to search for the previously detected birds, all seven flycatcher detections were considered to be migrants. Two flycatchers were detected during both the 2002 and 2003 surveys. Again, these individuals were later concluded to be migrants. Eighteen flycatchers were detected in 2004 during the first survey period (May 18-19), and it was speculated that surveys had coincided with a migratory wave. Because no flycatchers were detected in the last four survey periods, all eighteen detections were later concluded to be migrants.

#### **4.1.2 OBSERVATIONS ON SUITABILITY OF EXISTING AND POTENTIAL FUTURE HABITAT**

Our qualitative observations of habitat conditions in spring and summer of 2005 indicate that the construction of erosion control weirs in the interval between the 2004 and 2005 survey periods has continued to substantially reduce the amount of potentially suitable flycatcher nesting habitat available along the Wash. Similar to previous years, the majority of the construction has occurred downstream in the lower one-third of the Wash. Additionally, the many areas that were burned between the 2001 and 2002 field seasons, eliminating nearly one-third of the potential flycatcher nesting habitat in the northeastern portion of the study area, have still not regenerated to the point of being suitable habitat.

Lateral erosion, although likely still occurring within portions of the active floodplain, has been minimized by the construction of lateral erosion control structures and was not observed to have had a major effect on flycatcher habitat in the last year. While lateral erosion will, in the short term, likely continue to result in the incremental loss of existing riparian habitat, the associated widening of the floodplain will tend to create more braided channels, abandoned meander loops, and isolated floodplain depressions over time. The creation of these habitat elements should eventually increase the extent of moist-soil and standing shallow-water habitats that are useful to flycatchers. It should be noted that development of this habitat tends to occur at the expense of the marginal flycatcher habitat associated with relict floodplains and old alluvial terraces located high above the active floodplain.

While lateral erosion of the floodplain can help to create substrate conditions favorable to the development of flycatcher habitat, this process is tempered by catastrophic flooding and vertical erosion (i.e., headcutting). To the extent that the existing erosion control structures dissipate floodwater energy (which, in turn, counters headcutting and lateral scour), future conditions should be more favorable for the development of suitable flycatcher habitat along this reach of the Wash. Erosion control structures recently installed at and above Pabco Road, where some potentially suitable habitat has begun to develop, will serve in the long term to increase the overall extent of these habitats and may eventually attract nesting southwestern willow flycatchers.

Another aspect of flycatcher habitat suitability, somewhat independent of vegetative structure, involves factors associated with other members of the Wash's avian community. True colonization of the study area by the southwestern willow flycatcher would eventually require successful reproduction. But breeding within the study area may prove difficult for southwestern willow flycatchers due to their susceptibility to brood parasitism by the brown-headed cowbird, which has been shown to significantly reduce nesting success in flycatchers (Brown 1994; Sogge et al. 1997; USFWS 1995). All eight flycatcher survey years have shown cowbirds to be abundant (more than 50 seen on a daily basis, see Appendix A), and one of the most common if not the most common bird found within the study area. In addition, the somewhat fragmented habitat, which presently is becoming more fragmented due to ongoing construction, fires and other activities, makes potential flycatcher nests more susceptible to this type of parasitism than they would be in habitats with more contiguous canopy coverage.

## ***4.2 YUMA CLAPPER RAIL AND WESTERN YELLOW-BILLED CUCKOO DETECTIONS AND HABITAT OBSERVATIONS***

### **4.2.1 RESULTS**

One Yuma clapper rail was detected during the 2005 southwestern willow flycatcher surveys. The Yuma clapper rail was detected May 23, 2005 at 0923 hours. The observer heard a continuous "kek kek-kek kek" call for roughly 3-4 minutes. The rail was never visually observed. The call was emanating from the area referred to as the Big Marsh (see Figure 1), which is generally thought to be the best rail habitat in the Park, in terms of both quality and quantity, though it is, at best, marginal. It is dominated by cattail, bulrush (*Scirpus* spp.), and common reed.

Information on the status of Yuma clapper rails along the Wash prior to 1998 is lacking. The 1998 flycatcher surveys resulted in Yuma clapper rail detections on May 28 and June 18, just upstream of Pabco Road (SWCA 1998). No rails have been detected within the boundaries of the Park since that time, despite the systematic surveys for this species that were carried out in 2000 and 2001 by San Bernardino County Museum (McKernan and Braden 2001, 2002) and in 2002, 2003, and 2004 by SWCA (SWCA 2002, 2003, 2004).

No migrant or resident western yellow-billed cuckoos were detected during the 2005 southwestern willow flycatcher surveys. Information on the status of the western yellow-billed cuckoo along the Wash prior to 1998 is lacking. In 1998, a western yellow-billed cuckoo was detected within what is now the Nature Center area (SWCA 1998). The 2000 and 2001 surveys (McKernan and Braden 2001, 2002) were the first systematic surveys for this species within the boundaries of the Park. No migrant or resident western yellow-billed cuckoos were detected during either of these surveys. SWCA continued the systematic surveys in 2002, 2003 and 2004, but no migrant or resident western yellow-billed cuckoos were detected in these years either (SWCA 2002, 2003, 2004).

#### **4.2.2 OBSERVATIONS ON SUITABILITY OF EXISTING AND POTENTIAL FUTURE HABITAT**

Our qualitative observations of habitat conditions in spring and summer 2005 indicate that the construction of erosion control structures has continued to increase the quantity of potential Yuma clapper rail habitat within the boundaries of the Park. However, the Big Marsh area has continued to become channelized, potentially reducing the quality of habitat within this area. With continued construction of erosion control weirs and/or growth of emergent marsh vegetation upstream of the weirs, we anticipate that potential Yuma clapper rail habitat will continue to increase in both extent and quality. However, channelization of these habitats could prove to be a continuing problem limiting the extent and/or longevity of potentially suitable Yuma clapper rail habitat. Presently, the Wash still provides only marginal habitat for nesting Yuma clapper rails due to the small patch sizes (less than 3.50 ha [8.75 acres]) and continued channelization of the area.

Potentially suitable Western yellow-billed cuckoo habitat along Las Vegas Wash appears to be of, at best, marginal quality and has not improved since the 2004 season. Although the cuckoo is known to use tamarisk in Arizona and New Mexico (Howe 1986; Corman and Magill 2000), the patch size and stature of the tamarisk presently within the Park appear suboptimal. In addition, some of the best potential western yellow-billed cuckoo habitat was destroyed by wildfire between the 2001 and 2002 surveys and still has not regenerated. The Park has good potential for developing suitable cuckoo habitat in the future, provided that revegetation efforts for cottonwood and willow are successful.

#### **4.3 RECOMMENDATIONS**

Eight consecutive years of intensive, systematic surveys for southwestern willow flycatchers along the Wash have not detected nesting flycatchers and, therefore, indicate an extremely low probability that the species is a regular breeding resident. However, there are three compelling

reasons to suggest that colonization of the Wash by southwestern willow flycatchers may occur in the near future. First, the 1998, 2000, 2002, 2003 and 2004 surveys detected flycatchers within the study area. Although these detections could represent part of a normal flycatcher migration pattern, it may be that flycatchers are adjusting their migratory route to take advantage of the riparian habitat in the Wash. If so, there would be an increased probability of the Wash being colonized by a migrant, wandering, or dispersing pair of southwestern willow flycatchers. Second, the erosion control weirs that are presently being installed will make the habitat more favorable to southwestern willow flycatchers, possibly providing further impetus for this species to stay in the area and nest. Third, there are three known, active flycatcher nesting areas within close proximity of the Las Vegas Wash: Mesquite, Nevada, approximately 81 km (50 miles) northeast of Las Vegas; Pahrnatagat, Nevada, approximately 122 km (75 miles) north-northeast of Las Vegas; and Mormon Mesa on the Virgin River, approximately 97 km (60 miles) east of Las Vegas. In the summer of 2005, there were 19 total southwestern willow flycatchers and 13 active nests in Mesquite. There were 37 total southwestern willow flycatchers and 21 active nests in Pahrnatagat and 14 southwestern willow flycatchers and 6 active nests in Mormon Mesa. Individuals from these populations have the potential to colonize the Wash.

These three factors suggest a strong potential for southwestern willow flycatchers to become breeding residents of Las Vegas Wash in the future. Consequently, SWCA recommends that SNWA continue conducting annual flycatcher surveys along the Wash. The purpose of the continued annual surveys would be to track when and where flycatcher colonization occurs and to help minimize and avoid impacts to this species if and when colonization does occur.

The detection of a single Yuma clapper rail during the 2005 southwestern willow flycatcher surveys and the fact that potentially suitable clapper rail habitat along the Wash has continued to increase in size over the past few years, suggests that if colonization by Yuma clapper rails has not taken place already, it has the potential to occur in the near future. Additionally, the recently installed erosion control weirs have created and will continue to create microhabitats more favorable to Yuma clapper rails, possibly providing further impetus for this species to colonize the area. SWCA recommends that SNWA reinstate annual rail surveys along the Wash. The purpose of future surveys would be to track when and where Yuma clapper rail colonization occurs and to help avoid or minimize impacts to this species if and when colonization does occur.

The western yellow-billed cuckoo does not seem likely to colonize the Wash in the near future. Although there was one detection of a western yellow-billed cuckoo in 1998 during the southwestern willow flycatcher surveys, existing habitat is still sparse and small in stature, compared to optimal cuckoo nesting habitat. Much of the Wash's best potential cuckoo habitat was destroyed by fire in 2002. However, enhancements presently being made at the Wash will eventually result in long-term cuckoo habitat improvements, as native cottonwoods and willows become established and mature. Thus, the likelihood that western yellow-billed cuckoos will colonize the area will increase over time but, at present, the habitat for such colonization does not exist. SWCA recommends that cuckoo surveys resume in three to five years, after cottonwood and Goodding willow-dominated riparian habitats have had a chance to fill in.

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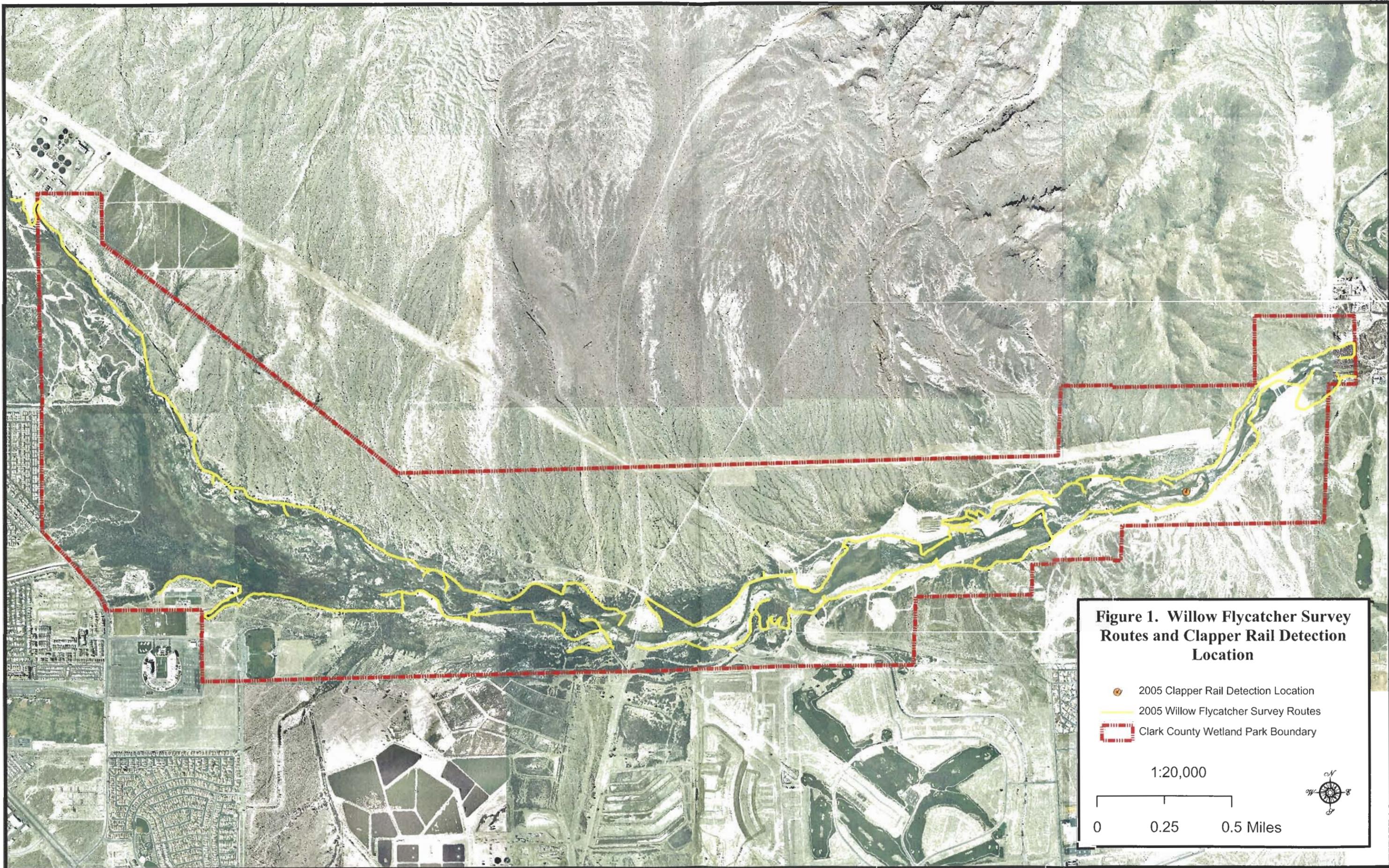
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## FIGURES

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## APPENDIX A: ANNOTATED CHECKLIST OF BIRD SPECIES DETECTED IN CLARK COUNTY WETLANDS PARK, MAY THROUGH JULY, 2005

This annotated checklist identifies the bird species that were detected along the Las Vegas Wash in Clark County Wetlands Park, Nevada, during surveys for southwestern willow flycatchers from late May through early July 2005. Presumed status is from Ryser (1985), Alcorn (1988), and/or our field observations. Relative abundance categories are modified after Phillips et al. (1964); abundance of a given species is based on our field observations. Common names and phylogenetic order conform to ornithological standards established by the American Ornithologists' Union (AOU 1998) and subsequent revisions.

### Presumed Status

- Resident (R) Species apparently occurs in the area throughout the spring and summer nesting season, probably nesting.
- Migrant (M) Species apparently passes through the area during migration, probably not nesting.
- Unknown (U) The presumed status is in question because insufficient information existed for evaluation of status.

### Relative Abundance

- Abundant (A) Species is easily detected in large numbers (50+) on a daily basis.
- Common (C) Species is easily detected on a daily basis, but not in large numbers (5-50).
- Fairly Common (FC) Species regularly detected in small numbers (2-4) on a daily basis.
- Uncommon (U) Species regularly detected in very small numbers, although not necessarily every day.
- Rare (R) Species detected irregularly in very small numbers.

Common Name	Scientific Name	Presumed Status	Relative Abundance
Pied-billed grebe	<i>Podilymbus podiceps</i>	R	R
Western grebe	<i>Aechmophorus occidentalis</i>	R	R
Double-crested cormorant	<i>Phalacrocorax auritus</i>	R	U
Great blue heron	<i>Ardea herodias</i>	R	FC
Great egret	<i>Ardea alba</i>	R	U
Snowy egret	<i>Egretta thula</i>	M	FC
Green heron	<i>Butorides virescens</i>	R	FC

Common Name	Scientific Name	Presumed Status	Relative Abundance
Black-crowned night-heron	<i>Nycticorax nycticorax</i>	R	FC
White-faced ibis	<i>Plegadis chihi</i>	M	U
Turkey vulture	<i>Cathartes aura</i>	R	R
Gadwall	<i>Anas strepera</i>	R	R
Mallard	<i>Anas platyrhynchos</i>	R	FC
Blue-winged teal	<i>Anas discors</i>	R	R
Cinnamon teal	<i>Anas cyanoptera</i>	R	R
Ruddy duck	<i>Oxyura jamaicensis</i>	R	R
Osprey	<i>Pandion haliaetus</i>	M	R
Red-tailed hawk	<i>Buteo jamaicensis</i>	R	R
American kestrel	<i>Falco sparverius</i>	R	R
Gambel's quail	<i>Callipepla gambelii</i>	R	C
Clapper rail	<i>Rallus logirostris</i>	R	R
Moorhen	<i>Gallinula chloropus</i>	R	U
American coot	<i>Fulica americana</i>	R	C
Killdeer	<i>Charadrius vociferus</i>	R	FC
Black-necked stilt	<i>Himantopus mexicanus</i>	M	R
Spotted sandpiper	<i>Actitis maculariaou</i>	R	FC
Baird's sandpiper	<i>Calidris bairdii</i>	R	R
American avocet	<i>Recurvirostra americana</i>	R	R
Greater yellowlegs	<i>Tringa melanoleuca</i>	R	R
Rock pigeon	<i>Columba livia</i>	R	R
White-winged dove	<i>Zenaida asiatica</i>	R	C
Mourning dove	<i>Zenaida macroura</i>	R	A
Greater roadrunner	<i>Geococcyx californianus</i>	R	U
Barn owl	<i>Tyto alba</i>	R	R
Great horned owl	<i>Bubo virginianus</i>	R	R
Lesser nighthawk	<i>Chordeiles acutipennis</i>	R	FC
White-throated swift	<i>Aeronautes saxatalis</i>	R	FC
Black-chinned hummingbird	<i>Archilochus alexandri</i>	R	C
Broad-tailed hummingbird	<i>Selasphorus platycercus</i>	R	R
Black phoebe	<i>Sayornis nigricans</i>	R	FC
Say's phoebe	<i>Sayornis saya</i>	R	U
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>	R	FC
Western kingbird	<i>Tyrannus verticalis</i>	R	U
Loggerhead shrike	<i>Lanius ludovicianus</i>	R	R

Common Name	Scientific Name	Presumed Status	Relative Abundance
Bell's vireo	<i>Vireo bellii</i>	R	R
Common raven	<i>Corvus corax</i>	R	U
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>	R	A
Cliff swallow	<i>Petrochelidon pyrrhonota</i>	R	R
Verdin	<i>Auriparus flaviceps</i>	R	C
Bushtit	<i>Psaltriparus minimus</i>	M	R
Canyon wren	<i>Catherpes mexicanus</i>	R	R
Bewick's wren	<i>Thryomanes bewickii</i>	R	A
Marsh wren	<i>Cistothorus palustris</i>	R	C
Blue-gray gnatcatcher	<i>Polioptila caerulea</i>	R	U
Black-tailed gnatcatcher	<i>Polioptila melanura</i>	R	C
Northern mockingbird	<i>Mimus polyglottos</i>	R	U
Crissal thrasher	<i>Toxostoma crissale</i>	R	R
LeConte's thrasher	<i>Toxostoma lecontei</i>	R	R
Phainopepla	<i>Phainopepla nitens</i>	R	R
Lucy's warbler	<i>Vermivora luciae</i>	R	C
Yellow warbler	<i>Dendroica petechia</i>	R	FC
Common yellowthroat	<i>Geothlypis trichas</i>	R	C
Yellow-breasted chat	<i>Icteria virens</i>	R	C
Abert's towhee	<i>Pipilo aberti</i>	R	C
Song sparrow	<i>Melospiza melodia</i>	R	C
Black-headed grosbeak	<i>Pheucticus melanocephalus</i>	R	R
Blue grosbeak	<i>Passerina caerulea</i>	R	C
Red-winged blackbird	<i>Agelaius phoeniceus</i>	R	C
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	R	FC
Great-tailed grackle	<i>Quiscalus mexicanus</i>	R	C
Brown-headed cowbird	<i>Molothrus ater</i>	R	A
House finch	<i>Carpodacus mexicanus</i>	R	U

**APPENDIX B: FLYCATCHER SURVEY AND DETECTION FORM SENT TO ARIZONA PARTNERS IN FLIGHT, SOUTHWESTERN WILLOW FLYCATCHER SURVEY COORDINATOR**

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**Willow Flycatcher Survey and Detection Form (rev. 4/97)**

Site Name Las Vegas Wash, Nevada Was site surveyed in previous year?  Yes  No  
 If yes, what site name was used? same

County Clark Co. State NV USGS Quad Name Las Vegas SE; Henderson

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

Coordinates start: N 3998000 E 677500  
 Coordinates stop: N 3997000 E 685300 Lat Long / Township-Range UTM (circle one)  
 Elevation 1664-1460 (feet) meters (circle one) Datum: NAD27  
 Zone: 11

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

Survey # Observer(s)	Date (m/d/y) Survey time	Number of WIFLs Found	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N	Cowbirds Detected? Y or N	Comments about this survey (e.g., evidence of pairs or breeding, number of nests, nest contents, potential threats, cowbird abundance, presence of livestock, etc.)
1 <u>Bryan Brown</u> <u>Thomas Sharp</u>	date <u>5/23-24/05</u> start <u>0515</u> stop <u>0945</u> total hrs _____	0	0	0	N	Y	
2 <u>Bryan Brown</u> <u>Thomas Sharp</u> <u>James McMillan</u>	date <u>6/2-3/05</u> start <u>0500</u> stop <u>0930</u> total hrs _____	0	0	0	N	Y	
3 <u>Thomas Sharp</u> <u>Spencer Martin</u> <u>James McMillan</u>	date <u>6/22-23/05</u> start <u>0500</u> stop <u>0930</u> total hrs _____	0	0	0	N	Y	
4 <u>Thomas Sharp</u> <u>Robert Wilson</u>	date <u>7/6-7/05</u> start <u>0500</u> stop <u>0930</u> total hrs _____	0	0	0	N	Y	
5 <u>Thomas Sharp</u> <u>Robert Wilson</u>	date <u>7/11-12/05</u> start <u>0500</u> stop <u>0930</u> total hrs _____	0	0	0	N	Y	
Overall Summary	Total survey hrs <u>54.0</u>	0	0	0	N	Y	Were any WIFLs color-banded? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <small>If yes, report color combination(s) in the comments section on back of form</small>

Name of Reporting Individual Bryan Brown Date Report Completed 9/22/05

**Submit the original of this form. Retain a copy for your records.**

Fill in the following information completely. Submit original form. Retain copy for your records.

Name of Reporting Individual Bryan Brown Phone # 301.322.4307

Affiliation SWCA Environmental Consultants Email bbrown@swca.com

Site Name Las Vegas Wash, Nevada

Did you verify that this site name is consistent with that used in previous years?  Yes  No (circle one)  
(also referred to in past as "Clark Co. Wetlands Park")

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

Name of Management Entity or Owner (e.g., Tonto National Forest) Clark Co. Parks and Recreation Dept.

Length of area surveyed: 6 mi (specify units, e.g., miles = mi, kilometers = km, meters = m)

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

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

- Native broadleaf plants (entirely or almost entirely)  Mixed native and exotic plants (mostly native)  
 Mixed native and exotic plants (mostly exotic)  Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: tamarisk, coyote willow

Average height of canopy: 5 m (specify units)

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

Distance from the site to surface water or saturated soil: 0-100 m (specify units)

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

Remember to attach a xerox copy of a USGS quad/topographical map (REQUIRED) of the survey area, noting the survey site and location of WIFL detections. You may also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map.

Comments (attach additional sheets if necessary): Revegetation and restoration activities ongoing.

**APPENDIX C: SWCA PERSONNEL CONDUCTING THE 2005 STUDY**

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Project Manager .....R. Spencer Martin, M.E.M.  
Project Scientist ..... Bryan T. Brown, Ph.D.  
Field Coordinator ..... Thomas Sharp, M.S.  
Field Ornithologist ..... James McMillan, M.S.  
Field Ornithologist ..... Robert Wilson, M.S.