



**Southwestern Willow  
Flycatcher and Yellow-  
billed Cuckoo Surveys  
along Las Vegas Wash,  
Clark County, Nevada, 2023**



SOUTHERN NEVADA  
WATER AUTHORITY®



LVWCC

**Southwestern Willow Flycatcher and Yellow-billed Cuckoo  
Surveys along Las Vegas Wash, Clark County, Nevada, 2023**

**SOUTHERN NEVADA WATER AUTHORITY  
Las Vegas Wash Project Coordination Team**

Prepared for:

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**and**

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## ABSTRACT

The Las Vegas Wash Coordination Committee is working to stabilize and enhance the Las Vegas Wash. During section 7 consultation under the Endangered Species Act (ESA), the U.S. Fish and Wildlife Service (USFWS) determined the project may affect but was unlikely to adversely affect the endangered southwestern willow flycatcher (*Empidonax traillii extimus*) and the threatened yellow-billed cuckoo (*Coccyzus americanus*) and recommended conducting annual breeding surveys. USFWS changed their effects determinations for both species to no effect in 2019. The annual surveys continue in support of the Las Vegas Wash Wildlife Management Plan (WMP). This report describes 2023 survey results.

Field personnel identified a record four southwestern willow flycatchers on three territories, including three pairs that nested. Five of six nest attempts failed but the final nest produced three nestlings. These were banded, and one was visually confirmed to have fledged, a first in more than 25 years of surveys, and a major program milestone. The territories were in native-dominated habitat that passively established above Historic Lateral Weir, an erosion control structure that was reconstructed and expanded in 2018. Field crews detected a record five yellow-billed cuckoos, including two probable breeding territories. One territory was in revegetation sites on the north and south banks upstream of Historic Lateral Weir and the other was in a revegetation site on the south bank upstream of Bostick Weir.

Habitat extent remained about the same for both species, but surveys at some poor-quality areas were discontinued for the flycatcher. Habitat quality remained about the same overall as improvements in some areas were offset by degradation in others. Given the changed breeding status of the flycatcher, section 7 consultation was reinitiated with USFWS. Annual surveys for both species should continue in support of the WMP and expected avoidance and minimization measures.

## ACKNOWLEDGMENTS

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## 1.0 BACKGROUND

The Las Vegas Wash (Wash) is the primary drainage channel for the Las Vegas Valley in Clark County, Nevada, USA. It carries highly treated wastewater, urban runoff, shallow groundwater, and storm runoff into Lake Mead at Las Vegas Bay (Figure 1). Although historically an ephemeral stream, the Wash began supporting perennial flows in the 1950s when the discharge of treated wastewater into the channel was initiated. At first, these perennial flows created a lush wetland along the channel. However, the volume of flows in the Wash continued to increase with the increasing urban population. Increased flows and storm events led to greater erosion, which began to drain the wetlands and carry thousands of tons of sediment to Lake Mead. By the late 1990s, headcutting had deeply incised the channel and reduced wetlands by approximately 90% from their peak extent, leaving less than 80 hectares.



**Figure 1. Las Vegas Wash location and general study area map.**

In 1998, the Las Vegas Wash Coordination Committee (LVWCC), a 28-member stakeholder group, was created to address the degradation of the Wash. The group developed and implemented the Las Vegas Wash Comprehensive Adaptive Management Plan (LVWCC 2000) to stabilize the Wash and restore its ecological functions. Stabilization and enhancement activities included the installation of 21 erosion control structures (i.e., weirs) and more than 245 hectares of revegetation to help deter further erosion and reduce the amount of sediment being deposited in Lake Mead.

The capital improvements phase of the project was completed in June 2022, and activities continue under the direction of the Las Vegas Wash Long-Term Operating Plan (LTOP; LVWCC 2020).

Weir construction has impacted habitat at the Wash. Vegetation was cleared from each site to allow for vehicle access and for the footprint of the weir itself. Especially in the early years of the project, much of the vegetation present at each site was non-native tamarisk (*Tamarix ramosissima*). Once construction was complete, revegetation with native wetland, riparian and upland plants occurred, with plant selection dictated by site conditions. The Wash flows through the Clark County Wetlands Park (Wetlands Park), and Clark County has also removed tamarisk and planted mesquite trees and riparian and wetland vegetation within the study area. These habitat changes may affect federally listed bird species.

In 2000, the U.S. Army Corps of Engineers initiated informal section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) on the proposed development of the Wetlands Park and associated erosion control structures to ensure compliance with the Endangered Species Act (ESA). The USFWS concurred that the project may affect but was unlikely to adversely affect the southwestern willow flycatcher (*Empidonax traillii extimus*), a federally endangered songbird, and recommended that annual surveys continue to be conducted. These surveys have been carried out since 1998, first by permitted consultants (Southwest Wetlands Consortium 1998; SWCA Environmental Consultants [SWCA] 1999, 2000, 2001, 2002, 2003, 2005, 2006, 2007, 2008, 2009a, 2009b) and then by permitted staff from the Las Vegas Wash Project Coordination Team (Wash Team), the implementation arm of the LVWCC (Van Dooremolen 2010, 2011, 2012, 2014a, 2014b, 2015a, 2016a, 2018a, 2018b, 2019, 2021; Van Dooremolen et al. 2022, 2023).

The southwestern willow flycatcher is a small neotropical migrant that breeds in riparian habitat in the Southwest and is an endangered subspecies of the willow flycatcher. It historically preferred dense willow (*Salix* spp.) habitat throughout its range, but as this habitat declined in the 20<sup>th</sup> century, the southwestern willow flycatcher adapted to the non-native tamarisk that had largely replaced its preferred habitat.

A yellow-billed cuckoo (*Coccyzus americanus*) was detected during the 1998 southwestern willow flycatcher surveys (Southwest Wetlands Consortium 1998). The yellow-billed cuckoo is a neotropical migrant that breeds extensively throughout eastern North America, but the western distinct population segment (DPS) of the species has a much more limited breeding distribution and prefers expansive riparian woodlands with cottonwood, willow and mesquite. The USFWS determined that the western DPS was a candidate for listing under the ESA in 2001 and listed the DPS as threatened in 2014.

From 2002 through 2004, contractors conducted annual cuckoo surveys in the Wetlands Park; none were found, and they were discontinued due to limited habitat availability (SWCA 2002, 2003, 2005). In 2013, following a substantial increase in potentially suitable nesting habitat, the Wash Team began conducting the surveys (Van Dooremolen 2014c, 2014d, 2015b, 2016b, 2017, 2018b, 2019, 2021; Van Dooremolen et al. 2022, 2023). Following the listing of the species, the Bureau of Reclamation (BOR) reinitiated informal section 7 consultation with the USFWS, who concurred that the weir project may affect but was unlikely to adversely affect the yellow-billed cuckoo and recommended that annual surveys continue to be conducted.



The section 7 consultation effects determinations were changed from may affect, not likely to adversely affect to no effect in 2019. The surveys for both species continue in support of the Las Vegas Wash Wildlife Management Plan (WMP; Shanahan et al. 2008). This document reports the results from the 2023 surveys.

## 2.0 METHODS

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### 2.1 Study Area

Surveys for the endangered southwestern willow flycatcher and yellow-billed cuckoo were conducted in Clark County, Nevada (Figure 1). The general study area consists of the Wetlands Park and an approximately nine-kilometer reach of the Wash contained within its boundaries. Two survey sites were identified: the Wetlands Park Nature Preserve (Nature Preserve) and the Wash.

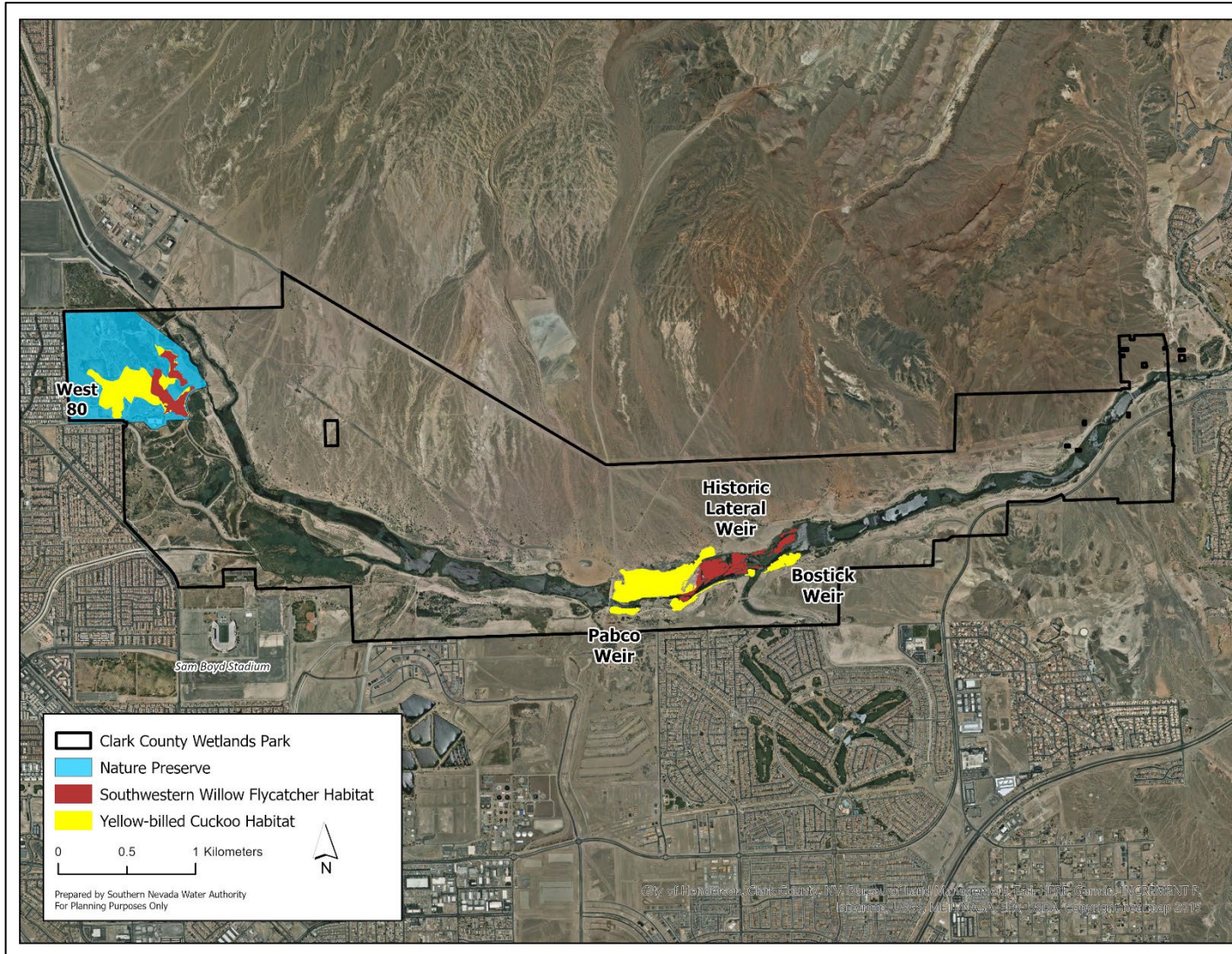
#### 2.1.1 Nature Preserve

The Nature Preserve (Figure 2) is the developed heart of the Wetlands Park. Native-dominated riparian habitat surrounds wetland ponds constructed in the early 2000s—the upper pond, three middle ponds and Vern’s Pond—and lines the channels that run between them. Emergent vegetation, including cattails (*Typha domingensis*), common reed (*Phragmites australis*) and bulrush (*Schoenoplectus* spp.), occurs in the wetter portions of the understory. The densest and widest riparian patches occur along the channels; the density and width of the habitat ringing the ponds is generally thinner. A grove of cottonwoods (*Populus fremontii*) just south of the middle ponds transitions to an overstory of Goodding’s willows (*Salix gooddingii*) with a few cottonwoods interspersed and a dense understory of sandbar willows (*S. exigua*) and willow baccharis (*Baccharis salicina*). The patches of riparian habitat are connected by large areas of dry common reed and by mature honey and screwbean mesquite (*Prosopis glandulosa* and *P. pubescens*), occurring either with quailbush (*Atriplex lentiformis*) and willow baccharis in the understory or in thickets. Mesquite trees of various maturity with a saltgrass (*Distichlis spicata*) understory cover much of the area between the original ponds and the West 80, which was constructed several years later. In the West 80, the riparian habitat surrounding the channels and ponds is narrower and more sporadic.

In 2023, field crews surveyed 5.6 hectares of potentially suitable habitat for the southwestern willow flycatcher and 15.9 hectares for the yellow-billed cuckoo at this site.

#### 2.1.2 Wash

The majority of potentially suitable habitat along the Wash is concentrated in the area from Pabco Weir to Bostick Weir (Figure 2). Patches of native-dominated riparian habitat occur on both banks and on islands within the channel, consisting of cottonwood, Goodding’s willow, sandbar willow, some seep willow (*B. salicifolia*), willow baccharis, and tamarisk. Cattails, common reed, and to a lesser extent bulrush, occur in the wetter portions of the understory. Patches of mesquite, both screwbean and honey (often with quailbush or baccharis in the understory) border and connect the riparian habitat. Further downstream, there is little to no potentially suitable riparian or mesquite habitat.



**Figure 2. Southwestern willow flycatcher and yellow-billed cuckoo habitat surveyed in 2023.**

In 2023, field crews surveyed 6.0 hectares of potentially suitable habitat for the southwestern willow flycatcher and 22.1 hectares for the yellow-billed cuckoo at this site.

## **2.2 Potentially Suitable Nesting Habitat**

### **2.2.1 Southwestern Willow Flycatcher**

Potentially suitable nesting habitat for the southwestern willow flycatcher is defined as areas with dense to moderately dense riparian vegetation, either bordering or containing surface water or saturated soils. Native riparian species include Goodding’s willow, sandbar willow, cottonwood, seep willow and willow baccharis. Tamarisk is the dominant non-native species, although little remains along the Wash. Small patch sizes (less than a hectare) are included.

### **2.2.2 Yellow-billed Cuckoo**

Potentially suitable nesting habitat for the yellow-billed cuckoo is defined as patches of native riparian vegetation with at least some large overstory trees, such as cottonwood and Goodding’s willow. The understory layer typically has sandbar willow, seep willow and/or willow baccharis. Screwbean and honey mesquite thickets of suitable stature are also included. No monotypic stands of tamarisk were surveyed as the species typically does not nest in them (Halterman et al. 2016), and again, little tamarisk is left along the channel. Patch size is also important. Halterman et al. (2016) recommend a minimum patch size for surveying of five hectares but state that yellow-billed cuckoos rarely nest in patches smaller than 20 hectares.

## **2.3 Surveys**

### **2.3.1 Southwestern Willow Flycatcher**

Field crews conducted surveys for the flycatcher using the presence/absence protocol developed by Sogge et al. (2010). A team of two people composed of a minimum of one of the following permitted individuals—Deborah Van Dooremolen, Nicholas Rice or Timothy Ricks—surveyed each route. Crews used the three-survey general protocol, which includes one survey in each of three survey periods (May 15–31, June 1–24 and June 25–July 17), conducting the 2023 surveys on May 23–24, June 8 and June 27–28. Prior to 2018, surveys were conducted using the five-survey project-related protocol. USFWS approved the change in survey effort in April 2018 (File No. 08ENVS00-2018-I-0102 and 1-5-01-I-428.AMDI).

The southwestern subspecies is the only willow flycatcher that nests in southern Nevada. However, other non-listed subspecies of the willow flycatcher may pass through the area during migration, and the different subspecies are virtually indistinguishable in the field. Birds discovered during the first and second survey periods may simply be migrating through and cannot be determined to be of the federally endangered subspecies. The third survey period (June 25–July 17) begins after the known migration period, so any willow flycatchers detected then can be considered residents, and thus of the southwestern subspecies (Sogge et al. 2010).

Field crews began surveys in the hour before sunrise and were typically finished by 10:30 a.m. Call playback of the species’ song (fitz-bew) was used to elicit responses from any nearby willow flycatchers. Crews walked through potentially suitable nesting habitat broadcasting approximately every 20–30 meters following a period of silent listening. Vocalizations were broadcast for approximately 15 seconds at each stop, followed by 1–2 minutes of listening for a response. If a

bird was detected, the surveyors would travel a minimum of 50 meters before calling again to prevent the individual from being double-counted. Broadcasts were conducted from inside habitat patches where possible but occasionally had to occur from the habitat edge due to concerns regarding safe access.

### **2.3.2 Yellow-billed Cuckoo**

Field crews conducted presence/absence surveys for the cuckoo using the protocol drafted by Halterman et al. (2016). The protocol identifies three survey periods from mid-June through mid-August and requires four surveys across those periods, with one survey in the first period (June 15–30), two surveys in the second (July 1–31), and one survey in the third (August 1–15). Observers conducted the 2023 surveys on June 20–21, July 5–6, July 18–19 and August 2–3. A team of 2–3 people surveyed each transect, and the team included at least one of the previously listed permitted individuals.

Field staff began surveys just before sunrise and completed them by 11:00 a.m. or when the temperature reached 40°C, whichever came first. Call playback was used. Within each transect, broadcasts were conducted every 100 meters; points on adjacent transects were likewise separated to prevent double counting. At each broadcast point, the survey team would listen quietly for approximately one minute, and then, if no cuckoos were heard, they would broadcast five of the species' contact calls (the kowlp call), with each call separated by one minute. If a bird was detected, the surveyors would move 300 meters along the transect before broadcasting again to prevent the individual from following the broadcast and being counted more than once.

The protocol established a method for determining the breeding implications of survey results. Two detections in an area in two different survey periods separated by at least 10 days is a possible breeding territory. Three detections in an area in three different survey periods, with each separated by at least 10 days, is a probable breeding territory. Field staff must observe copulation, stick carry to nest, carrying food (multiple observations), distraction display(s), the nest or fledgling(s) to confirm breeding.

## **3.0 RESULTS**

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Specific locations are withheld to protect the species.

### **3.1 Surveys**

#### **3.1.1 Southwestern Willow Flycatcher**

Field personnel detected a record four resident southwestern willow flycatchers, comprising three territories and three pairs, in the passively established, native-dominated habitat above Historic Lateral Weir (Figure 2). No migrants were reported. SWCA carried out nest searching and monitoring, as well as banding and resights of the flycatchers (S. Nichols, pers. comm.). Territory numbers follow females for nesting.

##### **3.1.1.1 Territory 1**

The Territory 1 (T1) female was polyandrous with two males and made three confirmed nest attempts, one of which was successful.

- May 24: Wash Team staff detected the male counter-singing with the male from Territory 2 (T2).
- May 31: SWCA found the male to be polygynous with two females (see Section 3.1.1.3 for information on his second territory). SWCA located a potential nest with one cowbird egg (*Molothrus ater*; a known brood parasite) in it, but this nest was not confirmed as theirs. Pair interactions occurred near last year's nest, as well as about 15 meters to the east.
- June 12: field staff confirmed a different nest than the one observed on May 31 as the A nest (letters distinguish nest attempts); SWCA poled the nest and it contained one flycatcher egg.
- June 27: the A nest was no longer in the tree, and SWCA located the B nest, which contained four flycatcher eggs.
- July 7: the B nest was found empty on the ground, and field staff located the C nest, which was about 80% complete.
- July 18: SWCA conjectured that the female had moved on from the T1 A–B male and paired with the previously single male from T2 (see Section 3.1.1.2) for her third nest attempt (C) when the T2 male was caught while trying for the female near the C nest.
- July 30: Three young nestlings were found in the nest.
- August 4: SWCA banded the nestlings and resighted the male paired with the T1 female and confirmed that the T1 C male was the formerly single T2 male.
- August 9: Field staff found the nest empty and observed the youngest bird about five meters from the nest; the two older nestlings were not located. Consequently, only the one was confirmed to have fledged, but the other two may have simply been exhibiting greater independence and/or were further afield.

The T1 female was unbanded; efforts were made to capture and band her but were unsuccessful. SWCA resighted the T1 A–B male as an individual they first banded on the Lower Las Vegas Wash (Lower Wash) on June 23, 2021, where he nested successfully, fledging at least one young. He was found during surveys to determine the species' status in the reach below the Lake Las Vegas dam (SWCA 2022). In 2023, despite pairing with two females and having five nest attempts (see Section 3.1.1.3), he did not fledge any young. SWCA caught and banded the T1 C male on May 31, 2023. SWCA banded the three T1 C nestlings at 7–9-days old on August 4, 2023.

### **3.1.1.2 Territory 2 (T2)**

The T2 male was single until he paired with the T1 female for her third (C) nest.

- May 24: Wash Team staff detected the male counter-singing with the T1 male.
- May 31: SWCA heard the male singing and noted that he still appeared to be unpaired.

- June 12: Wash Team and SWCA field staff heard whitts and weeoos, which can indicate pairing and a nest, from the T2 male, but did not identify a second bird in the territory.
- June 27: SWCA heard the T2 male counter-singing vigorously with the T3 male.
- July 7: the T2 male was no longer singing and could not be located.
- July 18: the T2 male was caught while trying for the T1 female at her C nest. See Section 3.1.1.1 for further details.

### 3.1.1.3 Territory 3

This pair made at least three nest attempts together, all of which failed.

- May 31: SWCA identified the pair in Territory 3 (T3) during follow-up monitoring for T1 and T2 and located the A nest; it was approximately 15% complete.
- June 12: SWCA found one willow flycatcher egg and one brown-headed cowbird egg in the A nest and observed that the nest looked disheveled, like the female might be dismantling it to build another nest in the area. SWCA replaced the cowbird egg with a fake one. SWCA walked around on both sides of the water, and heard whitts on the opposite side as well as up to 40 meters southwest of the nest and relocated the nest found on the May 31 visit to T1 that held only one cowbird egg; it also looked messy. SWCA conjectured that the nest may actually have belonged to T3 and that the A nest containing the willow flycatcher egg could possibly be the female's second nest attempt already.
- June 27: SWCA confirmed that the A nest had failed and found the B nest; it appeared to be complete but was empty.
- July 7: SWCA found the B nest looking disheveled with the bottom pulled up and small eggshell fragments beneath it. The C nest was located, and it contained two willow flycatcher eggs.
- July 18: SWCA quickly poled the nest and confirmed it to contain three flycatcher eggs.
- July 30: SWCA found the nest empty, but in good condition, with nothing to indicate the cause of failure.

See Section 3.1.1.1 for banding information on the T3 male. SWCA caught and banded the female on May 31, 2023.

### 3.1.2 Yellow-billed Cuckoo

Field crews made 11 detections of a record five individuals, including two probable breeding territories. Staff identified a probable cuckoo breeding territory upstream of Historic Lateral Weir and in the Upstream Bostick South (UBS) revegetation site, with detections on the following dates: June 7 (during flycatcher surveys), June 21, July 6 and July 7 (during flycatcher territory monitoring). All detections were of one individual with the exception of June 21 when field personnel detected three cuckoos in the Cottonwood Cell/Site 111 area on the north bank upstream

of Historic Lateral Weir. In addition, the field crew heard one cuckoo in the West 80 portion of the Nature Preserve on June 20. All cuckoos but one gave the contact call either spontaneously or in response to survey broadcast. On June 21, one of the three birds upstream of Historic Lateral Weir coo'd in response to the broadcast. Also that day, the field crew observed a cuckoo in each of the breeding territories sitting in a cottonwood.

Detections for the Historic Lateral Weir area territory were more spread out, with detections in passive and active revegetation sites on the north and south banks ranging up to about 330 meters apart, while the UBS territory detections were only at most about 150 meters apart.

### 3.3 Habitat Observations

#### 3.3.1 Nature Preserve

Habitat extent and quality were similar overall to 2022 for both species, with gains from fire recovery offset by continued degradation of mature habitat. For the flycatcher; field staff again deemed the West 80 unsuitable for the species due to the limited nature and poor quality of its riparian habitat. The portion of Monson Channel bordering the preserve, that had previously been called for the flycatcher, was also not surveyed; the thin stringer of poor-quality tamarisk had a few migrant detections in past years, the last of which was in 2019 (Van Dooremolen 2019). Habitat quality has declined further with repeated defoliations by the tamarisk beetle (*Diorhabda elongata*).

Fires have impacted both riparian and mesquite habitat in recent years. This has reduced both the extent and quality of habitat particularly for the cuckoo, decreasing cover and connectivity. Field crews did note extensive regrowth of riparian and mesquite trees in burn areas in 2023. The West 80 is more suitable for the cuckoo than the flycatcher due to its mesquite cover; although, habitat quality appears marginal. Still, it had the only Nature Preserve cuckoo detection in 2023, so surveys will continue there for the species.

Older native riparian trees continued to show signs of stress and die-off. In 2023, this was predominantly noted in what had been some of the highest quality riparian habitat in the preserve, at the southern end of the riparian zone stretching south along the feeder channel from the middle ponds to Vern's Pond. This area hosted a southwestern willow flycatcher territory in 2013 (Van Dooremolen 2014a) when the location had a dense multi-layered willow canopy. The canopy has opened significantly, negatively impacting its suitability, particularly for the flycatcher.

#### 3.3.2 Wash

Habitat extent and quality remained about the same as in 2022 for both species; similar to the Nature Preserve, however, there were gains and losses that counterbalanced each other. Detracting from habitat, the extensive die-back of Goodding's willows downstream of Pabco Weir on the south bank worsened to the point where the site now provides little potential habitat for the flycatcher or cuckoo. What few trees remain are largely snags and there is extensive weed cover. This had been one of the best patches of riparian habitat on the Wash and the site of a probable cuckoo breeding territory in 2017 (Van Dooremolen 2017).

Contributing to habitat along the Wash, the riparian islands that formed in the impoundment of Historic Lateral Weir following its reconstruction and expansion in 2018 continued to mature, offering high-quality habitat for both species. In the overstory, five-plus-meter tall Goodding's willows and cottonwoods are dominant and have spread along adjacent banks, and there is sandbar willow, tamarisk and cattails, among others, in the understory. The site hosted a record three southwestern willow flycatcher territories in 2023 and the first known successful nest in the study area. Additionally, the area was part of a probable cuckoo breeding territory. Riparian habitat on and immediately downstream of Historic Lateral Weir also expanded.

Looking to the future, the habitat picture should improve. Sites dominated by mesquite will continue to mature, improving their potential for cuckoo. The area downstream of Pabco Weir on the south bank is targeted for riparian restoration funded by a \$900,500 BOR grant. Finally, about 25 hectares of riparian and marsh vegetation will be removed from on and around weirs every 2–4 years so they can function as designed. While removing habitat in the short term, vegetation clearing for stabilization maintenance may lead to habitat improvement, resetting older riparian sites to earlier successional stages, which offer higher quality habitat for the two bird species.

### 3.3.3 Duck Creek

Surveys were discontinued at this 1.3-hectare patch of tamarisk near Sam Boyd Stadium due to the habitat's poor quality and lack of detections since 2019.

## 4.0 DISCUSSION AND RECOMMENDATIONS

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### 4.1 Southwestern Willow Flycatcher

Field crews identified a record three southwestern willow flycatcher pairs, including a polyandrous female and a polygynous male, and confirmed the first southwestern willow flycatcher fledgling in 26 years of surveys. While this is an exciting result, and a milestone for the Wash stabilization and enhancement program, it was not an unqualified success. At least five nest attempts of two pairs failed. Brown-headed cowbirds, a known brood parasite of the flycatcher, are a common species at the Wash, and they can negatively impact nest success (Sogge et al. 2010). At least one active nest was parasitized, and the nest did ultimately fail. Predation, however, may have been a more significant cause of nest failure. The Wash has several documented nest predators of the willow flycatcher, including Cooper's hawk (*Accipiter cooperii*) and yellow-breasted chat (*Icteria virens*), which were reported in the vicinity of the territories. The Wash also has general nest predators such as black rat (*Rattus rattus*) and Great Basin gopher snake (*Pituophis catenifer deserticola*).

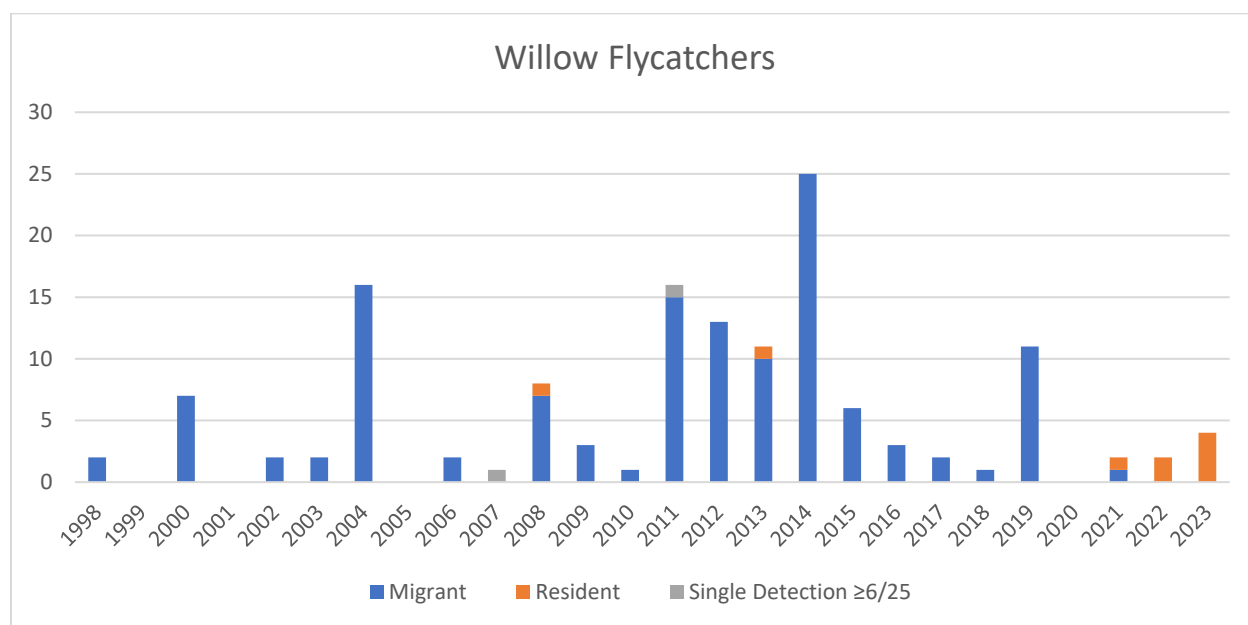
The area of habitat surveyed for the flycatcher declined somewhat, to the lowest since surveys began in 1998, but this is because field crews discontinued surveying poor quality habitat. The passively established islands above Historic Lateral Weir now offer the highest quality habitat on the channel, as shown by the presence of territories the past three years, including the first recorded resident pairs, nests and fledgling.

Given the change in breeding status for the flycatcher along the Wash, the Wash Team and BOR are working with USFWS on new ESA compliance for the LTOP. BOR submitted a biological assessment to USFWS in August 2023, reinitiating section 7 consultation. Weir maintenance,



which can negatively impact riparian and wetland vegetation, is on hold while the Wash Team waits for the expected biological opinion and incidental take statement.

Just nine of the 140 willow flycatchers (6.4%) detected in 26 years of surveys have been residents that established breeding territories, and seven of those, including the first to pair and nest, were in the past three years (Figure 3). Reproductive success has a large influence on site fidelity with flycatchers. Individuals that successfully fledge young at a location are more likely to return there and unsuccessful birds that move to a new site the next year typically improve their success (Paxton et al. 2007). The 2008 and 2013 males were unsuccessful in their attempts to reproduce at the Wash, failing to pair, and did not return. The 2021 male also failed to pair. In 2022, field staff recorded the first southwestern willow flycatcher pair and a failed nest, but while he was banded, they were unable to confirm the identity of the 2022 male; the female was unbanded. SWCA identified the male that attempted but failed to reproduce in the Wash project area in 2023 as first banded on the Lower Wash in 2021, where he successfully produced at least one fledgling (SWCA 2022). Since none of his five attempts in 2023 were successful, he may not return. Same with the female from T3. Since the female from T1 ultimately fledged at least one young after three attempts, she is more likely to return, as is the T1 C/T2 male with which she was successful.



**Figure 3. The number of willow flycatchers detected annually, 1998–2023. Birds on territory and single detections in the third survey period ( $\geq$  June 25) were assumed to be resident and thus of the endangered southwestern subspecies.**

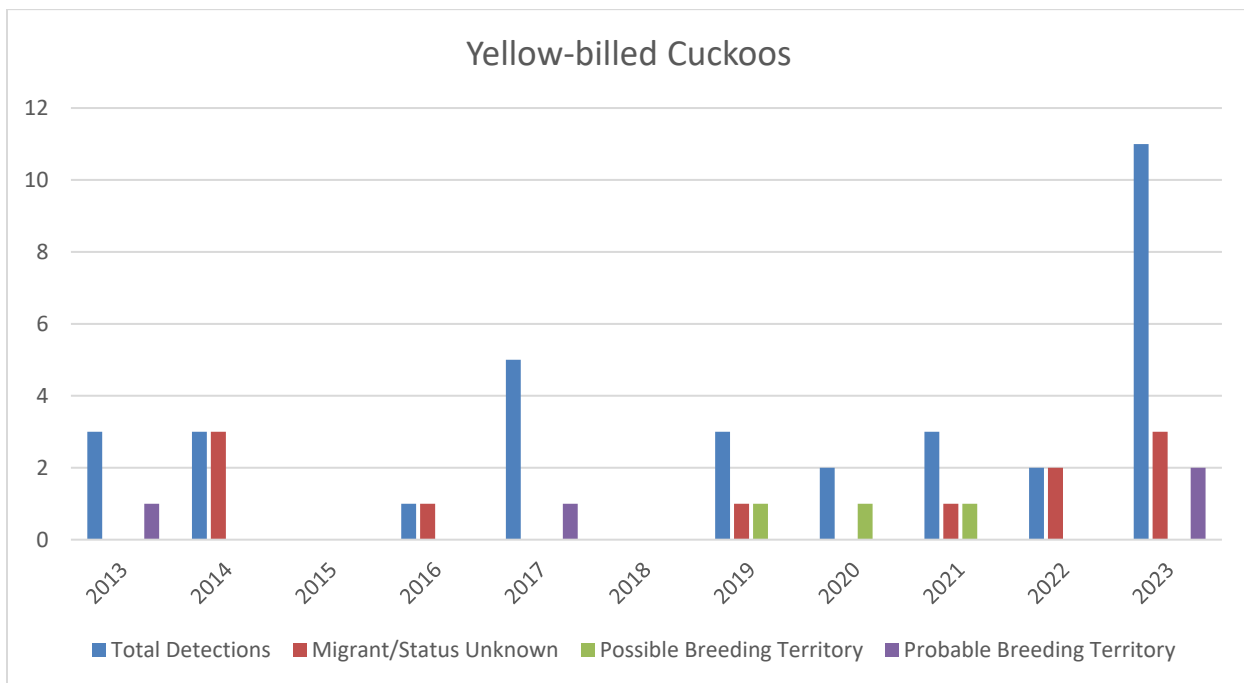
#### 4.2 Yellow-billed Cuckoo

It was an exceptional year for cuckoo detections. Field crews made 11 detections in 2023 at Wash sites, representing a record five individuals and two probable breeding territories. Typically, only about 5–10 cuckoos are detected in the entire state each year. SWCA (2023) reported 17 detections of an estimated 7–9 individuals at Clark County sites on the Virgin and Muddy rivers, with two possible breeding territories and one probable breeding territory. NDOW reported five detections of an estimated four individuals at sites they monitor on the Virgin River (D. Horowski, pers. comm.), with one possible breeding territory. We made eight detections of an estimated two

individuals at Warm Springs Natural Area (WSNA) sites, and there was one probable breeding territory (Van Dooremolen et al. 2024). With the Wash counts, there were 41 total detections of an estimated 18–20 individuals and three possible and three probable breeding territories.

In our WSNA report, we conjectured that the increase in cuckoos may have been due, at least in part, to a wet winter/early spring, which may have increased food resources for the species. Precipitation totals for the WSNA site were well above average from January through March, at 4.23 inches. When looking at Las Vegas Valley rainfall, however, accumulation totals for the same period are less unimpressive. The Clark County Regional Flood Control District gauge just above Pabco Weir logged 0.63 inches in January, 0.08 inches in February and 0.27 inches for March, totaling just 0.98 inches.

The Wash study area is important for the species in Nevada, with Wash detections accounting for 26.8% of all cuckoo detections in the southern part of the state in 2023. The Wash has lacked detections in only a few years since annual surveys commenced (Figure 4). Breeding has been indicated by probable territories at the Nature Preserve in 2013 and at the Wash in 2017 and 2023, and possible territories at the Wash in 2019 and 2020 and Nature Preserve in 2021 (Van Dooremolen 2014c, 2017, 2019, 2021; Van Dooremolen et al. 2022).



**Figure 4. Yellow-billed cuckoo survey detections, 2013–2023.**

Overall, habitat extent and quality were similar to 2022. Habitat for the cuckoo is enhanced by the extensive presence of mesquite, which continues to mature at several revegetation sites. Fires at the Nature Preserve have burned patches of mesquite and riparian trees, but these areas are resprouting. To reduce fire and its impacts, Wetlands Park staff work closely with federal, state and local partners to have fires controlled as quickly as possible and are working on a fire management plan.

### 4.3 Recommendations

Annual surveys for the southwestern willow flycatcher and yellow-billed cuckoo should continue in support of the WMP and expected ESA compliance for the LTOP. Additionally, Wash Team staff should continue to pursue grants and other opportunities to replace and/or enhance riparian vegetation in the study area and coordinate with engineers on planting locations.

## 5.0 CONCLUSION

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The LVWCC is conducting a stabilization and enhancement program along the Wash. Effects determinations for the flycatcher and cuckoo from section 7 consultation that led to annual surveys were changed to no effect in 2019. Surveys for both species continue in support of the WMP. This document reports the results from the 2023 surveys. Surveys and territory monitoring identified three pairs of southwestern willow flycatchers that nested, a record for the project area. Five of six nest attempts failed, but the final was confirmed to fledge one young. Field crews also completed protocol surveys for the cuckoo, making 11 detections of a record five individuals, including two probable breeding territories: one upstream of Historic Lateral Weir and one in the UBS revegetation site.

For the flycatcher and cuckoo, habitat extent and quality were similar to 2022, with the loss of some marginal habitat offset by gains in the high-quality habitat above Historic Lateral Weir. Less habitat was surveyed as crews discontinued monitoring of marginal and poor-quality habitat. Annual surveys should continue in order to support objectives of the WMP and in fulfillment of expected avoidance and minimization measures stemming from reinitiated section 7 consultation with USFWS.

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