

las vegas wash coordination committee

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Yellow-billed Cuckoo Surveys along the Las Vegas Wash, Clark County, Nevada, 2013



April 2014



**Yellow-billed Cuckoo Surveys along the Las Vegas Wash,
Clark County, Nevada, 2013**

**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 (LVWCC), a 29-member stakeholder group, is working to stabilize and enhance the Las Vegas Wash (Wash), the channel that drains flows from the Las Vegas Valley to Lake Mead at Las Vegas Bay. The Wash also flows through the 2,900-acre Clark County Wetlands Park (Wetlands Park). Enhancements to riparian habitat associated with the Wash program and with other activities ongoing within the Wetlands Park may benefit the yellow-billed cuckoo, a candidate for listing under the Endangered Species Act that has recently been proposed for threatened status by the U.S. Fish and Wildlife Service. In the Southwest, the cuckoo prefers expansive riparian woodlands with cottonwood, willow and mesquite for nesting. A cuckoo was detected along the Wash during surveys for southwestern willow flycatcher in 1998. Protocol surveys were conducted for the yellow-billed cuckoo from 2002 through 2004; no cuckoos were detected. Surveys were discontinued due to lack of potentially suitable nesting habitat. Surveys recommenced in 2013.

Three protocol surveys were conducted from late June through July. A bird was detected on June 27 and on July 24 in the Wetlands Park Nature Preserve. The first detection was on Vern's Pond and the second detection was on the middle ponds. A cuckoo was confirmed on the middle ponds during a follow-up visit to the site on August 3. A cuckoo may also have been detected on the middle ponds during a visit on August 18, but the detection was not confirmed. The Nature Preserve likely offers the best quality potentially suitable nesting habitat for the species within the study area. It seems to have greater habitat connectivity than Wash sites, which are more fragmented. The Lake Las Vegas mitigation wetlands were also surveyed, but offer poor quality habitat at this time; surveys should be discontinued at this location. It is recommended that surveys continue in 2014 at the Nature Preserve and Wash sites.

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1.0 BACKGROUND

The Las Vegas Wash (Wash) drains flows, including highly treated wastewater, urban runoff, shallow groundwater and storm runoff, from the Las Vegas Valley into Lake Mead at Las Vegas Bay (Figure 1). The Wash was once an ephemeral stream, but became perennial with the discharge of treated wastewater to the channel in the 1950s. This perennial water created a vast wetland over subsequent decades. However, as the population in the valley increased, so too did flows in the channel. Increased daily flows coupled with runoff from large storm events incised the channel and drained its wetlands. By the late 1990s, the Wash was separated from its former active floodplain by 30-40 feet in locations, and wetland acreage had declined from 2,000 to less than 200.

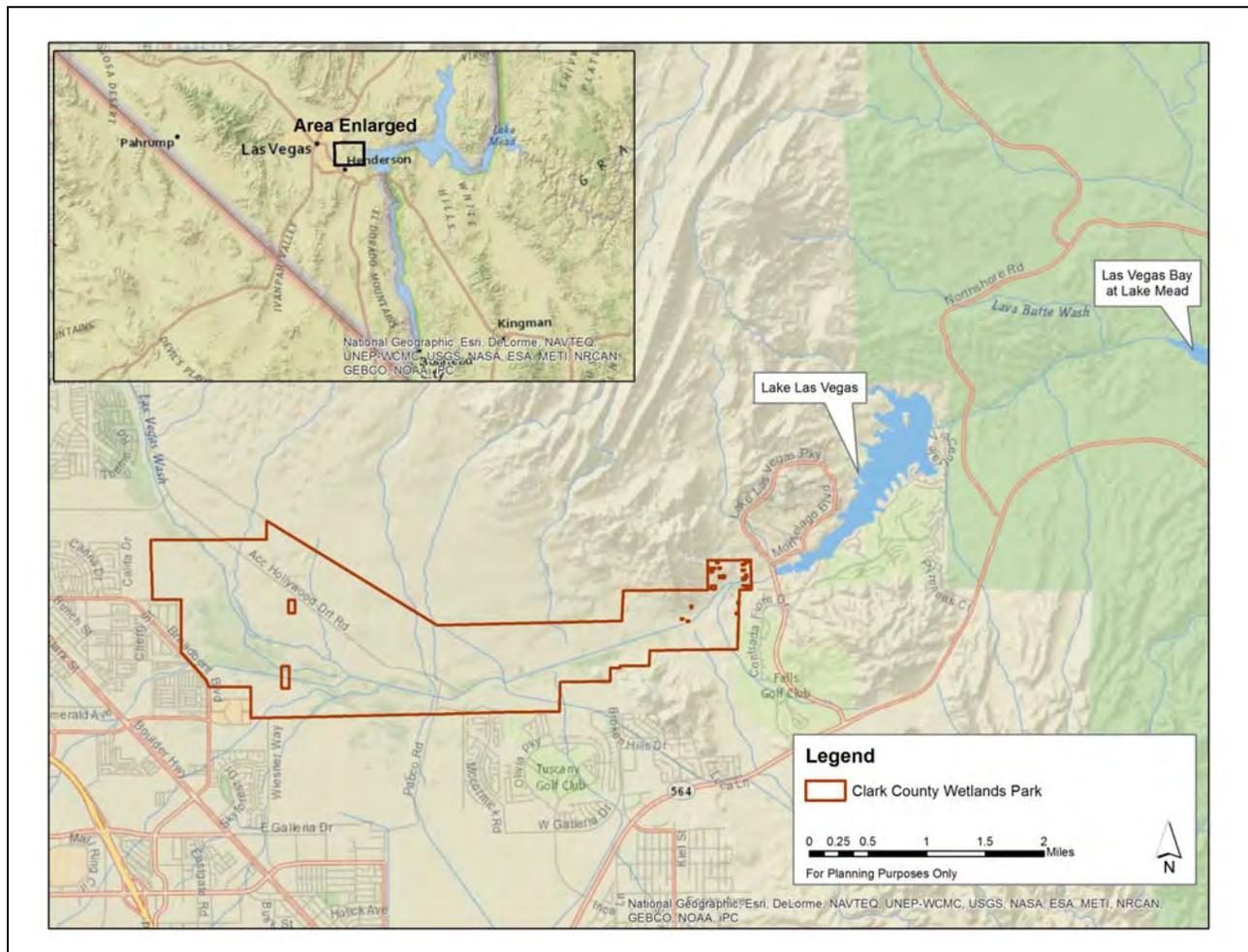


Figure 1. Las Vegas Wash location and general study area map.

The Las Vegas Wash Coordination Committee (LVWCC), a now 29-member stakeholder group, first convened in October 1998 to research the varied issues surrounding the channel and develop a long-term management plan that would stabilize the Wash and enhance its ecological functions. In January 2000, the LVWCC published the Las Vegas Wash Comprehensive Adaptive Management Plan (CAMP). The plan is a roadmap with 44 action items that guide

project implementation. Project activities include, among others, the planned installation of 22 weirs (i.e., erosion control structures) and hundreds of acres of native wetland, riparian and upland habitat. As of June 2013, 16 permanent weirs and more than 350 acres of native vegetation were in place.

Construction of weirs alters the landscape and changes habitat. Vegetation is cleared before construction begins. The vegetation removed is typically salt cedar (*Tamarix ramosissima*), a non-native, invasive species that dominated the Wash before CAMP implementation began. After erosion control structures are completed, native wetland, riparian and upland vegetation is planted in appropriate areas in compliance with various permits. Additional salt cedar clearing and native revegetation has been accomplished through grants. Clark County is also removing salt cedar and planting mesquite trees and riparian and wetland vegetation in the 2,900-acre Clark County Wetlands Park (Wetlands Park), through which the Wash flows (Figure 1).

The yellow-billed cuckoo (*Coccyzus americanus*) is a neotropical migrant that breeds extensively throughout eastern North America, from Mexico north to Canada, but has a much more limited breeding distribution in the western portion of the continent. The U.S. Fish and Wildlife Service has proposed to list the western Distinct Population Segment as threatened under the Endangered Species Act. In the Southwest, the cuckoo prefers expansive riparian woodlands with cottonwood, willow and mesquite for nesting. Thus, the cuckoo may benefit from revegetation efforts associated with the Wash project and Wetlands Park.

During Wash surveys for the federally endangered southwestern willow flycatcher in 1998, consultants detected a yellow-billed cuckoo on July 7 (Southwest Wetlands Consortium 1998). In 2002, surveys for the species were initiated to determine its occurrence in the study area (SWCA 2002, 2003, 2005). These breeding season surveys continued through 2004. No birds were identified and habitat was considered suboptimal, so surveys were discontinued. In 2013, the Southern Nevada Water Authority, the lead agency of the LVWCC, reinitiated the surveys. Surveys were conducted by members of the Las Vegas Wash Project Coordination Team (Wash Team), the implementation arm of the LVWCC. This report documents the results of the 2013 surveys.

2.0 METHODS

2.1 Study Area

The general study area consists of the Wetlands Park and the reach of the Wash contained within its boundaries (Figure 1). The Lake Las Vegas mitigation wetlands, located immediately adjacent to the park's eastern boundary, is also included. Only potentially suitable nesting habitat, as described in the natural history summary and survey protocol by Halterman et al. (2011), was surveyed. For the purposes of this study, potentially suitable habitat is defined as patches of native riparian vegetation with at least some large overstory trees such as cottonwood (*Populus fremontii*) and Goodding willow (*Salix. gooddingii*), and an understory layer, typically with sandbar willow (a.k.a. coyote willow; *S. exigua*), seep willow (*Baccharis salicifolia*), and/or willow baccharis (*B. salicina*). Screwbean and honey mesquite (*Prosopis pubescens* and *P. glandulosa*) thickets often abutted the riparian vegetation. Within surveyed areas, salt cedar, comprised only a small portion of the vegetative cover.

Patch structure and species composition are not the only determinants of potentially suitable nesting habitat. Patch size is also an important variable. McNeil et al. 2013 documented an average breeding home range size of approximately 18 hectares (~44 acres) at sites along the lower Colorado River. Halterman et al. (2011) recommend a minimum patch size for surveying of 5 hectares (~12 acres); however, many patches in the study area are smaller. Thus, the Wash Team used the 2-hectare (~5-acre) minimum size used for surveys of the yellow-billed cuckoo along the lower Colorado River (McNeil et al. 2013). A patch was further defined as being separated from adjacent patches of potential cuckoo habitat by 300 meters (984 feet).

Several survey transects were established to cover all potentially suitable habitat within the Wash (Figure 2). Patches greater than 200 meters (656 feet) wide required additional transects. Two transects were established in the Wetlands Park Nature Preserve (Nature Preserve). Two transects were established on the Wash, one on the south bank and one on the north, beginning upstream of Pabco Road Weir and continuing downstream to the Calico Islands revegetation site, just above Calico Ridge Weir. Wash transects periodically violated the rule of proximity, having 1-2 points in small patches greater than 300 meters away. The final transect was located in the Lake Las Vegas mitigation wetlands. Although it comprised just two points, the site was isolated enough to merit its own transect.

Broadcast points were established every 100 meters (328 feet) along each transect. Points on adjacent transects were likewise separated by a minimum of 100 meters (328 feet) to prevent double counting.

2.2 Survey Protocol

Presence/absence surveys were conducted using the protocol drafted by Halterman et al. (2011). Each transect was surveyed by a team of two people. The team surveyed the Nature Preserve and south Wash transect on one morning and the north Wash transect on a different morning. The Lake Las Vegas mitigation wetlands transect, which

Survey Period	Survey Dates
First (mid- to late June)	June 27/28
Second (early to mid-July)	July 9/16
Third (mid- to late July)	July 24/29

Table 1. Yellow-billed cuckoo survey dates for the study area.

comprised just two points was surveyed on whichever of the two days was most convenient. The team completed three surveys of each transect from mid-June through July, with each survey separated by 12-18 days (Table 1). The protocol identifies five survey periods from mid-June through mid-September, and requires surveys in the first four (to mid-August), but states that fewer than four surveys can be conducted for presence/absence.

Surveys began at sunrise and were completed by 12:00 p.m. or when the temperature reached 40° C (104° F), whichever came first. Call-playback was used. Within each transect, broadcasts were conducted every 328 feet (100 meters). 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' kowlp calls, with each call separated by one minute, using an MP3 player attached to a portable speaker. If a bird was detected, the surveyors would skip the next two calling stations in an effort to prevent the individual from following the broadcast and being counted more than once.

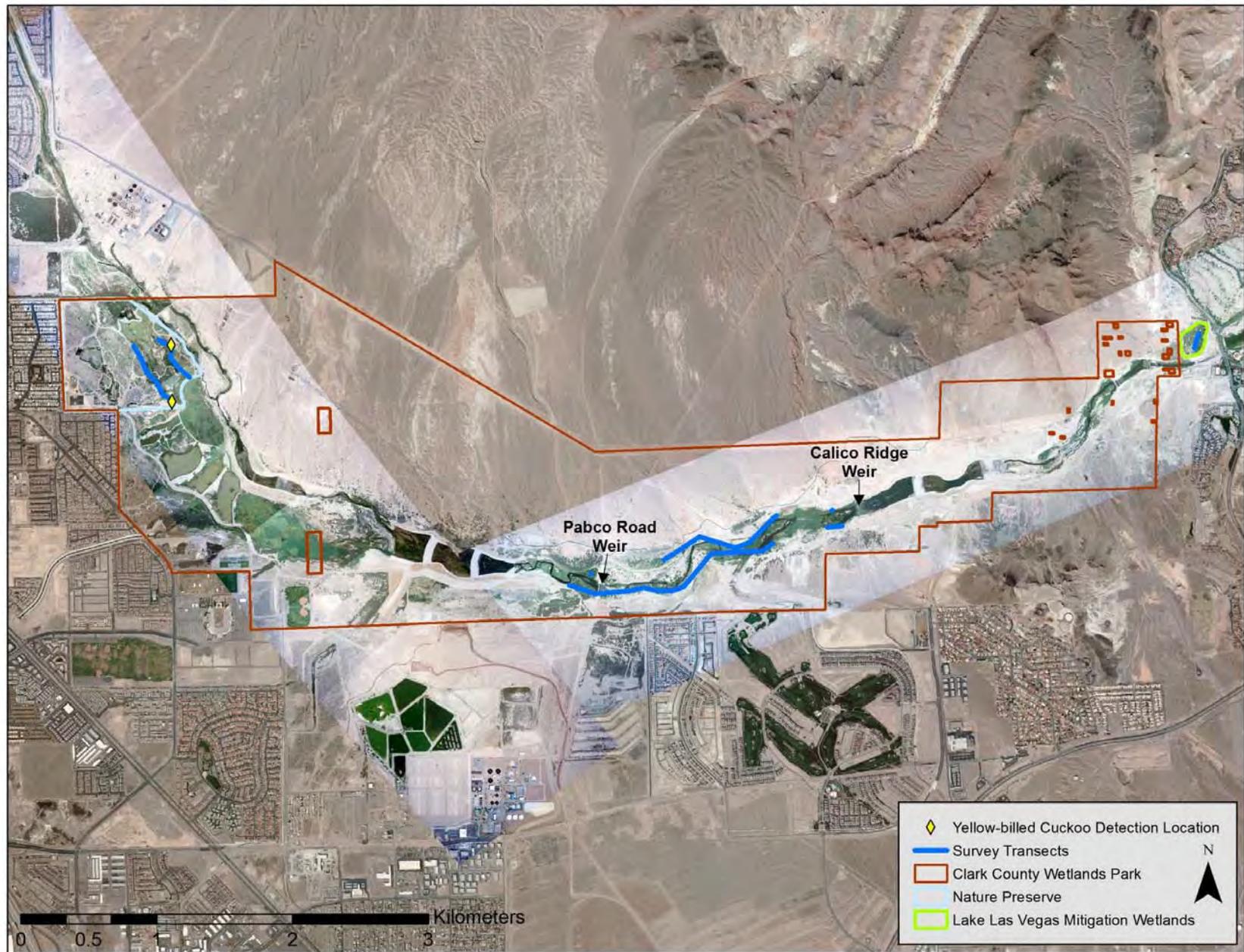


Figure 2. 2013 survey transects and yellow-billed cuckoo detection locations. Aerial imagery covering the Wash was taken on June 14, 2013.

3.0 RESULTS

3.1 Survey Results

All detections are shown in Figure 2 and GPS coordinates are provided in Table 2.

3.1.1 Nature Preserve

The survey team detected a yellow-billed cuckoo in the Nature Preserve on the first day of surveys, June 27. The bird responded with what was either an odd

Date	Easting	Northing	Location (refer to Figure 2)
June 27, 2013	678224	3996937	Nature Preserve - Vern's Pond: Heard vocalizing from a large Goodding willow
July 24, 2013	678218	3997353	Nature Preserve - middle ponds: Heard and seen vocalizing from a cottonwood adjacent to the most southeast of the middle ponds

Table 2. 2013 yellow-billed cuckoo detections.

kowlp or knocker call at the very first broadcast point of the day, on Vern's Pond (the most southern of the constructed wetland ponds in the preserve). No cuckoos were detected on the second survey, on July 9. On the third survey, on July 24, a cuckoo was observed cooing from the top of a large cottonwood adjacent to the most southeast of the middle ponds. It then flew to a cottonwood grove just south of the middle ponds and continued cooing for several minutes. All told the bird was seen and heard for approximately 20 minutes before the survey team had to continue on. The cuckoo was also photographed (see cover image) during this time by Rodd Bailey, a volunteer photographer with the Wetlands Park.

Follow-up visits were conducted in August to try to determine whether the bird was paired and breeding on site. The cuckoo was not found on August 1, but was heard on August 3, in the cottonwood grove where it was last observed on July 24. The bird may have been heard again on August 18, but the detection could not be confirmed. No second yellow-billed cuckoo was identified and the detected cuckoo was not observed carrying food or exhibiting other types of probable or confirmed breeding behaviors. Therefore, per the protocol (Haltermann et al. 2011), the bird was concluded to be a possible breeder.

3.1.2 Wash

No cuckoos were detected.

3.1.3 Lake Las Vegas Mitigation Wetlands

No cuckoos were detected.

3.2 Observations on Habitat Quality

3.2.1 Nature Preserve

The Nature Preserve offers possibly the best potentially suitable nesting habitat, although for the species the habitat is likely of just moderate quality. Native-dominated riparian habitat (cottonwood, Goodding and sandbar willows, willow baccharis) rings the constructed wetland ponds, of which there are the upper pond, three middle ponds and Vern's Pond. It also lines the small channels that run between them. A grove of cottonwoods just south of the middle ponds transitions to an overstory of Goodding willows with a few cottonwoods interspersed and a dense

understory of sandbar willow and willow baccharis. The patches of riparian habitat are connected by patches of honey and screwbean mesquite either with quailbush (*Atriplex lentiformis*) and willow baccharis in the understory or in thickets. There are also some areas dominated by dry common reed (*Phragmites australis*). Mesquite trees of various maturity with a saltgrass understory covers approximately 8 hectares (~20 acres) just west of the main survey area. There is one small patch of salt cedar off of Vern's Pond, but the majority of the habitat is dominated by natives.

3.2.2 Wash

Habitat along the Wash appears less desirable for the species. Patches of native riparian habitat are strung along either side of the channel. Patch sizes are small, typically 0.5-2 hectares (~1-5 acres), and consist of cottonwood, Goodding and sandbar willows, and some seep willow and willow baccharis. Patches of mesquite, both screwbean and honey, also exist. Little salt cedar remains. Overall the habitat feels more fragmented than the Nature Preserve, with 100-300 meters (328-984 feet) separating some patches.

3.2.3 Lake Las Vegas Mitigation Wetlands

This site offers poor quality nesting habitat for the yellow-billed cuckoo at this time. It is only about 3 hectares (~7 acres) in size, and approximately two-thirds of the area is dominated by emergent vegetation. Patches of mature Goodding and sandbar willows dominate the other third.

4.0 DISCUSSION AND RECOMMENDATIONS

4.1 Discussion

The conclusion that the detections at the Nature Preserve represented a single bird that simply went undetected during a few visits is justifiable based on the species' nature, which is generally secretive. However, it is not the only possible interpretation of the data. A second possibility is that the June 27 bird was a migrant and the July 24 and all subsequent detections were of a possible breeder. Nevertheless, the detections during the 2013 surveys represent just the second known record of the species in the study area. The site that hosted the bird, the Nature Preserve, currently represents the highest quality potentially suitable nesting habitat in the study area.

4.2 Recommendations

It is recommended that surveys for the yellow-billed cuckoo continue in 2014 due to the impending listing of the species under the Endangered Species Act and the implications for reconsultation with the U.S Fish and Wildlife Service regarding the Wash project. Surveys should be continued at the Nature Preserve and Wash sites, but surveys at the Lake Las Vegas mitigation wetlands should be discontinued.

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