

**ATTACHMENT K: LEAST BELL'S VIREO (*VIREO BELLII PUSILLUS*) AND  
SOUTHWESTERN WILLOW FLYCATCHER (*EMPIDONAX TRAILLII EXTIMUS*) SURVEYS  
AT MARINE CORPS AIR STATION MIRAMAR 2011 REPORT**

**Least Bell's Vireo (*Vireo bellii pusillus*) and  
Southwestern Willow Flycatcher  
(*Empidonax traillii extimus*) Surveys at  
Marine Corps Air Station Miramar**

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Tierra Data Inc.  
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## ***Table of Contents***

1.0	Introduction .....	1
2.0	Background .....	1
2.1	MCAS Miramar.....	1
2.2	Least Bell’s Vireo .....	3
2.3	Southwestern Willow Flycatcher .....	3
3.0	Methods.....	3
3.1	Permit Requirements.....	3
3.2	Field Surveys .....	4
3.2.1	Habitat Assessment.....	4
3.2.2	Protocol Surveys.....	4
3.2.3	Use Area Determination.....	5
3.2.4	Geographic Information Systems.....	5
4.0	Results.....	6
5.0	Discussion .....	13
6.0	References .....	16
7.0	Photos.....	17
8.0	Copy of US Fish and Wildlife Service Permit .....	23
Appendix A. Avian species detected during Marin Corps Air Station Miramar surveys April 12 - July 16, 2011.....		25

### ***List of Maps***

Map 1.	Location of Marine Corps Air Station Miramar in San Diego County. ....	2
Map 2.	Suitable habitat for least Bell’s vireo and southwestern willow flycatcher on West Miramar. ....	7
Map 3.	Suitable habitat for least Bell’s vireo and southwestern willow flycatcher on East Miramar.....	8
Map 4.	Locations of least Bell’s vireos and willow flycatcher observations on MCAS Miramar in 2011. ....	12

### ***List of Figures***

Figure 1.	Dense riparian woodland in lower San Clemente Canyon where the migrant willow flycatcher was observed. Photo taken June 29, 2011 by Kevin B. Clark.....	17
Figure 2.	Multi-story riparian forest in Sycamore Canyon occupied by pair A. Photo taken July 14, 2011 by Kevin B. Clark. ....	18
Figure 3.	Chaparral slope inhabited by pair L. Note sparse mule fat in bottom of drainage. Photo taken July 16, 2011 by Kevin B. Clark. ....	19
Figure 4.	Nest for pair L in holly-leaved cherry on chaparral slope. This nest fledged four young. Photo taken July 1, 2011 by Kevin B. Clark. ....	20
Figure 5.	Male of pair I color banded by Dr. Barbara Kus of USGS. This bird had been banded as a nestling on May 25, 2006 in the San Luis Rey River in Oceanside, CA. Photo taken June 10, 2011 by Kevin B. Clark.....	21

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## **1.0 Introduction**

The purpose of this Task Order was to conduct station-wide surveys at Marine Corps Air Station (MCAS) Miramar (Station) for the federal and state endangered least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus*). This report details work performed to accomplish the objective of this contract. Previous surveys have found least Bell's vireos breeding on the far eastern boundary of the Station in Sycamore Canyon. Earlier studies also noted the presence of willow flycatchers in lower San Clemente Canyon and a small unnamed drainage north of the upper San Clement drainage on East Miramar. The willow flycatchers were not believed to be the endangered southwestern subspecies and no breeding was recorded (Varanus Biological Services, Inc. 2003; AmDyne Corporation 2008). Results of this effort include a map of suitable habitat for these species within the Station, and locations and use areas for individual birds based on presence/absence surveys conducted by a section 10(a)(1)(A) permitted biologist for each species under protocols established by the US Fish and Wildlife Service (USFWS).

## **2.0 Background**

### **2.1 MCAS Miramar**

Historically, the property at the Station was used for farming and ranching homesteads, including use for cattle and citrus. The land was acquired by the U.S. Army in 1914 for infantry training. After World War I, the area became an auxiliary field for the U.S. Navy and an air station for the U.S. Marine Corps. With the outbreak of World War II, operations at Miramar quickly expanded. At the end of that war, the U.S. Marines moved to El Toro, California and the land became a Naval Air Station. In 1997, the property became a U.S. Marine Corps Air Station once again, and it maintains that status today. The Station is located in central San Diego City (Map 1). The facility consists of approximately 23,000 acres. Elevations range from approximately 220 to over 1,200 feet above mean sea level.

The Station is largely divided by the I-15 highway corridor into a more developed western portion and an undeveloped eastern portion (Map 1). Much of West Miramar has been further divided by the county of San Diego landfill, the airfield, and smaller developments.

The vegetation of the Station is a combination of coastal sage scrub, chaparral, grassland, riparian scrubs and woodlands, vernal pools, and small patches of other vegetation types. Fires in recent

years, especially across the eastern half of the Station, resulted in a scrubby and pre-climax condition of vegetation. Many of the natural habitats on the installation burned during the Cedar Fire in 2003 and are in various stages of vegetative recovery.

Several large drainages cross the installation, generally running from east to west; however, eastern Miramar also contains a few south-draining canyons. Many of the canyons at the Station do not retain water year-round; and, thus, are too dry to support willows (*Salix* sp.), cottonwoods (*Populus* sp.), and other riparian vegetation that is important for the presence of the target species for this project.



Map 1. Location of Marine Corps Air Station Miramar in San Diego County.

## **2.2 Least Bell's Vireo**

Listed as endangered in 1986, the least Bell's vireo is currently restricted to riparian areas in southwestern California and northwestern Baja California, Mexico. Historically, the species ranged throughout the Central Valley of California, found as far north as Tehama County; however, it had disappeared from all but the extreme southwestern portion of California by the 1980s. At the time of listing as endangered, only around 300 pairs remained in the State, with the majority in San Diego County (USFWS 1998). The most recent review of the species noted a major increase in the population in southern California. This is likely due to habitat protection and intensive management of limiting factors, particularly trapping of the brown-headed cowbird (*Molothrus ater*), an obligate nest parasite (USFWS 2006). However, the species' range has not expanded significantly back into the Central Valley, the former heart of its range.

## **2.3 Southwestern Willow Flycatcher**

The southwestern subspecies of the willow flycatcher was listed as endangered by the federal government in 1995. The state of California lists the entire species as endangered, which includes not only the southwestern subspecies, but also the ranges of two additional subspecies (*E. t. brewsteri* and *E. t. adastus*). The southwestern subspecies is found in the southern one-third of California, as well as suitable portions of five other states (Nevada, Arizona, New Mexico, Colorado, and Utah) and northwestern Mexico. As with the least Bell's vireo, this species is a riparian specialist, and has been affected by the extensive modification of these areas throughout the southwest, as well as by impacts from nest parasitism (USFWS 2002).

## **3.0 Methods**

### **3.1 Permit Requirements**

The requirements for surveying populations of least Bell's vireo and southwestern willow flycatcher differ slightly in the personnel required to conduct the surveys and in the intensity of the surveys. For the least Bell's vireo, a section 10(a)(1)(A) permit is not required to conduct presence/absence surveys, as long as taped playback is not used to elicit a response (USFWS 2001); however, more intensive nesting studies require a permit. Presence/absence surveys for the southwestern willow flycatcher require a section 10(a)(1)(A) permitted biologist and are conducted primarily with taped playback (USFWS 2000).



## **3.2 Field Surveys**

### **3.2.1 Habitat Assessment**

In order to focus the protocol survey effort, a habitat assessment was conducted in October 2010. The assessment involved the project manager and the section 10(a)(1)(A) permitted biologist; the entire Station was surveyed for suitable least Bell's vireo and/or southwestern willow flycatcher habitat. As these species are both obligate riparian species, they are typically closely associated with the presence of willows. Willows are predominately found in areas with water available either on the surface or within reach of the root system. Thus, the habitat assessment primarily focused on locations most likely to support these conditions, such as drainages and standing water. Due to the overlap in habitat between these species and the need to visit each site eight times for the more adaptable least Bell's vireo, suitable habitat for both species was assumed to be congruent and surveys were performed for both species at all locations. All areas considered by previous surveys were investigated to confirm appropriate habitat was present (AmDyne Corporation 2008).

Suitable habitat was determined by the permitted biologist based on previous experience with the two species and their life history requirements (Map 2 & 3). All suitable habitats on the Station included the presence of medium-to-large willows that form a core of dense foliage. Other key species associated with these areas included mulefat (*Baccharis salicifolia*) and Fremont cottonwood (*Populus fremontii*).

### **3.2.2 Protocol Surveys**

As per the protocol established by the USFWS (2001), surveys for the least Bell's vireo took place between April 10, 2011 and July 31, 2011. During this time period, eight visits were made to areas identified during the habitat assessment as containing suitable habitat, with each visit to a particular site taking place at least 10 days from the previous visit. Surveys were conducted in the morning hours, and were not performed during inclement weather.

Presence/absence surveys for the southwestern willow flycatcher were conducted between May 15, 2011 and July 17, 2011. Five protocol surveys were performed during this time period: one between May 15, 2011 and May 31, 2011; a second between June 1, 2011 and June 21, 2011; and three surveys between June 22, 2011 and July 17, 2011 (Sogge et al. 1997 updated by USFWS 2000). All surveys occurred at least five days apart. As with the least Bell's vireo, surveys were performed during the morning hours and did not occur during periods of inclement weather. Unlike the least Bell's vireo

surveys, southwestern willow flycatcher surveys required the use of playback to determine presence/absence due to the less conspicuous nature of this species.

The presence of brown-headed cowbirds (*Molothrus ater*) within riparian areas was also noted given the species' nest parasitism nature that can affect both focus species.

### ***3.2.3 Use Area Determination***

For all individuals of each target species, the age and sex, as well as whether the bird was an individual or a member of a pair were recorded. The location of the initial observation point for each individual during each site visit (up to eight initial locations for least Bell's vireo and five for southwestern willow flycatcher) was also recorded. When birds were actively foraging, the movements of the species were observed and a Global Positioning Systems (GPS) point was recorded at the limits of its foraging activity. When the birds were not actively foraging, only the initial location was recorded. Observations of aggressive behavior between adjacent individuals were also recorded.

### ***3.2.4 Geographic Information Systems***

Geographic Information Systems (GIS) data was submitted in a format consistent with the standards used by the Station to ensure successful integration into existing GIS databases. In addition, all submitted GIS files included complete metadata as stated in the Task Order. This data was submitted on a CD-ROM independent of any other deliverable.

GIS data submitted included: 1) a multi-polygon shapefile of the total surveyed area (i.e. potential habitat), 2) a point file containing the locations of all sightings of target species. All data was submitted in North American Datum 1983/World Geodetic System 1984 and projected into California State Plane, Zone VI, FIPS 0406.

Fields in the surveyed area shapefile included: USGS Quadrangle name, year and month of survey, company name, surveyor name, total area in acres and hectares for each area surveyed, species surveyed for and protocol used, and report name in which the results are presented. For the sightings of the target species, genus, species, subspecies, common name, date of observation, surveyor, company, report name, USGS Quadrangle, and a comment field was included.

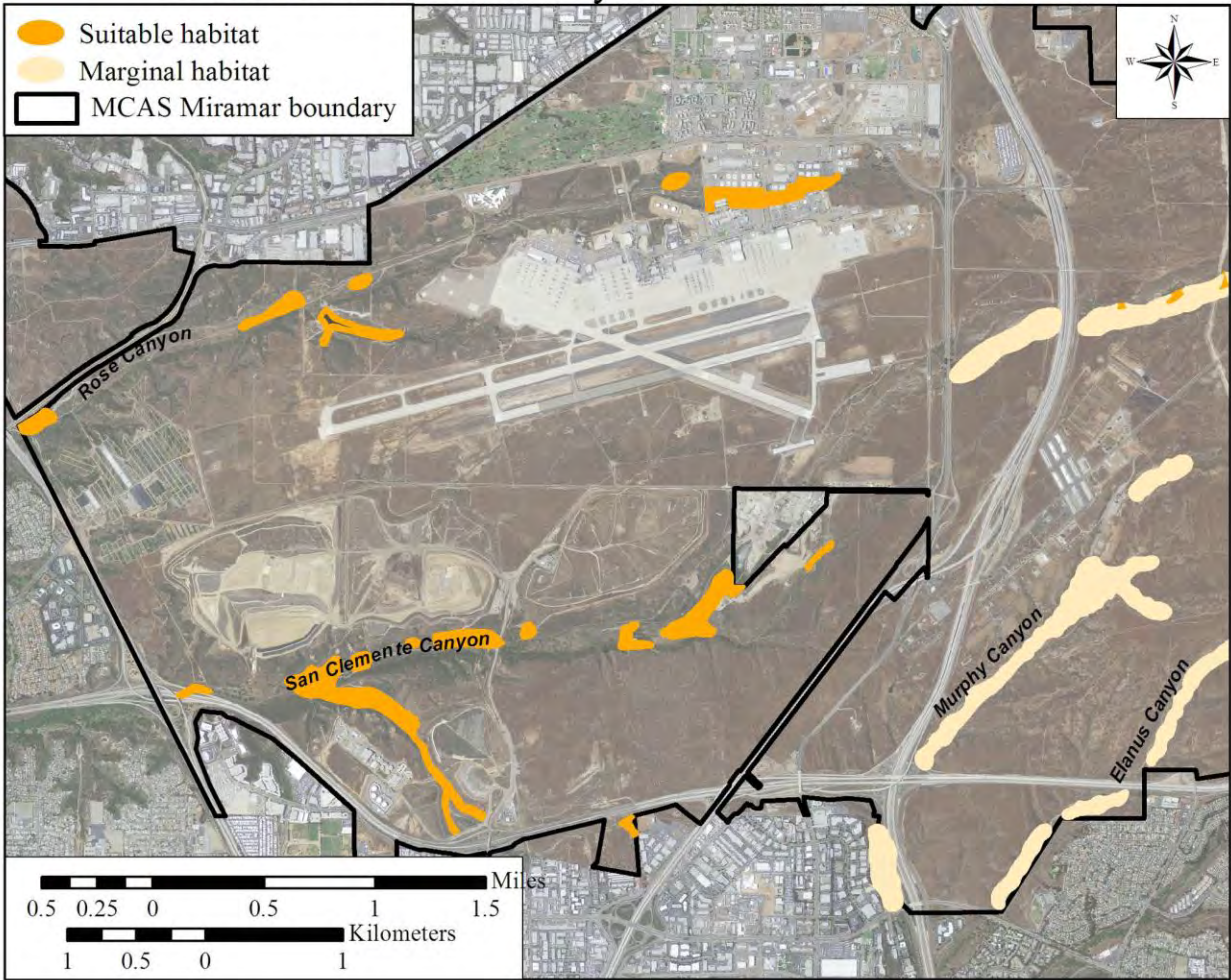
## **4.0 Results**

Thirty-three separate locations were considered suitable for either least Bell's vireo or southwestern willow flycatcher based on the habitat assessment, totaling 198.5 acres (80.3 hectares). The majority of suitable habitat occurs in San Clemente, Sycamore, and Rose Canyons, with a few isolated patches in side drainages. Not all areas considered suitable by previous surveys were retained as suitable habitat in this project, particularly in lower Rose Canyon. These areas contained either no willow trees or one or two willow trees surrounded by large patches of unsuitable open chaparral or scrub. These areas lacked the dense cover required by these species for nesting and foraging. A few areas in San Clemente Canyon near the landfill and West Sycamore canyon consist of open stands of California sycamore (*Plantanus racemosa*) that were mapped as habitat by previous surveyors, but the lack of a mid- or understory layer makes them unsuitable for the target species and they were not surveyed as part of this effort.

Suitable habitat was determined by the permitted biologist based on previous experience with the two species and their life history requirements (Map 2 and Map 3). Surveys were initially focused only within the areas deemed suitable habitat, but a number of least Bell's vireos were observed outside of their typical habitat (such as in thick chaparral, particularly laurel sumac (*Malosma laurina*); the survey area was expanded to accommodate this finding.

A total of 93 avian species were detected during these surveys (see Appendix A).

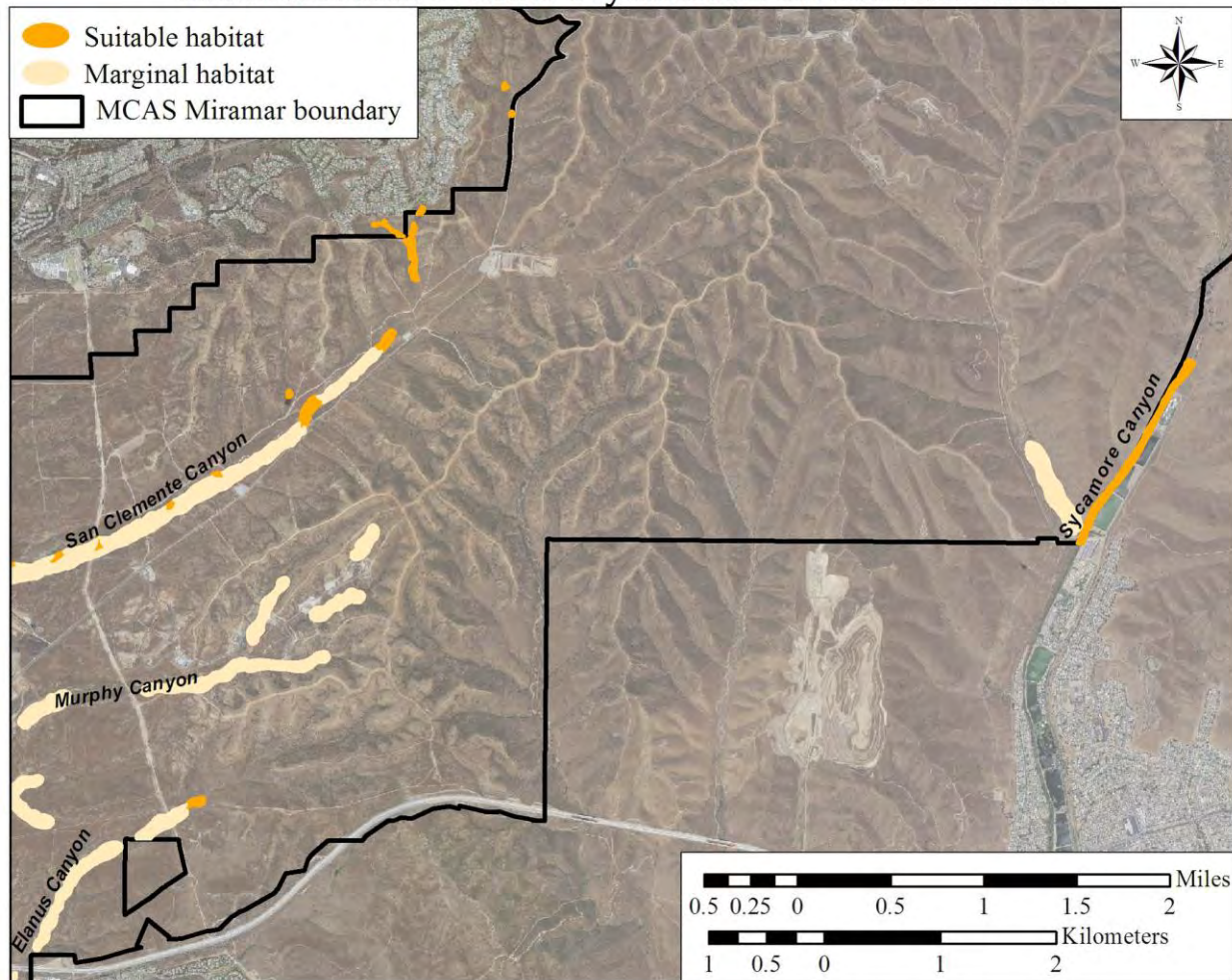
## Areas of Suitable Habitat for Least Bell's Vireos and Southwestern Willow Flycatchers on West Miramar



Map 2. Suitable habitat for least Bell's vireo and southwestern willow flycatcher on West Miramar.



### Areas of Suitable Habitat for Least Bell's Vireos and Southwestern Willow Flycatchers on East Miramar



Map 3. Suitable habitat for least Bell's vireo and southwestern willow flycatcher on East Miramar.

Surveys on May 19-21, June 1, 3, and 4, June 15-17, June 29-July 1, and July 13, 14, and 16 consisted of joint Southwestern Willow Flycatcher and Least Bell's Vireo surveys, in which taped flycatcher songs and calls were played during the survey as per the established protocol (Sogge et al. 2010)(Table 1). An additional visit occurred on June 10, 2011 when a previously banded male vireo was color banded. An additional visit also occurred on May 24, 2011 to find the nest for pair A.

One willow flycatcher was detected on June 4, 2011 in mature riparian woodland adjacent to lower San Clemente Canyon, south of Miramar Landfill. This individual responded to taped playbacks and "fitz-bewed" for several minutes as it foraged in the riparian habitat. The "fitz-bew" call was noted to be faster than the more slurred call typical of the *extimus* subspecies. It was not banded.

**Table 1. Summary of protocol survey dates for the field effort.**

Survey Date	Survey Time	Start Weather	End Weather
<b>Survey One</b>			
April 12	0645 - 1215	clear, calm, 47°F	clear, calm, 65°F
April 13	0600 - 1200	overcast, calm, 54°F	partly cloudy, w. breeze 5 mph, 60°F
April 14	0830 - 1230	clear, calm, 60°F	clear, w. breeze 5 mph, 71°F
<b>Survey Two</b>			
April 26	0600 - 1245	overcast, calm, 58°F	clear, w. breeze 5 mph, 70°F
April 27	0600 - 1215	clear, calm, 51°F	w. breeze 5 mph, 78°F
<b>Survey Three</b>			
May 6	0600 - 1230	overcast, calm, 56°F	w. breeze 5 mph, 74°F
May 7	0530 - 1130	clear, calm, 53°F	w. breeze 5 mph, 69°F
<b>Survey Four</b>			
May 19	0530 - 1130	partly cloudy, calm, 53°F	partly cloudy, calm, 64°F
May 20	0545 - 1130	partly cloudy, calm, 54°F	clear, w. breeze 5 mph, 67°F
May 21	0530 - 1115	overcast, calm, 57°F	overcast, calm, 62°F
<b>Survey Five</b>			
June 1	0600 - 1130	clear, w. breeze 3 mph, 49°F	clear, w. breeze 5 mph, 69°F
June 3	0600 - 1200	clear, calm, 50°F	clear, w. breeze 5 mph, 75°F
June 4	0530 - 1045	clear, calm, 56°F	clear, calm, 67°F
<b>Survey Six</b>			
June 15	0600 - 1115	overcast, drizzle, 58°F	partly cloudy, w. breeze 5 mph, 68°F
June 16	0615 - 1115	overcast, drizzle, 58°F	overcast, w. breeze 5 mph, 65°F
June 17	0600 - 1030	overcast, calm, 58°F	overcast, calm, 63°F
<b>Survey Seven</b>			
June 29	0600 - 1030	overcast, calm, 62°F	clear, w. breeze 5 mph, 68°F
June 30	0600 - 1100	overcast, calm, 56°F	clear, w. breeze 10 mph, 74°F
July 1	0600 - 1030	foggy, calm, 54°F	clear, w. breeze 5 mph, 75°F
<b>Survey Eight</b>			
July 13	0600 - 1015	overcast, calm, 63°F	partly cloudy, calm, 68°F
July 14	0600 - 1130	overcast, calm, 65°F	partly cloudy, calm, 69°F
July 16	0600 - 1130	overcast, calm, 63°F	partly cloudy, calm, 68°F

A total of 18 pairs or territorial males and 5 transient male least Bell's Vireos were documented during the surveys (Table 2, Table 3, Map 4). In general, vireos were found along the major drainages at the Station; however, the vireos were not evenly spaced according to available habitat. No vireos were detected west of I-15, despite extensive available habitat in Rose Canyon and San Clemente Canyon. In contrast, vireos east of I-15 were often found in seemingly sub-optimal habitat, such as chaparral slopes. Some riparian habitats east of I-15 appeared to support fewer vireos than the habitat could support, including Sycamore Canyon, and upper portions of San Clemente Canyon. It appears that the population of vireos on the installation is in a period of expansion, likely emanating from the large San Diego River population at Mission Trails Regional Park, and has yet to reach much of the suitable habitat on the base.

As mentioned previously, many pairs were found in territories predominately or entirely composed of chaparral vegetation. These pairs, such as pair L and pair N, were still located in large drainages, but predominately foraged on adjacent north facing slopes composed of dense shrubs; typically laurel sumac, toyon, chaparral mallow, and lemonadeberry.

**Table 2. Summary data for 2011 least Bell's vireo surveys on the Station Marine Corps Air Station Miramar.**

Territorial single male (> 30 days) [A]	Territorial male of nesting pair [B]	Territorial male of unknown breeding status (single or paired?) [C]	Transient males (< 30 days) [D]	TOTAL Males [A+B+C+D]	Total # Territories (single &/or paired) Males [A+B+C]
1	17	0	5	23	18

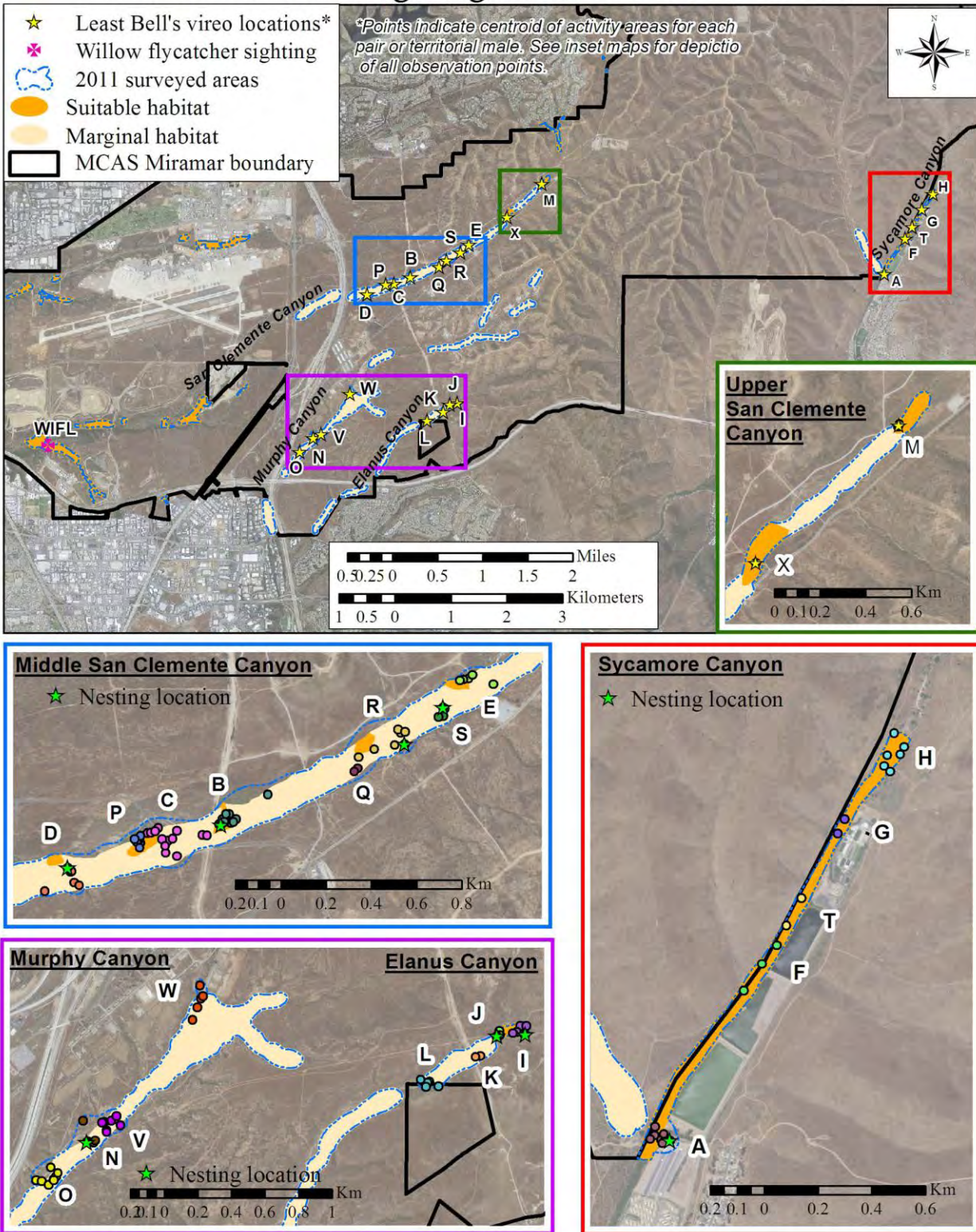
**Table 3. Summary of least Bell's vireo observations from 2011 surveys.**

Pair/territory #	Pair status	Reproduction	Comments
A	Pair	Nest found 24 May. Pair fledged 4 young.	Nest in <i>Baccharis sarathroides</i> / <i>Brassica</i> patch.
B	Pair	Nest found 19 May: 4 eggs. Nest failed.	Nest in <i>Malosma laurina</i> . Nest knocked over by deer June 1.
C	Pair	Seen carrying nest material 12 April	Pair feeding BH Cowbird fledge 1 June.
D	Pair	Nest found 6 May: 4 eggs. Nest failed.	Nest in <i>Malosma laurina</i> . Nest depredated June 1
E	Transient Male		Detected April 26 – May 19.
F	Pair		Detected May 6 – May 20.
G	Transient Male		Detected only May 6.
H	Transient Male		Detected May 6 – May 20.
I	Pair	Nest found 3 June. 10 June: 3 eggs. Nest failed.	Nest in <i>Malosma laurina</i> . Nest depredated on 17 June. Male color banded on June 10. Banded originally as chick in San Luis Rey River in 2006.
J	Pair	Nest found 20 May: 4 eggs, 1 BHCO egg. 3 June: 3 chicks. Nest failed.	Nest in <i>Baccharis salicifolia</i> patch in riparian. Chicks dead in nest.
K	Transient Male		Detected only May 6.
L	Pair		Territory entirely chaparral.
M	Pair		Detected May 6 – May 19.
N	Pair	Nest found 6 May. Nest fledged 4 young.	Territory mostly in chaparral. Nest in <i>Prunus illicifolia</i> on chaparral slope.
O	Pair	Pair tending at least 2 fledges	Family group regularly observed foraging together in June and July.
P	Pair	Male with 2 fledges 30 June	
Q	Pair		Detected only May 19.

Pair/territory #	Pair status	Reproduction	Comments
R	Pair	Nest being built 1 June. Nest failed.	Territory mostly chaparral. Nest in <i>Malosma laurina</i> . Nest found torn, empty June 15.
S	Pair	Nest being built 1 June. Nest failed.	Territory mostly chaparral. Nest in <i>Malosma.laurina</i> . Nest found torn, empty June 15.
T	Transient Male		Detected only May 20.
V	Unpaired Male		Territorial throughout the season, but never observed paired.
W	Pair		Pair used both small patch of willows and adjacent chaparral slopes.
X	Pair		Found foraging July 13 in willow patch in upper San Clemente. Likely moved from another territory downstream.



### Least Bell's Vireos Sightings on MCAS Miramar in 2011



Map 4. Locations of least Bell's vireos and willow flycatcher observations on MCAS Miramar in 2011.

## 5.0 Discussion

While both species use similar habitat, they do differ slightly in their ideal habitat. Least Bell's vireos are often found in early successional habitat within riparian areas, and prefer dense, thick willow cover, especially within 1-2 meters of the ground. The least Bell's vireo will use areas outside of the riparian zone, particularly for foraging and in dispersal late in the breeding season more so than the southwestern willow flycatcher, (USFWS 1998). This habit allows them to use small pockets of willows that otherwise may not be able to support a willow flycatcher. The southwestern willow flycatcher is often found in more mature areas, especially in California, with an overstory of cottonwoods and a mixed understory (though they do occur in an oak-dominated riparian area in San Diego county) (Unitt 2004). They do require a dense interior understory, usually of willows or non-native saltcedar (*Tamarix* sp.), but prefer areas that contain a mosaic of habitats including openings for foraging. Southwestern willow flycatchers are found almost exclusively in areas that contain standing water, or at least saturated soils, and unlike the vireo, they tend to need wider riparian strips (at least 10 meters wide) (Sogge et al. 1997).

Habitats are highly variable on the Station. In the wetter locales in drainages, dense riparian woodland occurs dominated by arroyo willow (*Salix lasiolepis*), black willow (*Salix gooddingii*), and western sycamore (*Platanus racemosa*). Many drainages are drier and support more limited or patchy riparian vegetation dominated by mule fat (*Baccharis salicifolia*) with occasional pockets of arroyo willow and coyote willow (*Salix exigua*). Exotic species such as arundo (*Arundo donax*), castor bean (*Ricinus communis*), and tamarisk (*Tamarix* sp.) are also present at low densities in many of the drainages surveyed. Though the vireos typically used habitats in the base of the drainages, many pairs also utilized adjacent slopes consisting of dense chaparral or coastal sage scrub vegetation, including laurel sumac (*Malosma laurina*), toyon (*Heteromeles arbutifolia*), chaparral mallow (*Malacothamnus fasciculatus*), and lemonadeberry (*Rhus integrifolia*). Many vireo nests were placed in laurel sumacs.

The surveys followed established protocols (USFWS 2001, Sogge et al. 2010). During each visit that an individual was detected, its location was recorded. If it moved a significant distance during the observation period, additional locations were recorded, resulting in more mapped locations than the number of days it was detected in some instances. In order to maximize species detections in the various drainages within the survey area, the starting location on each survey day was varied so that no single drainage received the majority of the early morning survey time, when songbird detections are often highest. All avian species detected during the surveys were recorded. A complete list of avian species detected during surveys is in Table 4.

In early May, a few pairs of vireos were discovered singing territorially in chaparral and coastal sage scrub vegetation, typically on the north facing slopes of drainages. The survey effort was subsequently significantly expanded, and sustained efforts were made to survey all similar habitat areas on the Station. In the course of these expanded surveys, many additional pairs were found in drainages with very limited riparian vegetation and where vireos had not been detected previously.

During the course of the surveys, eight vireo nests were found. Though nest monitoring was not a component of the survey effort, these nests were monitored on subsequent visits to provide information on nesting success and parasitism rates in the area. A total of eleven vireo nesting events were documented during the surveys. These three additional nesting events were determined by detecting vireo or Brown-headed cowbird (*Molothrus ater*) fledglings attended by adult vireos, though the nests were not found.

Of the eight nests located, only two successfully fledged young. Though this sample size is small, it implies a poor reproductive year. Further evidence of a poor reproductive year is that of the seventeen pairs on the Station, only four were determined to have successfully fledged young vireos. Many pairs that lost a nest did not re-nest in their territory as would happen in a more typical year. Vireos arrived on their breeding grounds late this year, and territory defense, pair formation, and nest initiations all seemed to be delayed. This implies that the birds arrived in poor physiological condition.

Due to ongoing efforts to band Least Bell's vireos throughout southern California, an attempt was made to visually observe the legs of every adult vireo to determine if it had been previously banded. Most vireos' legs were observed at least once during the surveys. The pair I male was observed to have a blue anodized metal band on his left leg on June 3. On June 10, this male was captured in a mist-net by Dr. Barbara Kus of the U.S. Geological Survey, and fitted with color bands. A white/dark blue split band was placed above the metal band on the left, and a white/black striped band was placed on the right. The metal band number was determined to be 2320-28268, and was found to be a bird banded as a nestling in the San Luis Rey River in Oceanside, CA on May 25, 2006. No other banded vireos were observed.

There was only willow flycatcher observation recorded on one occasion during the performance of this survey effort. It was not detected subsequently and is assumed to be a migrant bird. Based on the date of observation, the song pattern heard, and relative abundance of the various subspecies, it likely belongs to the subspecies *brewsteri*, which breeds in northern California and points north (Unitt 1987). However, the subspecies of migrant willow flycatchers is impossible to determine with certainty in the field.

Brown-headed cowbirds (*Molothrus ater*) were common to abundant throughout the various drainages on the Station. Areas with particularly high concentrations included Sycamore Canyon, San

Clemente Canyon, and Rose Canyon. Brown-headed cowbird parasitism was observed on two occasions. One in upper San Clemente Canyon where pair C was observed feeding a cowbird fledgling, and one in a small drainage south of the Sheriff's Range where the nest for pair J was found to have a cowbird egg. While this appears to be a small number, only four successful vireo reproduction events were noted, and this would have been five had not pair C raised a cowbird chick. Numerous other species are subject to lowered reproductive rates due to cowbird parasitism, including two California State Species of Special Concern that are breeding on the base, Yellow Warbler (*Dendroica petechia*), and Yellow-breasted Chat (*Icteria virens*; Shuford and Gardali 2008). Within areas of Sycamore canyon that previously supported multiple pairs of least Bell's vireo, only one resident pair has been found. This area does seem to support a large population of cowbirds as well.

The area in the upper San Clemente drainage was not known to support a population of least Bell's vireo. Previous surveys did not identify any of these areas as suitable habitat. While each pair or individual least Bell's vireo range is near willow patches identified as habitat, the birds have been observed ranging around these patches into chaparral, particularly into areas containing laurel sumac (*Malosma laurina*).

It is interesting that six of the eight nests observed were located in chaparral shrub species, five in laurel sumac (*Malosma laurina*) and one in holly-leaved cherry (*Prunus illicifolia*). With the exception of the nest in the cherry, all of these pairs had at least some willow shrubs available to them within their territories, but chose to nest in chaparral shrub species instead. Due to the limited time available for nest searching and monitoring, it is not possible to compare the reproductive success of pairs in various habitats. However, it was observed that at least some of the chaparral inhabiting pairs were successful in raising offspring, including pair N which fledged four young. This question would be an interesting topic for future investigation.

## 6.0 References

- AmDyne Corporation. 2008. Final Report: Least Bell's Vireo and Southwestern Willow Flycatcher Surveys on MCAS Miramar. Unpublished report prepared for Marine Corps Air Station Miramar.
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- USFWS. 2006. Least Bell's Vireo 5-year Review Summary and Evaluation. US Fish and Wildlife Service, Carlsbad, CA. September 2006.
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## **7.0 Photos**



**Figure 1. Dense riparian woodland in lower San Clemente Canyon where the migrant willow flycatcher was observed. Photo taken June 29, 2011 by Kevin B. Clark.**



**Figure 2. Multi-story riparian forest in Sycamore Canyon occupied by pair A. Photo taken July 14, 2011 by Kevin B. Clark.**



**Figure 3. Chaparral slope inhabited by pair L. Note sparse mule fat in bottom of drainage. Photo taken July 16, 2011 by Kevin B. Clark.**





**Figure 4. Nest for pair L in holly-leaved cherry on chaparral slope. This nest fledged four young. Photo taken July 1, 2011 by Kevin B. Clark.**



**Figure 5. Male of pair I color banded by Dr. Barbara Kus of USGS. This bird had been banded as a nestling on May 25, 2006 in the San Luis Rey River in Oceanside, CA. Photo taken June 10, 2011 by Kevin B. Clark.**

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## ***8.0 Copy of US Fish and Wildlife Service Permit***

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# FEDERAL FISH AND WILDLIFE PERMIT

1. PERMITTEE

KEVIN B. CLARK  
7558 NORTHRUP DR  
CLARK BIOLOGICAL SERVICES  
SAN DIEGO, CA 92126-5115  
U.S.A.

2. AUTHORITY-STATUTES

16 USC 1539(a)  
16 USC 1533(d)  
16 USC 703-712

REGULATIONS

50 CFR 17.22  
50 CFR 17.32  
50 CFR 21.23 & 21.27  
50 CFR 13

3. NUMBER

**TE117947-3** AMENDMENT

4. RENEWABLE

YES  
 NO

5. MAY COPY

YES  
 NO

6. EFFECTIVE

11/27/2009

7. EXPIRES

06/30/2013

8. NAME AND TITLE OF PRINCIPAL OFFICER (If #1 is a business)

9. TYPE OF PERMIT

THREATENED AND ENDANGERED SPECIES

10. LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED

ON LANDS SPECIFIED WITHIN THE ATTACHED SPECIAL TERMS AND CONDITIONS

11. CONDITIONS AND AUTHORIZATIONS:

- A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS.
- B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL OR OTHER FEDERAL LAW.
- C. VALID FOR USE BY PERMITTEE NAMED ABOVE.
- D. Further conditions of authorization are contained in the attached Special Terms and Conditions.

ADDITIONAL CONDITIONS AND AUTHORIZATIONS ALSO APPLY

12. REPORTING REQUIREMENTS:

ANNUAL REPORTS DUE: 1/31

See permit conditions for further reporting requirements.

ISSUED BY

TITLE

ENDANGERED SPECIES DIVISION CHIEF

DATE

11/27/2009

SPECIAL TERMS AND CONDITIONS

Kevin B. Clark

1. This permit was previously issued on July 1, 2009. The terms and conditions set forth in that permit are hereby superseded by this amendment.
2. Acceptance of this permit serves as evidence that the permittee understands and agrees to abide by the "General Conditions for Native Endangered and Threatened Wildlife Species Permits," 50 CFR Part 13, 50 CFR 17.22 (endangered wildlife) and/or 50 CFR 17.32 (threatened wildlife), as applicable (copies attached). In addition, the permittee must have any other applicable State and Federal permits prior to the commencement of activities authorized by this permit.
3. The permittee is authorized to take (harass by survey and locate and monitor nests) the coastal California gnatcatcher (*Polioptila californica californica*), the southwestern willow flycatcher (*Empidonax traillii extimus*), the California least tern (*Sterna antillarum browni*), and the western snowy plover (*Charadrius alexandrinus nivosus*); take (locate and monitor nests; play taped vocalizations; handle, band, color-band, release) the least Bell's vireo (*Vireo belli pusillus*); take (harass by survey and collect and sacrifice) the Conservancy fairy shrimp (*Branchinecta conservatio*), the longhorn fairy shrimp (*Branchinecta longiantenna*), the Riverside fairy shrimp (*Streptocephalus woottoni*), the San Diego fairy shrimp (*Branchinecta sandiegonensis*), the vernal pool fairy shrimp (*Branchinecta lynchi*), and the vernal pool tadpole shrimp (*Lepidurus packardii*), (hereafter collectively referred to as vernal pool branchiopods); and take (survey by pursuit) the Quino checkerspot butterfly (*Euphydryas editha quino*); in conjunction with surveys and population monitoring for the purpose of enhancing their survival, as specified in the permittee's August 13, 2009, permit request in accordance with the conditions stated below.
4. Permitted activities are restricted to the following geographic areas in California:
  - a. For the gnatcatcher, southwestern willow flycatcher, California least tern, western snowy plover, vernal pool branchiopods, and Quino checkerspot butterfly:

Throughout the range of each species.
  - b. For least Bell's vireo nest monitoring activities:

Throughout the range of the species.
  - c. For playing taped vocalizations and conducting banding activities for the least Bell's vireo:

Santa Margarita river drainage on Fallbrook Naval Weapons Station and Camp Pendleton Marine Base and the San Luis Rey river drainage in Northern San Diego County.

Proposals to conduct activities pursuant to this permit at specific locations within the above referenced areas must be submitted in writing to the appropriate Fish and Wildlife Office (FWO) of the U.S. Fish and Wildlife Service (Service) 10 days prior to conducting such activities. The appropriate FWO is determined as follows:

For Del Norte, Humboldt, and Mendocino Counties, contact the Arcata Fish and Wildlife Office (AFWO), 1655 Heindon Road, Arcata, California 95521 (telephone: 707-822-7201; fax: 702-822-8411). For the Central Valley hydrographic basin and the coast ranges north of the Santa Cruz County line, contact the Sacramento Fish and Wildlife Office (SFWO), Ecological Services, 2800 Cottage Way, W-2605, Sacramento, California 95825 (telephone: 916-414-6600; fax: 916-414-6710). For areas from Santa Cruz County south to Malibu Creek in Los Angeles County north of the Angeles National Forest, contact the Ventura Fish and Wildlife Office (VFWO), 2493 Portola Road, Suite B, Ventura, California 93003 (telephone: 805-644-1766; fax: 805-644-3958). For areas from Los Angeles County including and south of the Angeles National Forest to San Diego County, contact the Carlsbad Fish and Wildlife Office (CFWO), 6010 Hidden Valley Road, Suite 101, Carlsbad, California 92011 (telephone: 760-431-9440; fax: 760-431-9624).

Proposals shall include, as appropriate: (i) an explanation of the purpose of the study and a clear description of methods, including the names of field personnel and the number and dates of surveys; (ii) a map (at a minimum, a 1:24,000 scale U.S. Geological Survey (USGS) topographic map) depicting the location of the survey site(s); (iii) the assessor's parcel number (APN) for the site (if possible); and (iv) geographic information system (GIS) data depicting the survey site or global positioning system (GPS) coordinates (if possible). Information may be submitted electronically if pre-arranged with the Recovery Permit Coordinator.

The permittee shall not commence activities authorized by this permit in a new area or at a previously authorized site at a new time until permission is received from the appropriate FWO. If the permittee is denied authorization to conduct activities at the requested location(s), including previously authorized sites, a request for reconsideration may be submitted to the Endangered Species Division Chief at the Service's Regional Office for the Pacific Southwest Region (Region 8), 2800 Cottage Way, Room W-2606, Sacramento California 95825-1846, as provided in 50 CFR 13.29. The procedures specified in 50 CFR 13.29(b) must be followed.

5. Authorized individuals:

Only individuals on the attached List of Authorized Individuals (List) are authorized to conduct activities pursuant to this permit. The List, printed on Service letterhead, may identify special conditions or circumstances under which individuals are authorized to conduct permitted activities and must be retained with these Special Terms and Conditions. Each named individual shall be responsible for compliance with the terms and conditions of this permit.



To request changes to the List, the permittee shall submit a written request to the CFWO. The request shall be submitted at least 30 days prior to the requested effective date. The request shall be signed and dated by the permittee and include:

- a. The name of each individual to be appended to the List;
- b. The resume/qualifications statement of each person to be appended to the List, detailing their experience with each species and type of activity for which authorization is requested;
- c. The names and phone numbers of a minimum of two references; and
- d. The names of the individuals to be deleted from the List.

Note: This procedure is for personnel changes only. For requests to renew/amend this permit, a complete application must be submitted to the Endangered Species Division Chief, at the Region 8 office.

6. Taking of the least Bell's vireo (vireo):

The permittee is authorized to conduct survey and nest-monitoring activities using taped vocalizations, capture, handle, band, color-band, and release vireo adults and nestlings; and to remove brown-headed cowbird eggs and nestlings from parasitized vireo nests within the geographic boundaries specified above, and the time limitation specified in the permit, provided that:

- a. Prior to conducting vireo activities, the permittee shall coordinate with monitors and managers of vireo working groups (if any) within the specified geographic areas for each population.
- b. Surveys shall be conducted in accordance with the approved Service protocol for vireo surveys unless authorized in advance by the Service.
- c. Nests shall not be visited more than once per day and three times per nesting season.
- d. Activities shall not be conducted during inclement weather conditions that would significantly reduce the detectability of the species or expose nest contents to the elements (e.g., rain, strong wind, fog).
- e. Nests shall not be visited if western scrub jays (*Aphelocoma californica*) or brown-headed cowbirds are detected in the immediate vicinity.
- f. All banding and color-banding shall be conducted under a valid Federal Migratory Bird Banding Permit with auxiliary marking authorization.

- g. Color-banding schemes shall be coordinated with the vireo working group.
- h. The permittee is authorized to apply up to three bands (including a Service band) per adult and up to two bands (including a Service band) per nestling. Authorized band combinations are as follows:
  - i. One Service and one metal band per adult; OR one Service band and one color band per adult; OR one Service and two half-sized color bands per adult; with no more than one full-sized band or two half-sized bands per leg.
  - ii. One Service and one metal band per nestling; OR one Service band and one full-sized color band per nestling; OR one Service and one half-sized color bands per nestling; with no more than one band per leg.
- i. Within 45 days following completion of the field season, a report shall be submitted to the appropriate FWO that presents observational data on vireos with more than two leg-bands, and discusses the effects of applying more than one band per leg.
- j. Nestlings shall be banded between 7 and 12 days of age.
- k. All plastic bands shall be sealed with acetone.
- l. The removal of brown-headed cowbird nestlings and eggs shall be accomplished in a manner that minimizes disturbance to any vireo eggs, nestlings, or nesting adults. Replacement of cowbird eggs with dummy eggs (to preclude the abandonment of small clutches) may be done at the discretion of the permittee.
- m. The permittee shall report any incidental detections and locations of potentially breeding vireos to the appropriate FWO.
- n. The permittee shall report, within 24 hours, any incidental detections and locations of potentially breeding southwestern willow flycatchers to the appropriate FWO.
- o. For playing vireo taped vocalizations:
  - i. Taped vocalizations shall be used to survey, nest monitor, or attract adult vireos to mist nets for banding purposes only when other methods fail, and shall be used as little as possible in order to minimize impacts to the vireo.
  - ii. Tapes may be used to attract adult vireos to mist nets when capturing for banding.

- iii. Tapes may be used to elicit responses of territorial vireos during surveys when spontaneous vocalizations are absent, and shall be used only until individuals have been initially located and not to elicit further behavior.
- iv. Tapes may be used to attract male vireos close enough to view bands and determine the color combinations of bands.

7. Taking of the coastal California gnatcatcher (gnatcatcher):

The permittee is authorized to survey for gnatcatchers using taped vocalizations, locate and monitor nests, and remove brown-headed cowbird eggs and chicks from parasitized gnatcatcher nests within the geographic boundaries specified above, and the time limitation specified in the permit, provided that:

- a. Tapes are used only until individuals have been initially located and not to elicit further behavior.
- b. Activities are not conducted during inclement weather conditions that would significantly reduce the ability to detect the species or expose nest contents to the elements (e.g., rain, strong wind, fog).
- c. Surveys shall be conducted in accordance with the approved Service protocol (attached) unless authorized in advance by the appropriate FWO.
- d. Nests are visited no more than once per day and no more than three times during the nesting season.
- e. Nests are not visited if western scrub jays or brown-headed cowbirds are detected in the immediate vicinity.
- f. The removal of brown-headed cowbird chicks and eggs is accomplished with minimal disturbance to gnatcatcher eggs, chicks, or nesting adults. Replacement of cowbird eggs with dummy eggs (to preclude the abandonment of small clutches) shall be done at the discretion of the permittee.

8. Taking of the southwestern willow flycatcher (flycatcher):

The permittee is authorized to survey for flycatchers using taped vocalizations, locate and monitor nests, and remove brown-headed cowbird eggs and chicks from parasitized flycatcher nests within the geographic boundaries specified above, and the time limitation specified in the permit, provided that:

- a. The permittee attends the required formal training sessions before conducting activities pursuant to this permit. The training sessions shall be conducted by the Service, the Biological Resources Division of the USGS, or their designated agents, and shall include updated curricula pertaining to flycatcher detection

techniques, habitat assessments, nest monitoring, bird banding and marking, and bird handling. The permittee must be rated as qualified by the course instructors before initiation of permitted activities. The permittee should contact the CFWO to find out when and where the next flycatcher training session will be conducted.

- b. The permittee conducts all presence/absence surveys and nest monitoring activities in accordance with the Southwestern Willow Flycatcher Protocol Revision 2000 and protocols prescribed by the appropriate FWO or in current or revised versions of:
  - i. Sogge, M.K., R.M. Marshall, S.J. Sferra, and T.J. Tibbitts. 1997. A Southwestern Willow Flycatcher Natural History Summary and Survey Protocol. Technical Report NPS/NAUCPRS/NRTR-97/12.
  - ii. Ralph, C.J., G.R. Geupel, P. Pyle, T.E. Martin, and D.A. DeSante. 1993. Handbook of Field Methods for Monitoring Landbirds. U.S. Forest Service General Technical Report PSW-GTR-144.
- c. Tapes are used only until individuals have been initially located and not to elicit further behavior.
- d. Activities are not conducted during inclement weather conditions that would significantly reduce the ability to detect the species or expose nest contents to the elements (e.g., rain, strong wind, fog).
- e. The permittee shall report, within 24 hours, all detections and locations of potentially breeding flycatchers to the appropriate FWO.
- f. The permittee shall report any incidental detections and locations of potentially breeding vireos to the appropriate FWO.
- g. The removal of brown-headed cowbird eggs and chicks is accomplished with minimal disturbance to any flycatcher eggs, chicks, or nesting adults. Replacement of cowbird eggs with dummy eggs (to preclude the abandonment of small clutches) shall be done at the discretion of the permittee.
- h. For nest locating and monitoring:
  - i. Nests are not visited more than once per day and three times per nesting season. The permittee may use following time periods to help determine developmental stage of the nestlings:

Nest construction - 3 to 8 days;  
Egg laying - 3 to 5 days after nest construction;  
Incubation - 12 to 13 days after egg laying; and  
Fledging - 12 to 15 days after hatching.

- ii. Nests are not visited if scrub jays or brown-headed cowbirds are detected in the immediate vicinity.
- iii. Nest locating and monitoring shall only be conducted by one or two individuals during any visit.
- iv. Flycatcher nest trees, nests, and eggs shall not be touched or handled. The permittee shall use an extension pole with a mirror to check nest contents only when necessary.
- v. The permittee shall use behavioral clues as a guide to the nesting area and nest, rather than random searching.
- vi. Once a nest is located, the permittee shall observe the behavior of the adult flycatcher(s) to ascertain the reproductive stage occurring (nest building, egg-laying, incubation, nesting, or fledging). This can be done with binoculars or a scope from a distance. If necessary, the nest may be inspected with great care and the minimal amount of time needed to determine status.

9. Taking of the California least tern (least tern):

The permittee is authorized to harass by survey, and locate and monitor nests within the geographic boundaries specified above, and the time limitation specified in the permit, provided that:

- a. Disturbance to nesting and brooding terns shall be avoided during climatic conditions such as high wind, extreme cold, or extreme heat (e.g., the ambient temperature, measured 3 inches above the surface, exceeds 85 degrees Fahrenheit). Attempts shall be made to minimize the amount of time spent in least tern nesting areas.
- b. When monitoring of least terns is to occur at western snowy plover nesting sites, the permittee shall contact the appropriate FWO to coordinate activities with the plover monitor(s) to minimize disturbance to the plovers.
- c. Capture, banding, marking, and handling of least tern adults and chicks are not authorized under this permit.

10. Taking of the western snowy plover (plover):

The permittee is authorized to harass by survey and locate and monitor nests within the geographic boundaries specified above, and the time limitation specified in the permit, provided that:



- a. Disturbance to nesting and brooding plovers should be avoided during certain climatic conditions, such as high wind and extreme cold or heat (e.g., the ambient temperature, measured 3 inches above the surface, exceeds 85 degrees Fahrenheit). Attempts should be made to minimize the amount of time spent in plover nesting areas.
- b. Activities shall be conducted using methods and techniques that will not compromise the safety of individual plovers, and their nests, eggs, and young.
- c. Capture, banding, marking, and handling of plover adults and chicks are not authorized under this permit.

11. Taking of the Quino checkerspot butterfly (Quino):

The permittee is authorized to survey by pursuit, handle, and live-capture Quino for the purpose of identification by the Service or its representatives within the geographic boundaries specified above, and the time limitation specified in the permit, provided that:

- a. Survey, handling, and capture activities shall be conducted in accordance with the most recent Service approved protocol (attached) for the Quino unless authorized in advance by the CFWO. Larva or adult live captures shall only occur in areas designated in the approved protocol.
- b. Handling and capture is limited to one individual Quino larva, pupa, or adult per site.
- c. The permittee shall successfully pass the most recent version of the Service's practical examination for the Quino prior to initiating focused surveys unless authorized in advance by a letter from the Service.
- d. Host and nectar plants are not to be removed from the field.

12. Taking of the vernal pool branchiopods

The permittee is authorized to sample and collect voucher specimens of the vernal pool branchiopods (both hatched individuals and eggs) within the geographic boundaries specified above, and the time limitation specified in the permit, provided that:

- a. The permittee must implement all of the actions included in the attached *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods* (Guidelines), dated April 19, 1996. The Guidelines will be updated periodically and the permittee must follow the most recent Guidelines after receipt of such. Any deviation from these Guidelines shall first be approved verbally or in writing by the SFWO.

- b. As specified in the Guidelines, sampling/collecting of hatched individuals or eggs is not authorized at any specific location until the permittee obtains approval from the appropriate FWO.

Note: The sampling and preservation of voucher specimens from locations that have been previously surveyed will not be authorized, except in cases where the adequacy of the earlier survey work is in doubt or otherwise should be repeated as determined by the Service.

- c. The number of voucher specimens authorized to be collected and preserved is limited to no more than 20 hatched individuals of each species from each vernal pool (or swale) per sampling visit or less than 10 percent of the subpopulation in the vernal pool (or swale) during the sampling visit, whichever is the lesser amount.
- d. The permittee is authorized to collect an unquantifiable number of vernal pool branchiopod eggs contained within soil samples taken following the most recent Guidelines. The total amount of soil samples each calendar year should not exceed a ratio of 1 liter per each 10 square meters (approximately 1 percent at 1 centimeter deep) of estimated vernal pool surface area surveyed.
- e. The permittee shall disinfect sampling and field gear as follows:
- i. Remove mud, snails, algae, and other debris from nets, traps, boots, vehicle tires, and all other surfaces. Rinse cleaned items with sterilized (e.g., boiled or treated) water before leaving each survey site.
  - ii. Boots, nets, traps, etc. must be scrubbed with 70 percent alcohol (i.e., isopropyl or ethanol) or 3 to 6 percent sodium hypochlorite and thoroughly rinsed with clean tap water between survey sites. Avoid cleaning equipment in the immediate vicinity of a pond or wetland.
  - iii. In remote locations, clean all equipment as described above upon return to the lab or base camp. Elsewhere, when washing machine facilities are available, remove nets from poles and wash with bleach on the delicates cycle, within in a protective mesh laundry bag.
  - iv. Used cleaning materials (liquids, etc.) shall be disposed of safely at the lab. Used disposable gloves shall be retained for safe disposal in sealed bags.
- f. Incidental take of California tiger salamander (*Ambystoma californiense*) larvae and adults (capture with dip net and immediately release where captured) while conducting vernal pool branchiopod surveys is authorized. If the permittee

observes California tiger salamanders during the course of field surveys, the locations shall be listed as UTM coordinates in the 90-day report referenced below.

- g. Within 90 days following completion of the last field visit at each project site, a report shall be submitted to the SFWO following the general reporting format specified below. The report shall include all reporting criteria specified in the current Guidelines unless otherwise specified below:
  - i. Each survey report submitted to the Service shall include the following:
    - A. An introduction section addressing reasons and objectives for taking the species;
    - B. Methodology section addressing data collection and analysis procedures, the names of personnel, and the number and dates of surveys;
    - C. Results section that includes data collected (including reporting criteria specified in the Guidelines) and summarizes the data collected;
    - D. Conclusion section that specifically provides recommendations for recovery of the species and any other pertinent observations made during survey efforts.
  - ii. All vernal pool data sheets should be included as attachments to the final 90-day report. Vernal pool datasheets shall not solely be submitted as a final report for any one project site;
  - iii. The location of the project site and survey area shall be delineated on a USGS topographic map (1:24,000 scale), and the location of the listed vernal pool branchiopods (i.e., pools, swales, ponds) delineated on a USGS topographic map in as precise a manner as possible (e.g., UTM coordinates or location within a section);
  - iv. Reports submitted to the Service shall provide accurate and complete reporting of activities. Each report shall include the following certification statement and be signed by each surveyor(s) performing activities pursuant to this permit: "I certify that the information in this survey report and attached exhibits fully and accurately represents my work." The date of signature and the surveyor's permit number shall be included.
- 13. Within 45 days following completion of a survey and/or nest monitoring activity for the flycatcher, gnatcatcher, vireo and Quino, a report shall be submitted to the Recovery



Permit Coordinator at the appropriate FWO that includes: (a) the location of the survey area delineated on a USGS topographic map (1:24,000 scale); (b) a qualitative description of the plant communities (including dominant species and habitat quality) on and adjacent to the survey area; (c) a complete description of survey methods including the names of personnel, the number of acres surveyed per biologist per survey-day, the number and dates of surveys, survey routes, the temperature and weather conditions at the beginning and end of each survey, and how frequently taped vocalizations were used, if at all; (d) the number, age (adult, juvenile, nestling, unknown), and sex of all flycatchers, gnatcatchers, vireos, and brown-headed cowbirds detected; these data shall also be plotted on 1:24,000 scale map(s) of the survey area to the extent possible; (e) the APN for the site (if possible); (f) GIS data or GPS coordinates (if possible); (g) a conclusion section that specifically provides recommendations for recovery of the species; and (h) other pertinent observations made during survey efforts. Information may be submitted electronically if pre-arranged with the Recovery Permit Coordinator.

14. The number of individuals allowed to be incidentally injured or killed during the performance of permitted activities is zero gnatcatchers, zero vireos, zero flycatchers, zero least terns, zero plovers, 10 individuals of each vernal pool branchiopod species (and an unquantifiable number of eggs), zero Quino, and zero California tiger salamanders (larvae or adults) in any calendar year. In the event that the number of individuals allowed to be incidentally injured or killed is exceeded during the performance of permitted activities, the permittee must:
  - a. Immediately cease the activity resulting in injury or death until reauthorized by the Region 8 office, which may, after analysis of the circumstances of mortality or injury, revoke or amend this permit.
  - b. Immediately notify the Region 8 Recovery Permit Coordinator (telephone: 760-431-9440; fax: 760-930-0846) and the appropriate FWO. The permittee must follow-up such verbal notification in writing to each office.

With the written notification, the permittee is to provide a report of the circumstances that led to the injury or mortality. A description of the changes in protocols that will be implemented to reduce the likelihood of such injury or mortality from happening again should be included, if appropriate. The incident shall also be discussed in the annual report that is subsequently submitted. A copy of this report shall also be sent to the California Department of Fish and Game (CDFG), Attention: Permit Biologist, Wildlife Branch, 1812 Ninth Street, Sacramento, California 95811 (telephone: 916-445-3764).

- c. The appropriate parts of any dead specimen shall be preserved in accordance with standard museum practices. Before expiration of the permit, all preserved specimens shall be properly labeled and deposited with one of the designated depositories. The permittee shall supply the depository with a copy of this permit to validate that the specimens supplied to the museum were taken pursuant to a permit.

15. The permittee is authorized to salvage all gnatcatcher, vireo, flycatcher, least tern, and plover carcasses to be provided to one of the designated depositories.
16. Designated depositories:
  - a. For the gnatcatcher, southwestern willow flycatcher, California least tern, western snowy plover, least Bell's vireo, and the vernal pool branchiopods:  
  
The California Academy of Sciences, Golden Gate Park, San Francisco, California; the Museum of Vertebrate Zoology, University of California, Berkeley, California; the San Diego Museum of Natural History, San Diego, California; or the Los Angeles County Museum of Natural History, Los Angeles, California. Other depositories may be authorized by an appropriate FWO.
  - b. For the Quino:  
  
The Entomological Museum, University of California, Riverside, California.
17. California Natural Diversity Database forms shall be completed, as appropriate, for each listed species addressed herein and submitted to the Biogeographic Data Branch, CDFG, 1807 13th Street, Suite 202, Sacramento, California 95811 (also accessible online at: <http://www.dfg.ca.gov/biogeodata/cnddb>), with copies submitted to the appropriate FWO. Copies of the form can be obtained from the CDFG at the above address (telephone: 916-324-3812).

All reports or other documents that include information gathered under the authority of this permit (e.g., reports prepared by consulting firms for their clients) shall reference this permit. Copies of such documents shall be provided to the appropriate FWO immediately upon their completion. Draft documents and other information resulting from work conducted under the authority of this permit shall be submitted to the Service upon request.

18. Annual reports:  
  
Annual reports shall be submitted to the Recovery Permit Coordinator at each appropriate FWO by January 31, following each year this permit is in effect. Specifically, part 17(a) below is required as applicable and part 17(b) below is required as specified:
  - a. As applicable, for any research or monitoring activity authorized pursuant to this recovery permit and/or for any activity conducted for each species authorized pursuant to this permit that does not have a previously required reporting obligation as stated in survey protocols, survey guidelines, or previously specified in this permit, the permittee shall submit an annual report in the following format: (i) an introduction section addressing reasons and objectives for taking the species; (ii) a methodology section addressing data collection and analysis procedures; (iii) a results section that summarizes the data collected including any

information on any other federally listed species detected while conducting activities authorized under this permit; and (iv) a conclusion section that specifically provides recommendations for recovery of the species. If no activities occurred over the course of a year, indication of such shall be submitted as an annual report. Information may be submitted electronically if pre-arranged with the Recovery Permit Coordinator.

The annual report shall include, but not be limited to:

- i.. Summary presentations and brief discussions of research and/or monitoring results;
  - ii. Locations sampled or survey/monitoring area delineated on a 7.5 minute U.S. Geological Survey topographic map at 1:2400 scale. The name of the USGS map identified;
  - iii. The names of all personnel conducting the activity and associated permit numbers;
  - iv. The results of all sampling efforts, including estimates of population sizes and genetic analyses (if applicable);
  - v. For least terns and plovers, the results section shall also include: (i) the total number of least terns and plovers seen per survey; (ii) the number of nesting adults; (iii) the number of nest initiations; (iv) total eggs laid; (v) an estimate of hatching success (e.g., hatched, abandoned, predated, weather or human impact); (vi) determination of chick outcome (e.g., survival, other outcomes); (vii) the number of fledglings produced per adult; (viii) a listing of all Service/color-band combinations observed; and (ix) a list of observed and suspected predators.
  - v. Reports or other documents that include information gathered under the authority of this permit;
  - vi. Numbers of individuals incidentally killed, including dates, locations, circumstances of take, and depository receiving the preserved specimen(s);
  - vii. Other pertinent observations made during sampling efforts regarding the status or ecology of the species; and
  - viii. Planned future activities if authorized under this permit.
- b. Required for all species authorized pursuant to this permit:
- i. An annual report of activities shall be submitted to the Recovery Permit Coordinator at each FWO as specified in term and condition number 4 above by January 31, following each year this permit is in effect. The report should provide a summary for each focused survey and/or permitted activity conducted during the previous calendar year for all species authorized pursuant to this permit. This annual report shall include, but not be limited to: (a) the title of the project (preferably the same title as was used in any survey, research, monitoring or other required report previously or concurrently being submitted to the Service), (b) the specific

location of the project site, including the County, (c) the common and scientific names of the listed species for which the permitted activity was conducted, (d) the numbers of each species observed and the dates of observation, (e) the date and name of the Service office where the survey, research, or monitoring report was or will be submitted, and (f) include the permittees name, permit number, and date of permit expiration. This information can be in tabular format and should provide a summary for each species authorized in this permit.

- ii. If no activities were conducted with any or all species authorized under the permit during the previous year, please state this in writing in your annual report.

- 19. Failure to comply with reporting requirements may result in non-renewal or suspension/revocation of this permit.

12/18/09  
Date

  
Endangered Species Division Chief



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Pacific Southwest Office  
2800 Cottage Way, Suite W-2606  
Sacramento, California 95825-1846



## LIST OF AUTHORIZED INDIVIDUALS TE-117947-3

1. Individual authorized to independently conduct activities pursuant to this permit:

Kevin B. Clark.

For the Quino, supervised individuals must first be added to this List, and may conduct activities pursuant to this permit only under the direct, on-site supervision of Mr. Clark. For all other species and/or activities, supervised individuals may conduct activities pursuant to this permit only under the direct, on-site supervision of Mr. Clark, but do not need to be named on this list. "On-site supervision" is defined as a supervised individual conducting activities within 3 meters (9.8 feet) of an independently authorized individual.

12/8/09  
Date

Michael M. Lopez  
Endangered Species Division Chief

This List is only valid if it is dated on or after the permit issuance date.

**Appendix A. Avian species detected during Marin Corps Air Station Miramar surveys  
April 12 - July 16, 2011.**

<b>Common Name</b>	<b>Scientific Name</b>
American Coot	<i>Fulica americana</i>
American Crow	<i>Corvus brachyrhynchos</i>
American Kestrel	<i>Falco sparverius</i>
Anna's Hummingbird	<i>Calypte anna</i>
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>
Barn Owl	<i>Tyto alba</i>
Bell's Vireo	<i>Vireo bellii</i>
Belted Kingfisher	<i>Ceryle alcyon</i>
Bewick's Wren	<i>Thryomanes bewickii</i>
Black Phoebe	<i>Sayornis nigricans</i>
Black-chinned Hummingbird	<i>Archilochus alexandri</i>
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>
Blue Grosbeak	<i>Passerina caerulea</i>
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>
Brown-headed Cowbird	<i>Molothrus ater</i>
Bullock's Oriole	<i>Icterus bullockii</i>
Bushtit	<i>Psaltriparus minimus</i>
California Gnatcatcher	<i>Polioptila californica</i>
California Quail	<i>Callipepla californica</i>
California Thrasher	<i>Toxostoma redivivum</i>
California Towhee	<i>Pipilo crissalis</i>
Caspian Tern	<i>Sterna maxima</i>
Cassins Kingbird	<i>Tyrannus vociferans</i>
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>
Common Moorhen	<i>Gallinula chloropus</i>
Common Raven	<i>Corvus corax</i>
Common Yellowthroat	<i>Geothlypis trichas</i>
Cooper's Hawk	<i>Accipiter cooperii</i>
Costa's Hummingbird	<i>Calypte costae</i>
Double-crested cormorant	<i>Phalacrocorax auritus</i>
European Starling	<i>Sturnus vulgaris</i>
Forster's Tern	<i>Sterna forsteri</i>
Gadwall	<i>Anas strepera</i>
Grasshopper Sparrow	<i>Ammodramus savannarum</i>
Great Egret	<i>Ardea alba</i>
Great-Blue Heron	<i>Ardea herodias</i>
Great-tailed Grackle	<i>Quiscalus mexicanus</i>
Green Heron	<i>Butorides virescens</i>
Hermit Warbler	<i>Dendroica occidentalis</i>
Hooded Oriole	<i>Icterus cucullatus</i>
Horned Lark	<i>Eremophila alpestris</i>
House Finch	<i>Carpodacus mexicanus</i>
House Wren	<i>Troglodytes aedon</i>
Killdeer	<i>Charadrius vociferus</i>
Lark Sparrow	<i>Chondestes grammacus</i>
Lazuli Bunting	<i>Passerina amoena</i>

Lesser Goldfinch	<i>Spinus psaltria</i>
Lesser Nighthawk	<i>Chordeiles acutipennis</i>
Loggerhead Shrike	<i>Lanius ludovicianus</i>
Mallard	<i>Anas platyrhynchos</i>
Mourning Dove	<i>Zenaida macroura</i>
Northern Flicker	<i>Colaptes auratus</i>
Northern Mockingbird	<i>Mimus polyglottos</i>
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
Northern Shoveler	<i>Anas clypeata</i>
Nuttall's Woodpecker	<i>Picoides nuttallii</i>
Olive-sided Flycatcher	<i>Contopus cooperi</i>
Orange-crowned Warbler	<i>Vermivora celata</i>
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>
Peregrine Falcon	<i>Falco peregrinus</i>
Phainopepla	<i>Phainopepla nitens</i>
Pied-billed Grebe	<i>Podilymbus podiceps</i>
Red-shouldered Hawk	<i>Buteo lineatus</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Ruddy Duck	<i>Oxyura jamaicensis</i>
Rufous-crowned Sparrow	<i>Aimophila ruficeps</i>
Sage Sparrow	<i>Amphispiza belli</i>
Snowy Egret	<i>Egretta thula</i>
Song Sparrow	<i>Melospiza melodia</i>
Sora	<i>Porzana Carolina</i>
Spotted Towhee	<i>Pipilo maculatus</i>
Swainson's Hawk	<i>Buteo swainsoni</i>
Swainson's Thrush	<i>Catharus ustulatus</i>
Townsend's Warbler	<i>Dendroica townsendi</i>
Tree Swallow	<i>Tachycineta bicolor</i>
Tricolored Blackbird	<i>Agelaius tricolor</i>
Virginia Rail	<i>Rallus limicola</i>
Warbling Vireo	<i>Vireo gilvus</i>
Western Bluebird	<i>Sialia Mexicana</i>
Western Grebe	<i>Aechmophorus occidentalis</i>
Western Kingbird	<i>Tyrannus verticalis</i>
Western Meadowlark	<i>Sturnella neglecta</i>
Western Scrub-Jay	<i>Aphelocoma californica</i>
Western Tanager	<i>Piranga ludoviciana</i>
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
White-tailed Kite	<i>Elanus leucurus</i>
White-throated swift	<i>Aeronautes saxatalis</i>
Wilson's Warbler	<i>Wilsonia pusilla</i>
Wrentit	<i>Chamaea fasciata</i>
Yellow Warbler	<i>Dendroica petechia</i>
Yellow-breasted Chat	<i>Icteria virens</i>
Yellow-rumped Warbler	<i>Dendroica coronata</i>