



United States  
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Agriculture

Animal and  
Plant Health  
Inspection  
Service

Wildlife  
Services

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**PREDATOR MANAGEMENT REPORT  
FOR  
SAN DIEGO INTERNATIONAL AIRPORT,  
CHULA VISTA WILDLIFE RESERVE,  
AND  
D STREET FILL  
2011  
California Least Tern (*Sternula antillarum browni*)  
Breeding Season**

**COOPERATOR:**

**USDA-APHIS-Wildlife Services  
P.O. Box 255348, Sacramento, CA 95865-5348**

**PREPARED BY:**

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**CONTRACTED BY:**

**PORT OF SAN DIEGO  
P.O. Box 120488, San Diego, CA 92112-0488  
Cooperative Agreement #11-73-06-2014-RA  
And  
SAN DIEGO COUNTY REGIONAL AIRPORT AUTHORITY  
P.O. Box 82776  
San Diego, CA 92138-2776  
Cooperative Agreement #11-73-06-5773-RA**



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## **INTRODUCTION**

The United States Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services (WS) program entered into a Cooperative Agreement (#11-73-06-2014RA) with the Port of San Diego and the San Diego County Regional Airport Authority (SDCRAA) (Cooperative Agreement #11-73-06-5773RA) to provide predator management for the protection of the federally-endangered California least tern (*Sternula antillarum browni*) (LETE) during the 2011 breeding season. This agreement was executed in fulfillment of the Port's and SDCRAA's requirements under the Endangered Species Act of 1973, as amended. Predator management activities were conducted at the following properties in San Diego County; San Diego International Airport (SDIA), Chula Vista Wildlife Reserve (CVWR), and D Street Fill. Predator management activities were conducted primarily by Wildlife Services Specialist (WSS) Rocco Moschetti, with assistance by District Supervisor (DS) John Turman, Assistant District Supervisor (ADS) Ryan McCreary, WSS Nathan Fowler, and WSS Brian Bonesteel.

## **LOCATIONS**

### San Diego International Airport and Teledyne-Ryan:

San Diego International Airport is located next to San Diego Bay, west of Interstate 5, along Harbor Drive. The LETE nesting areas are found on the southern part of the Air Operations Area (AOA). In this area, three sites, or "ovals" have been protected with a seven-inch tall plastic fence to keep chicks from wandering onto the taxiways. All three of these ovals were used by LETE for nesting during the 2011 season. Teledyne-Ryan property borders the southeastern boundary of SDIA property between Harbor Drive and SDIA. Wildlife Services performed predator control in this area because several predators travel from Teledyne-Ryan property to the nesting areas on SDIA. Wildlife Services conducted limited predator control on Teledyne-Ryan property during the 2011 nesting season, due to demolition of abandoned hangars and extensive hazardous material removal operations. The SDIA and Teledyne-Ryan property is administered exclusively by the SDCRAA.

### Chula Vista Wildlife Reserve:

The Chula Vista Wildlife Reserve is a 20-acre artificial peninsula located in South San Diego Bay; off the L Street exit from Interstate 5, and behind South Bay Power Plant. The CVWR is primarily a tidal marsh, with elevated fill areas and roads, surrounded by rip-rap along its shoreline. The CVWR supports a wide variety of shore birds. The CVWR is administered by the SDCRAA and held in trust by the State of California and the Port of San Diego.

### D Street Fill:

The D Street Fill is located in San Diego Bay, west of Interstate 5, and is reached using the Marina Bay exit. The nesting site is on the south side of Sweetwater Channel, approximately ¼ mile north of the Chula Vista Nature Center. The LETE nesting area is primarily comprised of elevated fill (i.e. beach sand) transitioning to sparse, upland scrub along the outer edges, with a large tidal mud flat to the west. The D Street Fill property is jointly managed by the Port and the U.S. Fish and Wildlife Service, Refuges Division.

## METHODS

The principal equipment and techniques used for predator management included various sizes of cage traps, padded-jaw leg-hold traps, foot and neck snares, raptor traps (i.e. pole traps, Bal-chatri traps, and Swedish Goshawk traps), compound DRC-1339 avicide, shooting, calling/shooting, spotlighting/shooting, and night-vision equipment. These methods, techniques, and tools were applied at or near the previously described nesting areas, and their placement and usage was based on predator observations and sign found. All trapping devices were used in accordance with all applicable laws and regulations, including Title 14, section 465.5 of the California Code of Regulations, and Wildlife Services Directive 2.450, sections 3a through 3d. Migratory birds were managed under the terms of a federal Migratory Bird Depredation Permit (#MB693199-1 and amendments), issued to WS by the U.S. Fish and Wildlife Service, Region 8 Migratory Bird Office.

Cage traps (Tomahawk ® Live Trap Co.) were used to capture a variety of mammalian predators and were placed in various locations in and around the nesting areas. Cage traps were inspected a minimum of once daily and concealed from view to prevent theft and/or tampering. They were baited with either dry or canned domestic cat food, or a combination of both. Padded-jaw leg-hold traps (Victor Soft-Catch ®), neck snares, and mechanical snares (Collarum ®) were placed in and around the nesting area to remove coyotes (*Canis latrans*) and grey fox (*Urocyon cinereoargenteus*) and were inspected a minimum of once a day.

Raptor traps were placed in and around LETE nesting areas to capture a variety of raptor species. Pole traps consist of a modified #1 or #1½ Victor® Soft-Catch® padded-jaw leg-hold trap, mounted on a perch pole. They were inspected a minimum of every four hours during daylight hours and a minimum of once during the night; unless such inspections would cause disturbance to the nesting LETE. Bal-chatri traps consist of a small wire cage with monofilament nooses attached to the top, baited with a mouse or other live bait. The trap is tethered to a weight to prevent the raptor, generally an American kestrel (*Falco sparverius*), from flying off with the cage. Bal-chatri traps were continuously monitored when used. Swedish Goshawk traps consist of a cage constructed of netting and a pair of spring-loaded doors held open by a hinged perch bar, baited with live bait such as a European starling (*Sturnus vulgaris*) or rock dove (*Columba livia*).

Shooting, calling/shooting, spotlight/shooting and night-vision equipment/shooting were used when other methods were unproductive, or when the immediate removal of a predator was necessary. Shooting was used only when safe conditions existed and in accordance with all applicable laws, regulations, and policies. The method of euthanasia for captured predators was sodium pentobarbital; delivered via injection, using either a hand-held syringe or a syringe pole.

Compound DRC-1339 is a federally registered avicide (EPA Reg. No. 56228-29) used to control common ravens (*Corvus corax*) and American crows (*Corvus brachyrhynchos*) that prey on the eggs and/or young of federally-listed species. DRC-1339 is a soluble powder that is mixed with water into a 4% solution. One-half ml of 4% solution was injected into medium-boiled chicken eggs, resulting in each egg containing 20 mg of the compound. Untreated eggs were first used as pre-bait to condition the target birds into consuming eggs from the bait stations. Once

consumption of the pre-bait eggs was observed, treated eggs were then placed into the bait stations; which consisted of a wooden box, approximately one foot by one foot, elevated approximately five feet above the ground and filled with sand to simulate a bird nest. Two or three eggs were placed in each bait station and secured with wire to prevent them from being removed by corvids. Bait stations were inspected daily and re-baited when 50% or more of the treated eggs offered had been consumed. Eggs not consumed after approximately two weeks were removed, when the active ingredient was no longer effective. All bait stations were marked with signs indicating the signal words “Danger - Poison”, along with a copy of the registration label as required by law. Additionally, each individual egg is marked with a small skull-and-crossbones stamped in red ink. In 2011, Compound DRC-1339 was applied at the Port properties and SDCRAA under the conditions of a Restricted Materials Permit (No. 37-11-37R6175), issued by the County of San Diego Pesticide Enforcement Branch.

The number of corvids taken with Compound DRC-1339 was determined by first estimating the number of birds consistently consuming pre-bait eggs from bait stations. Following the placement and subsequent consumption of DRC-1339-treated eggs, follow-up observations were conducted. The average difference between the two surveys provided an estimate of the number of birds taken during each treatment cycle. Because DRC-1339 is a slow-acting toxicant (24-48 hours), recovery of exposed birds is unlikely; thus, it was not possible to determine the exact number of birds that consumed or succumbed to the effects of this material.

#### SDIA/Teledyne-Ryan:

Cage traps and snap traps were used to capture Norway rats (*Rattus norvegicus*), black rats (*Rattus rattus*), Virginia opossums (*Didelphis virginiana*), feral cats (*Felis domesticus*) and a striped skunk (*Mephitis mephitis*). Cage traps were placed along the perimeter fence, immediately adjacent to the nesting areas. A Bal-chatri trap was used to capture an American kestrel on Teledyne-Ryan property. A Swedish Goshawk trap was placed on Teledyne-Ryan property in an attempt to capture a Cooper’s hawk (*Accipiter cooperii*).

Demolition of abandoned hangars, buildings, concrete and other construction activity on Teledyne-Ryan made usual predator control operations difficult. Due to the increased public visibility caused by removal of buildings and additional security awareness on Teledyne-Ryan property, WS used firearms on a very limited basis compared to previous years. Shooting was used to remove western gulls (*Larus occidentalis*), common ravens, Cooper’s hawks, and American crows on Teledyne-Ryan Property.

#### Chula Vista Wildlife Reserve:

Cage traps were used to capture Norway rats, black rats, Virginia opossums, striped skunks, feral cats, and California ground squirrels (*Otospermophilus beecheyi*). Cage traps were placed throughout the site in various locations and concealed from view. A Bal-chatri trap was also used to capture an American kestrel and a Swedish Goshawk trap was used at CVWR to capture common barn owls (*Tyto alba*). Shooting was used when trapping methods were unsuccessful, or when immediate removal of a predator was necessary. Shooting, spotlighting, and calling were used to remove feral cats, grey fox, a great horned owl, and striped skunks on CVWR during the 2011 nesting season.

### D Street Fill:

Cage traps were used to capture mammalian predators such as California ground squirrels, feral cats, striped skunks, Virginia opossums, and Norway rats. Padded-jaw leg-hold traps and neck snares were used to control coyotes. Pole traps and Bal-chatri traps were used to capture avian predators, primarily American kestrels. A Swedish Goshawk trap was used to capture Cooper's hawks and American kestrels. Shooting was used to remove common ravens, American crows, American kestrels, and Cooper's hawks.

## RESULTS

A total of 296 animals, from 10 avian, 12 mammalian species, and one reptilian species were removed from the three properties, using both non-lethal and lethal methods (Table 1). These species were recognized as known or potential predators of the LETE nests, young or adults; with the exception of cottontail rabbits (*Sylvilagus auduboni*), black-tailed jackrabbits (*Lepus californicus*), which were released at the capture site.

Predator management activities at all Port/SDIA nesting sites, specifically trapping efforts, resulted in a total of 5,839 cage trap-nights, 439 padded-jaw leg-hold trap-nights, 325 neck snare trap-nights, and 259 raptor trap-nights (Table 2). A total of 496 site-visits totaled 1,068.5 staff-hours for predator management activities at all nesting sites during the 2011 nesting season (Table 3). Additional time was spent maintaining equipment, contacting and coordinating with LETE monitors, assisting other WS personnel, record keeping, and writing reports. There were a total of 11 confirmed predation incidents and five suspected predation incidents during the 2011 nesting season (Table 4).

Species	Location		
	SDIA/ Teledyne Ryan	CVWR	D Street Fill
<b>Mammalian species</b>			
Striped Skunk ( <i>Mephitis mephitis</i> )	1	4	9
Virginia Opossum ( <i>Didelphis virginianus</i> )	1	4	2
Feral Cat ( <i>Felis domesticus</i> )	3	7	17
CA Gr. Squirrel ( <i>Otospermophilus beecheyi</i> )	0	41	29
Norway Rat ( <i>Rattus norvegicus</i> )	6	4	1
Cottontail Rabbit ( <i>Sylvilagus audubonii</i> ) <sub>1</sub>	1	2	2
Black-tailed Jackrabbit ( <i>Lepus californicus</i> ) <sub>1</sub>	0	0	1
Black Rat ( <i>Rattus rattus</i> )	6	25	10
Grey Fox ( <i>Urocyon cinereoargenteus</i> )	0	3	0
Coyote ( <i>Canis latrans</i> )	0	1	0
Raccoon ( <i>Procyon lotor</i> )	0	0	1

<b>Table 1. Species removed from, or released at SDIA/Teledyne Ryan, CVWR, and D Street Fill during the 2011 California Least Tern breeding season</b>			
<b>Reptilian species</b>			
Gopher Snake ( <i>Pituophis catenifer</i> )	0	0	1
<b>Avian Species</b>			
Northern Harrier ( <i>Circus cyaneus</i> ) <sup>2</sup>	0	1	0
Common Raven ( <i>Corvus corax</i> )	1	4	5
American Kestrel ( <i>Falco sparverius</i> ) <sup>2</sup>	1	2	4
Western Gull ( <i>Larus occidentalis</i> ) <sup>3</sup>	2	0	0
Barn Owl ( <i>Tyto alba</i> ) <sup>2</sup>	0	3	5
Great Horned Owl ( <i>Bubo virginianus</i> )	0	1	0
American Crow ( <i>Corvus brachyrhynchos</i> )	21	27	28
Cooper's Hawk ( <i>Accipiter cooperii</i> )	2	1	4
European Starling ( <i>Sturnus vulgaris</i> ) <sup>1</sup>	1	0	0
Great Blue Heron ( <i>Ardea herodias</i> )	0	0	1
<b>Total</b>	<b>46</b>	<b>130</b>	<b>120</b>
1 Released on-site (non-target species)			
2 Released to Project Wildlife for relocation			
3 Includes egg/ nest removal			

<b>Table 2. Number of trap-nights by method type at each Port/SDIA least tern nesting site, San Diego County, California during the 2011 nesting season.</b>				
<b>Nesting Site</b>	<b>Cage trap</b>	<b>Neck Snare</b>	<b>Padded-Jaw Leg-Hold</b>	<b>Raptor trap</b>
SDIA/ Teledyne Ryan	2239	0	0	24
CVWR	1476	65	109	56
D Street Fill	2124	260	330	179
<b>Total</b>	<b>5839</b>	<b>325</b>	<b>439</b>	<b>259</b>

<b>Table 3. Number of site-visits and hours spent conducting predator management activities at SDIA/ Teledyne Ryan, CVWR, and D Street Fill during the 2011 nesting season.</b>				
<b>Nesting Site</b>	<b>Number of visits</b>	<b>Percent of Total Visits/Site</b>	<b>Staff-hours/Site</b>	<b>Percent of Total Hours/Site</b>
SDIA/ Teledyne-Ryan	222	45%	348.75	33%
CVWR	136	27%	343.25	32%
D Street Fill	138	28%	376.50	35%
<b>Total</b>	<b>496</b>	<b>100%</b>	<b>1068.50</b>	<b>100%</b>

**Table 4. Documented California least tern depredation incidents at SDIA/Teledyne Ryan, CVWR, and D Street Fill, 2011 nesting season.**

Date	Predator Species	Location	LETE Loss				Predation
			Egg	Chick	Fledge	Adult	
5/23	Feral cat	D St Fill	3	0	0	0	confirmed
5/28	Feral cat	D St Fill	2	0	0	0	suspected
6/03	Gull-billed tern	CVWR	0	1	0	0	suspected
6/02	Peregrine falcon	D Street	0	0	0	1	suspected
6/07	Peregrine falcon	D St Fill	0	0	0	1	confirmed
6/13	Cooper's hawk	SDIA	0	1	0	0	confirmed
6/15	American kestrel	D St Fill	0	1	0	0	suspected
6/23	Common raven	SDIA	0	3	0	0	confirmed
6/23	Cooper's hawk	D St Fill	0	1	0	0	confirmed
6/24	Peregrine falcon	SDIA	0	1	0	0	confirmed
6/24	Common raven	SDIA	0	9	0	0	confirmed
6/28	Peregrine falcon	D St Fill	0	0	0	1	confirmed
6/29	Peregrine falcon	D St Fill	0	0	0	1	suspected
7/16	Peregrine falcon	CVWR	0	1	0	0	confirmed
7/19	Great-horned owl	CVWR	0	0	0	2	confirmed
8/03	Peregrine falcon	CVWR	0	0	0	1	confirmed

## DISCUSSION

Predator management began March 30, 2011 with visual observations and foot surveys of each site in order to determine predator use locations and abundance at each site. Cage traps were placed on each site prior to the arrival of the LETTE and were used continuously throughout the nesting season. Several known and potential mammalian predators were removed from each site during this period. Common ravens and American crows were also controlled at each active LETTE nesting site during this period to minimize egg predation. Raptors, such as American kestrels, Cooper's hawks, barn owls, and Northern harriers (*Circus cyaneus*) were managed once LETTE nesting was initiated in early May. No attempts were made to lethally or non-lethally remove peregrine falcons (*Falco peregrinus*), primarily because WS had no authority from the California Dept of Fish and Game to manage this state-protected species. However, several predation incidents involving peregrine falcons were recorded and will be discussed for each nesting site. Management efforts were maintained until all LETTE chicks were fledged and nesting activity ceased by the last week of August.

### SDIA/Teledyne-Ryan

A total of 78 LETTE nests were established on Lindbergh Field, which produced an estimate of 11-14 fledglings in 2011 (Robert Patton, personal communication). A total of 46 known or potential predators, from five mammalian and six avian species were removed from SDIA/Teledyne-Ryan property during the 2011 LETTE nesting season (Table 1).

The first week of June, monitors reported a Cooper's hawk frequenting the nesting site at SDIA/Teledyne-Ryan property. On June 13, 2011 WS observed a Cooper's hawk flying out of

the nesting site and landing in a pine tree adjacent to the cell phone lot. Wildlife Specialist Moschetti used firearms to lethally remove the bird. Wildlife Specialist Moschetti performed a necropsy that confirmed it had recently eaten a large LETE chick.

On June 23, 2011 WSS Moschetti observed four ravens walking in the east nesting site. One was immediately removed with firearms when it flew into the palm trees on the corner of Teledyne-Ryan property and Harbor Drive. The other three flew west toward Harbor Island where they could not be safely removed with firearms. Wildlife Specialist Moschetti inspected the area the ravens were initially observed and discovered the remains of three LETE chicks. Site monitors thoroughly searched the nesting site the next morning and found the remains of nine more LETE chicks. Wildlife Specialist Moschetti inspected the remains and verified ravens were responsible for the predation. Wildlife Specialist Moschetti placed out additional DRC 1339 baited eggs, but the ravens did not return. There were no more predation incidents caused by ravens during the 2011 nesting season.

On June 24, 2011 WSS Moschetti witnessed an adult peregrine falcon capture a large chick from the east nesting site. Although difficult to confirm, it was suspected numerous other peregrine falcon depredations of LETE occurred on Lindbergh Field during the 2011 nesting season, based primarily on the frequency of observations and historical predation incidents at the nesting site.

#### Chula Vista Wildlife Reserve (CVWR)

A total of 53 LETE nests were established on CVWR, which produced an estimate of 12-19 fledglings in 2011 (Robert Patton, personal communication). A total of 130 potential and known predators from eight mammalian and seven avian species were removed from CVWR during the 2011 season (Table 1).

In recent years, coyotes have been involved in several predation incidents at the nesting site; therefore, their removal along the perimeter of CVWR was a preventive measure. Coyote activity was mainly concentrated along the fence line bordering Saltworks near the northeast entrance of CVWR. Padded-jaw leg-hold traps, neck snares, and mechanical snare (Collarum®) devices were placed at fence crossings and trails during the beginning of the nesting season. A male coyote was captured on May 12, 2011. Wildlife Specialist Moschetti continued to monitor the fence for entry points and placed padded-jaw leg-hold traps or snares where appropriate to prevent coyote or other predator access. There were no predation incidents from coyotes or other mammalian predators during the 2011 nesting season.

On June 3, 2011 WSS Moschetti observed a gull-billed tern (*Gelochelidon nilotica*) (GBTE) prey on a LETE chick. The GBTE flew south, towards a GBTE nesting colony located at Saltworks. Though difficult to confirm, it is suspected that other predation incidents involving GBTE occurred during the 2011 nesting season. The USFWS continues to recognize the GBTE as a Bird of Conservation concern or BCC; affording the species complete protection. As a result, control of GBTE was not exercised, though GBTE activity was monitored.

Peregrine falcons were observed hunting CVWR on many occasions during the 2011 nesting season. Verified LETE predation incidents involving peregrine falcons were difficult to

determine; however, WSS Moschetti did verify two predation incidents during the 2011 nesting season. On July 16, 2011 site monitors discovered the remains of a LETE chick located in grid 8B. Specialist Moschetti inspected the kill and determined that a peregrine falcon was responsible, as several tracks were found and a peregrine falcon had been sighted in the area. On August 3, 2011 WSS Moschetti witnessed a female peregrine falcon kill a large LETE fledgling near the central nesting colony.

On July 19, 2011 monitors reported two adult LETE carcasses were found in grid 7B. Wildlife Specialist Moschetti inspected the remains and discovered owl tracks throughout the central nesting site. Wildlife Specialist Moschetti set additional equipment in the nesting site, including four pole traps and a Swedish goshawk trap, eventually removing two barn owls with pole traps and one barn owl with a Swedish goshawk trap. The birds were transported to Project Wildlife, then later banded and relocated at the end of the nesting season.

### D Street Fill

A total of 116 LETE nests were established on D Street Fill, which produced a total of 34-41 fledglings in 2011 (Robert Patton, personal communication). A total of 120 potential and known predators from seven mammalian and six avian species were removed from D Street Fill during the 2011 season (Table 1).

On May, 21 2011 site monitors reported nest #7 was missing one egg. Wildlife Specialist Moschetti investigated the nest and discovered yolk and albumen located six inches outside the nest. He began to search for tracks in the nesting colony and discovered nest #4 was also missing one egg. No tracks were found in the immediate area, however, fresh feral cat tracks were discovered on the east perimeter road. Additional cage traps were placed on the east perimeter road and edge of the nesting colony. The following day, May 22, 2011, monitors reported a second depredated egg in nest #7. Wildlife Specialist Moschetti inspected the egg and found two distinct punctures in the egg consistent with mammalian predation. Due to the presence of feral cat tracks found the day before, it was determined that feral cats were responsible for both predation incidents. That night, Moschetti used firearms to lethally remove two feral cats from the nesting colony. He also captured large feral cats in the cage traps placed on the east perimeter road on May 27 and May 30, 2011. Wildlife Services believes this increase in feral cat presence and predation at D Street was a result of feral cat colonies being fed at Pepper Park and Paradise Marsh National Wildlife Refuge. Wildlife Specialist Moschetti reported the incidents to National City Animal Control, but according to National City Animal Control they could not respond due to litigation from the Feral Cat Coalition.

At least four predation incidents involving peregrine falcons were confirmed on D Street Fill during the 2011 nesting season. On June 2, 2011 two adult peregrine falcons were observed by WSS Moschetti flying from the southwest portion of the site. One of the falcons was clutching an unidentified, white shorebird species. A definite identification of the prey species was not possible, but due to the tern colony agitation and flocking behavior, WS suspects it was a LETE chick. On June 7, 2011 WSS Moschetti found a dead LETE at the southwest corner of the nesting site and suspected a peregrine falcon was responsible, because one was observed in the nesting site earlier that day. On June 28, 2011 a live adult LETE was found by site monitors

bearing injuries consistent with peregrine falcon predation. The final incident of peregrine falcon predation observed on D Street Fill occurred on June 29, 2011. Wildlife Specialist Moschetti observed a large female peregrine falcon flying from the southwest corner of the nesting site carrying a large fledgling or adult LETE. Although difficult to confirm, it was suspected numerous other peregrine falcon depredations of LETE occurred during the 2011 nesting season, based primarily on the frequency of observations and historical predation incidents at the nesting site.

Wildlife Specialist Moschetti observed a female American kestrel hunting the western edge of the nesting site on June 14, 2011. The adult terns mobbed the kestrel out of the nesting colony, but site monitors suspected it captured at least one chick prior to leaving the site. On June 15, 2011 WSS Moschetti found a dead LETE chick in the area with puncture marks on its back consistent with kestrel predation. The same female kestrel was observed hunting the nesting site for the next week, and several attempts were made to capture the kestrel with a Bal-chatri trap. Finally on June 22, 2011 WSS Moschetti captured a female kestrel in a Swedish goshawk trap and transported it to Project Wildlife. After the nesting season it was banded and relocated.

On June 23, 2011 WSS Moschetti observed a Cooper's hawk feeding on a LETE chick at the southeast edge of the nesting site. Specialist Moschetti immediately removed the bird with firearms and performed a necropsy; which revealed the remains of one LETE chick. It should be noted the depredated chick was not banded. A second Cooper's hawk was captured in the Swedish goshawk trap the following day and transported to Project Wildlife for relocation.

## **RECOMMENDATIONS**

Maintain predator management efforts to assist in the recovery of the state and federally listed California Least Tern. The results of this season further demonstrate the need for predator management and continued protection.

Increase the amount of public education about the nesting sites via newsletters, articles, etc., on nesting bird behavior, nesting duration, and impacts of humans on nesting birds. Place additional signs at the nesting sites to notify the public of the endangered species nesting areas and that trespassing onto these sites will not be tolerated. Site specific recommendations are discussed below.

### SDIA/Teledyne-Ryan:

1. Maintain access to adjacent properties (former Teledyne-Ryan property) which greatly enhances Wildlife Services' ability to protect LETE at the nesting site. Access to the property should be arranged in advance with construction and demolition companies and security personnel prior to the next nesting season.
2. Continue rodent control programs on both SDIA and former Teledyne-Ryan property during the 2011 nesting season. There were no significant rat problems this year due to these successful programs; however, continued maintenance of rodenticide bait boxes along the

Teledyne/Lindbergh fence will be necessary to minimize the threat of rat predation in the future.

3. Continue periodic rooftop inspections of airport buildings to monitor for avian predator (e.g. gull and corvid) nesting activity. If it appears that avian predators are establishing nests on these sites, immediate response is recommended. Wildlife Services recommends that these nests be removed and eggs destroyed, and artificial or natural effigies (i.e. dead birds displayed in distressed positions) be placed near these locations to prevent further nesting.
4. Remove trash, leaves, and other debris along the fence bordering the former Teledyne-Ryan property and the cell phone lot to reduce harborage for rodents and other wildlife. Trimming or removing vines covering the fence line will also aid in preventing accumulation of trash and removing rodent attractants.
5. Enforce a “no feeding” policy for animals and wildlife on SDIA/Teledyne Ryan property. This should include construction sites and parking areas adjacent to the properties. Airport authorities should coordinate with Harbor Police or County Animal Control to discourage members of the public from feeding birds close to airport property.

Chula Vista Wildlife Reserve:

1. Construction on the site during the winter left many stakes or survey markers around the area. The poles, stakes and abandoned markers around the site should be removed to eliminate their use by avian predators. Nixalite® or another anti-perching material should be installed on signs or other potential perches where appropriate.
2. Repair holes in the fence bordering the power plant and Chula Vista Wildlife Reserve, as well as the fence south of the fuel tanks bordering Saltworks and the fence along Bay Boulevard. Raised areas beneath the fence in the area just south of the fuel tanks allow mammalian predator access to the area.
3. More frequent patrols by Harbor Police to prevent trespassers on both CVWR property and adjacent power plant and Port property are needed. Several incidents involving people entering the SDG&E corridor and power plant property resulted in cut fences and other illegal activities during the 2011 nesting season. The CVWR managers should consider installing cut proof fencing and security lighting in these areas to prevent illegal activities.
4. Remove wooden signs at the east and west ends of CVWR to eliminate their use as perches by avian predators. Clear “no trespassing” signs have been placed in the area and the old wooden signs are no longer legible or useful.
5. The NOAA, NMFS Green Sea Turtle monitoring personnel that utilize the CVWR should notify WS if they will be working in the area. Wildlife Services can move the cage traps and other equipment to different locations when feasible to minimize disturbance.

6. Do not allow construction or security personnel to feed wildlife on power plant property. There was obvious evidence this was occurring during the nesting season. Food and scraps left for wildlife will attract predators such as skunks, raccoons, and feral cats to the nesting sites.

#### D Street Fill:

1. Nixalite® or another anti-perching material should be placed on new signs to prevent/reduce use by avian predators.
2. Shrubs, trees and other vegetation growing through the chain link fence should be removed as part of the routine maintenance to prevent openings or gaps in the fence that would allow animals and/or humans entry on to D Street Fill.
3. Remove large acacia stands near the entrance to D Street to prevent use by raptors or other predators.
4. Repair holes in the chain link fence portions that come into contact with the North Channel. Salt water corrosion has left gaps in the fence over the rip-rap in some areas, which allows predators to enter the site, particularly at low tide.
5. Remove the short portion of galvanized chain link fence on the north shore of D Street. This piece of fence is less than 100 feet from the least tern nesting site and was again frequently used as a perch for raptors during the 2011 season, despite having nixalite on the posts.
6. Wildlife Services observed several colonies of feral cats at Pepper Park, Pier 32 Marina, Paradise Marsh south of the hotel, and along the abandoned railroad tracks north east of the D Street Fill entrance during the 2011 season. Wildlife Services recommends coordination with National City Animal Control and property management of these facilities to remove and to prevent illegal feeding of these animals.

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