# CALIFORNIA SPOTTED OWL
# (*Strix occidentalis occidentalis)*
# HABITAT ASSESSMENT AND FOCUSED SURVEY REPORT
# FOR THE SAN DIEGO GAS & ELECTRIC
# CLEVELAND NATIONAL FOREST
# MASTER USE PERMIT PROJECT
# SAN DIEGO COUNTY, CALIFORNIA

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## LIST OF ACRONYMS

| | |
|---|---|
| BLM | Bureau of Land Management |
| BA/BE | Biological Assessment/Biological Evaluation |
| BO | Biological Opinion |
| CDFG | California Department of Fish & Game |
| CEQA | California Environmental Quality Act |
| Chambers Group | Chambers Group, Inc. |
| CLOW | Coast Live Oak Woodland |
| cm | centimeter |
| CNDDB | California Natural Diversity Database |
| CNF | Cleveland National Forest |
| CPUC | California Public Utilities Commission |
| CSC | Species of Concern |
| CSOW | California Spotted Owl (*Strix occidentalis occidentalis)* |
| CWHR | California Wildlife Habitat Relationship |
| dbh | diameter at breast height |
| EIR/EIS | Environmental Impact Report/Environmental Impact Statement |
| ft. | foot |
| in. | inch |
| km | kilometer |
| mi. | mile |
| MSOW | Mexican spotted owl (*Strix occidentalis lucida*) |
| NEPA | National Environmental Policy Act |
| NSOW | Northern Spotted Owl (*Strix occidentalis caurina*) |
| ROW | Right-of-Way |
| SCLORF | Southern Coast Live Oak Riparian Forest |
| SDG&E | San Diego Gas & Electric |
| SDNHM | San Diego Natural History Museum |
| USFS | U.S. Forest Service |
| USFWS | U.S. Fish and Wildlife Service |

# SECTION 1.0 – INTRODUCTION

## 1.1 PROJECT DESCRIPTION

The Cleveland National Forest (CNF) is requesting an Environmental Impact Statement (EIS) be prepared for the issuance of a Master Special Use Permit to the San Diego Gas & Electric Company (SDG&E). The Master Special Use Permit would cover the operations and maintenance of the existing electric distribution and transmission lines, appropriate access roads, and facilities within the Trabuco, Palomar, and Descanso Ranger Districts of the CNF. The existing facilities are needed to supply power to local communities, residents, and government-owned facilities located within and adjacent to the CNF The CNF is also analyzing operational and equipment upgrades and improvements to the existing lines. The Master Special Use Permit would also include conditions necessary for resource protection. Chambers Group, Inc (Chambers Group) has conducted biological surveys including focused sensitive wildlife species surveys and focused surveys for rare plants along the distribution and transmission line Rights of Way (ROW) within the CNF (Project Area[1]). The survey results will be submitted by SDG&E to the CNF in support of the EIS to help analyze potential impacts to sensitive species within the Project Area. The Project Area includes approximately 167 linear miles of 12 transmission and distribution lines and includes the associated access roads and work areas. In addition to the data gathered from the Chambers Group surveys, the United States Forest Service (USFS) Biological Assessment/Biological Evaluation (BA/BE) for the CNF will be used to support this effort and report analysis.

The objective of this study was to determine the presence and quality of habitat with potential for the California Spotted Owl (*Strix occidentalis occidentalis*; CSOW) within the Project Area. This survey effort was designed to determine the presence and quality of habitat with potential for CSOW within the Project Area and was not designed for determining the presence or absence of CSOW within the Project Area.

## 1.2 SURVEY AREA

Chambers Group conducted focused CSOW surveys to identify suitable habitat within the Project Area. Chambers Group biologists conducted a helicopter survey of the Project Area to determine where species specific surveys (Survey Area) should be conducted (see Section 2.1 for Habitat Assessment). CSOW "occupied" areas from data provided by the CNF were included in the review.

The Survey Area is a 150-foot buffer around transmission/distribution pole centerlines and was extended to a 250-foot radius around each pole where the overhead line makes an angle greater than 2 degrees. The additional buffer is to include potential additional work space that is typically required during operation and maintenance work at angle points within the overhead lines.

Survey Areas were identified first by geographical locations within the county and were also referenced by the associated transmission/distribution line. These areas were then further refined to species specific suitable habitat areas that were surveyed and are graphically depicted on an accompanying aerial mapbook. One master mapbook was created for the entire Project Area; however, due to its size only the relevant mapbook pages are included in this report.

[1] A complete Mapbook and description of the entire Project Area can be submitted upon request.

## 1.3 CALIFORNIA SPOTTED OWL NATURAL HISTORY

### 1.3.1 Subspecies

The spotted owl (*Strix occidentalis*) is a resident species of forests in western North America. It is a strictly nocturnal owl and has three subspecies: California spotted owl (CSOW, *S. o. occidentalis*), northern spotted owl (NSOW, *S. o. caurina*), and Mexican spotted owl (MSOW, *S. o. lucida*). CSOW is listed by the California Department of Fish & Game (CDFG) as a California Species of Special Concern (CSC) and by the USFS as a Sensitive species. These listings do not imply the same legal protection afforded by state and federal Endangered Species Acts (Endangered Species Act and California Endangered Species Act, respectively); however, CSOW is protected under other laws, including the Migratory Bird Treaty Act of 1918.

### 1.3.2 Range

The range of the CSOW overlaps that of another subspecies (NSOW) in the southern Cascade Range, extending south through the western Sierra Nevada to Tulare County. CSOW occurs in isolated populations in mountainous areas of coastal and southern California from Monterey County to northern Baja California. CSOW are found in all major mountains of southern California, including the San Bernardino, San Gabriel, Tehachapi, north and south Santa Lucia, Santa Ana, Liebre/Sawmill, San Diego, San Jacinto, and Los Padres ranges. The range of the CSOW has historically been limited within southern California due to the low amount of suitable habitat available (Unitt 1984). According to Unitt (1984), spotted owls were observed in San Diego County in Cuyamaca State Park in 1968 and 1974, North Peak in 1974, Mount Laguna in 1968 and 1975, and Palomar Mountain annually. In Orange County, spotted owls were observed in 1975 at Starr Ranch (Pete Bloom personal communication).

### 1.3.3 Current Status of CSOW on the CNF

There are 35 historic or current CSOW territories on or adjacent to all three districts of CNF (USFS 2009). Approximately 120 known records of CSOW occur in the vicinity of the Project Rights-of-Way (ROW) (California Natural Diversity Database [CNDDB] 2010, USFS 2009). The San Diego County Bird Atlas also reports 21 observations of CSOW in the San Diego County area, but no observations occurred within the Project ROW (San Diego Natural History Museum [SDNHM] Bird Atlas 2010).

### 1.3.4 CSOW Habitat

CSOW use a wide variety of wooded and forested habitats. At higher elevations, CSOW occur in mixed conifer/hardwood forests and are often associated with bigcone Douglas-fir (*Pseudotsuga macrocarpa*) and black oak (*Quercus kelloggii*). Occupied coniferous habitats include mixed conifer, California red fir (*Abies magnifica*), and eastside pine forests including ponderosa pine (*Pinus ponderosa*) and/or Jeffrey pine (*P. jeffreyi*). CSOW also use hardwood-mixed coniferous forests, such as redwood (*Sequoia sempervirens*), California bay (*Umbellularia californica*), ponderosa pine/hardwood, and live oak-bigcone Douglas-fir (*Quercus chrysolepis* or *Q. agrifolia-Pseudotsuga macrocarpa*), and hardwood habitats including riparian and oak (*Quercus* spp.) woodlands (Gutierrez et al. 1995). In southern California, CSOW are known to use riparian hardwood forest types containing coast and canyon live oak, cottonwood, California sycamore (*Platanus racemosa*), white alder (*Alnus rhombifolia*), and California laurel (*Umbellularia californica*) (Verner et al. (1992); these forest types typically occur at lower elevations.

"Scientific research and monitoring indicate spotted owls generally rely on mature and old-growth forests because these habitats contain the structures and characteristics required for nesting, roosting, and foraging" (USFWS 2010a). Although spotted owls continue to occupy burned landscapes, few data have been published that describe how CSOW use burned landscapes. According to Bond et al. (2009), "most [CSOW] foraged in high-severity burned forest more than in all other burn categories; high-severity burned forests had greater basal area of snags and higher shrub and herbaceous cover, parameters thought to be associated with increased abundance or accessibility of prey."

Nesting and roosting habitat of spotted owls typically includes dense, old-aged, multi-layered forests with hardwood understories; greater than 60 percent canopy closure; and many large (greater than 24–in. average diameter breast height [dbh]) trees. Mean dbh of the nest trees in Gutierrez et al. (1992) were 94.0 cm (37.0 in.) in southern California conifer forests and 74.9 cm (29.5 in.) in riparian/hardwood forests. Roosting areas generally occur in dense shade near water (Zeiner et al. 1990). Any tree species may be used as a roost. Spotted owls typically roost on a horizontal branch throughout much of the day. They often roost in pairs, or an adult owl may roost near its young. Spotted owls nest in a variety of species of live, large trees and snags in pre-existing structures, including cavities (LaHaye and Gutierrez 1988), broken-topped trees, and platforms such as mistletoe brooms, debris platforms, rock crevices, and old raptor or squirrel nests.

High amounts of canopy closure (usually greater than 75 percent) and structural diversity (multi-layered canopy with some very large, old trees) are typical of nesting and roosting stands used by CSOW in the Sierras and in southern California (USFWS 2006). Late successional forests provide habitat attributes selected by CSOW, including large trees, high canopy closure, multi-layered canopies, snags, and logs. Spotted owls forage in forests with ample open flying space (typically greater than 40 to 50 percent canopy cover) within and beneath the canopy, so extremely dense stands typically are not used for foraging. Foraging habitat in conifer forests is enhanced by the presence of hardwoods, and foraging habitat at lower elevations in the Sierras and in southern California tends to have less downed woody debris and be less multi-layered. CSOW avoid open areas (0 to 30 percent canopy cover; Gutierrez et al. 1992) and recently logged forests (Gutierrez and Pritchard 1990). Given the typical canopy cover in these habitats (greater than 70 percent for nesting/roosting and greater than40 percent for foraging), 40 percent canopy cover is a minimum threshold for suitable habitat.

The USFWS (2006) defines spotted owl habitat by using California Wildlife Habitat Relationship (CWHR) classes. "In the CWHR system, tree-dominated habitats are classified relative to six tree size classes and four canopy-closure classes".

[Size classes are:]

- size class 1 (seedling tree) areas are comprised of trees less than 2.5 cm (1 in.) dbh,
- size class 2 (sapling tree) areas are of trees 2.5 to 15 cm (1 to 6 in.) dbh,
- size class 3 (pole tree) stands are of trees 15 to 28 cm (6 to 11 in.) dbh,
- size class 4 (small tree) stands are of trees 28 to 61 cm (11 to 24 in.) dbh,
- size class 5 (medium/large tree) stands are of trees greater than 61 cm (24 in.) dbh, and
- size class 6 (multi-layered tree) stands have class 5 trees over a distinct layer of class 4 or class 3 trees and have more than 60 percent canopy closure (Mayer and Laudenslayer 1988).

Canopy-closure classes are:

- S (sparse; 10 to 24 percent closure),
- P (open; 25 to 39 percent closure),
- M (moderate; 40 to 59 percent closure), and
- D (dense; 60 to 100 percent closure) (Mayer and Laudenslayer 1988).

"The [USFS] considers suitable [CSOW] habitat as forest stands represented by CWHR classes 4M, 4D, 5M, 5D, and 6 (Mayer and Laudenslayer 1988) in mixed conifer, red fir, ponderosa pine/hardwood, foothill riparian/hardwood, and east-side pine forests and considers nesting habitat as forest stands represented by CWHR classes 5M (with at least 50 percent canopy closure), 5D, and 6 (USFS 2004). The [USFWS] agrees with this classification depending on the structural condition of 4M and 4D stands" (USFWS 2006).

### 1.3.5 Food

The CSOW feeds on a variety of small mammals, birds, and insects. In southern California, woodrats (*Neotoma* spp.) comprise the majority of its diet (LaHaye and Gutierrez 1988).

### 1.3.6 Breeding

The breeding season of the spotted owl occurs from early spring to late summer or fall with a peak period from April to May. Breeding spotted owls begin prelaying behaviors, such as preening and roosting together, in February or March. Spotted owls do not typically reach sexual maturity until after two years of age, and pairs are monogamous. Black oaks are frequently selected as nest trees because they often contain natural cavities. Spotted owls do not construct their own nests; instead they rely on natural cavities or nests built by other birds or squirrels. Spotted owl nests may be 20 to 50 feet or more above the ground. Nestlings are seen by April or May, with fledging in June or July. Clutch size ranges from one to four eggs but is usually two (Zeiner et al. 1990). LaHaye and Gutierrez (1989) found 50 to 74 percent of the owl pairs attempted to nest, while only 28 to 56 percent successfully fledged young. Spotted owls may live up to 15 years in the wild.

### 1.3.7 Movements

CSOW are generally permanent residents within their range. Although not generally migratory, some individual CSOW have been recorded to migrate short distances (less than 31 mi [50 km]) between winter and breeding ranges (Gutierrez et al. 1995). Migratory CSOW depart their breeding grounds from October to December and return from February to mid-April. According to Gutierrez et al. (1995), migratory CSOW move through vegetation types not typically considered suitable spotted owl habitat.

Bond et al. (2009) reported "one [CSOW] traveling greater than 3.4 km [2.1 mi] from the center of a foraging range, indicating that an owl will travel at least this distance while foraging during the breeding season." However, most foraging is conducted within a much shorter distance from the central portion of the activity center.

Only limited information on CSOW dispersal is available. Information available on the other two subspecies of spotted owl (NSOW and MSOW) suggest that CSOW dispersal is likely to occur in September and October and potentially as early as August (Ganey et al. 1998; Wiley 1998). One study recorded juvenile MSOW dispersing up to 45.7 mi (73.5 km) from the nest location (Ganey et al. 1998).

In addition, Ganey et al., (1998) observed MSOW dispersing through a variety of habitat types, including habitats that differed markedly from nesting habitat. CSOW that occupy oak woodlands have a patchy distribution, which may create a problem for dispersal and viability of some populations.

### 1.3.8 Predation and Competition

Predators of CSOW include northern goshawk (*Accipiter gentilis*), great horned owl (*Bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), and potentially other birds of prey (Verner et al. 1992, Gutierrez et al. 1995).

In recent years, the barred owl (*S. varia*) has been documented expanding its range westwards in the U.S., including California. Barred owls, which are a little larger and a little more aggressive than the spotted owl, are known to displace spotted owls (including CSOW); and the two species are thought to hybridize in areas where displacement is occurring. Competition from the barred owl "poses a significant and complex threat to the spotted owl" (USFWS 2010a).

### 1.3.9 Natural and Manmade Factors Affecting CSOW

"Forest fire is often considered a primary threat to California spotted owls … because fire has the potential to rapidly alter owl habitat." (Bond et al. 2009). Human induced stress and mortality are cause for concern, as spotted owls have died in collisions with vehicles (Verner et al. 1992) and they may also suffer from stress caused by human activities and habitat alteration (e.g., fire suppression, urban development, timber harvest, roads, and continuing traffic noise). Climate (e.g., drought) and climate change, pollution, disease, and insect infestations in host trees among other conditions (e.g., prey availability) may also impact CSOW survival, breeding, and dispersal.

According to the 2010 Draft Revised Spotted Owl Recovery Plan (USFWS 2010a), "… the most important range-wide threats to the spotted owl are competition with barred owls, ongoing loss of suitable habitat as a result of timber harvest and uncharacteristic wildfire, and loss of amount and distribution of suitable habitat as a result of past activities and disturbances."

# SECTION 2.0 – METHODOLOGY

## 2.1 HABITAT ASSESSMENT

The purpose of the CSOW habitat assessment was to determine the presence and quality of habitat with potential for CSOW within the Project Area.

Chamber Group biologists conducted a helicopter survey of the Project Area to determine where species specific surveys (Survey Areas) should be conducted. A habitat assessment and nocturnal CSOW call surveys were conducted in 2010 on or near the Project ROW (Table 1). In order to evaluate potential CSOW habitat in and around the Project ROW, experienced spotted owl surveyors identified potential CSOW habitat locations from satellite imagery prior to conducting field work. These locations were chosen due to their proximity to the Project ROW, vegetation characteristics of suitable CSOW habitat (see Section 1.3), and authorized access to the Survey Areas.

**Table 1:**
**2010 CSOW Habitat Assessment and Call Survey Locations**

| Location Name | General Area | Survey Coordinates (Easting, Northing)* | Elevation (feet) |
|---|---|---|---|
| Lake Henshaw Site #1 | Lake Henshaw (Map MS-008) | 0521367, 3677821 | 2,630 |
| Lake Henshaw Site #2 | Lake Henshaw (Map MS-008) | 0521017, 3677970 | 2,674 |
| Lake Henshaw Site #3 | Lake Henshaw (Map MS-008) | 0520712, 3678312 | 2,641 |
| Lake Henshaw Site #4 | Lake Henshaw (Map MS-008) | 0520011, 3678805 | 2,598 |
| Lake Henshaw Site #5 | Lake Henshaw (Map MS-007) | 0519552, 3679540 | 2,579 |
| Lake Henshaw Site #6 | Lake Henshaw (Map MS-007) | 0518699, 3679915 | 2,516 |
| Lake Henshaw Site #7 | Lake Henshaw (Map MS-007) | 0517971, 3680469 | 2,579 |
| Lake Henshaw Site #8 | Lake Henshaw (Map MS-006) | 0515736, 3681549 | 2,486 |
| Lake Henshaw Site #9 | Lake Henshaw (Map MS-006) | 0515251, 3681777 | 2,353 |
| Loveland Reservoir Site #10 | Loveland Reservoir (Map MS-047) | 0522418, 3628899 | 1,445 |
| Lyons Valley Road Site #11 | Lyons Valley (Map MS-051) | 0527661, 3620096 | 2,138 |
| Wilson Creek (Lake Barrett Road) Site #12 | Lyons Valley (Map MS-051) | 0527156, 3618174 | 2,600 |

*All locations in UTM, Zone 11S for general Survey Area call locations

## 2.2 FOCUSED SURVEYS

The Survey Area included 12 sites in 3 general locations (West Lake Henshaw area, Loveland Reservoir area and Lyons Valley area). The Lake Henshaw area included the nine call Survey Areas, which were located on or near CNF lands adjacent to Highway (Hwy) 76, between County Hwy S7 and Palomar Mountain Road (County Hwy S6). The Loveland Reservoir area included one call Survey Area, and was located on Sweetwater Authority lands just west of the Sweetwater River and Taylor Creek inlet into the Loveland Reservoir, on the south side of Japatul Valley Road approximately 1 mile east of Sequan Truck Trail. The Lyons Valley area included two call Survey Areas and was located on City of San Diego lands off Lyons Valley Road near Barrett Lake Road and Wilson Creek, south of Interstate Highway 8 (I-8).

Field verification of pre-selected sites included identifying the site characteristics (e.g., old growth woodlands; very large, mature trees; plentiful dead snags and interconnected canopies; relatively wide swath of live oak woodland habitat; the presence of a larger stream). These site characteristics were used to detail which areas of the Project ROW contained habitat suitable for CSOW. Chambers Group biologists Damien Edwards and Linette Lina then identified areas within the Project ROW (and within approximately 0.25 mile of the ROW, access roads, work areas, etc.) for suitable habitat on September 14 and 15, 2010.

## 2.3 FOCUSED CALL SURVEYS

On September 14 and 15, 2010, Chambers Group biologists Damien Edwards and Linette Lina returned to the Survey Areas, as determined by the habitat assessment, to conduct nocturnal CSOW presence/absence surveys. Single-visit, 10-minute call surveys (multiple call locations) were performed at each site based upon USFS protocol for surveying for CSPW (USDA Forest Service 1993) to gather data on the distribution and abundance of CSOW within suitable habitat along the Project ROW.

The call Survey Area locations (call stations) are shown in Table 1. The GPS coordinates represent the general Survey Area; however, many call stations were used for each Survey Area. General site conditions, such as ambient temperatures, wind speeds, cloud cover, precipitation, and moon phase, were recorded at the start of each survey. Surveys were not conducted during windy, rainy, or extremely cool or hot conditions. Human-replicated CSOW vocalizations (four-note territorial calls) were used in an attempt to elicit response calls from CSOW near each call station. Because all patches of suitable habitat near the Survey Area were too small to support multiple calling points, a minimum of one calling point was set at a prominent location to cover the entire site. Calls were vocalized for a period of approximately 3 to 15 seconds each time and were generally repeated every 1 to 3 minutes, with silence in between to listen for owls, during the minimum 10-minute survey period. The 10-minute survey period was extended to compensate for noise disturbance events (e.g., passing traffic at survey locations near the roads). After the 10-minute survey period ended, the biologists remained at the survey site for a short period to listen for owls. All locations surveyed were within approximately 0.25 mile of the Survey Areas.

If CSOW were detected during a nocturnal call survey, a daytime follow-up survey was conducted based on the USFS survey protocol (USDA Forest Service 1993) to complete a single visit. The objective of a follow-up survey, when applicable, was to locate the previously detected CSOW (pairs or singles) by conducting a call survey within the general vicinity of the response location that prompted the follow-up (searches started as close as possible to the owl's mapped response). Upon hearing a CSOW response to a human-replicated CSOW vocalization (four-note territorial call), the biologists ceased calling and approached the calling CSOW to obtain a visual and observe any behaviors, pertinent data, or evidence

of occupancy (i.e. nesting, foraging, flight and general behaviors, habitat characteristics, pellets, whitewash, and molted feathers). Biologists noted the presence of other bird species, such as mobbing jays, as another potential indicator of spotted owl presence. The follow-up was completed as soon as possible after presence was detected (i.e. the next morning at dawn), as owls are more apt to be located near the previous night's location. Significant data (e.g., day roost) collected during the follow-up was delineated on a map and start, end, and total survey times were recorded. In addition, characteristics of the day roost location (e.g., tree) were recorded and photos of CSOW observed were taken. According to USFS protocol (USDA Forest Service 1993), a total of three complete visits per year would be required (to determine absence of CSOW). Chambers Group biologists did not complete three surveys for this effort (only one complete survey was conducted in suitable areas in the Project area); therefore, CSOW cannot be considered absent in areas where CSOW were not identified.

All avian and wildlife species observed during the habitat assessment and surveys were recorded (Species List, Appendix B). Representative photographs of Survey Areas were obtained when possible and are included in Appendix C. CSOW call locations surveyed are indicated in Appendix A.

Assuming a 0.25-mile calling radius (the approximate distance of call projection) from each calling point (call station), approximately 1,256 acres of habitat were included in the 2010 CSOW call surveys. The 2010 Survey Areas ranged in elevation from 1,445 to 2,674 feet.

# SECTION 3.0 – RESULTS

## 3.1 HABITAT ASSESSMENT

All Survey Areas exhibited several suitable CSOW habitat characteristics, such as old growth, large mature trees, dead snags, interconnected canopies, the presence of a wet or dry stream (ephemeral drainage), and a relatively large amount of available habitat (all sites were linear forests/stands within and adjacent to a drainage). All assessed Survey Areas contained riparian hardwood forest types and were dominated by live oak (70 to 100 percent of stand composition at each site). Other tree species included California sycamore (0 to 15 percent), white alder (0 to 15 percent), Engelmann oak (Q*uercus engelmannii*; 0 to 10 percent), willow (0 to 5 percent; black willow, *Salix nigra*; arroyo willow, *Salix lasiolepis*), Douglas -fir (0 to 5 percent), black oak and velvet ash (*Fraxinus velutina*). Canopy closures at the sites ranged from 50 to 90 percent, and canopy heights ranged from 30 to 100 feet (Table 2). All Survey Areas were CHWR size class 4 to 6 and canopy closure class M to D. Further details of the vegetation and stand characteristics of assessed locations are described below.

**Coast Live Oak Woodland (CLOW)** – Coast live oak woodland is an evergreen woodland community dominated by coast live oak (*Quercus agrifolia*) that may reach a height of 35 to 80 feet. The shrub layer may consist of toyon (*Heteromeles arbutifolia*), Mexican elderberry (*Sambucus mexicana*), fuchsia-flowered gooseberry (*Ribes speciosum*), and poison oak (*Toxicodendron diversilobum*). A dense herbaceous understory is often present, with miner's lettuce (*Claytonia perfoliata* var. *perfoliata*) and chickweed (*Stellaria media*) as potential dominant species. This community occurs along the coastal foothills of the Peninsular Ranges, typically on north-facing slopes and in shaded ravines.

Within the Survey Areas, this community is prevalent adjacent to Hwy 76 west of Lake Henshaw and can be found in small patches along ephemeral drainages throughout the CNF. CLOW exists at multiple CSOW Survey Areas and generally characterizes the portions of all the CSOW Survey Areas that are removed from the streambeds.

**Southern Coast Live Oak Riparian Forest (SCLORF)** – Southern coast live oak riparian forest varies from dense to open evergreen riparian forest dominated by coast live oak and a variety of willow species. Subdominant species can include western sycamore (*Platanus racemosa*), poison oak, mule fat (*Baccharis salicifolia*), Mexican elderberry, and Douglas' mugwort (*Artemisia douglasiana*). This community occurs along the outer floodplains of canyons and valleys on fine-textured alluvial soils (Holland 1986).

This community is found in limited distribution throughout the CNF in riparian corridors and valleys that provide enough water to sustain this community year round. The Survey Areas in the Lake Henshaw, Loveland Reservoir, and Lyons Valley areas fit into this classification.

**Table 2: CSOW Habitat Assessment Survey Data**

| Canopy Closure (%) | Canopy Height (feet) | Tree Composition (% by Species) |
|---|---|---|
| 60 | 60 | 100% oak |
| 70 | 50-80 | 100% oak |
| 50-60, some openings | 50-70 | 75% oak, 25% sycamore/fir |
| 75 | 50-100 | 80% oak, 15% sycamore, 5% willow |
| 50 | 30-50 | 90% oak, 10% sycamore |
| 70 | 35-60 | 90% oak, 8% sycamore, 2% alder |
| 70 | 40-50 | 100% oak |
| 70 | 25-40 | 99% oak, 1% sycamore |
| 65 | 30-50 | 70% oak, 15% sycamore, 15% alder |
| 85 | 70-100 | 95% oak*, 5% sycamore |
| 80 | 40-60 | 95% oak, 5% sycamore |
| 90 | 100 | 95% oak*, 5% sycamore |

## 3.2 CALL SURVEY RESULTS

A total of two CSOW were observed during the 2010 CSOW call surveys on two separate occasions at the Lake Henshaw Site #5 call station (Map MS-007) Survey Area, immediately adjacent to the Project ROW. This call station is located within the Survey Area approximately 1.75 linear miles northwest of the Lake Henshaw Dam along the north side of the Hwy 76, near the junction of a small ephemeral drainage opposite the west entrance to the CNF San Luis Rey Picnic Ground. This area near the San Luis Rey Picnic Ground is a well-documented nesting site (personal communication with CNF).

On the evening of September 14, 2010, two individual CSOW responded (at 2209 [24-hour clock]) to human-replicated CSOW vocalizations (four-note territorial calls) approximately 13 minutes after the call survey commenced (at 2156). Two CSOW were heard first in close proximity to each other and within approximately 200 feet of the biologists. A variety of calls were vocalized by the CSOW including four-note and a series of location (territorial) calls, barking calls, agitation calls, contact calls, and alarm calls. Both biologists approached the calling CSOW until visual confirmation was achieved. Both CSOW were observed within 15 feet of each other approximately 35 to 40 feet off the ground in a large coast live oak. A photo was taken (Appendix C). Both CSOW continued to call for 26 minutes until 2235. Based on visual and call observations, both CSOW remained within the coast live oak riparian forest in the drainage on the north side of Hwy 76.

A follow-up visit (call survey) was conducted the next morning on September 15, 2010, to determine if the CSOW stayed in the area. At 0612, biologists hooted (called) the four-note CSOW territorial call from the Lake Henshaw Site #5 call station, and a CSOW responded almost immediately from an approximate distance of 500 feet up the drainage, adjacent to the Project ROW. The biologists ceased calling and hiked up the drainage to achieve visual confirmation of both CSOW. CSOW response calls were heard for at least five minutes after the initial response. Both CSOW moved further up drainage and perched multiple times in different trees during the next approximately 20 to 30 minutes. One CSOW appeared to have had a failed attempt at hunting (ambush attack) as it was observed flying to the ground where it remained for approximately one minute (no prey was observed nor did this CSOW eat anything while on the ground). One CSOW was observed preening. The final day roost perches for both CSOW were

approximately 30 feet off the ground (from center of creek bed) in an approximate 6-inch dbh white alder. Both CSOW roosted within 10 feet of each other on different horizontal branches. The day roost alder was growing in the center of the drainage at 33.254668, -116.790097 (UTM) and 2,579 feet elevation. No groundwater was apparent below the elevation of the roost alder. Small pools and flowing water were present higher up the drainage within 200 feet. Photos were taken of both CSOW and the surrounding habitat (Appendix C).

All CSOW observations occurred in a narrow coast live oak riparian forest within a steep drainage containing large live oaks, sycamores, alders and Douglas-fir as the dominant vegetation. Many of these trees were larger than 12 to 24 inch dbh. The canopy within the site was patchy with an estimated 30 to 80 percent canopy closure in the drainage. The areas higher up the side slopes appeared to have burned recently, likely within the past five years.

No other CSOW were discovered during the 2010 CSOW call surveys. However, suitable CSOW habitat remains adjacent to the CSOW identified Survey Area and within the other 11 Survey Areas; these areas were surveyed for CSOW, as several SCLORF and CLOW corridors with potentially suitable CSOW habitat were recorded within 500 feet of the Project ROW. Since this survey effort did not constitute a protocol CSOW survey with three complete surveys per year, as per the USFS survey protocol (USDA Forest Service 1993), the lack of confirmed presence of CSOW within other surveyed areas does not indicate that CSOW are absent from these areas or from the Project ROW. Therefore, potential exists for established CSOW territories within or adjacent to the Project.

A summary of data is presented below in Table 3. A list of wildlife species observed along the Project ROW during these surveys is presented in Appendix B.

CSOW predators observed during the 2010 surveys include great horned owl. Red-tailed hawks and other raptors have been observed on or near the Survey Areas for this survey effort. Woodrats, a main prey species for CSOW in southern California, were observed in the Survey Areas habitat during the 2010 surveys.

**Table 3:**
**2010 CSOW Call Survey Summary of Results**

| Date | Location | Time | Temperature (°F) | Cloud Cover (%) | Moon Phase | Precipitation | Wind (mph) |
|---|---|---|---|---|---|---|---|
| 14-Sep | Henshaw site #1 | 2030-2045 | 74 | 0 | first quarter | none | 0-5 |
| 14-Sep | Henshaw site #2 | 2055-2109 | 74-67 | 0 | first quarter | none | 0 |
| 14-Sep | Henshaw site #3 | 2118-2130 | 74-67 | 0 | first quarter | none | 0-2 |
| 14-Sep | Henshaw site #4 | 2140-2150 | 74-67 | 0 | first quarter | none | 0-2 |
| 14-Sep | Henshaw site #5 | 2156-2236 | 74-67 | 0 | first quarter | none | 0-2 |
| 14-Sep | Henshaw site #6 | 2246-2259 | 67 | 0 | first quarter | none | 0-3 |
| 14-Sep | Henshaw site #7 | 2306-2316 | 67 | 0 | first quarter | none | 0-5 |
| 14-Sep | Henshaw site #8 | 2325-2335 | 67 | 0 | first quarter | none | 0-2 |
| 14-Sep | Henshaw site #9 | 2340-2350 | 57 | 0 | first quarter | none | 0-5 |
| **Comments for Sept 14, 2010:** Surveyors: Damien Edwards, Linette Lina. Start survey at 2030; End survey at 2350. Incidental observations nearby: BNOW west of project area along Hwy 76 by La Jolla mini-mart. | | | | | | | |
| 15-Sep | Henshaw site #5 | 0612-0723 | 55 | 0 | N/A | none | 0-5 |
| 15-Sep | Loveland Reservoir site #1 | 2007-2019 | 66 | 0 | first quarter | none | 0-2 |
| 15-Sep | Lyons Valley Road site #1 | 2049-2100 | 61 | 0 | first quarter | none | 0 |
| 15-Sep | Wilson Creek (Barrett Lake Road) site #1 | 2125-2136 | 63 | 0 | first quarter | none | 0-1 |
| **Comments for Sept 15, 2010:** Surveyors: Damien Edwards, Linette Lina. Start survey at 2007; End survey at 2136. Incidental observations nearby: 3 COPO off Lyons Valley Rd near intersection of Barrett Lake Rd. | | | | | | | |

* Four-letter (for English common names) species alpha codes per the American Ornithologist's Union (AOU) are used for bird species listed in this table; full avian species common and scientific names can be found in Appendix C.

## SECTION 4.0 – CONCLUSIONS

An approximate total of 1,256 acres were surveyed for CSOW in 2010 within or immediately adjacent to the Survey Areas. Two CSOW responded vocally to human-replicated calls on two visits (Sept 14 nocturnal call survey and September 15 follow-up daytime survey). The responses came from near Lake Henshaw Site #5 call station immediately adjacent to the Project ROW approximately 1.75 linear miles west of Lake Henshaw along Hwy 76, near the junction of a small ephemeral drainage opposite the CNF San Luis Rey Picnic Ground. Although two CSOW responded to territorial calls and were seen in close proximity of one another, the survey effort occurred outside the CSOW breeding season and outside the CSOW protocol breeding survey period (March 15 to August 31, as per USFS survey protocol). However, this area near the San Luis Rey Picnic Ground is a well-documented nesting site (personal communication with CNF).

No CSOW activity was observed at or near other CSOW call stations along the Survey Areas during the 2010 CSOW call surveys. If site conditions remain relatively unchanged, all survey areas identified in 2010 have the potential to be CSOW breeding and/or foraging territories in future years. Complete protocol CSOW surveys are recommended within future breeding seasons in all Survey Areas to verify the nesting status of the CSOW at Lake Henshaw Site #5 and determine presence or absence of CSOW within other Survey Areas. Future CSOW studies should be implemented according to the USFS survey protocol (USDA Forest Service 1993).

Lack of confirmed CSOW activity at or near other CSOW call stations within the Survey Areas during the 2010 CSOW call surveys does not rule out the possibility that CSOW are present. In general, CSOW presence in the vicinity of the Survey Areas may be transitory in nature due to the lack of known occurrences and observations within the CNF along the Project ROW.

Based on 2010 CSOW survey data, CSOW are using the Survey Areas and adjacent areas, likely to forage and potentially for nesting. Additional studies will be required to provide further information about CSOW presence, activity, and use on or near the Project ROW. Based on information provided by CNF and the survey results, the Lake Henshaw Site #5 CSOW are a pair and have likely established a nesting territory; therefore, the potential for foraging or dispersing individuals (likely juveniles) within the Survey Areas near Hwy 76 (e.g., many canyons and small drainages, which intercept the Project ROW, split off the main San Luis Rey River) is high.

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# APPENDIX A – CSOW SURVEY LOCATIONS

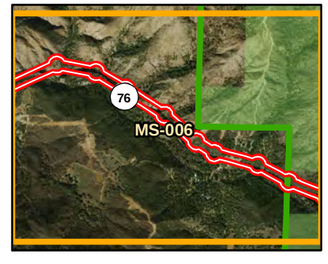
# California Spotted Owl Survey Sites

## Legend

- Survey Area
- CSOW Identified Area
- Call Survey Area
- CSOW Suitable Habitat
- CNF Managed Lands
- Cleveland National Forest Congressional District Boundary

0 420 840 1,260

Feet

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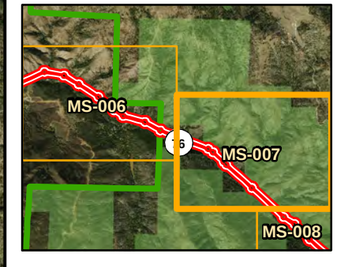
# California Spotted Owl Survey Sites

## Legend

- Survey Area
- CSOW Identified
- Call Survey Area
- CSOW Suitable Habitat
- CNF Managed Lands
- Cleveland National Forest Congressional District Boundary

0 420 840 1,260

Feet

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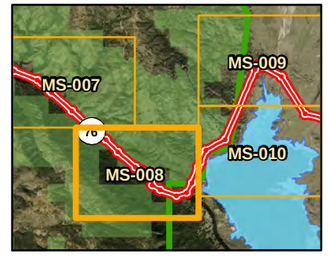
# California Spotted Owl Survey Sites

## Legend

- Survey Area
- CSOW Identified
- Call Survey Area
- CSOW Suitable Habitat
- CNF Managed Lands
- Cleveland National Forest Congressional District Boundary

0 420 840 1,260

Feet

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# California Spotted Owl Survey Sites

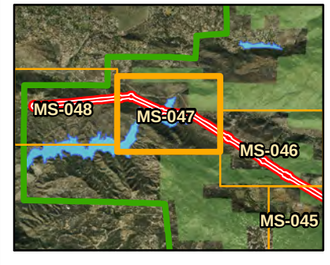
## Legend

- Survey Area
- CSOW Identified Area
- Call Survey Area
- CSOW Suitable Habitat
- CNF Managed Lands
- Cleveland National Forest Congressional District Boundary

10

0 420 840 1,260

Feet

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# California Spotted Owl Survey Sites

## Legend

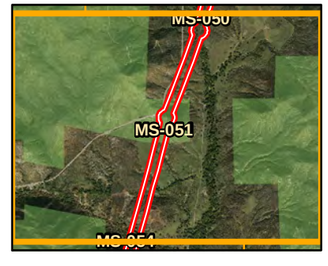
- Survey Area
- CSOW Identified Area
- Call Survey Area
- CSOW Suitable Habitat
- CNF Managed Lands
- Cleveland National Forest Congressional District Boundary

11

12

0 420 840 1,260

Feet

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# APPENDIX B – SPECIES LIST

## APPENDIX B: Wildlife Species Observed/Detected during the 2010 CNF California Spotted Owl Habitat Assessment and Call Surveys

| Scientific Name | Common Name |
|---|---|
| **CLASS AVES** | **BIRDS** |
| **ACCIPITRIDAE** | **HAWKS, KITES, EAGLES** |
| *Buteo lineatus* | red-shouldered hawk |
| **ODONTOPHORIDAE** | **NEW WORLD QUAIL** |
| *Callipepla californica* | California quail |
| **COLUMBIDAE** | **PIGEONS & DOVES** |
| *Zenaida macroura* | mourning dove |
| **STRIGIDAE** | **TRUE OWLS** |
| *Bubo virginianus* | great horned owl |
| *Strix occidentalis occidentalis* | California spotted owl |
| *Tyto alba* | barn owl |
| **CAPRIMULGIDAE** | **GOATSUCKERS, NIGHTJARS, NIGHTHAWKS** |
| *Phalaenoptilus nuttallii* | common poorwill |
| **PICIDAE** | **WOODPECKERS** |
| *Colaptes auratus* | northern flicker |
| *Melanerpes formicivorus* | acorn woodpecker |
| *Picoides nuttallii* | Nuttall's woodpecker |
| **CORVIDAE** | **JAYS & CROWS** |
| *Cyanocitta stelleri* | Steller's jay |
| *Aphelocoma californica* | western scrub-jay |
| *Corvus brachyrhynchos* | American crow |
| **PARIDAE** | **CHICKADEES, TITMICE** |
| *Baeolophus inornatus* | oak titmouse |
| **SITTIDAE** | **NUTHATCHES** |
| *Sitta carolinensis* | white-breasted nuthatch |
| **TROGLODYTIDAE** | **WRENS** |
| Unidentified wren species | unidentified wren species |
| *Troglodytes aedon* | house wren |
| **AEGITHALIDAE** | **LONG-TAILED TITS OR BUSHTITS** |
| *Psaltriparus minimus* | bushtit |
| **PTILOGONATIDAE** | **SILKY-FLYCATCHERS** |
| *Phainopepla nitens* | phainopepla |
| **EMBERIZIDAE** | **EMBERIZIDS** |
| *Amphispiza belli* | sage sparrow |
| *Pipilo maculatus* | spotted towhee |
| **CLASS MAMMALIA** | **MAMMALS** |
| **MOLOSSIDAE** | **FREE-TAILED BATS** |
| *Eumops perotis* | western mastiff bat |
| **SCIURIDAE** | **SQUIRRELS** |
| *Sciurus griseus* | western gray squirrel |
| *Spermophilus beecheyi* | California ground squirrel |
| **MURIDAE** | **MICE, RATS, and VOLES** |
| *Neotoma fuscipes* | dusky-footed woodrat |

# APPENDIX C – SITE PHOTOGRAPHS

## APPENDIX C: SITE PHOTOGRAPHS

| | |
|---|---|
|  | Photo 1.<br>This view shows SCLORF at Lyons Valley Wilson Creek site #12. |
|  | Photo 2.<br>This view shows SCLORF at Lyons Valley Road site #11. |

| | |
|---|---|
|  | Photo 3.<br><br>This view shows oaks overhanging an access road at Lake Henshaw site #3. |
|  | Photo 4.<br><br>This view shows Lake Henshaw site #5. Note the patchy canopy. |

| | |
|---|---|
|  | Photo 5.<br><br>This view shows Henshaw site #6. Note the presence of year-round flowing water in San Luis Rey River and lush vegetation nearby. |
|  | Photo 6.<br><br>This view shows Lake Henshaw site #9. Note the presence of year-round flowing water in San Luis Rey River and lush vegetation nearby. |

| | |
|---|---|
|  | Photo 7.<br><br>This view shows a CSOW in an oak tree near Lake Henshaw site #5 during a follow-up daytime survey. |
|  | Photo 8.<br><br>This view shows a CSO near Lake Henshaw site #5 during a follow-up daytime survey. |

| | |
|---|---|
|  | Photo 9.<br><br>This view shows both CSOWs roosting (upper central part of photo) in a white alder (in center of photo) where both CSOWs roosted for the day near Lake Henshaw site #5 during a follow-up daytime survey. Note dense canopy above CSOWs. |
|  | Photo 10.<br><br>This view shows the day roost (white alder) for both CSOWs near Lake Henshaw site #5. Note dense canopy above CSOWs. |