Raptor Survey Report
for the
Newport Banning Ranch

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TABLE OF CONTENTS

Section **Page No.**

APPENDICES

LIST OF FIGURES

LIST OF TABLES

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1.0 INTRODUCTION

Dudek has prepared this Raptor Survey Report (report) on behalf of the Newport Banning Ranch, LLC, to document raptor use of the Newport Banning Ranch Project (Project) site. The Project site is located in the City of Newport Beach within the Coastal Zone and is subject to California Coastal Commission (CCC) review and permitting. This report provides the methods and results of our focused raptor (birds of prey) surveys that were conducted in the late spring and early summer 2012 within all areas of the Project site. The intention of this report is to present recent biological information in support of the project application through the Coastal Development Permit (CDP) review process.

1.1 Project Location

The Project site is located in the City of Newport Beach, Orange County, California, on the southwestern boundary of the City of Costa Mesa and east of the City of Huntington Beach (*Figure 1*). The site is bordered by commercial and residential development in the City of Costa Mesa on the east, the Pacific Coast Highway and residential properties within Newport Beach on the south, the Santa Ana River and Santa Ana River estuary on the west, and Talbert Regional Park on the north. The Pacific Ocean is 289 meters (947 feet) to the southwest of the site at its closest point.

1.2 Biological Setting

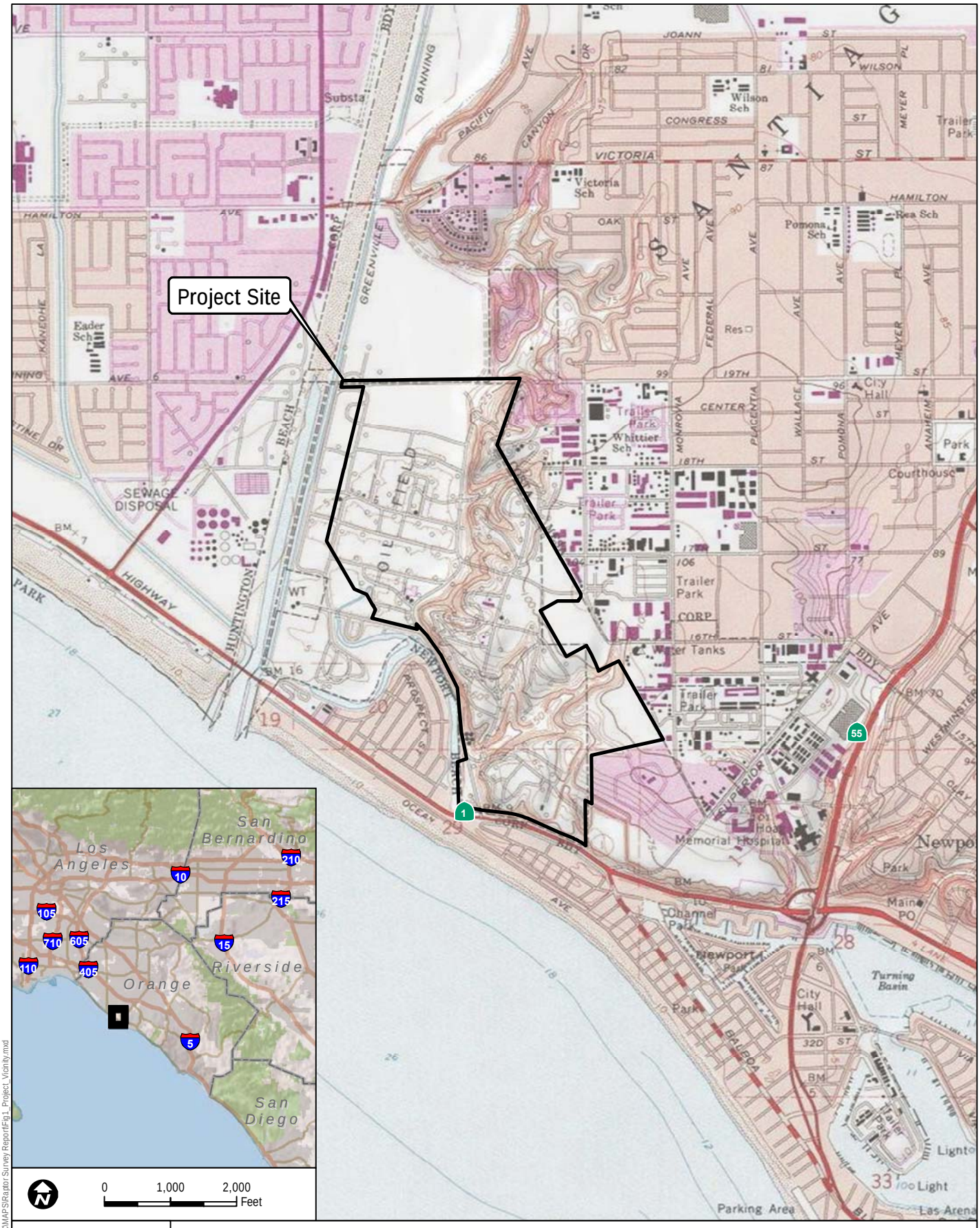
The Project site consists of two distinct areas: a coastal terrace and associated bluffs and arroyos occupying the northeastern and southern portions of the site and lowlands that were historically part of the Santa Ana River floodplain but are now mostly disconnected from the river and include only limited areas that experience muted tidal influence. Much of the lowland area consists of wetlands, including areas of willow forest, mulefat scrub, alkali meadow, ruderal vegetation, and limited tidal saltmarsh. Currently, the entire site is an active oil facility operated by West Newport Oil. While the lowlands support areas of saltmarsh, disturbed scrub, and willow forest, these areas have been modified by previous construction of oil well pads, roads, oil and gas pipelines, and other development associated with the oil facilities. The coastal terrace that covers the majority of the site consists of open grass and forb-dominated communities in the southeast, disturbed forb-dominated communities in the east-central portion of the site, scrub habitats in the northeastern portion of the site, and a mixture of scrub and disturbed forb communities in the central portion of the site. An arroyo with an extensive area of willows traverses the southern portion of the site from east to west. As with the lowlands, oil development is found throughout the coastal terrace, where paved and dirt roads, oil well pads, and gas and oil pipelines occur across the landscape. The bluffs bordering the terrace to the south and east are dominated by a variety of coastal scrub communities that include California

brittlebush (*Encelia californica*), California buckwheat (*Eriogonum fasciculatum*), prickly pear (*Opuntia littoralis*), and coast cholla (*Cylindropuntia prolifera*).

The Project site lies within the largely urbanized coastal portion of Orange County. However, it is adjacent to estuarine habitats associated with the Santa Ana River. In addition, a mosaic of natural coastal habitats is found north of the site and along the Santa Ana River, in Talbert Regional Park and Fairview Park. The open habitats within the less-developed corridor associated with the Santa Ana River provide habitat for raptor species, including the northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*). Trees and wooded areas provide nesting habitat for raptors and foraging habitat for species such as Cooper's hawk (*Accipiter cooperii*) and red-shouldered hawk (*Buteo lineatus*). Osprey (*Pandion haliaetus*), which feed mostly on fish, are attracted to open water in the area.

1.3 Regulatory Environment

This report is written in support of CCC permit application review requirements. CCC survey requirements are outlined in Section 2.0 Methodology. Section 30240 of the Coastal Act requires, in part, that environmentally sensitive habitat areas (ESHA) be protected against significant disruption, and that development in areas adjacent to ESHA be sited and designed to prevent impacts which would significantly degrade those areas. Raptor habitat (breeding, nesting, perching, foraging, and roosting habitat) may be considered ESHA and thus protected under Section 30240 of the Coastal Act due to the sensitive status and protections afforded to raptors pursuant to the federal Migratory Bird Treaty Act and California Fish and Game Code.



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SOURCE: USGS Topo 7.5-Minute Series Goleta Quadrangle

FIGURE 1

Site Location

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JULY 2012

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2.0 METHODS

Dudek in collaboration with Glenn Lukos Associates (GLA) conducted five focused raptor surveys from April to June 2012 according to CCC (2004) survey guidelines, which state that raptor surveys in the coastal zone shall:

- Be conducted between March 15 and June 15
- Consist of at least five visits
- Be spaced at least one week apart
- Consist of at least two hours on-site between dawn and 10:00 am
- Include three visits immediately before nightfall, if habitat for ground-nesting owls is present
- Specifically involve searches for nests, foraging birds, and birds using trees for nesting, perching, or roosting.

As the site is too large for one biologist to cover in a single day, it was divided into four survey areas of relatively equal size for defining coverage areas by several biologists participating in the surveys (*Figure 2*). For specific locations and descriptions of vegetation communities or habitats within the areas below, please refer to Dudek (2012), *Grassland Assessment and Vegetation Communities Report*. Additional descriptions are in GLA (2009), *Biotechnical Report for the Newport Banning Ranch, Orange County, California.*

- Survey Area 1. The southern portion of the coastal terrace, south of the major east-west arroyo bisecting the southern portion of the site and consisting of open grassland, forb-dominated habitats, and some scrub habitat (Dudek 2012).
- Survey Area 2. Central portion of the coastal terrace, including large developed and disturbed areas, as well as some grass- and forb-dominated habitats and an area of native scrub along the bluffs in the western part of the survey area (Dudek 2012).
- Survey Area 3. The northern portion of the coastal terrace, similar to Survey Area 2 but less developed, and the northern portion of the lowlands, including willow-dominated areas and some saltmarsh habitat (Dudek 2012).
- Survey Area 4. The majority of the lowlands, including large areas of willows and saltmarsh vegetation (Dudek 2012, GLA 2009).

One biologist covered each of the four survey areas during each survey. The four biologists surveyed concurrently for 3.5 to 4.0 hours, with at least two hours on each occasion being

concluded prior to 10:00 am. During each survey, biologists followed survey routes that allowed them to inspect all suitable trees for raptor nests, through either close-up inspection or scanning a group of trees at a distance, and obtain views over the entire site to observe raptor foraging. Biologists walked over most of the survey area, and sometimes drove between different portions of a survey area. Time spent in vehicles, however, was minimal and directed toward facilitating access to the entire area. Biologists also spent extended periods (usually 20 to 30 minutes per location) at observation points that provided good views over potential nesting or roosting trees as well as areas where raptors might forage.

Finally, notes on raptor habitat were recorded in the field, and biologists took photographs depicting habitat in each survey area. General characterizations of raptor habitat within the survey areas, including characterizations of areas where biologists observed raptors, are included in Section 3.0 Results. These characterizations rely on Dudek (2012) and GLA (2009).

"Raptors" in this report refers to birds of prey in the orders Accipitriformes and Falconiformes (commonly referred to as "hawks," "eagles," "kites," "harriers," "osprey," or "falcons"). Owls are sometimes referred to as raptors as well. CCC protocol also refers to evening surveys when ground-nesting owls may be present. One ground-nesting species, the burrowing owl (*Athene cunicularia*), is known to occur in the area as a wintering species. However, protocol surveys were conducted separately for this species. Also, given the detailed foot coverage of the site and the expertise of the surveyors, it is expected that burrowing owls would have been detected during raptor surveys, if present. Therefore, focused evening surveys for owls were not conducted as part of the raptor surveys. See GLA (2012), "Results of Focused Breeding Season Burrowing Owl Surveys Conducted for the Newport Banning Ranch Project, Located in Unincorporated Orange County and Newport Beach, Orange County, California," for results of the breeding season burrowing owl surveys.

2.1 Nesting and Perching

Biologists searched suitably sized trees within the biological study for raptor nests, especially if raptor behavior indicated potential breeding. Biologists also examined all suitable raptor perching areas and listened for raptor calls. Locations of any raptor nests or perches were noted on a field map depicting an aerial photograph of the area. Locations recorded in the field were later digitized by a Geographical Information System (GIS) technician.

2.2 Hunting and Foraging

All areas where raptors hunted aerially were mapped in the field on aerial photos depicting the site. Not all flying behaviors were assumed to involve foraging. Raptors such as red-tailed hawks or white-tailed kites engaging in direct flight at higher altitudes were generally assumed to be

flying to or from nests or foraging habitat rather than foraging over the site. However, the areas covered by raptors while soaring, hovering, engaged in less direct flight, or flying low over the ground were assumed to be foraging habitat and were mapped. Also, the locations of any prey captures or prey strikes (unsuccessful attempts to capture prey) were noted on an aerial map. Although many raptor species, including white-tailed kites, red-tailed hawks, and American kestrels, are known to hunt from perches, perching alone was not used as a basis for determining foraging areas unless other foraging activities (such as prey strikes or prey captures) were observed. Foraging areas were drawn on aerial maps in the field, at the time biologists were observing raptor activities. These delineated foraging areas were later digitized in the office by a GIS technician.

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SOURCE: NAIP 2010 Imagery.

FIGURE 2

Survey Areas

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3.0 RESULTS

This section characterizes the results for each raptor species found on the site, discussing nesting, perching, and hunting/foraging activities individually for each species. General observations related to habitat use by each species are also included and refer to vegetation communities mapped by GLA (2009) and Dudek (2012). Photographs of raptors and raptor habitat on the site are included in Appendix A.

The initial survey was conducted on April 14 and 16, 2012. Each of the four subsequent surveys was conducted on a single day, at two-week intervals: May 1, May 15, May 29, and June 12, 2012 (*Table 1*). During the surveys, seven raptor species were observed, either directly or through detection of sign: American kestrel, American peregrine falcon (*Falco peregrinus anatum*), Cooper's hawk, osprey, red-tailed hawk, and white-tailed kite. Observations are summarized in *Table 1*, along with dates, times, conditions, and biologists' names.

3.1 American Kestrel

The American kestrel (*Falco sparverius*) is a common bird of prey species that has no special status, but receives protection under California Fish and Game Code Section 3503.5, which prohibits take of any bird of prey. American kestrels nest in tree cavities, usually made by woodpeckers. They forage in a wide variety of mostly open habitats, but are also found in wooded areas with small openings (Smallwood and Bird 2002). Home range diameters range from 0.66 to 2.42 kilometers (0.4 to 1.5 miles), although nests have been recorded as close together as 12.2 meters (approximately 40 feet). American kestrels feed on terrestrial arthropods, such as beetles or dragonflies, and small vertebrates, including small mammals and songbirds.

American kestrels were observed in all survey areas and during each survey (*Table 1*, *Figure 3*). The greatest level of activity was recorded in Survey Areas 1 and 2, where perching or foraging was observed during all five surveys. Perching and aerial foraging was also observed in Survey Area 3, on May 15, May 29, and June 12, 2012. No evidence of nesting by this species was recorded, and biologists detected no juvenile or fledgling American kestrels during raptor surveys (fledglings were detected later, in mid to late June 2012, during vegetation surveys, in the general areas of Survey Area 1, where adults had been observed foraging). One American kestrel was observed capturing a prey item in Survey Area 1 on May 15, 2012, and carrying it east, off the site. Another American kestrel carried a prey item northwest over Survey Area 4 and off-site on June 12, 2012. Therefore, this species may have nested in multiple locations near the site in 2012. Perches for this species were mostly utility poles and associated lines. Foraging habitat for this species included annual brome grasslands, wild oat grasslands, forb-dominated disturbed areas, and purple needlegrass grasslands (Dudek 2012).

3.2 American Peregrine Falcon

The American peregrine falcon is a CDFG FP species. It was formerly listed as endangered (FE) under the federal Endangered Species Act (ESA), but was delisted in 1999 (FR 64(164): 46542-46558). In addition it was listed as endangered (SE) under the California Endangered Species Act (CESA), but was recommended for delisting in 2008 (Comrack and Logsdon 2008) and subsequently removed from the state list. Peregrine falcons feed mostly on birds, including doves and pigeons, ducks, shorebirds, and songbirds, depending on availability. They also eat mammals, often pirated from other raptors (White et al. 2002). They nest on high cliffs and banks, and occasionally on man-made structures, usually near lakes, rivers, and other wetlands that provide an ample prey base. Home ranges are large; a study in Sonoma County, California, recorded nesting peregrines frequently hunting more than 1 kilometer (approximately 0.6 miles), and as far away as 8 kilometers (approximately 4.8 miles), from their nests (Enderson and Kirven 1983).

Only one American peregrine falcon was observed during surveys, an individual that captured an unknown species of bird (possibly a swallow) in the northern portion of Survey Area 1 on May 1, 2012, and carried the prey item eastward, well away from the site. The observation suggests that this individual was nesting somewhere east of the site. The area where the prey capture occurred was apparently an upland area characterized by annual brome grassland, purple needlegrass grassland, and disturbed habitat dominated by annual forbs (Dudek 2012). The lack of additional observations of American peregrine falcons suggests this species uses the area only occasionally for hunting. Also, no cliffs or ledges suitable for nesting are present on the site.

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SOURCE: NAIP 2010 Imagery.

FIGURE 3

Survey Results

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Raptor Survey Report

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Table 1. Summary of Conditions and Survey for the Raptor Surveys

Survey No.	Date / Time	Site Conditions	Biologist	Area Covered	Observations[4]
1	April 14, 2011 5:30 –10:00 A.M	Mostly clear during survey, with east to east northeast winds at 0-6 mph. Temperatures ranged from 46°F to 56°F.	Tony Bomkamp (GLA)	Area 2	AMKE – F, P RTHA – P
1	April 16, 2011 6:30 –11:00 A.M	Partly cloudy to clear, calm throughout survey. Temperatures ranged from 53°F to 70°F.	John Davis IV (Dudek)	Area 1	AMKE - P, F COHA – F, P OSPR - P
			Jeff Ahrens (GLA)	Area 3	COHA – F RTHA – F, P WTKI – N (3 nestlings), P, harassing RTHA
			Dave Compton (Dudek)	Area 4	COHA – N OSPR – F (off-site) RTHA – F, N (1 nestling)
2	May 1, 2012 7:45 A.M. – 12:00 P.M	Overcast from heavy marine layer, light drizzle ending late in survey. West to southwest winds at 0-7 mph. Temperatures ranged from 59°F to 63°F.	Tony Bomkamp	Area 1	AMKE – P PEFA – C, F OSPR – P
			Dave Compton	Area 2	AMKE – F, P COHA – P PEFA – F RTHA – P
			John Davis IV	Area 3	COHA – F RTHA – F WTKI – P
			Jeff Ahrens	Area 4	BNOW - R COHA – N (inactive), P OSPR – P RTHA – F, (1 nestling), P WTKI – P
3	May 15, 2012 7:45 A.M. –	Overcast early, becoming partly cloudy by end of survey, with variable winds 0-8 mph. Temperatures ranged	Dave Compton	Area 1	AMKE – C, F, P COHA – F, P, chasing RTHA – thermaling

Table 1. Summary of Conditions and Survey for the Raptor Surveys

Survey No.	Date / Time	Site Conditions	Biologist	Area Covered	Observations[4]
	11:45 A.M.	from 59°F to 71°F.	Jeff Ahrens	Area 2	AMKE – F, P COHA – F, N (4 nestlings), P RTHA – P
			Jason Fitzgibbon (GLA)	Area 3	COHA – F RTHA – F, P WTKI – F, FL (2)
			Traci Caddy (Dudek)	Area 4	COHA – F OSPR – N (off-site) RTHA – F, N (1 nestling), P
4	May 29, 2012 8:00 A.M. – 12:00 P.M.	Mostly sunny, winds variable 0-10 mph. Temperatures ranged from 63°F to 72°F.	Jeff Ahrens	Area 1	AMKE – F, P COHA – F RTHA – F, P
			Jason Fitzgibbon	Area 2	AMKE – P, S COHA – N (4 nestlings), P OSPR – P
			Dave Compton	Area 3	AMKE – F, P, S COHA – F, S OSPR – F RTHA – C, F, P WTKI – F, FL, P
			John Davis IV	Area 4	COHA – F RTHA – FL (1), P WTKI – N, F
5	June 12, 2012 07:45 A.M. – 11:30 A.M.	Overcast to partly cloudy with northwest to southwest winds at 0-7 mph. Temperatures ranged from 56°F to 58°F.	Jason Fitzgibbon	Area 1	RTHA – P AMKE – F, P
			John Davis IV	Area 2	AMKE – P COHA – FL (3) RTHA – P
			Jeff Ahrens	Area 3	AMKE – P COHA – F RTHA – F, P WTKI – F

Table 1. Summary of Conditions and Survey for the Raptor Surveys

Survey No.	Date / Time	Site Conditions	Biologist	Area Covered	Observations[4]
			Dave Compton	Area 4	AMKE – FC COHA – P OSPR – P RTHA – F, P

C = Prey capture
F = Foraging
FC = Food carry
FL = fledgling(s)
N = Nest
P = Perching
R = Roost
S = Prey strike
AMKE = American kestrel
BNOW = Barn owl
COHA – Cooper's hawk
OSPR = Osprey
PEFA = American peregrine falcon
RTHA = Red-tailed hawk
WTKI = White-tailed kite

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3.3 Cooper's Hawk

The Cooper's hawk (*Accipiter cooperii*) is a CDFG WL species for its nesting period and is resident in most of the more wooded parts of the state. It most frequently nests in dense stands of live oak, riparian-deciduous, or other forest habitats near water, including suburban areas. It hunts aerially and preys on birds, such as songbirds, doves, and pigeons. Home ranges are large and may overlap little with nesting territories. Size estimates for home ranges vary greatly, from approximately 32 to 324 acres in one study to as high as 4,446 acres in another, and probably depend on prey abundance (Curtis et al. 2006).

Cooper's hawks were observed in all survey areas and during each survey (*Table 1, Figure 3*). This species nested successfully in a mature willow (*Salix* sp.) in black willow thickets (GLA 2009, Dudek 2012) in the drainage bordering Survey Areas 1 and 2 (*Figure 3*). This nest was first detected from Survey Area 2 on May 15, 2012, when 4 nestlings were present. Three fledglings were near the nest on June 12, 2012, and were still present during vegetation mapping on June 20.

In Survey Area 4, a Cooper's hawk in juvenile plumage (and thus approximately one year old) was standing on a nest structure in a mature willow, within willow scrub habitat (GLA 2009) on April 16. As year-old Cooper's hawks are known to pair with adults (6 percent to 22 percent of paired females are year-old birds; Curtis et al. 2006), this nest was suspected to be active (as opposed to a nest used only during a previous year). Further inspections of this structure during the four subsequent surveys resulted in no observations of Cooper's hawks in the nest or the nest tree. However, Cooper's hawks were seen perching or foraging aerially in the general vicinity of the nest during each subsequent survey (*Table 1, Figure 3*). On two occasions, a bird in juvenile plumage was present, including a perched bird on May 1, 2012, and an individual engaged in foraging-type behavior on May 15. Other observations in Survey Area 4 involved an adult. On June 12, 2012, Cooper's hawk calls heard more than 300 meters southeast of the nest site were consistent with a territorial bird. The significance of the nest structure observed in Survey Area 4 is uncertain, although it is clear that Cooper's hawks did not nest successfully there in 2012. However, the presence of a Cooper's hawk on the edge of the nest in April and territorial behavior observed in June indicate that Cooper's hawks were territorial in the area, and possibly attempted to nest. Therefore, this structure appears on *Figure 3* as an unsuccessful nest.

Other Cooper's hawk behaviors observed indicated widespread and regular foraging in Survey Area 4 and limited foraging elsewhere. An adult Cooper's hawk was flying widely over Survey Area 4 on May 29, 2012, in behavior consistent with foraging by this species. Perching and aerial foraging behaviors were observed in willows in the central portion of the survey area during every other survey. Cooper's hawks foraged over a limited area of Survey Area 3, presumably involving the territorial pair from Survey Area 4, on each of the final four surveys,

between May 1 and June 12, 2012. Perching and aerial foraging in Survey Area 4 occurred in and near willow scrub communities, alkali meadows, and scrub communities (GLA 2009, Dudek 2012). Perch sites were mostly utility poles. However, this species often perches in relatively concealed locations in canopy cover and is more difficult to detect in these situations.

Behavior interpreted as foraging was observed in either Survey Area 1 or Survey Area 2 on April 16, May 15, and May 29, 2012, but the area used by Cooper's hawks was limited to a relatively small area of black willow thickets (GLA 2009, Dudek 2012) surrounding the nest. Perching adult Cooper's hawks in that portion of the site were associated with a similar area, and used utility poles, willows, and eucalyptus trees. Several longer flights of Cooper's hawks from off-site areas to the east, including one carrying of a prey item that was delivered to the nest area on May 29, indicate that the nesting pair hunted off-site, at least in part.

3.4 Osprey

The osprey is a WL species for its nesting period whose nesting range has increased in California in recent years (Shuford and Gardali 2008). Once absent as a nesting species in coastal southern California, this species now nests in coastal San Diego and Orange Counties (Reicher 2010, Unitt 2004). It nests on platforms, large utility poles, dead tree tops, and cliffs and feeds in rivers, lakes, estuaries, bays, and surf zones. Although osprey occasionally eat mammals, birds, amphibians, and reptiles, fish account for at least 99 percent of prey items, according to published studies (Poole et al. 2002). Spacing between nesting pairs and distance of nest from foraging habitat vary greatly. Breeding adults are known to forage more than 6 miles from nest sites (Poole et al. 2002).

Osprey were observed on the site in Survey Areas 1, 2, and 4 (*Table 1*, *Figure 3*). Although this species feeds mainly on fish, it was observed perched or flying far from water on several occasions. Only behaviors observed near or over water were considered foraging, although it is possible this species occasionally catches land-based prey on the site. One osprey nest was observed near the site, on a large utility pole approximately 400 meters southwest of Survey Area 4. Nest building was first observed here on May 1, 2012, and an adult was observed bringing a stick to this nest as late as June 12, 2012. Because the nest was off-site, relatively little effort was made to determine its success. Also, nest-building behaviors as were observed during surveys may take place throughout the nestling period and even after nest failures (Poole et al. 2002), so the meaning of these behaviors is unclear. Therefore, the stage of nesting during surveys is uncertain. The offsite structure appears as a nest on *Figure 3*, although the success of the nest is unknown.

Osprey were observed flying over waters west of the site on several occasions, including April 16, May 29, and June 12, 2012. Up to three individuals were observed at one time (e.g., May 29).

These individuals were observed over open water and salt marsh habitats. In addition to flight and nest-building behaviors observed off-site, osprey were observed in several locations on the site itself. An osprey was perched near the bluffs in the southern portion of Survey Area 1 on April 16 and May 1, 2012, within annual brome grasslands (Dudek 2012). One was soaring over riparian habitat in the northern portion of Survey Area 1 on May 29, 2012, the same date an individual was perched in uplands in the southern portion of Survey Area 2. In the southwestern portion of Survey Area 4, an osprey was perched on a utility pole near saltmarsh habitat (GLA 2009) on May 1 and June 12, 2012.

3.5 Red-tailed Hawk

The red-tailed hawk (*Buteo jamaicensis*) is a common bird of prey species that has no special status, but receives protection under California Fish and Game Code Section 3503.5, which prohibits take of any bird of prey. Red-tailed hawks nest in large trees or cliff faces and hunt mostly in open to semi-open habitats, including open woodlands, grasslands, and agricultural and urban landscapes that include elevated nest and perch sites (Preston and Beane 2009). They feed on a wide variety of vertebrates, including mammals, reptiles, and other birds. Home range varies greatly according to habitat, food availability, topography, human disturbance, and season. In one population in Wisconsin, home ranges varied from 81 to 509 acres in spring and summer (Preston and Beane 2009).

In 2012, red-tailed hawks nested both on the site, in Survey Area 4, and near the site, in a radio tower approximately 100 meters (300 feet) northeast of Survey Area 1. The on-site nest was first observed on April 16, 2012, in a large willow, and a single nestling was noted on May 1 and May 15. This individual had fledged by May 29, and it remained in the vicinity through June 12, 2012, the date of the final survey. The off-site nest was first noted on May 1, 2012, when two nestlings were present. These nestlings were still present on May 15. One fledgling red-tailed hawk perched at the northern edge of Survey Area 1 on May 29 was likely one of the nestlings observed earlier that month.

Red-tailed hawk adults associated with the on-site nest were perching and soaring in the vicinity of the nest, in Survey Areas 3 and 4, during every survey. Although at least one of the adults was observed gaining altitude and flying off-site on May 29, 2012, presumably to foraging habitat, the adults clearly hunted on the site as well. A prey strike by one of the adults was observed on April 16, 2012, in the far northeastern part of the site, in Survey Area 3. An adult was also observed capturing a California ground squirrel (*Spermophilus beecheyi*) from a hunting perch in Survey Area 3 on May 29, 2012. A large foraging area is indicated for this species in Survey Areas 3 and 4, based on flight behaviors, various perch sites (mostly utility poles), and the above-noted prey strike and prey capture.

The off-site pair and one fledgling were observed perching on the site, in Survey Areas 1 or 2, but activities identified as foraging were limited (*Figure 3*). On May 15, 2012, an adult perched on utility poles in the area during a period of overcast, before soaring above the site and flying northeast after the weather began to clear. Therefore, this individual probably spent at least a portion of its time hunting off-site.

3.6 White-tailed Kite

The white-tailed kite (*Elanus leucurus*) is an FP species that is a year-round resident in coastal and valley lowlands. It nests in treetops with dense foliage, including orchards, and forages in open grasslands, meadows, farmlands, and emergent wetlands. It hunts mostly by hovering, detecting prey visually, and diving onto and capturing its prey. White-tailed kites feed mostly on small mammals, and may be specialized in their prey preference in any one region. They may forage miles from their night roosts during winter. Territory size is variable and depends on a number of factors. Among these are seasonality, habitat quality (i.e. prey abundance and availability), competition for food resources, and whether dependent young are being fed. Dunk and Cooper (1994) estimated the sizes of 26 territories in Eureka, northwestern California, from June through November, at between 4 and 53 acres, and linked territory size with prey abundance and, ultimately, abundance of California voles (*Microtus californicus*). . Waian (1973) was able to determine the territories of 5 of the 15 pairs of white-tailed kites studied in southern Santa Barbara County based on location of hunts and intraspecific territorial defense. Two of the five kite territories are estimated at 38 and 80 acres. During post-nesting, Waian observed an increase in territory sized for the same kite pairs to 44 and 128 acres, respectively, one week following hatching. In addition, a male from another pair "flew to and successfully hunted fields up to 1.25 miles from the nest," thereby increasing his home range, but was not territory. In San Diego County, Henry (1983) found that home range averaged from 42 to 217 acres (Dunk 1985).

White-tailed kites nested in the northwestern portion of Survey Area 3, in a large myoporum (*Myoporum* sp.), an ornamental species, and most activity involving kites was concentrated in that area (*Table 1, Figure 3*). The nest site was occupied by the time of the initial raptor survey, on April 16, 2012, when two nestlings were present. On May 1, 2012, three young were visible, perching on branches in the nest tree. During subsequent surveys (May 15 and 29), two fledglings were in the nest vicinity, still under parental care.

White-tailed kites foraged aerially and perched in portions of Survey Area 3 during every survey, particularly over open habitats in the northwestern portion of the survey area (GLA 2009). On June 12, 2012, an adult was also observed foraging over the northern portion of Survey Area 4 and flying to willow scrub habitat in that survey area. Kites also foraged widely in open habitats just north of the project site on May 29, 2012 (*Table 1, Figure 3*). This species was not detected near Survey Areas 1 or 2. Perch sites included dead snags, the nest tree, and willows.

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APPENDIX A

Photo Plate

APPENDIX A
Photo Plates

Photo 1. Cooper's hawk in eucalyptus in Survey Area 2. April 16, 2012.

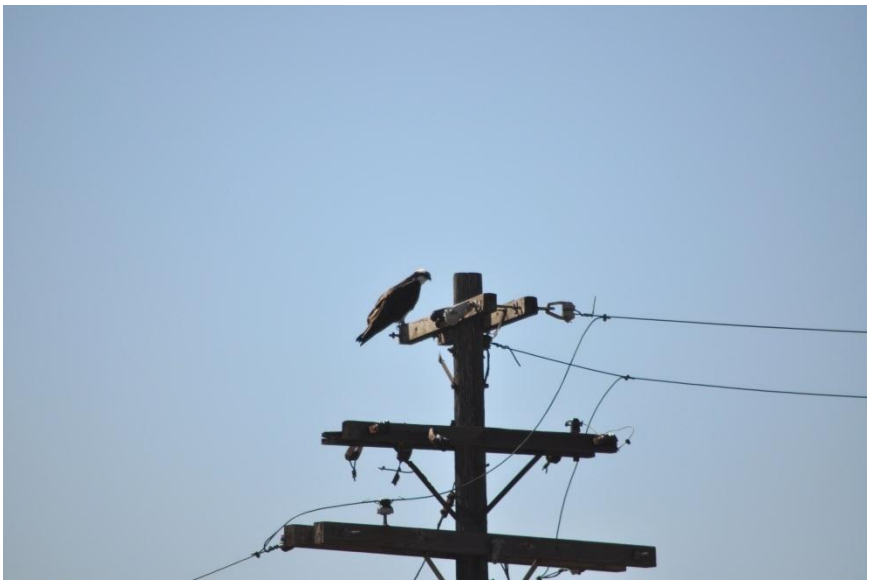

Photo 2. Osprey on utility pole near the bluff at the south edge of Survey Area 2. April 16, 2012.

Photo 3. Looking north over disturbed grass and forb habitat in Survey Area 2. May 1, 2012.

Photo 4. Looking west from the bluff in Survey Area 3. Red-tailed hawks hunt the scrub habitat in the foreground; Cooper's hawk frequent the willow scrub in Survey Area 4 in the background. May 29, 2012.

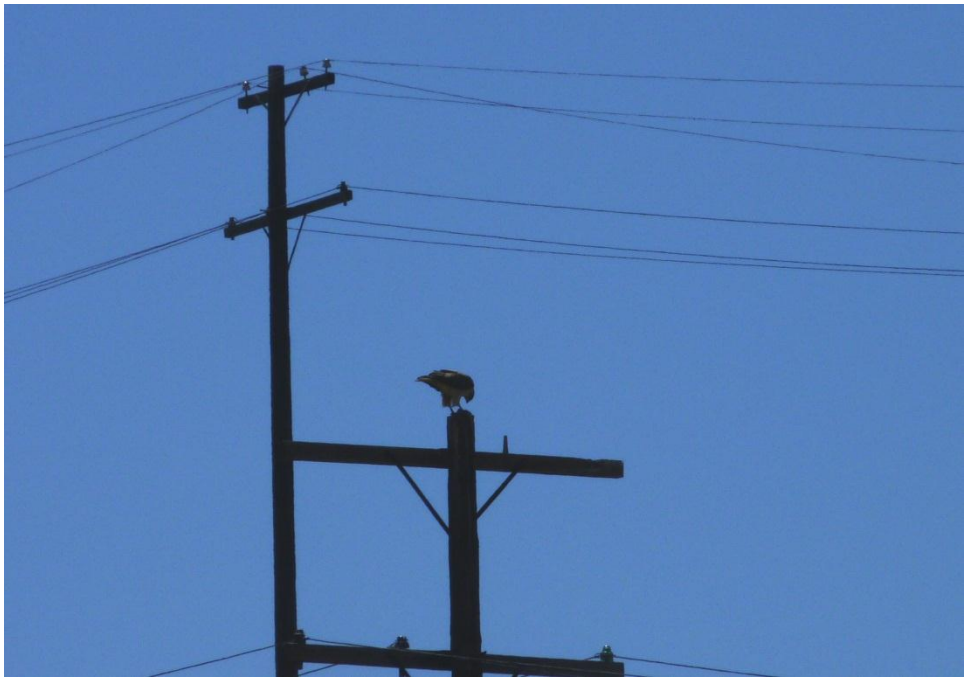

Photo 5. Red-tailed hawk consuming a California ground squirrel in Survey Area 3. May 29, 2012.

Photo 6. American kestrel perched in Survey Area 1. April 16, 2012.

Photo 7. Red-tailed hawk nest in willow in northeastern Survey Area 4. May 1, 2012.

Photo 8. Disturbed forb/grassland habitat in Survey Area 3. May 1, 2012.

Photo 9. Red-tailed hawk perched on a utility pole at the edge of the mesa in Survey Area 3. May 1, 2012.

Photo 10. Looking north over the northwestern portion of Survey Area 3, frequented by foraging white-tailed kites in 2012, with the nest site in the background. May 29, 2012.

Photo 11. Central portion of Survey Area 1, frequented by foraging American kestrels. June 12, 2012.

Photo 12. Looking east over grassland habitat frequented by foraging American kestrels in 2012. May 23, 2012.