

2009 NESTING RAPTOR SURVEY

**YOLO COUNTY AIRPORT TREE REMOVAL PROJECT
DAVIS, YOLO COUNTY, CALIFORNIA**

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LSA

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1.0 INTRODUCTION

1.1 BACKGROUND

The Yolo County Airport (Airport), with the assistance of Mead & Hunt, Inc. (M&H), has identified several trees in the Airport vicinity as airspace obstructions that pose potential hazards to incoming and outgoing aircraft. The California Division of Aeronautics (CDA) is requiring that these obstruction trees either be removed or topped. However, such trees could also provide nest and perching sites for various raptor species, including the State-threatened Swainson's hawk (*Buteo swainsoni*). To determine whether any of the obstruction trees support current or historic raptor nests, LSA Associates, Inc. (LSA) surveyed the trees for raptor nests and raptor nesting behavior during the 2009 breeding season. This report presents the results of that survey, and also summarizes known Swainson's hawk nest occurrences in the Airport vicinity and provides a brief overview of federal and State regulations pertaining to nest protection and Swainson's hawk impacts.

1.2 SETTING

The Yolo County Airport is located six miles northeast of Winters, five miles northwest of Davis, and five miles southwest of Woodland in rural Yolo County, California. The Airport is bounded by County Road (CR) 29 to the north, Aviation Avenue to the east and south, and CR 95 to the west (Figure 1). Surrounding land uses include agricultural fields, rural residences, and family ranching operations (including pastures and feedlots). Vegetation on the Airport consists of non-native grassland or fallow fields, with sparse ornamental trees planted around some of the buildings. Most of, if not all, of the private properties adjacent to the Airport contain trees planted for ornamental landscaping, shade, or windbreak cover, with eucalyptus (*Eucalyptus* sp.) the most commonly occurring species. Several of these trees are quite old and very large. Particularly large and/or dense eucalyptus stands are present just northeast of the intersection of CR 95 and CR 31, and at the Westerdahl property (i.e., 24330 CR 95) on the west side of CR 95 and approximately 0.25 mile south of CR 29. Dry Slough, which runs through the southwest corner of the project area, supports a native riparian plant community consisting of willows (*Salix* sp.), Fremont cottonwood (*Populus fremontii*), and valley oak (*Quercus lobata*). Riparian vegetation consisting of dense willows and a few cottonwoods is also present on the north side of the irrigation canal north of the Yolo Sportsmen's Association (YSA) property northeast of the Airport runway.



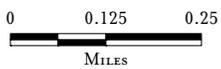
LSA

FIGURE 1



 PROJECT AREA

Yolo County Airport Raptor Survey



Project Vicinity

2.0 METHODS

2.1 SWAINSON'S HAWK NEST RECORDS

Prior to initiating surveys, LSA reviewed the California Natural Diversity Database (CNDDDB) (CDFG 2009) for records of known Swainson's hawk nests within 0.5 mile of the project area, defined as the Airport itself as well as adjacent properties that contain obstruction trees (see Figure 1). Records were identified by drawing the project area boundary on an aerial photograph using Geographic Information Systems (GIS) software (ESRI ArcGIS 9.3.1) and conducting a query for all Swainson's hawk CNDDDB records within 0.5 of the boundary. LSA also reviewed *The Distribution, Abundance, and Habitat Associations of the Swainson's Hawk (Buteo swainsoni) in Yolo County* (Estep 2008), which summarizes a comprehensive Swainson's hawk nest census that was conducted in 2007 for the Yolo County Natural Heritage Program (NHP). This report also contains valuable information on the nesting habits, foraging associations, and abundance of this and other nesting raptor species in Yolo County.

2.2 2009 NEST SURVEY

LSA wildlife biologist Matt Ricketts conducted surveys on April 11, April 24, June 5, and July 7, 2009. Each survey consisted of checking obstruction trees as marked on M&H's *Obstruction Identification* aerial map dated March 2009 (attached as Appendix A) for the presence of stick nests and/or watching for behavioral signs of raptor nesting (e.g., pairs copulating, carrying food, or calling) with binoculars or spotting scope. Any nesting activity observed in early surveys was followed with focused observations on subsequent surveys. With the exception of the July 7 survey, all surveys were conducted from the roadsides of CR 95 or Aviation Avenue, since permission to access private property was not granted until later in the survey period. On July 7, Mr. Ricketts was granted foot access to the properties at 25851 CR 95 (Rocky Road Ranch), 25340/44 CR 95 (Maurer property), and 24330 CR 95 (Westerdahl property) to more closely inspect obstruction trees on and adjacent to these properties. Although obstruction trees were not marked in the field, most were identifiable based on their height above neighboring trees or isolation from other tall trees. In particularly dense eucalyptus groves where identification of individual obstruction trees was difficult (e.g., Tree 24 on Westerdahl property, Trees 86–88 and 90 at southwest corner of Rocky Road Ranch), Mr. Ricketts walked through the grove on foot while inspecting trees for stick nests.

This survey was not intended as a complete nest census of the entire project area as it specifically focused on the obstruction trees identified in the above-mentioned aerial map prepared by M&H. Several raptor species were observed over the four days of surveying, and active nests of these species both within and near the project area were likely undetected. However, LSA is confident that the survey effort was sufficient to detect any raptor nesting activity in the obstruction trees for the 2009 breeding season.

3.0 RESULTS

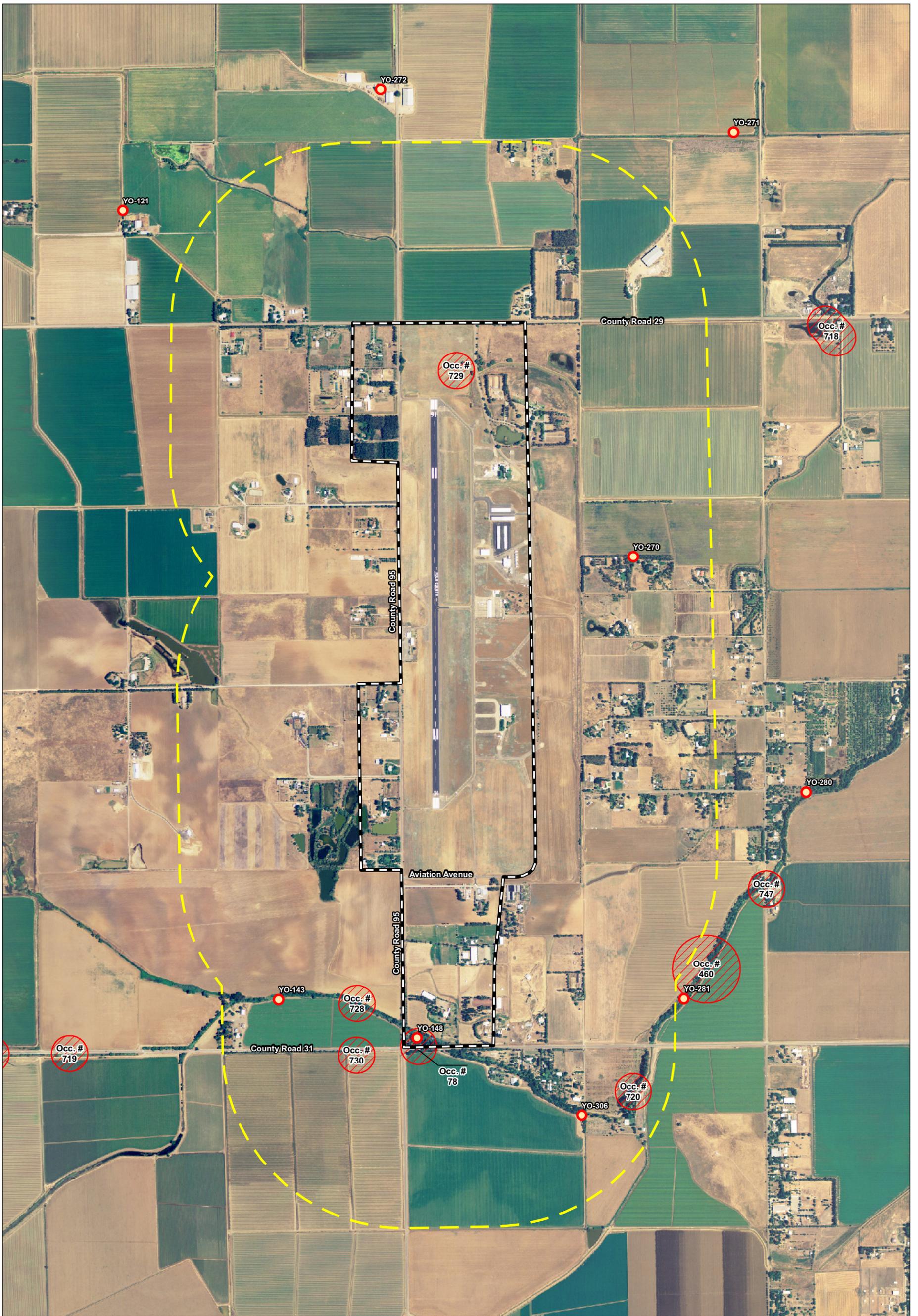
3.1 SWAINSON'S HAWK NEST RECORDS

The CNDDDB contains five Swainson's hawk nest records within 0.5 mile of the project area, and Estep (2008) documented four nests on or within 0.5 mile of the project area in 2007 (Figure 2, Table A). Of these historic nests, CNDDDB occurrence number 78, which is the same as Estep's (2008) YO-148, is in closest proximity to proposed tree removal activities, since four trees in this area (Trees 86, 87, 88, and 90) have been identified as airspace obstructions (Appendix A). The eucalyptus grove at this location (i.e., northeast of the CR 95/CR 31 intersection; southwest corner of Rocky Road Ranch property) has intermittently supported nesting Swainson's hawks as far back as 1979 (CDFG 2009), and also supported an active nesting pair in 2009 (see discussion of Rocky Road Ranch Nest below). CNDDDB occurrence number 729 refers to a nest in a "lone willow in [a] fallow field north of [the] airport runway." No such tree was observed during LSA's site visits, and it is assumed that this tree was removed at some point since 2004, when the nest was last checked (CDFG 2009).

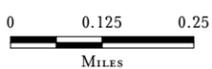
3.2 2009 NEST SURVEY

Seven raptor species were observed during the survey: white-tailed kite (*Elanus leucurus*), northern harrier (*Circus cyaneus*), red-shouldered hawk (*Buteo lineatus*), American kestrel (*Falco sparverius*), barn owl (*Tyto alba*), great horned owl (*Bubo virginianus*), and Swainson's hawk. Swainson's hawk was the only species confirmed as nesting within the project area, although there was some evidence that white-tailed kite, red-shouldered hawk, and American kestrel may have nested, as well. No active nests were found in any of the obstruction trees, assuming that such trees were correctly identified in the field using the M&H aerial map. Old stick nests were found in or immediately adjacent to Trees 15, 58, 61, 69, and 90 (Figure 3, Appendix A). Nine trees south of the Airport runway (i.e., Trees 67–73, 76, and 78 on M&H map) were removed over the two-week period between June 29 and July 10 subsequent to verbal notifications from the Federal Aviation Administration (FAA) and CDA that these trees were out of compliance with obstacle clearance requirements for nighttime aircraft approaches (R. Groom, pers. comm.). The southernmost of these trees (i.e., Tree 78) was approximately 1,600 feet (0.3 mile) north-northeast of the active Swainson's hawk nest near the CR 95/CR 31 intersection (see discussion of Rocky Road Ranch Nest below). LSA had not observed any raptor nesting activity in these trees as of the June 5 survey, by which time most California raptors are well into their nesting cycle. As such, LSA does not believe that these removals adversely affected any nesting raptors. Based on LSA's understanding, the remaining obstruction trees will be removed during non-nesting season (i.e., September through January).

The seven raptor species observed during the survey are discussed in greater detail below. Because of its special regulatory status (State threatened), Swainson's hawk is discussed first.



LSA



-  PROJECT AREA
-  1/2 MILE RADIUS AROUND PROJECT AREA
-  2007 SWAINSON'S HAWK NESTS (APPROXIMATE) (ESTEP 2008)
-  SWAINSON'S HAWK OCCURRENCES (CNDDDB - MAY 2, 2009)

FIGURE 2

Yolo County Airport Raptor Survey

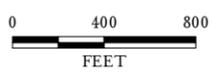
Known Swainson's Hawk Nest Sites in Project Vicinity

Table A: Known Swainson's Hawk Nest Sites Within 0.5 Mile of Yolo County Airport Tree Removal Project Area

Figure 2 ID	Location	Year(s) Active	Notes	Source
YO-143	Cottonwood, Dry Slough at County Road (CR) 95	2007	1 young fledged	Estep 2008
YO-148	Eucalyptus grove, CR 31 at CR 95	2007, 2009 (this study)	1 young fledged in 2007, no fledglings observed in 2009	Estep 2008
YO-270	Cottonwood in tree row, 0.4 mile (mi) east of CR 96, 0.6 mi south of CR 29	2007	Undetermined outcome	Estep 2008
YO-306	Eucalyptus along Dry Slough, 0.2 mi south of CR 31	2007	Undetermined outcome	Estep 2008
Occ. # 78	Eucalyptus grove, CR 31 at CR 95 (same as YO-148 above)	1979, 1990, 1991, 2002, 2004	1 young fledged in 1979; active but unknown outcome in 1980, 1981, 1990, 1991, 2002, and 2004. Inactive in 1980, 2001, and 2005.	CDFG 2009 (Comrack, Estep, Resseguie)
Occ. # 720	Tall eucalyptus on west bank of Dry Slough, 0.1 mi south of CR 31, 0.4 mi west of CR 96	1999	No young fledged in 1999; inactive 2000–2001, 2005; adult observed near nest on 7/21/04	CDFG 2009 (L.J. Resseguie)
Occ. # 728	Dry Slough, 0.25 mi northwest of CR 95 and CR 31 intersection	1999, 2000	Nest located in sprawling black walnut; 2 young fledged in 1999, 1 fledged in 2000; inactive in 2001, 2004, and 2005	CDFG 2009 (L.J. Resseguie)
Occ. # 729	0.25 mi southeast of CR 95/CR 29 intersection, at north end of Yolo Co. Airport	1999, 2000	Nest located in lone willow in field north of airport runway; 1 young fledged in 1999, 1 chick observed 6/17/00 but no young fledged; inactive 2001-2002, no sightings in 2004	CDFG 2009 (L.J. Resseguie)
Occ. # 730	South side of CR 31, 0.1 mi west of CR 95	1999	Nest located in fifth walnut west of CR 95; 3 young fledged in 1999; inactive in 2000, 2001 2004, and 2005.	CDFG 2009 (L.J. Resseguie)



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-  PROJECT AREA
-  SWAINSON'S HAWK NEST
-  OTHER NESTS

FIGURE 3

Yolo County Airport Raptor Survey

2009 Nest Observations

SOURCE: Aerial Imagery from the U.S. Department of Agriculture, NAIP (2005)
 I:\MHN0902\GIS\Maps\Raptor Survey\Figure3_SWHA_Occurrences.mxd (07/15/2009)

3.2.1 Swainson's Hawk

Yolo County supports the largest nesting concentration of nesting Swainson's hawks in California (Estep 2008), and the numerous agricultural fields interspersed with residential and riparian trees that characterize the landscape surrounding the Airport represent high-quality habitat for this species. Several individuals were observed during each visit, most often soaring high over the Airport or adjacent properties. For example, six to eight individuals were seen soaring over the fields north of CR 29 at one time on April 11, calling and occasionally diving at each other. Two active Swainson's hawk nests were found in the project area during the 2009 breeding season: one in the eucalyptus grove northeast of the CR 95/CR 31 intersection ("Rocky Road Ranch Nest") and one on the southern edge of the large eucalyptus grove at the Westerdahl property ("Westerdahl Nest"), approximately 400 feet west of CR 95 (Figure 3; Appendix B). These nests are further described below.

Rocky Road Ranch Nest. As mentioned above, the eucalyptus grove at the southwestern corner of Rocky Road Ranch supported an active Swainson's hawk nest in 2007, and the landowners claim that the nest has been active for the last several years (C. Smith and T. Hoffman, pers. comm.). The CNDDDB (CDFG 2009) also cites multiple nesting attempts at this location. LSA first observed breeding activity in the area on April 11, when a light-morph male Swainson's hawk was seen copulating with an intermediate-morph female on a telephone pole on the west side of CR 95 just south of Dry Slough and later on top of a eucalyptus east of CR 95. LSA also observed a large stick nest in a dead eucalyptus in the middle of the grove during this first visit, although it was not clear at that time whether the nest was active or not (see Appendix B for photos of eucalyptus grove and nest). The nest was confirmed active when the female was seen flying directly into the nest at 6:51 am on April 24, with the male flying to perch on the nest rim a few seconds later. Both adults remained in the eucalyptus grove throughout the remainder of the 1.5-hour observation period. Based on this behavior, LSA concluded that the female was laying eggs or making final adjustments to the nest's construction. During the third visit on June 5, the female was not seen but the male was still present in the grove perching on various tall trees and occasionally calling. Although the female was out of sight, it may have been laying low in the nest incubating eggs or brooding recently hatched fledglings. However, during the final visit on July 7, no young or other activity was seen at the nest. The female was perched at a tall snag approximately 100 feet east of the nest tree throughout much of the 1.25-hour observation period (this was the favored perch of the male on June 5, as well), occasionally flying to other trees within the grove. The male was seen flying high over the fields south of CR 31 at 8:22 am, but at no time was it seen associating with the female or flying to the nest. In addition, when the LSA biologist entered the eucalyptus grove on foot to inspect the trees more closely, neither of the adults uttered any alarm calls, nor were any young seen perched at or near the nest. Since young Swainson's hawks would be expected to be active and visible near nest sites at this time of year (SHTAC 2000), LSA concludes that the pair likely attempted to nest this year, but failed to produce young, possibly due to infertile eggs. However, the eucalyptus grove is still considered an active nesting territory¹ during the 2009 breeding season, since a pair was observed copulating in or near the grove in April and perching in the grove during all four LSA site visits. In addition, an old stick nest was found in the eastern portion of the grove approximately 150 feet east of the above-described nest tree during the July 7 site visit. This nest may have been used by Swainson's hawks in the past, but appeared to have not been used in some time (based on the presence of cobwebs).

¹ Estep (2008) defines an active nest territory as "a nesting area that was occupied by a breeding pair of Swainson's hawks throughout all or a significant portion of the breeding season."

Westerdahl Nest. Although Swainson's hawks were heard calling from or flying over the large eucalyptus grove at the Westerdahl property during the April and June site visits, nesting was not confirmed until July 7, when two young were seen perched in the vicinity (i.e., one approximately 80 feet west and one approximately 100 feet east) of a stick nest on the southern edge of the grove approximately 400 feet west of CR 95 (see photos in Appendix B). The two young Swainson's hawks were identified as such based on dark brown streaking on their breast and belly and tawny feathering on the head and upperparts. The branches supporting the nest and ground surface under the nest tree were covered in droppings, indicating recent activity. Based on the M&H airspace obstruction map, the nest tree appears to be located approximately 200 feet west of Tree 25 and 230 feet southeast of Tree 24.

Other Observations. Tree 61 on the Maurer property, a large eucalyptus, contains an old stick nest that the landowner claims has historically been used by Swainson's hawks (F. Maurer, pers. comm.). LSA monitored this tree for approximately 0.5 hour on July 7, but did not observe any evidence of raptors using the nest (i.e., no adults or young perching in tree, no alarm calls). This nest may have indeed been used by Swainson's hawks (or other raptors) in previous years, but appears inactive for 2009.

As mentioned above, individual Swainson's hawks were seen throughout the project area during all four site visits, mostly flying or soaring. In addition to the above-described nest territories, individual Swainson's hawks were also seen perching in the vicinity of the YSA property on April 11 (individual perched in large willow approximately 100 feet north of irrigation canal) and July 7 (individual perched in eucalyptus at northwestern corner of shooting range, possibly Tree 13 on M&H aerial). No nest structures were found in this area during the four site visits, however.

3.2.2 White-tailed Kite

White-tailed kites nest in densely foliated trees and large shrubs located near suitable foraging habitat (i.e., grasslands, marshes, agricultural fields). This species was observed in the project area on April 24, June 5, and July 7. On April 24, a probable mated pair was seen briefly perching in the trees north of the irrigation canal north of the YSA property, but flew to the southeast out of sight over the YSA property after five minutes. No nest structures or nesting behavior were seen in this area during this or subsequent site visits. On June 5, a single white-tailed kite was seen soaring over the western portion of the large eucalyptus grove on the Westerdahl property. On July 7, a white-tailed kite was heard, then seen, flying from a grove of pine trees east of the Rocky Road Ranch property (i.e., just southwest of Tree 82 on M&H map) to the east. A few minutes later, the kite returned to perch in top of a pine near a stick nest that may have contained eggs or young. The nest was located in top of an adjacent pine and appeared similar in size, structure, and placement to other white-tailed kite nests that have been observed by LSA. Given that no trees will be removed from the pine grove and that the grove was inaccessible by foot, LSA did not conduct detailed observations of the nest and was thus unable to determine whether it is currently active. Nevertheless, the behavior of the observed adult and suitability of the habitat suggest that white-tailed kites may be nesting in this area. A second white-tailed kite was also seen on July 7 briefly perched in a eucalyptus tree row on the Westerdahl property approximately 300 feet northwest of the driveway terminus, before it flew to the west out of sight. This individual was seen clutching prey (probably a vole or mouse) in its talons as it flew to the perch from the southeast, and may have been carrying it to a nest outside the project area. Suitable

nesting habitat for this species is present throughout the project area, but no nest structures were found in any of the obstruction trees.

3.2.3 Northern Harrier

Northern harrier was only observed on two occasions during the survey. On April 11, a male harrier was seen foraging over the field north of the Airport runway, and possibly the same bird was seen in the same area on April 24. This species nests on the ground in dense vegetation, typically in marshes or overgrown fields. No suitable nesting habitat was observed in the project area while conducting the survey, although weedy fields or small wetlands in surrounding areas may contain potential nest sites.

3.2.4 Red-shouldered Hawk

Red-shouldered hawks were observed in the project area on June 5 and July 7. At 10:19 a.m. on June 5, an adult red-shoulder was seen flying into the eucalyptus trees just south of the entrance to Hacienda Halagueña at 24146 CR 95 (i.e., near Tree 18 on M&H map) from the south. Three minutes later, the same bird flew south from the trees lining the Hacienda Halagueña driveway towards the large eucalyptus grove on the neighboring Westerdahl property, and a second red-shoulder was seen flying north into the same trees from which the first bird had just left. Several red-shoulder calls were also heard from the western portion of the Westerdahl eucalyptus grove over the next 10–15 minutes. The observed behavior suggested that the two red-shoulders may have been a mated pair that was nesting in the trees lining the Hacienda Halagueña driveway, but a close inspection of these trees during both the June 5 and July 7 site visits did not reveal any evidence of recent nesting. An old stick nest covered in cobwebs was seen about half-way up a eucalyptus on the north side of the driveway on July 7 (this tree may correspond with Tree 15 on the M&H map), but no whitewash, prey remains, feathers, or other signs of recent activity were seen on the ground surface under the nest, and no young were seen perched in any nearby trees. This tree may have been used in the past by red-shoulders, but it appears that the pair observed in the area this year may have been nesting further to the south or southwest on or adjacent to the Westerdahl property.

Single red-shouldered hawks were also heard and/or seen on the Maurer and YSA properties on July 7. An old stick nest first found in the top of Tree 58 on April 24 has reportedly supported nesting red-shoulders in the past (F. Maurer, pers. comm.), but no activity or young were seen at the nest on July 7. A single red-shoulder was seen perched in a willow 150 feet west-southwest of Tree 58, and may have nested in the abundant riparian vegetation in the western portion of the property. A single red-shoulder was also heard calling from the northwest corner of the U-shaped eucalyptus stand on the YSA property, although LSA was unable to visually locate it. No nest structures were seen in any of the trees along Aviation Ave or the western and northern sides of the U-shaped stand, but it's possible that a nest could have been present elsewhere on the YSA property, which was not thoroughly surveyed on foot due to lack of access. Red-shouldered hawks traditionally nest in riparian woodlands, but in recent years have developed a fondness for eucalyptus in urban and rural settings (Peeters and Peeters 2005; LSA obs.). The numerous eucalyptus trees throughout the project area provide suitable nest sites for this species.

3.2.5 American Kestrel

American kestrel is a small falcon that is one of the most common and widespread raptors in California (Peeters and Peeters 2005). It nests in various types of cavities in snags; holes in cliffs, dirt banks, and buildings; old magpie nests; dead palm fronds; crannies amidst bridge girders; and nest boxes (Peeters and Peeters 2005). This species was observed in the project area on April 11. While scanning Trees 68, 69, and 70 for active nests from the side of Aviation Avenue, LSA observed a pair of kestrels copulating in an ornamental tree west of the northernmost shed on the Flying Road Ranch property. Soon after copulation, the male flew into an opening under the eaves of the west wall of the shed and emerged soon thereafter. Although neither the male nor female was seen carrying nesting material or food, this behavior suggests that the kestrels may have been nesting in the shed. However, focused follow-up observations of this pair were not conducted since the shed would not be impacted by tree removals and most of the time spent in the area was focused on determining whether nearby obstruction trees (Trees 67–73) contained active nests. Nevertheless, these observations indicate that American kestrels likely nest in the project area where suitable cavities are available.

3.2.6 Barn Owl

The barn owl is the most widespread of all owl species (Burton 1984, cited in Marti 1992) and occurs in a variety of both urban and rural habitats. It nests in a wide variety of cavities, including those within trees, cliffs, caves, riverbanks, church steeples, barn lofts, hay stacks, and nest boxes (Marti 1992). A single barn owl was seen flying among various trees in the southwestern portion of the large eucalyptus grove on the Westerdahl property on July 7. Abundant whitewash and feathers on the ground in this portion of the grove indicate that it's heavily used by both barn and great-horned (see below) owls for roosting. In addition, Tree 51 and nearby densely foliated trees on the Maurer property have been known to support roosting barn owls (F. Maurer, pers. comm.). Although no large cavities of suitable size for barn owl nesting were observed in any of the larger obstruction trees, suitable nest sites are likely present in old barns and abandoned buildings in the Airport vicinity.

3.2.7 Great Horned Owl

Great horned owl is the most widely distributed owl species in North America and occurs in a wide variety of habitats. It does not construct its own nest, but instead occupies old stick nests previously built by other raptor species (Houston et al. 1998). A single great-horned owl was observed in the same general location as the above-described barn owl on July 7. Great-horned owls nest earlier in the season than most other raptor species, often initiating nesting as early as January (Estep 2008). As such, LSA may have missed 2009 nesting attempts by this species within the project area since surveys were not initiated until April. However, the observation of the individual on the Westerdahl property confirms that this species roosts, and likely nests, within the project area. Any tree removals scheduled from December–February should only occur after pre-removal surveys have been conducted to ensure that nesting great-horned owls are not present.

4.0 NEST PROTECTION REGULATIONS

This section summarizes federal and State regulations that pertain to nests of native birds, including raptors. The California Endangered Species Act is also discussed since Swainson's hawk is protected under this Act.

4.1 MIGRATORY BIRD TREATY ACT

The federal Migratory Bird Treaty Act (MBTA) prohibits the taking, hunting, killing, selling, purchasing, etc. of migratory birds, parts of migratory birds, or their eggs and nests. As used in the MBTA, the term "take" is defined as "to pursue, hunt, shoot, capture, collect, kill, or attempt to pursue, hunt, shoot, capture, collect, or kill, unless the context otherwise requires." Most bird species native to North America are covered by this act. Compliance with the MBTA is typically achieved on most projects through the implementation of preconstruction surveys and nest buffers (if necessary) for any activities that remove or disturb any vegetation or structures that could potentially support nesting birds during the breeding season, the definition of which varies among agencies and municipalities.

4.2 CALIFORNIA FISH AND GAME CODE

Section 3503 of the California Fish and Game Code, enforced by the California Department of Fish and Game (CDFG), prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Subsection 3503.5 specifically prohibits the take, possession, or destruction of any birds in the orders Falconiformes (hawks and eagles) or Strigiformes (owls) and their nests. Non-native species, including European starling, house sparrow, and rock pigeon, are not afforded any protection under the MBTA or California Fish and Game Code. As with the MBTA, compliance with this code requirement is typically achieved through the implementation of preconstruction surveys and nest buffers during the breeding season, which the CDFG usually defines as February 1–August 31, based on LSA's experience. If active nests are found during preconstruction surveys, a buffer is typically established around the nest in which no construction or other work can be conducted until a qualified biologist has determined that the nest has failed or that the young have successfully fledged and are capable of flight. The buffer width can vary depending on the sensitivity of the species to disturbance and nature of the proposed activity, but is usually developed in consultation with the CDFG. Based on LSA's experience, buffer sizes of 300 feet for raptors (excepting Swainson's hawks, which require buffers of 0.25 to 0.5 mile) and 50 feet for smaller birds are typically deemed adequate by the CDFG to protect active nests. In addition, CDFG typically requests that Swainson's hawk nests be monitored once a week by qualified biologists during any construction projects with active Swainson's hawk nests in the vicinity.

4.3 CALIFORNIA ENDANGERED SPECIES ACT

The CDFG has jurisdiction over State-listed endangered, threatened, and rare plant and animal species under the California Endangered Species Act (CESA). CESA is similar to the federal Endangered Species Act both in process and substance; it is intended to provide additional protection to threatened and endangered species in California. Species may be listed as threatened or endangered under both acts (in which case the provisions of both State and federal laws apply) or under only one act. Section 2080 of the Fish and Game Code prohibits the “take” of any State-listed threatened or endangered species. “Take” is defined in Section 86 as “hunt, pursue, capture, or kill, or attempt to hunt, pursue, capture, or kill.” While not specifically defined in the definition of take, the loss of Swainson’s hawk nest trees or other essential habitat can result in territory abandonment and reduced reproductive potential leading to further population declines, and thus can potentially be used in the definition of take (Estep 2008).

Removal of a known Swainson’s hawk nest tree typically requires an incidental take permit from the CDFG pursuant to Section 2081 of the Fish and Game Code. Incidental take permits can only be issued if the following specific criteria are met:

1. The authorized take is incidental to an otherwise unlawful activity;
2. The impacts of the authorized take are minimized and fully mitigated;
3. The measures required to minimize and fully mitigate the impacts of the authorized take;
 - a. are roughly proportional in extent to the impacts of the authorized take;
 - b. maintain the applicant’s objectives to the greatest extent possible, and
 - c. are capable of successful implementation;
4. Adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with and the effectiveness of the measures; and
5. Issuance of the permit will not jeopardize the continued existence of a State-listed species.

Based on LSA’s review of the M&H aerial map of airspace obstruction trees (Appendix A), the two Swainson’s hawk nest trees found during the 2009 breeding season do not *appear* to correspond with any of the trees marked. However, this needs to be confirmed in the field before a more definitive assertion can be made. The project will involve the removal of two trees (i.e., Trees 24 and 25) within 300 feet of the Westerdahl nest, and four trees (i.e., Trees 86–88, 90) within 300 feet of the Rocky Road Ranch nest. CDFG typically does not require an incidental take permit for projects that remove a small number of trees adjacent to or near known Swainson’s hawk nest trees, but could require a permit if such removals affected numerous Swainson’s hawk territories over a large area, or resulted in a known pair abandoning their territory in the following breeding season, which would constitute “take” under CESA as defined above. The likelihood of a given Swainson’s hawk pair abandoning their territory due to a few tree removals is somewhat subject to debate, but the abundance and proximity of suitable nest trees in the project area and the retention of most trees within both the Westerdahl and Rocky Road Ranch eucalyptus groves suggest that the two pairs observed in 2009 would not abandon their territories in 2010. Swainson’s hawks have shown some adaptability to nest tree removal in other portions of the Central Valley (e.g., along Sacramento River), moving to nearby trees in the following breeding season (J. Estep, pers. comm.).

Another potential issue concerns the long-term effects of removing larger eucalyptus trees in the Airport vicinity (e.g., Trees 51, 56, 58, 59–62, 80, and 82). The permanent removal of such trees may result in increased competition for nest sites between Swainson's hawks and other raptor species known to nest in the area (e.g., red-shouldered hawk, great horned owl), thus affecting future long-term reproductive success. As such, LSA recommends initiating consultation with the CDFG as soon as possible to address potential project impacts to Swainson's hawk.

5.0 REFERENCES

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APPENDIX A

MEAD & HUNT OBSTRUCTION IDENTIFICATION MAP

APPENDIX B
NEST PHOTOGRAPHS



Swainson's hawk nesting territory northeast of CR 95/CR 31 intersection, viewed from east side of CR 95 approx. 200 feet north of Dry Slough. Nest visible in center of frame, perched Swainson's hawk visible at top of snag above and right of nest.



Close-up view of above nest



Westerdahl property Swainson's hawk nest viewed from open field to the south



Close-up of Westerdahl nest