

SECTION 2. SETTING

SITE CHARACTERISTICS

This subsection presents a summary of the project description included in the Notice of Preparation (NOP), and this section discusses the project site watershed, geology, soils, habitats, species anticipated onsite, and project site flora and fauna population estimates. Appendix B, Photograph Key Map of Lyons Canyon Ranch and Surrounding Area with Photographs, provides representative photographs and their location onsite to illustrate general project site characteristics.

Summary of Project Description

This subsection is a summary of the NOP for the Lyons Canyon Ranch project, which was submitted to comply with Section 15082 of the *State CEQA Guidelines*.

Background, Location, and Setting

The Lyons Canyon Ranch project was originally submitted to the City of Santa Clarita for review and possible annexation in 2002. Pursuant to the provision of Section 15082 of the *State CEQA Guidelines*, the City of Santa Clarita first circulated a NOP in March 2003. Due to a change in the project description, another NOP was circulated for a 30-day period commencing 15 December 2003 and ending 14 January 2004 (State Clearinghouse No. 2003031086). Subsequently, the project was withdrawn from the City of Santa Clarita in May 2005. The applicant revised the project design and filed entitlement applications with the County of Los Angeles in June 2005. This NOP reflects changes in the project currently proposed to the County.

The Lyons Canyon Ranch project site encompasses approximately 235-acres of land located in unincorporated Los Angeles County. Lyons Canyon Ranch is adjacent to The Old Road, west of Interstate 5, just south of Sagecrest Circle and north of Calgrove Road near Towsley Canyon Park. The project site is bounded to the north by residential uses on Sagecrest Circle and the Stevenson Ranch opposite of Sagecrest Circle; to the south by Towsley Canyon Park and vacant land; to the east by The Old Road, Interstate 5, and residential uses; and on the west by vacant land and open space.

Two natural features dominate the project site: oak trees and steep, rugged ridges trending generally east-west. Approximately 1,863 oak trees have been inventoried on or within 50 feet of the project site. Of these, 1,409 fall under the Oak Tree Ordinance. Of the 1,409, approximately 82 are Heritage Oaks as defined by the County of Los Angeles. Site topography is defined by primary and secondary ridgelines, which are visually prominent, as well as watercourses and associated riparian vegetation in the canyons.

The project site is currently located within unincorporated Los Angeles County, and is designated as Non-Urban 2 (N2) and Hillside Management (HM) in the Santa Clarita Valley Areawide General Plan, and Non-urban (R) and Significant Ecological Area (SEA) in the County General Plan. The subject property is zoned as Heavy Agricultural (A-2-2/A-2-1).

Project Characteristics

The project site is currently located within unincorporated Los Angeles County, and is designated as Non-Urban 2 (N2), Hillside Mountainous (HM), and Hillside Mountainous-Significant Ecological Area (HM-SEA) in the County General Plan. The subject property is zoned Agricultural (A-2-2) and Commercial (C-3).

The project includes the development of 107 lots comprised of 93 single-family residential lots, 1 condominium lot proposed for development with 93 senior condominium units, five (5) open space lots, six (6) debris/detention basin lots, one (1) park lot, and one (1) fire station lot. The single-family detached units, and attached senior condominium uses are characterized by a lot orientation with a gross target density of 0.79 single-family dwelling units per acre. The Lyons Canyon Ranch project intends to create a residential neighborhood with single-family detached and senior condominium units. The overall average lot size for the single-family residential lots is 21,048 square feet. The 93 senior condominium units are proposed on a 9.26-acre lot. (Refer to the Oversized Maps at the end of this report for the Lyons Canyon Ranch Site Plans.)

Residential Uses: The areas designated for residential development are clustered in three locations. Seventy-one (71) lots in the southwestern portion of the site are planned for large single-family homes. The primary access to this residential enclave is provided by "A" Street from The Old Road. A 1.39-acre Park Lot is also proposed at the intersections of "B"/"D" Streets and "C"/"D" Streets within this area of residential uses. Two small areas designated for detached single-family and detached senior housing are located on "E" and "F" Streets in the community's northern region. Fifteen (15) lots are planned for detached single-family residences and are located along "F" Street, which connects to The Old Road. Seven (7) lots are planned for detached housing units located on "E" Street. The senior housing condominium component is located in the project's northeastern region. The 9.26-acre condominium lot lies on the northern side of "A" Street, which serves as the community's main entrance from The Old Road.

Circulation and Access: The circulation system for Lyons Canyon Ranch consists of a number of local roadway types including highways (Interstate 5), collector streets, and local streets. Two primary entrances to the community are proposed from The Old Road separated by approximately 1,200 feet. Regional access to the project site will be provided via Interstate 5, which runs north south just east of the project site. On- and off-ramps in both directions are located at Calgrove Boulevard.

Trails: Lyons Canyon Ranch incorporates a trail system as part of its mobility and recreation components. Regional trails are located on the south and northwest sides of the project site. These trails are part of the Towsley Canyon Park and a larger informal regional trail system, which currently crosses the project site.

Parks and Open Space: The project proposes to dedicate 128.87 acres of undisturbed open space in perpetuity via an appropriate legal instrument. The undisturbed natural areas will provide a natural setting for the neighborhoods and will preserve the majority of onsite oak trees, riparian areas, and significant ridgelines. An additional 36.29 acres will remain as disturbed open space (i.e. graded cut and fill-slope areas, detention/debris basin lots, and onsite trails). The total disturbed/undisturbed open space areas will total 165.16 acres (70.3%). A 1.39-acre active park is also proposed in the southwest portion of the project.

Grading Concept: The project site will be mass-graded in one phase, with a total grading volume of 3.8 million cubic yards, which will be balanced onsite. Grading of the project site is anticipated to take approximately 24 months to complete. The intent of the grading design is to provide development sites while maintaining the hillside character of the site. The grading plan reflects

incorporation of lot terracing (stepping down in elevation parallel to hillside contours) and “landform” grading (gives graded areas a more natural appearance). The plan also incorporates those provisions of the *Los Angeles County Hillside Design Guidelines* that are applicable to the project.

Utilities: The project site is located within the service area of the Castaic Lake Water Agency (CLWA). Valencia Water Company (VWC) provides the nearest water service to the north, while Newhall County Water District (NCWD) provides water service to the south. The project will need to be annexed into County Sanitation District No. 32. The Southern California Edison Company (SCE) will service the project site. Natural gas service will be provided to the project site by Southern California Gas Company (SCGC), and telephone service by SBC-Pacific Bell.

Stormwater and Drainage: The project site is located within the Santa Clara River basin. Storm flows from the proposed development will follow the existing drainage patterns. Runoff will be collected into improved drainage systems fitted with water quality filters or deflection devices. Project drainage improvements will conform to the project’s Standard Urban Stormwater Mitigation Plan (SUSMP) and Drainage Concept Plan) and the LACDPW Flood Control Division will accept maintenance authority over the project’s storm drain facilities where constructed to the County’s standards.

Public Services: A new fire station site is proposed to be dedicated to the Los Angeles County Fire Department in the northeast corner of the development boundary. This facility will be built by the Los Angeles County Fire Department and will consist of approximately 8,000 square feet on 2.05 acres. The project residents will generate revenue in the form of property taxes and fees, etc., which will be available to the County and other agencies to fund public services to the site. Capital improvements, in the form of roadway and drainage improvements, will also be constructed as part of the project or provided directly through various forms of development fees, including, but not limited to, fire facilities fees, wastewater connection fees, library fees, water connection fees, bridge and thoroughfare fees, and school fees.

Project Design and Environmental Considerations

The design of the project was influenced by both onsite and offsite considerations, including site characteristics/visual context and surrounding land uses. Three natural features dominate the project site: oak trees, a central stream/wetland, and hillside areas.

A total of 1,405 oak trees are present on the subject site. Site topography is defined by primary and secondary ridgelines, which are visually prominent, as well as onsite watercourses and associated riparian vegetation in the canyons. Development areas have been sited to minimize impacts to the natural features and/or incorporate them into the neighborhood design as recreational amenities and natural areas.

The design of building areas and major circulation routes intend to minimize impacts to oak tree areas grading on or near onsite ridgelines. The residential development areas have been located behind primary ridgelines. The majority of steep slope areas onsite are preserved natural habitat areas. Preservation of these areas also provides view opportunities for many of the proposed home sites at higher elevations and result in project screening from sensitive view corridors. The onsite riparian/watercourse areas have been preserved in their natural state in some locations or incorporated into passive recreational features (such as trails) that are intended to provide opportunities for habitat enhancement and mitigation.

SEA Boundaries

The Lyons Canyon Ranch property contains two Los Angeles County designated SEAs: 20 and 63, as illustrated on Figure 3, SEAs in the Vicinity of Lyons Canyon Ranch. The status of some of the SEAs may change in the next couple of years since Los Angeles County Regional Planning is proposing to combine SEAs 13, 14, 20, 21, 63, and 64 into one Santa Susana Mountains/Simi Hills SEA. Furthermore, the boundary of this new reformulated SEA would include the entire Lyons Canyon Ranch development site.

Santa Susana Mountains SEA 20 is approximately 18,410.5 acres total. Approximately 17.54 acres of SEA 20 exist onsite. SEA 20 includes the southernmost portion of the Lyons Canyon Ranch property¹.

Lyon Canyon SEA 63 is approximately 174.45 acres total. Approximately 58.48 acres of SEA 63 exist onsite. SEA 63 includes the middle portion of the creek with the eastern end of the SEA in the center of the Lyons Canyon Ranch, extending westward beyond the project site. This SEA focuses on Chamise Chaparral, riparian, and oak woodland habitats along Lyon Canyon Creek.

Watershed Description

Lyon Canyon Creek, a seasonal watercourse located in the center of the project site, is the primary drainage and watershed within the project site, draining eastward. An unnamed seasonal drainage that drains into Towsley Canyon along the south side of the project site drains a small portion of the site. Upon exiting the site, each watercourse becomes channelized as it flows underneath I-5. Both streams serve as tributaries to the South Fork Santa Clara River. The project site is part of the Santa Clara River watershed. Figure 4, Watersheds in the Vicinity of Lyons Canyon Ranch, illustrates the boundaries of each major subwatershed within the vicinity of the Lyons Canyon Ranch project site.

Most of the drainages within the Lyon Canyon watershed are ephemeral in nature. The primary drainage on the project site is the Lyon Canyon Creek watershed. This watershed drains 911 acres, of which 203 acres are located on the project site. The project site also has small portions of two adjacent watersheds: 23 acres of Towsley Canyon watershed to the south, and 8 acres of Gavin Canyon watershed to the east.

¹ Since Los Angeles County has declined to honor DMEC's request for an accurate GIS shapefile of the SEA boundaries and extent, DMEC delineated the boundaries based on large-scale printed maps, which should be considered an estimate only.

Figure 3. SEAs in the Vicinity of Lyons Canyon Ranch

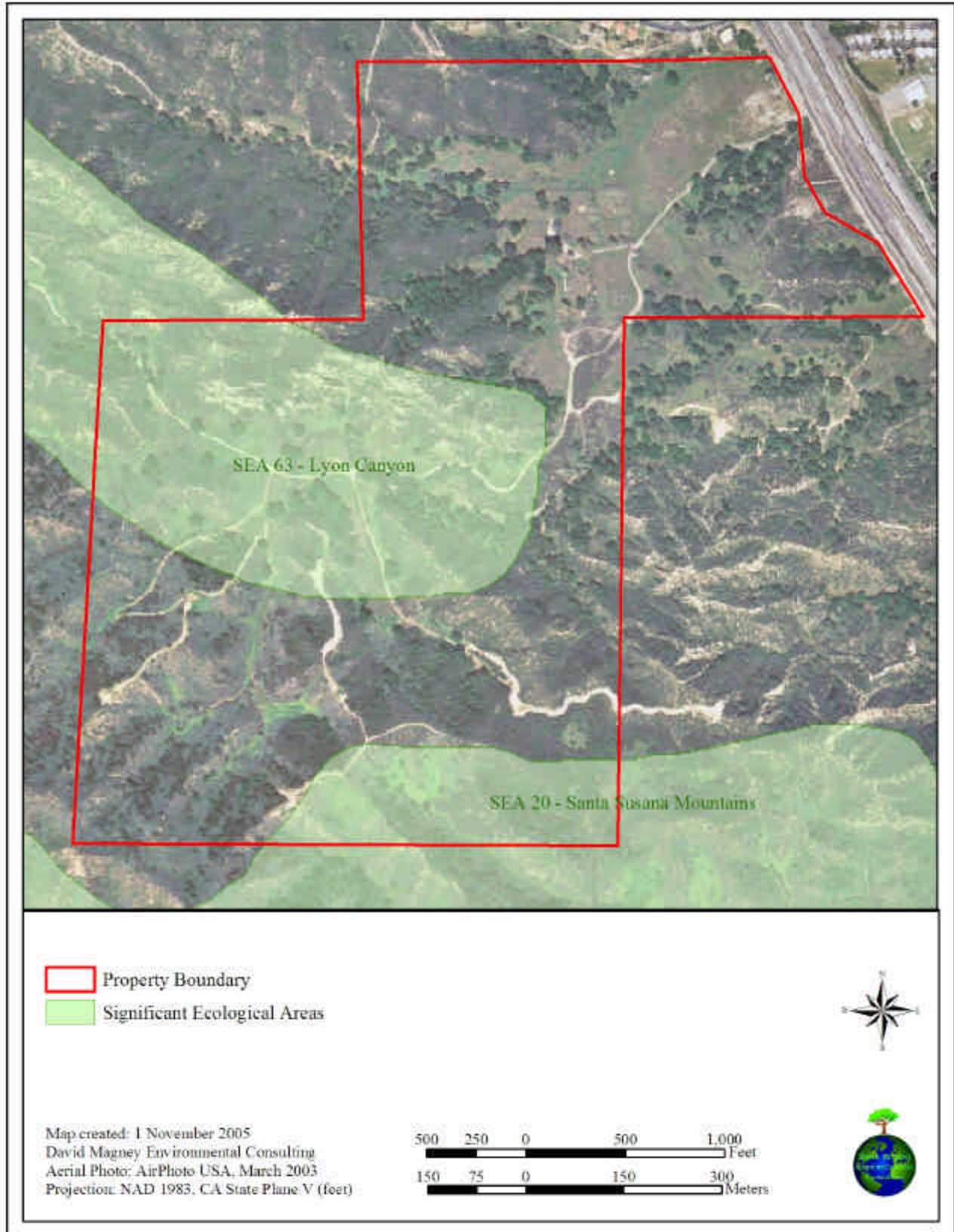
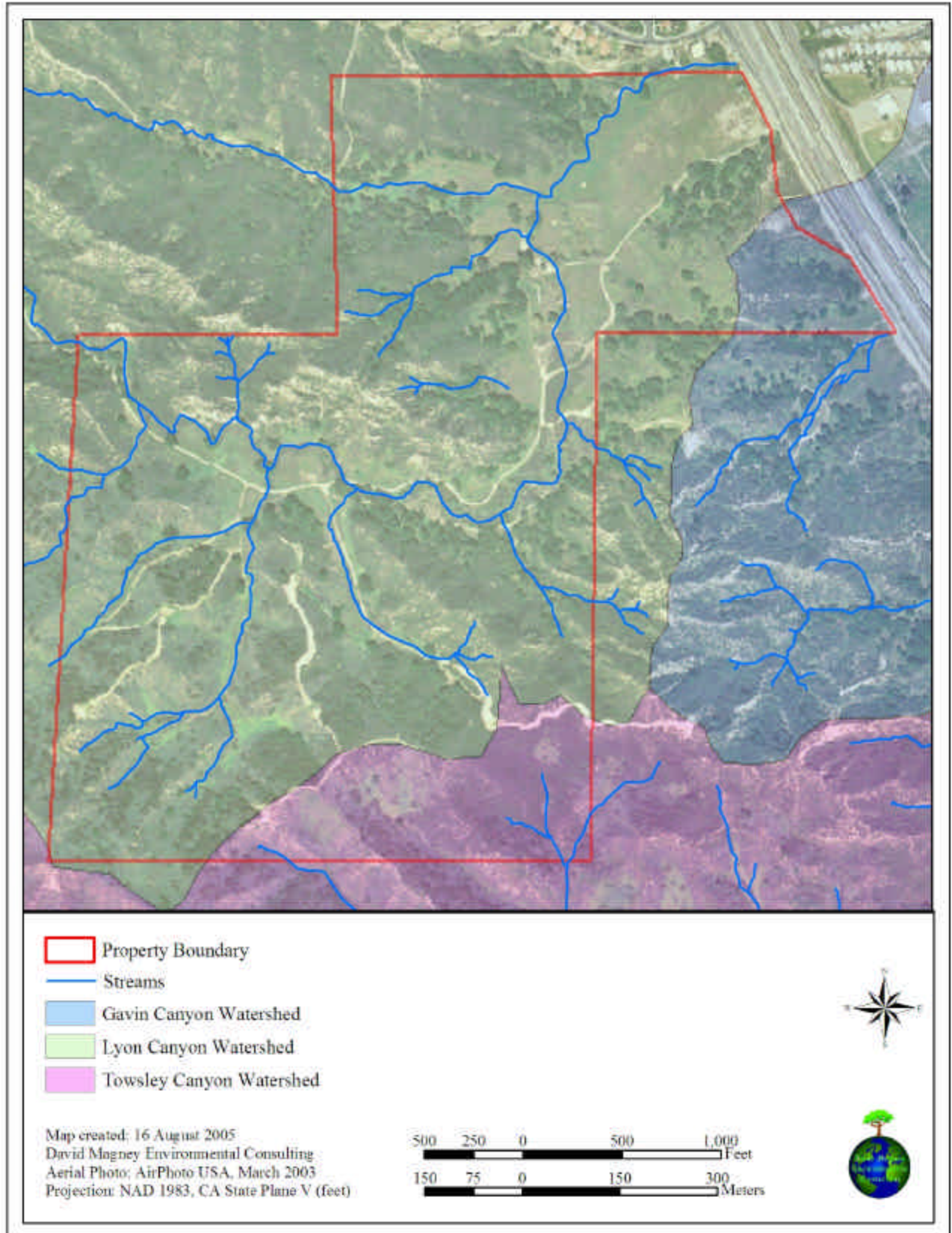


Figure 4. Watersheds in the Vicinity of Lyons Canyon Ranch



Geology

Bedrock exposed within the southern portion of the proposed project site consists of steep, north dipping beds of interbedded, marine claystone, siltstone, and sandstone assigned to the Miocene age Pico Formation. Bedrock in the northern two-thirds of the project site consists of upper Pliocene-lower Pleistocene age, nonmarine mudstone, conglomerate, and sandstone of the Saugus Formation (Sunshine Ranch member). Figure 5, Lyons Canyon Ranch Geology, shows the general geology of the project site, and Figure 6, Significant Landforms in the Vicinity of Lyons Canyon Ranch illustrates the important ridgelines in the project area.

Surficial soils within the property are represented by artificial (man-made) fill, colluvium, rock fall debris, and alluvium. The project site is located on the Saugus Formation, which is exposed along The Old Road. At the intersection of the I-5 with the Antelope Valley Freeway (State Route [SR] 14), the area contains surficial deposits of Quaternary Alluvium, deposits of the terrestrial Plio-Pleistocene Saugus Formation, and rocks of the marine Late Miocene Towsley Formation (San Fernando and Oat Mountain quadrangles).

The east side of I-5 south of the intersection with SR 14 produced specimens of fossil baleen whale, *Mysticeti*. The Towsley Formation also yielded fossils of extinct large mammals. On SR 14 north from the intersection with the I-5, exposures of the marine Pliocene Pico Formation and a small exposure of the marine Late Miocene Towsley Formation exist, but deposits in this area mostly consist of the terrestrial Plio-Pleistocene Saugus Formation. In addition, there is typical surficial Quaternary Alluvium in the valleys and canyons, especially in the Newhall Creek area. (San Bernardino County Museum 2004.)

After the I-5 splits from SR 14 and courses northward in the area covered on the Oat Mountain Quadrangle, there are exposures of the marine Pliocene Towsley Formation, the marine Pliocene Pico Formation, and the marine and terrestrial Pliocene and Pleistocene Saugus Formation. In the valleys and canyons, especially in Gavin Canyon, there are typical surficial deposits of Quaternary Alluvium. The closest localities in the Saugus Formation are on the west side of I-5 just north of the mouth of Towsley Canyon. A suite of marine fossils of sharks and fishes, including eagle ray (*Myliobatis*), guitar fish (*Rhinobatos*), bull shark (*Carcharhinus*), basking shark (*Cetorhinus*), and sheephead (*Semicossyphus*), were recovered from this area. (San Bernardino County Museum 2004.) These fossil beds extend into the Lyons Canyon Ranch project site to the west.

Figure 5. Lyons Canyon Ranch Geology

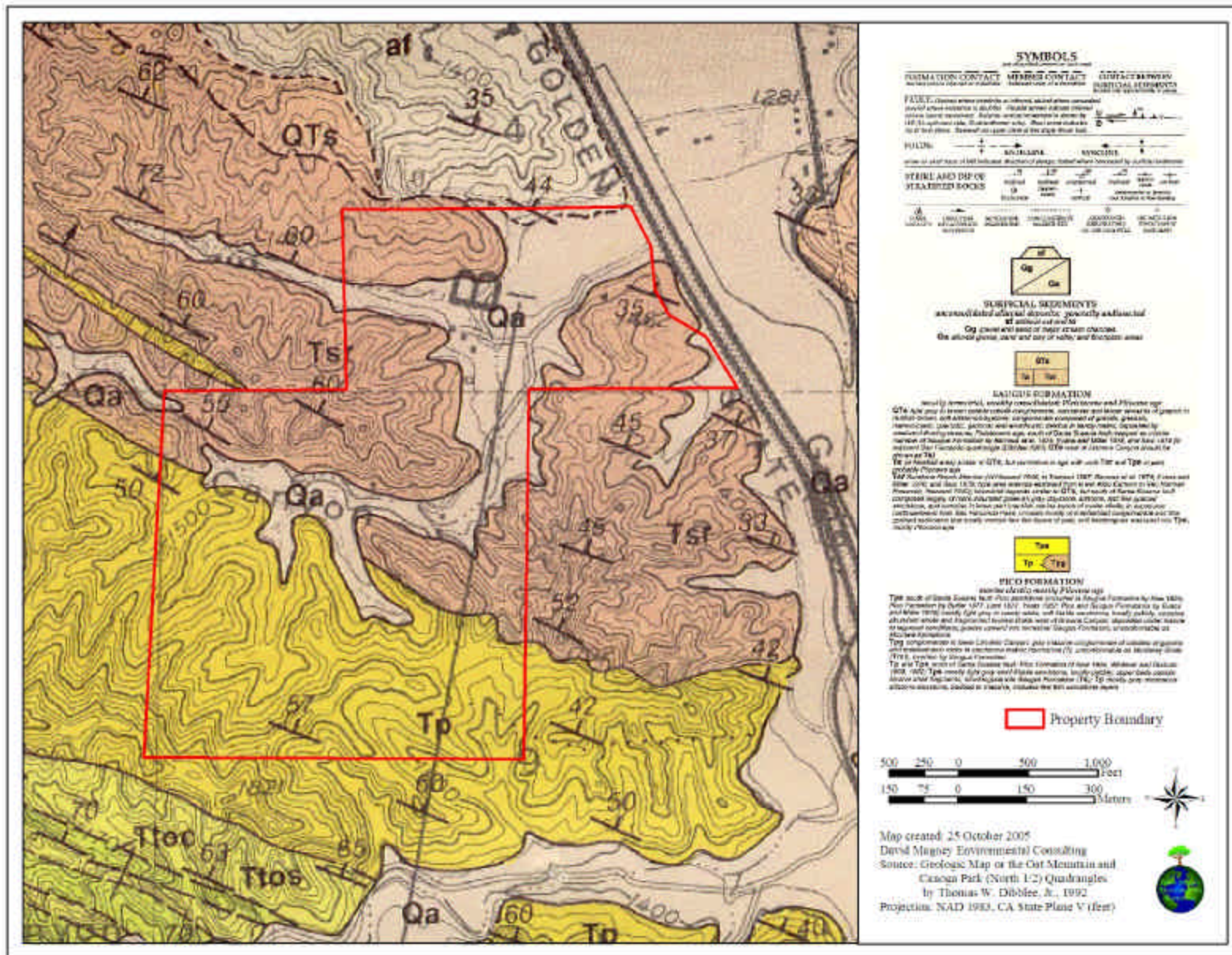
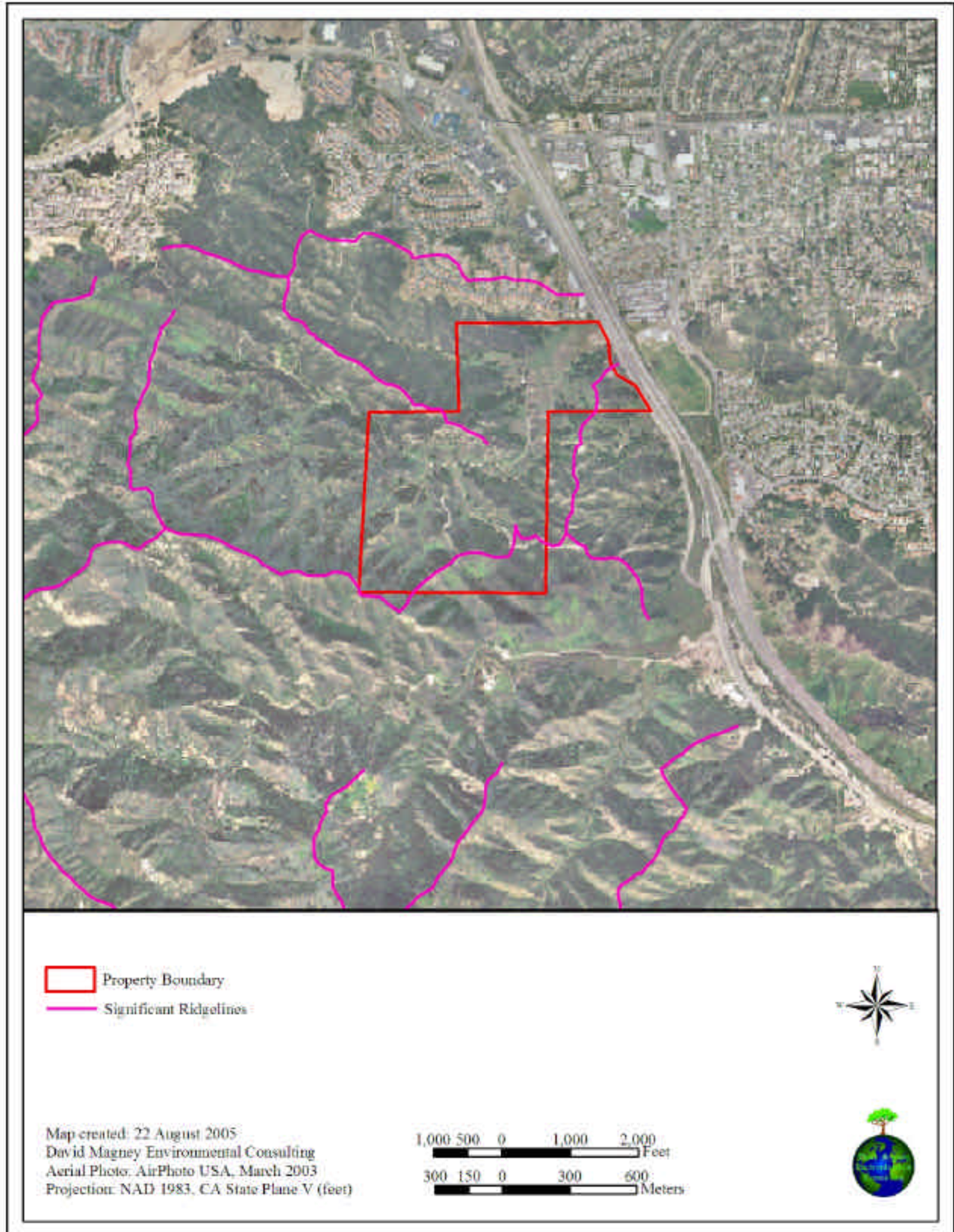


Figure 6. Significant Landforms in the Vicinity of Lyons Canyon Ranch



Mapped Soil Units

The Soil Conservation Service (SCS) *Soil Survey for the Antelope Valley Area, California* (Woodruff et al. 1970) indicates that the mapped soil units, in the vicinity of the wetland delineation at the Lyons Canyon Ranch project site, include Castaic Series, Hanford Series, and Yolo Series. These soil types are confirmed mapped soil units for several plots of the wetland delineation survey area, and are described according to Woodruff et al. (1970) in the following subsections. The primary mapped soils of these series that occur onsite include Castaic-Balcom Silty Clay Loams, Castaic and Saugus Soils, Hanford Sandy Loam, Saugus Loam, and Yolo Loams. These soils are mapped in Figure 7, Mapped Soil Units of Lyons Canyon Ranch. Riverwash is a nonsoil that was also observed/found at several wetland delineation data points onsite, and is described below as well.

Castaic Series

The Castaic Series consists of well-drained soils that formed in material from soft shale and sandstone. These slopes are on uplands, and slopes range from 2 to 65 percent. The vegetation is mainly grasses and forbs; however, *Nassella* spp. is scattered in patches and scrub species grow in patches on north slopes. Elevations range from 1,250 to 1,500 feet. Castaic soils are associated with Balcom and Saugus soils. The Castaic Series soil units mapped at the Lyons Canyon Ranch project site are Castaic-Balcom Silty Clay Loams, 30 to 50 percent slopes, eroded (CmF2); and Castaic and Saugus Soils, 30 to 65 percent slopes, severely eroded (CnG3).

CmF2 is in the southwestern part of the soil survey area near Castaic Junction. This complex is 60 percent Castaic silty clay loam and 40 percent Balcom silty clay loam. A CmF2 typical profile is described as an example of the Castaic Series soil units, where the surface layer is pale-brown (10YR 6/3, or dark brown 10YR 4/3 moist) silty clay loam to about nine inches thick. Below is yellowish-brown (10YR 5/4, or dark yellowish-brown 10YR 4/4 moist) silty clay loam from approximately 9 to 26 inches deep, underlain by yellowish-brown (10YR 5/4) soft shale and sandstone at a depth of about 26 inches.

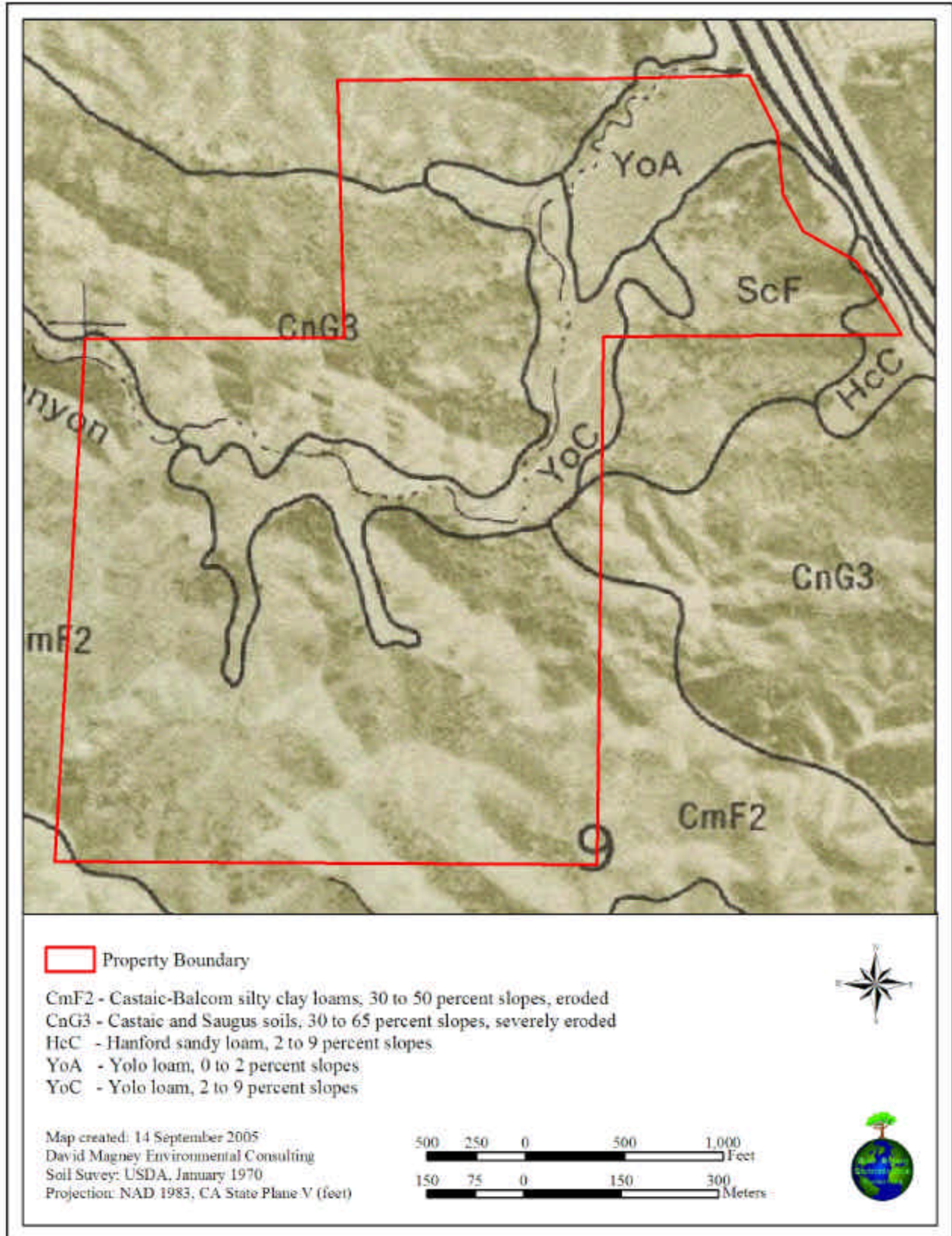
CnG3 is an undifferentiated group of soils that is 35 percent Castaic silty clay loam and 30 percent Saugus loam. Included are exposed areas of soft shale and conglomerate making up as much as ten percent, and areas of Balcom silty clay loam making up as much as 25 percent. Areas of CnG3 are cut by many intermittent, very deep drainage channels with narrow V-shaped valleys. Soil slipping is common, and geologic erosion is active. During heavy rainstorms, much silt is washed away.

Yolo Series

The Yolo Series soils are well-drained soils that have formed in sedimentary alluvial fans. Slopes are zero to nine percent, grasses and oaks make up the vegetation, and elevations range from 1,175 to 1,200 feet. The Yolo Series mapped soil units at Lyons Canyon Ranch include Yolo Loam, 0 to 2 percent slopes (YoA); and Yolo Loam, 2 to 9 percent slopes (YoC).

YoA is on alluvial fans near Newhall and Saugus. A YoA typical profile is described as an example of the Yolo Series soil units (0.4 mile east of I5 and Lyon Canyon Road), where the surface layer is grayish-brown (10YR 5/2, or very dark grayish-brown 10YR 3/2 moist) loam to about six inches thick. Below is grayish-brown (10YR 5/2, or very dark grayish-brown 10YR 3/2 moist) loam from approximately 6 to 18 inches deep, underlain by yellowish-brown (10YR 6/4, or yellowish-brown 10YR 5/4 moist) loam at a depth of about 36 inches. Permeability is moderate, fertility is high, runoff is very slow, and the hazard of erosion is none to slight.

Figure 7. Mapped Soil Units of Lyons Canyon Ranch



YoC is on fairly narrow alluvial fans near Newhall and Saugus. Slopes range from two to six percent in most places. Runoff is slight to moderate, and the hazard of erosion is slow to medium. Included in YoC are areas at the upper alluvial fan edges with slopes of 10 to 12 percent. Also included are small areas with a surface layer of sandy loam or pebbles and stones.

Hanford Series

The Hanford Series soils are well-drained or somewhat excessively drained soils that have formed in granitic alluvium, on alluvial fans. Slopes are 2 to 15 percent, and grasses and forbs comprise the vegetation, with scattered California Juniper (*Juniperus californica*) shrubs. Elevations range from 2,600 to 3,500 feet. The sole Hanford Series mapped soil unit at the Lyons Canyon Ranch project site is Hanford Sandy Loam, 2 to 9 percent slopes (HcC).

HcC occurs on alluvial fans near Fairmont. In most places, slopes range from 2 to 6 percent; other included small areas are on fans where slopes range from 10 to 12 percent. Runoff is slow to medium on this soil, and erosion hazard is slight to moderate, including small areas where rill and sheet erosion are moderate. Available water holding capacity is 6.0 to 7.5 inches, and fertility is moderate.

Saugus Series

The Saugus Series soils are well drained upland soils. They formed on weakly consolidated sediment that contained pebbles and cobblestones in some places. Slopes range from 15 to 50 percent. Vegetation consists of dense stands of Chamise (*Adenostoma fasciculatum*) and Our Lord's Candle (*Hesperoyucca whipplei*) that have an understory of annual grasses, forbs, and remnant stands of perennial grasses. Elevations range from 1,300 to 2,250 feet. In a typical profile, the surface layer is grayish-brown loam about 15 inches thick. Below is grayish-brown loam underlain by weakly consolidated sediment at a depth of 42 inches.

Saugus soils are associated with Balcom, Castaic, and Gazos soils. The Saugus Series mapped soil unit at the Lyons Canyon Ranch project site is Castaic and Saugus Loam, 30 to 65 percent slopes, severely eroded (CnG3). See Castaic Series above for further description of this soil association.

Riverwash

Riverwash generally occurs within the bed of intermittent streams, and consists of highly stratified, water-deposited layers of stony and gravelly sand that contain relatively small amounts of silt and clay. It is characterized as having high permeability, but is present as the result of frequent and regular fluvial processes. Riverwash is frequently inundated during high water flow immediately following storms, where fresh deposits of alluvium are laid down and removed as the result of streambank erosion. Riverwash is subject to frequent disturbance, such as scouring and deposition, and the development and establishment of riparian vegetation is severely limited. It is considered hydric by the Natural Resources Conservation Service. (Woodruff et al. 1970, Edwards et al. 1970.)

Habitat Descriptions

Three general vegetation types currently exist in the immediate vicinity of the Lyons Canyon Ranch project site, including riparian, upland, and barren/disturbed. These vegetation types include several habitats and plant communities that make up the landscape of Lyons Canyon

Ranch. Table 3, Classification and Area of Lyons Canyon Ranch Vegetation Alliances lists the alliances (based on Sawyer and Keeler-Wolf 1998) observed onsite and provides the acreages for each. In addition to Sawyer and Keeler-Wolf, the wetland habitat classifications also are based on the USFWS (Cowardin et al. 1979) classification system.

The riparian habitats include the plant communities associated with jurisdictional waters of the U.S. These habitat types were determined within the project site based on field surveys and observations, the wetland delineation results, and aerial photographs.

Descriptions of each habitat and alliance are provided in the following subsections. Figure 8, Vegetation Observed and Classified at Lyons Canyon Ranch, shows general habitats and their respective plant communities mapped onsite.

Riparian Habitat

Riparian habitats in Lyon Canyon Creek can be characterized as performing various hydrologic, geomorphologic, biogeochemical, and plant and wildlife habitat functions. The performance of these functions is largely dependent upon the maintenance of natural channel morphology and native plant communities. The riparian scrub and woodland habitats onsite are used as nesting and foraging habitat for several species of birds, and as cover and foraging habitat for small and large mammals, some of which may use the site as a movement corridor. Habitat function is increased by the presence of adjacent natural upland habitats, which together create high species richness and structural diversity onsite. The riparian habitat onsite includes *Salix lasiolepis* Alliance, *Salix laevigata* Alliance, *Quercus agrifolia* Riparian Alliance, *Baccharis salicifolia* Alliance, *Baccharis salicifolia-Sambucus mexicana* Alliance, and *Distichlis spicata* Alliance.

RIPARIAN WOODLAND

Riparian Woodland habitat is characterized by woody vegetation that is six meters (19 feet) tall or taller. The dominant trees are generally winter-deciduous (as for the willow woodlands), but may also be evergreen trees (as with Coast Live Oak). This habitat possesses an overstory of trees, an understory of young trees and shrubs, and an herbaceous layer. (Cowardin et al. 1979.)

***Salix lasiolepis* Alliance (Arroyo Willow Woodland)**

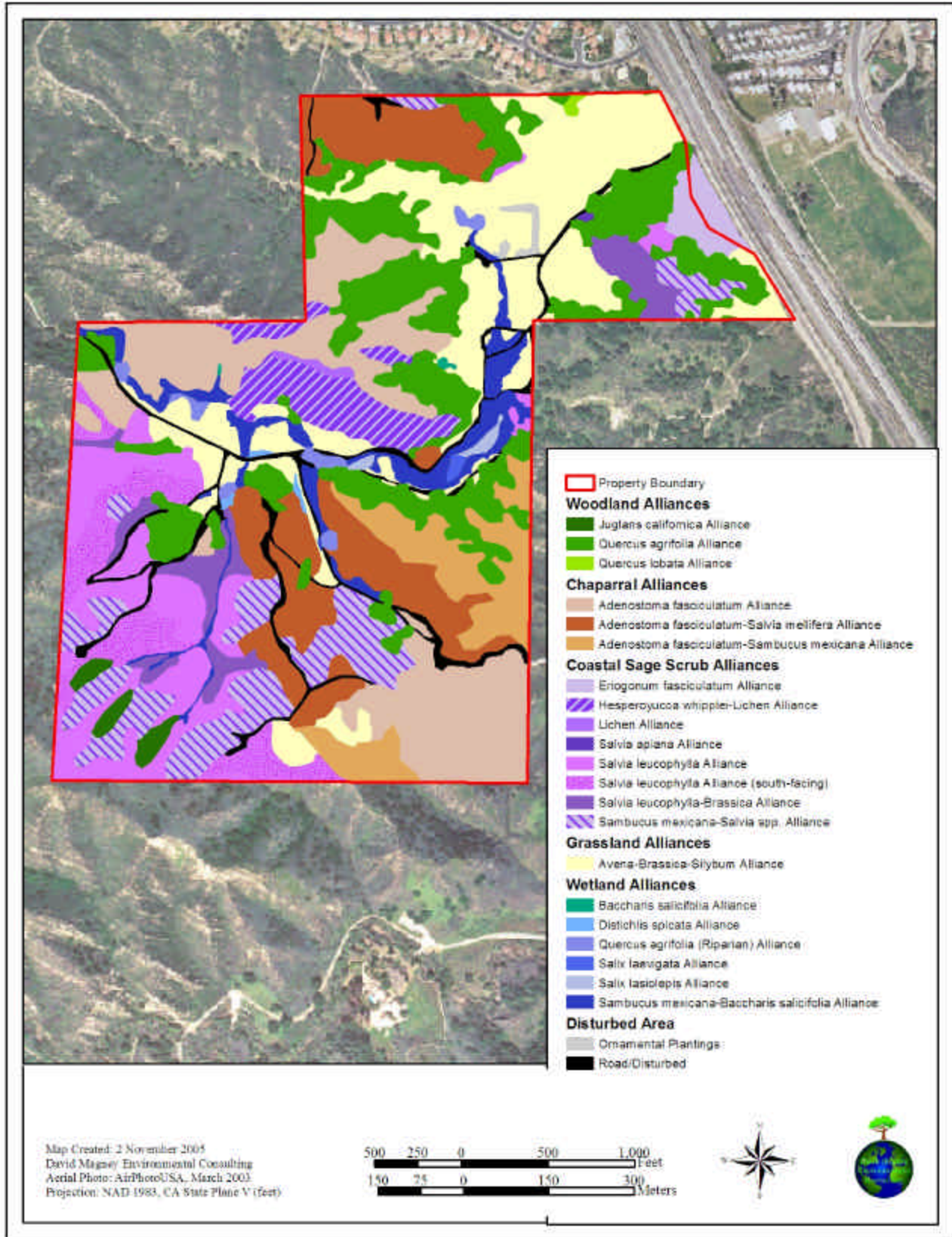
Salix lasiolepis Alliance (Arroyo Willow Woodland) is dominated by *Salix lasiolepis* (Arroyo Willow), with *Baccharis salicifolia* as an important contributor. *Salix lasiolepis* is a winter-deciduous shrub or small tree with shiny dark green (upper surface) and grayish (lower surface) oblanceolate leaves. *Salix lasiolepis* is listed with a wetland indicator status of FACW (Reed 1988). *Salix lasiolepis* Alliance occurs in seasonally flooded or saturated freshwater wetland habitats, such as floodplains and low-gradient depositions along rivers and streams, and is abundant in marshes, meadows, and springs, at elevations below 1,800 meters. This woodland community forms an intermittent to open canopy less than 10 meters tall, growing over a patchy shrub layer of predominantly *Baccharis salicifolia* and variable ground layer. (Sawyer and Keeler-Wolf 1995.)

Salix lasiolepis Alliance occurs centrally, along Lyons Ranch Road and along Lyon Canyon Creek, which bisect the project site. Associate species of *Salix lasiolepis* Alliance onsite include *Artemisia douglasiana* (Mugwort), emergent *Quercus agrifolia* (Coast Live Oak), *Salix laevigata* (Red Willow), and *Sambucus mexicana*.

Table 3. Classification and Area of Lyons Canyon Ranch Vegetation Alliances

Alliance	Acres
Riparian Habitat (~ 12 acres)	
Woodland (2.46 acres)	
<i>Salix laevigata</i> Alliance	0.24
<i>Salix lasiolepis</i> Alliance	0.57
<i>Quercus agrifolia</i> [Riparian] Alliance	1.65
Scrub (9.15 acres)	
<i>Baccharis salicifolia</i> Alliance	0.14
<i>Sambucus mexicana</i> - <i>Baccharis salicifolia</i> Alliance	9.01
Herbaceous (0.34 acre)	
<i>Distichlis spicata</i> Alliance	0.34
Upland Habitat	
Woodland (40.54 acres)	
<i>Juglans californica</i> Alliance	1.89
<i>Quercus agrifolia</i> Alliance	38.42
<i>Quercus lobata</i> Alliance	0.23
Chaparral (69.33 acres)	
<i>Adenostoma fasciculatum</i> Alliance	31.78
<i>Adenostoma fasciculatum</i> - <i>Salvia mellifera</i> Alliance	24.98
<i>Adenostoma fasciculatum</i> - <i>Sambucus mexicana</i> Alliance	12.65
Coastal Sage Scrub (57.43 acres)	
<i>Eriogonum fasciculatum</i> Alliance	3.20
<i>Salvia apiana</i> Alliance	0.08
<i>Salvia leucophylla</i> Alliance	18.36
<i>Salvia leucophylla</i> Alliance (south-facing)	10.22
<i>Salvia leucophylla</i> - <i>Brassica</i> Alliance	7.61
<i>Sambucus mexicana</i> - <i>Salvia leucophylla</i> Alliance	17.96
Lichen Rock Outcrop (9.50 acres)	
Lichen Alliance	0.57
<i>Hesperoyucca whipplei</i> -Lichen Alliance	8.93
Grassland (37.96 acres)	
<i>Avena</i> - <i>Brassica</i> - <i>Silybum</i> Alliance (Ruderal)	37.96
TOTAL NATURAL VEGETATION EXISTING ONSITE:	226.79
Disturbed Area (8.71 acres)	
Ornamental Plantings	0.70
Road/Disturbed	8.01
TOTAL ACREAGE:	235.50

Figure 8. Vegetation Observed and Classified at Lyons Canyon Ranch



***Salix laevigata* Alliance (Red Willow Woodland)**

Salix laevigata Alliance (Red Willow Woodland) is dominated by *Salix laevigata*. *Salix laevigata* is a winter-deciduous shrub or small tree with bright green (upper surface) lanceolate leaves. *Salix laevigata* is listed with a wetland indicator status of FACW (Reed 1988). *Salix laevigata* Alliance occurs in seasonally flooded or saturated freshwater wetland habitats, such as ditches, floodplains, lake edges, and low-gradient depositions along rivers and streams, at elevations below 1,700 meters. (Sawyer and Keeler-Wolf 1995.)

A small dense *Salix laevigata* stand was observed onsite within the lower reach of Lyon Canyon Creek. Scattered trees of *Salix laevigata* were observed about the project site, especially as an associate to *Salix lasiolepis* Alliance. The associate species observed contributing to *Salix laevigata* Alliance onsite include *Baccharis salicifolia*, *Distichlis spicata*, *Hirschfeldia incana*, *Sambucus mexicana*, and *Populus fremontii* ssp. *fremontii* (Fremont Cottonwood).

***Quercus agrifolia* Alliance (Coast Live Oak Riparian Woodland)**

Quercus agrifolia Alliance (Coast Live Oak Riparian Woodland) is dominated by *Quercus agrifolia* var. *agrifolia* (Coast Live Oak), which is a broad-leaved, evergreen, wide-topped tree with furrowed, dark gray bark and spine-toothed, convex, dark green leaves. *Q. agrifolia* is the most widely distributed species of the evergreen oaks, and it is capable of achieving large size and old age (Zedler et al. 1997). *Quercus agrifolia* (Riparian) Alliance occurs predominantly on steep slopes and on raised stream banks and terraces at elevations below 1,200 meters. It forms a continuous to open 30-meter-tall canopy, growing over an understory of occasional shrubs and an herbaceous ground layer. *Quercus agrifolia* (Riparian) Alliance requires sandstone or shale-derived soils. (Sawyer & Keeler-Wolf 1995.)

Quercus agrifolia (Riparian) Alliance occurs in the valleys between the steep hills on the project site. *Quercus agrifolia* Alliance was observed and classified as three different plant communities at the Lyons Canyon Ranch project site:

- (1) *Quercus agrifolia* (Riparian) Alliance in which *Q. agrifolia* is growing along and contributing to the riparian corridor as an intermittent canopy with a sparse ecotonal understory of riparian and Coastal Sage Scrub plant species (an example of Coast Live Oak Riparian Woodland is located in the vicinity of oak tree tag number 1627).
- (2) *Quercus agrifolia* Alliance (the most common oak woodland) in which *Q. agrifolia* forms a closed to intermittent canopy with a sparse to intermittent understory of Coastal Sage Scrub species. The canopy cover varies in density from dense (closed) to widely spaces to the point that it could be considered savannah (a few trees per acre).

Associate canopy contributors include *Juglans californica* var. *californica* and *Sambucus mexicana*. *Quercus lobata* (Valley Oak) was also observed onsite as a scattered associate species to the *Quercus agrifolia* Alliance plant communities, especially in the lower elevational areas of the project site. The understory is variable, including many of those associate shrub species listed above under Coastal Sage Scrub.

RIPARIAN SCRUB

Riparian Scrub habitat is dominated by woody plants less than six meters (19 feet) tall. Contributing plants include true shrubs that are typically small or stunted due to environmental conditions. Riparian Scrub habitats may represent a successional stage leading to riparian woodland habitats, or may be relatively stable communities. (Cowardin et al. 1979.) The two

Riparian Scrub habitats observed onsite are described below as *Baccharis salicifolia* Alliance (Mulefat Scrub) and *Sambucus mexicana*-*Baccharis salicifolia* Alliance (Mexican Elderberry-Mulefat Scrub).

***Baccharis salicifolia* Alliance (Mulefat Scrub)**

Baccharis salicifolia Alliance (Mulefat Scrub) is dominated by *Baccharis salicifolia* (Mulefat), a native shrub or small tree that is found at elevations below 1,250 meters (Hickman 1993). The National Inventory of Wetland Plants (Reed 1988) lists *Baccharis salicifolia* with a wetland indicator status of FACW.

Baccharis salicifolia Alliance forms a continuous scrub canopy of less than four meters (12 feet) tall growing over a sparse ground layer. This plant community requires seasonally flooded or saturated, freshwater, wetland habitats, such as canyon bottoms, irrigation ditches, and moist streamsides or channels. *Baccharis salicifolia* often occurs in pure stands or may mix, at a fine scale, with other wetland series. *Baccharis salicifolia* often forms ecotonal transitions between riparian and upland scrub communities. (Sawyer and Keeler-Wolf 1995.)

Baccharis salicifolia Alliance occurs centrally, along Lyons Ranch Road and along Lyon Canyon Creek, which bisect the project site. Often, *Baccharis salicifolia* Alliance is significantly influenced by *Sambucus mexicana* (Mexican Elderberry) as a major contributor to the shrub canopy. In addition to *Sambucus mexicana*, other scattered associate species to *Baccharis salicifolia* Alliance include: *Amsinckia menziesii* (Common Fiddleneck), *Anagallis arvensis* (Scarlet Pimpernel), *Artemisia douglasiana* (Mugwort), *Baccharis pilularis* (Coyote Brush), *Conium maculatum* (Poison Hemlock), *Erodium cicutarium* (Redstem Filaree), *Eucrypta chrysanthemifolia* var. *chrysanthemifolia* (Common Eucrypta), *Heliotropium curassavicum*, *Hirschfeldia incana* (Summer Mustard), *Leymus condensatus* (Giant Wildrye), *Marah macrocarpus* var. *macrocarpus* (Big-fruited Man-root), and *Nicotiana glauca* (Tree Tobacco).

***Sambucus mexicana*-*Baccharis salicifolia* Alliance (Mexican Elderberry-Mulefat Scrub)**

Sambucus mexicana-*Baccharis salicifolia* Alliance (Mexican Elderberry-Mulefat Scrub) is co-dominated by *Sambucus mexicana* (Mexican Elderberry) and *Baccharis salicifolia*. *Sambucus mexicana* is a common large shrub that produces cream-colored flowers and bluish-black berries. This species is commonly found growing along streams at elevations below 3,000 meters (Hickman 1993). *Sambucus mexicana* is listed with a wetland indicator status of FAC, or a Facultative species that is equally likely to occur in wetlands as in non-wetlands (Reed 1988). (*Baccharis salicifolia* is described above.)

Sambucus mexicana-*Baccharis salicifolia* Alliance typically forms an intermittent shrub canopy over various riparian scrub shrubs and a grassy ground layer. This series occurs in intermittently flooded or seasonally saturated soils of freshwater wetlands, such as stream banks, floodplains, and open riparian forests at elevations below 300 meters. *S. mexicana* is also common in many series, often as a small emergent tree over Coastal Sage Scrub, chaparral communities, and as an understory to woodlands. (Sawyer and Keeler-Wolf 1995.)

Baccharis salicifolia was often a co-dominant to *Sambucus mexicana* in several areas; however, other scattered associate species observed growing with this alliance include most of those listed above for *Baccharis salicifolia* Alliance. *Distichlis spicata* and *Salix* spp. (Arroyo Willow and Red Willow) were also observed frequently growing as associates in stands of *Sambucus mexicana*-*Baccharis salicifolia* Alliance.

RIPARIAN HERBACEOUS

Riparian Herbaceous habitat is characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This habitat usually consists of persistent plant species that normally remain standing at least until the beginning of the next growing season (Cowardin et al. 1979). The Riparian Herbaceous habitat observed onsite is described below as *Distichlis spicata* Alliance (Saltgrass Wet Meadow).

***Distichlis spicata* Alliance (Saltgrass Wet Meadow)**

Distichlis spicata Alliance (Saltgrass Wet Meadow) is a plant community dominated by the hydrophytic perennial grass *Distichlis spicata* (Saltgrass). The National Inventory of Wetland Plants (Reed 1988) lists *Distichlis spicata* with a wetland indicator status of FACW (a Facultative Wetland species that almost always occurs in wetlands [Reed 1988]). This species occurs predominantly in saltmarshes and in moist alkaline or saline areas at elevations below 1,000 meters (Hickman 1993). Typically, *Distichlis spicata* Alliance includes groundlayer contributions of annual grasses and herb species. This plant community forms a low, dense, often matted ground layer on permanently moist soils, and tolerates haline to saline water chemistry. This plant community occupies the transitional landscape between upland grassland habitats to wetter riparian conditions, and has the potential for higher species richness compared to other adjacent plant communities (Sawyer and Keeler-Wolf 1995).

Associate species observed onsite within the herbaceous layer of *Distichlis spicata* Alliance include: *Ambrosia* spp. (Ragweed), *Atriplex semibaccata* (Australian Saltbush), *Avena barbata* (Slender Wild Oats), *Bromus* spp. (Brome grasses), *Claytonia parviflora* (Small-flowered Miner's Lettuce), *Heliotropium curassavicum* (Alkali Heliotrope), *Juncus balticus* (Baltic Rush), *Medicago polymorpha* (Common Burclover), *Melilotus indica* (Sourclover), *Polygonum arenastrum* (Common Knotweed), *Polypogon monspeliensis* (Rabbitsfoot Grass), *Rumex crispus* (Curly Dock), *Silybum marianum* (Milk Thistle), and *Verbena lasiostachys* (Western Verbena).

Upland Habitat

The upland habitats observed at the Lyons Canyon Ranch site include Woodland (*Juglans californica* Alliance, *Quercus agrifolia* Alliance, and *Quercus lobata* Alliance); Chaparral (three *Adenostoma fasciculatum* Alliances); Coastal Sage Scrub (*Eriogonum fasciculatum* Alliance, *Salvia apiana* Alliance, three *Salvia leucophylla* Alliances, *Sambucus mexicana*-*Salvia* spp. Alliance, *Hesperoyucca whipplei*-Lichen Alliance, and Lichen Alliance); and Grassland (*Avena-Brassica-Silybum* Alliance).

WOODLAND

Woodland describes a vegetation type dominated by woody trees and tall scrub species, forming a continuous canopy over a variety of low shrubs and a variable grassy ground layer. Some woodlands may not consist of any shrub canopy, and may only form a canopy over annual or perennial grasslands. The understory of woodlands is directly related to the density of the woodland and the cover of its canopy. Typically, if a woodland is dense, then the understory species are few, and this is a result of shading by the woodland canopy. The woodland plant communities observed at Lyons Canyon Ranch include *Juglans californica* Alliance (California Walnut Woodland), *Quercus agrifolia* Alliance (Coast Live Oak Woodland), and *Quercus lobata* Alliance (Valley Oak Woodland), which are discussed below.

***Juglans californica* var. *californica* Alliance (California Walnut Woodland)**

Juglans californica Alliance (California Walnut Woodland) is dominated by *Juglans californica* var. *californica* (Southern California Black Walnut), a broad-leaved winter-deciduous, monoecious tree. This walnut species is listed with a wetland indicator status of FAC (Reed 1988). *Juglans californica* Alliance forms an open to closed canopy (less than 10 meters tall) growing over a common or infrequent shrub stratum and a sparse or grassy ground layer. This habitat requires deep, shale-derived, intermittently flooded/saturated soils of freshwater riparian corridors, floodplains, incised canyons, seeps, and stream or riverbanks at elevations between 150 and 900 meters. (Sawyer and Keeler-Wolf 1995.)

Juglans californica is an uncommon endemic species, ranging from coastal southern California from Santa Barbara County to Los Angeles County. *J. californica* is a CNPS List 4 (limited distribution) and has a CNPS RE-D (Rare-Endangerment-Distribution) Code of 1-2-3 ([1] Rare, but low potential for extinction-[2] Endangered in a portion of its range-[3] Endemic to California) (CNPS 2001). *Juglans californica* Alliance is a much fragmented, declining natural community, and it is threatened by urbanization and grazing, which inhibit natural reproduction.

Juglans californica Alliance occurs in the southwestern portion of the project site. *Juglans californica* Alliance was observed as an open canopy consisting of several large, mature trees growing over an understory of associate shrubs and herbs including *Artemisia californica*, *Brickellia californica*, *Dichelostemma capitatum* (Blue Dicks), *Hazardia squarrosa*, *Leymus condensatus*, *Lupinus succulentus*, *Marah macrocarpus*, *Salvia leucophylla*, and *S. mellifera*. Emergent *Quercus agrifolia* were also observed contributing to the walnut canopy.

***Quercus agrifolia* Alliance (Coast Live Oak Woodland)**

Quercus agrifolia Alliance (Coast Live Oak Woodland) is described above in the Riparian Woodland subsection. As stated above, *Quercus agrifolia* Alliance occurs in the valleys between the steep hills on the project site. *Quercus agrifolia* Alliance was observed and classified as three different plant communities at the Lyons Canyon Ranch project site. The upland alliance of this plant community is similar to the description above for Coast Live Oak Riparian Woodland; however, this upland type is not associated with streams and riparian corridors.

***Quercus lobata* Alliance (Valley Oak Woodland)**

Quercus lobata Alliance (Valley Oak Woodland) is dominated by *Quercus lobata* (Valley Oak), which is a tall deciduous tree with light grayish bark and deeply lobed leaves. This uncommon oak species is found in slopes, valleys, and savannahs at elevations below 1,700 meters. The National Inventory of Wetland Plants (Reed 1988) lists *Quercus lobata* with a wetland indicator status of FAC* (tentatively a Facultative species that is equally likely to occur in wetlands as in nonwetlands [Reed 1988]).

Quercus lobata Alliance forms a less than 30-meters tall open woodlands canopy with occasional shrubs below with a grassy groundlayer. This plant community requires intermittently flooded soils, and occurs in floodplains, valley bottoms, gentle slopes, and summit valleys.

Quercus lobata Alliance was observed in one small location onsite, near the entry in the northeastern portion of the project site. *Quercus agrifolia* was observed as an emergent tree associate to *Quercus lobata*, and the understory consists of primarily *Avena-Brassica-Silybum* Alliance (Ruderal Grassland Alliance), which is described below.

CHAPARRAL

Chaparral is a type of shrubland that is dominated by evergreen shrubs with small, thick, leathery, dark green, sclerophyllous leaves. The shrubs of chaparral are relatively tall and dense, and are adapted to periodic wildfires by stump sprouting or by germination from a dormant seed bank. These evergreen shrubs are also adapted to drought by deep extensive root systems, while their small thick leaf structure prevents permanent damage from moisture loss (Zedler et al. 1997). Many typical Coastal Sage Scrub species also grow intermixed as associates with chaparral species. Chaparral typically occurs on moderate to steep south-facing slopes with dry, rocky, shallow soils, becoming more abundant with higher elevations where temperatures are lower and moisture supplies are more ample. The chaparral plant communities observed onsite include three *Adenostoma fasciculatum* Alliances (Chamise Chaparral).

***Adenostoma fasciculatum* Alliance (Chamise Chaparral)**

Adenostoma fasciculatum Alliance (Chamise Chaparral) is dominated by the evergreen shrub, *Adenostoma fasciculatum* (Chamise), which is the most abundant species in the non-desert shrublands of California. This species is a burred and many-branched shrub that has gray-brown trunk bark, clustered small linear leaves, and tiny white flowers. It is adapted to California's Mediterranean climate by a dual root system that has both deep and shallow roots. *Adenostoma fasciculatum* individuals recover from fire by both resprouting and seedling recruitment. (Zedler et al. 1997.)

Adenostoma fasciculatum Alliance forms an intermittent to continuous canopy less than three meters tall, growing over a sparse herbaceous layer, especially in older stands. *Adenostoma fasciculatum* is usually associated with all slope aspects, but is commonly found on the drier south- and west-facing slopes and ridges, growing in very shallow soils (mafic-derived). To be classified as *Adenostoma fasciculatum* Alliance, the stand must have at least 60% cover by *A. fasciculatum*. (Sawyer and Keeler-Wolf 1995.)

The shrub canopy associate species observed as important contributors to *Adenostoma fasciculatum* Alliance include: *Arctostaphylos glauca* (Bigberry Manzanita), *Eriodictyon crassifolium* var. *nigrescens* (Thickleaf Yerba Santa), *Eriogonum fasciculatum* var. *polifolium*, *Hesperoyucca whipplei*, *Heteromeles arbutifolia* (Toyon), *Lotus scoparius* var. *scoparius* (Deerweed), *Malacothamnus fasciculatus* (Chaparral bush mallow), *Malosma laurina* (Laurelleaf Sumac), *Quercus berberidifolia* (Scrub Oak), *Quercus john-tuckeri* (Tucker Oak), *Rhamnus ilicifolia* (Hollyleaf Redberry), *Rhus ovata*, *Sambucus mexicana*, *Salvia leucophylla*, and *S. mellifera*. Several understory herbs listed below for Coastal Sage Scrub are expected as associates in Chaparral plant communities onsite.

In addition to the *Adenostoma fasciculatum* Alliance onsite, *Adenostoma fasciculatum*-*Salvia mellifera* Alliance (Chamise-Black Sage Chaparral), and *Adenostoma fasciculatum*-*Sambucus mexicana* Alliance (Chamise-Mexican Elderberry Chaparral) are also mapped onsite.

***Adenostoma fasciculatum*-*Salvia mellifera* Alliance (Chamise-Black Sage Chaparral)**

Adenostoma fasciculatum-*Salvia mellifera* Alliance is similar to *Adenostoma fasciculatum* Alliance, except that the stand is co-dominated by *Adenostoma fasciculatum* and *Salvia mellifera*. More specifically, this alliance consists of *Adenostoma fasciculatum* cover between 60 and 30% and *Salvia mellifera* cover between 30 and 60%. This plant community occurs on south-facing slopes in shallow rocky soils. (Sawyer and Keeler-Wolf 1995.)

***Adenostoma fasciculatum-Sambucus mexicana* Alliance (Chamise-Mexican Elderberry Chaparral)**

Adenostoma fasciculatum-Sambucus mexicana Alliance is also similar to *Adenostoma fasciculatum* Alliance, except this plant community is co-dominated by *Adenostoma fasciculatum* and *Sambucus mexicana*, or *A. fasciculatum* cover is between 60 and 30% and *S. mexicana* cover is between 30 and 60%. This alliance grows on the moister slopes (north-facing) in less rocky soils. Associate species are similar to those listed above for *Adenostoma fasciculatum* Alliance.

COASTAL SAGE SCRUB

Coastal Sage Scrub is a shrubland dominated by facultative drought-deciduous, low-growing, soft-leaved, and grayish-green (malacophyllous) shrubs and subshrubs. Coastal Sage Scrub plant series typically exhibit a patchy distribution, often in close association with areas inhabited by chaparral habitats. At one time, the Santa Clarita Valley area supported the region's most extensive development of sage and sagebrush scrub plant communities prior to urbanization. Coastal Sage Scrub is a community at risk, with approximately 90 percent already lost to development (urban and agriculture); very little Coastal Sage Scrub has been protected by any legal mechanisms, such as enforceable conservation easements (Davis et al. 1985). (Boyd 1999.)

Due to stand variations, Coastal Sage Scrub is often considered part of a collection of species-specific plant series (Sawyer and Keeler-Wolf 1995). The five most common scrub series described for Santa Clarita Valley include: *Artemisia californica* Alliance (California Sagebrush Scrub), *Salvia mellifera* Alliance (Black Sage Scrub), *Salvia leucophylla* Alliance (Purple Sage Scrub), *Salvia apiana* Alliance (White Sage Scrub), and Mixed Sage Alliance (Boyd 1999).

Coastal Sage Scrub generally occurs on rolling hills of the lower areas on the project site and transitions into chaparral where hills become steep. The majority of Coastal Sage Scrub on the project site occurs along the western border, the southeastern border, and on a road cut along The Old Road. The plant communities observed contributing to the Coastal Sage Scrub habitats at Lyons Canyon Ranch include *Eriogonum fasciculatum* Alliance (California Buckwheat Scrub), *Sambucus mexicana-Salvia leucophylla* Alliance (Mexican Elderberry-Purple Sage Scrub), *Salvia leucophylla* Alliance (Purple Sage Scrub), *Salvia apiana* Alliance (White Sage Scrub), and *Hesperoyucca whipplei* Alliance (Our Lord's Candle Sandstone Cliff). These plant communities are described in the following paragraphs.

***Eriogonum fasciculatum* Alliance (California Buckwheat Scrub)**

Eriogonum fasciculatum Alliance (California Buckwheat Scrub) is dominated by *Eriogonum fasciculatum* var. *fasciculatum*, a perennial shrub with fascicled tomentose (lower surface) leaves and small clustered white to pinkish flowers. *E. fasciculatum* commonly occurs on dry slopes, washes, and canyons that are scattered throughout foothills and mountains, and this shrub is likely to be seral to other plant communities. It is most often found on slopes that have been disturbed within the last ten years. *E. fasciculatum* Alliance forms a shrub canopy less than one meter tall, and forms an intermittent canopy over a variable or grassy ground layer. This scrub type prefers shallow and rocky soils at elevations between sea level and 1,200 meters (Sawyer and Keeler-Wolf 1995).

One patch of *Eriogonum fasciculatum* Alliance, along The Old Road and just south of Lyons Ranch Road, is a monotypic stand of *Eriogonum fasciculatum* var. *fasciculatum* (California Buckwheat). This particular patch of *Eriogonum fasciculatum* Alliance most likely originated

from seed, following construction of The Old Road. Some associate species to this plant community include *Artemisia tridentata* ssp. *tridentata* (Great Basin Sagebrush), *Ericameria ericoides* ssp. *ericoides* (Mock Heather), and *Hazardia squarrosa* (Sawtooth Goldenbush).

***Sambucus mexicana*-*Salvia leucophylla* Alliance (Mexican Elderberry-Purple Sage Scrub)**

The *Sambucus mexicana*-*Salvia leucophylla* Alliance (Mexican Elderberry-Purple Sage Scrub) observed onsite is co-dominated by *Sambucus mexicana* (Mexican Elderberry) and *Salvia leucophylla* (Purple Sage). *Sambucus mexicana* is a common large shrub that produces umbels of cream-colored flowers and bluish-black berries. This species is commonly found growing along streams or in floodplains at elevations below 3,000 meters (Hickman 1993). *Sambucus mexicana* is listed with a wetland indicator status of FAC, or a Facultative species that is equally likely to occur in wetlands as in non-wetlands (Reed 1988). *Salvia leucophylla* is a drought-deciduous, aromatic, shrub with puckered leaves with small rounded teeth on the leaf margins, and rose-lavender flowers. This species prefers dry open hills at elevations of 50 to 800 meters (Hickman 1993).

Sambucus mexicana-*Salvia leucophylla* Alliance forms an intermittent variable shrub canopy, of less than 8 meters tall. Typically, the *Sambucus mexicana* appears as a small tree growing over the *Salvia leucophylla*. This alliance occurs in intermittently flooded floodplains, as well as on steeper north-facing slopes, in colluvial-derived or rocky soils. (Sawyer and Keeler-Wolf 1995.)

Sambucus mexicana-*Salvia leucophylla* Alliance includes important shrub layer associates such as: *Baccharis pilularis*, *Brickellia californica* (California Brickellbush), *Cucurbita foetidissima* (Coyote Melon), *Encelia californica* (California Bush Sunflower), *Eriodictyon crassifolium* var. *nigrescens* (Thickleaf Yerba Santa), *Leymus condensatus* (Giant Wildrye), *Malacothamnus fasciculatus* (Chaparral Bush Mallow), *Marah macrocarpus* var. *macrocarpus* (Large-fruited Man-root), *Mimulus longiflorus* (Sticky Bush Monkeyflower), *Nassella pulchra* (Purple Needlegrass), *Rhus ovata* (Sugar Bush), *Salvia mellifera* (Black Sage), and *Solanum douglasii* (Douglas Nightshade).

***Salvia apiana* Alliance (White Sage Scrub)**

Salvia apiana Alliance (White Sage Scrub) is dominated by *Salvia apiana* (White Sage), which is a drought-deciduous, very aromatic shrub, with white-gray leaves and whitish flowers in a long tomentose panicle extending well above the leaves (Hickman 1993). *Salvia apiana* Alliance exists when *S. apiana* is the sole, dominant, or important shrub growing with *Artemisia californica* in the canopy. This alliance forms a continuous or intermittent canopy over a variable ground layer. *Salvia apiana* Alliance grows on dry slopes, or in rarely flooded, low-gradient deposits along streams. It requires shallow soils, and occurs at elevations between sea level and 1,600 meters. (Sawyer and Keeler-Wolf 1995.)

Important shrub canopy contributors observed onsite include *Artemisia californica*, *Heterotheca sessiliflora* ssp. *echioides* (Hairy Golden Aster), *Malosma laurina* (Laurelleaf Sumac), and *Sambucus mexicana*. Other herbaceous associate species observed growing below the low shrub canopy include *Avena barbata* (Slender Wild Oat), *Hirschfeldia incana*, and *Nassella pulchra*. Emergent *Quercus agrifolia* and *Q. lobata* (Valley Oak) trees were also present.

***Salvia leucophylla* Alliance (Purple Sage Scrub)**

Salvia leucophylla Alliance (Purple Sage Scrub) is dominated by *Salvia leucophylla* (Purple Sage), and is often an important shrub with *Artemisia californica* (California Sagebrush). *Salvia leucophylla* typically forms a continuous to intermittent canopy over a variable ground layer.

Salvia leucophylla Alliance grows on steeper north-facing slopes in colluvial-derived, rocky soils. It is considered part of the Coastal Sage Scrub series collection, and *Salvia leucophylla* stands typically create mosaics with *Quercus agrifolia* Alliance and *Juglans californica* Alliance.

Salvia leucophylla Alliance was observed as an important component of Coastal Sage Scrub within the study area. Several associate native species contribute to the canopy of *Salvia leucophylla* Alliance onsite, including: *Artemisia californica*, *Baccharis pilularis*, *Ceanothus crassifolius* (Snowball Ceanothus), *Emmenanthe penduliflora* (Whispering Bells), *Encelia californica* (California Bush Sunflower), *Eriogonum fasciculatum* var. *polifolium* (Hoary California Buckwheat), *Hesperoyucca whipplei* (Our Lord's Candle), *Keckiella cordifolia* (Heart-leaved Bush Penstemon), *Lotus scoparius* (Deerweed), *Malacothamnus fasciculatus* (Chaparral Bush Mallow), *Nassella pulchra*, *Paeonia californica* (California Peony), *Rhus ovata* (Sugar Bush), *Ribes malvaceum* (Chaparral Currant), *Salvia mellifera*, *Toxicodendron diversilobum* (Western Poison Oak), and *Trichostema lanceolatum* (Vinegar Weed).

Three *Salvia leucophylla* Alliances are mapped on Figure 8, including the *Salvia leucophylla* Alliance described in the above paragraph, as well as *Salvia leucophylla* Alliance (South-facing) and *Salvia leucophylla*-*Brassica* Alliance (Purple Sage-Mustard Scrub).

***Salvia leucophylla* Alliance (South-facing) (Purple Sage South-facing Slopes)**

The *Salvia leucophylla* Alliance (South-facing) plant community is very similar to the typical *Salvia leucophylla* Alliance; however, this type forms a significantly more open canopy with lower species richness. The south-facing slopes create drier and harsher conditions, which result- in a more scattered arrangement of plants.

***Salvia leucophylla*-*Brassica* Alliance (Purple Sage-Mustard Scrub)**

Salvia leucophylla-*Brassica* Alliance (Purple Sage-Mustard Scrub) is similar to the typical *Salvia leucophylla* Alliance onsite except that this plant community is significantly influenced by invasive introduced plant species (primarily *Avena barbata*, *Brassica nigra*, and *Silybum marianum*), which also results in a more scattered arrangement of the *Salvia leucophylla* individuals.

LICHEN ROCK OUTCROP

Lichen Alliance

Lichen Alliance consists of exposed parent material, in the form of large and moderately sized boulders and exposed bedrock, on which is generally a lack of soil. The hard surfaces of the boulders and rock outcrops provide substrate to nonvascular plants, such as lichens and bryophytes (mosses and liverworts). The large and small sandstone or granite boulders and exposed bedrock of the rock outcroppings are covered, or partially covered, with few other plant species except for a diverse population of crustose (crust-like) and foliose (leaf-like) lichens.

Lichens are pioneer plants that are adapted to sterile substrates and help the decomposition process. Lichens can also add considerable color to the substrate, from bright chartreuses, oranges and reds, to subtle shades of gray, white, yellow, brown, and green. The lichen flora of these boulders is distributed on each boulder according to aspect, light intensity, and moisture availability, all of which are related. Certain species of lichens are usually found only on the most exposed, south-facing surfaces, requiring direct sunlight, while others are typically found on protected, north-facing aspects with little or no direct sunlight.

***Hesperoyucca whipplei*-Lichen Alliance (Our Lord's Candle-Lichen Sandstone Cliff)**

Hesperoyucca whipplei-Lichen Alliance (Our Lord's Candle-Lichen Sandstone Cliff) is dominated by *Hesperoyucca whipplei* (Our Lord's Candle), a native scrub species that dies after it flowers. This plant community includes a significant contribution by lichen-covered rock outcrops as well.

Our Lord's Candle generally forms one long stem, exerting from a dense basal rosette of flat, pointed, gray-green, long leaves; and it has spheric, white flowers with purple tips. *Hesperoyucca whipplei* is common in chaparral and coastal or desert scrub communities, at elevations below 2,500 meters (Hickman 1993). Typically *Hesperoyucca whipplei* is an important contributor to alliances such as *Salvia apiana* Alliance, *Salvia leucophylla* Alliance, or *Eriogonum fasciculatum* Alliance onsite; however, this species forms *Hesperoyucca whipplei* Alliance on the cliff faces of the southeastern and western portions of the project site. This plant community supports sparse habitat on the dry, crumbling soil. *Chorizanthe staccoides* (Turkish Rugging) is the associate species observed growing with the scattered *Hesperoyucca whipplei* plants, which function as shrubs.

GRASSLAND

Grassland consists of low herbaceous vegetation that is dominated by introduced annual grasses, or less often by native perennial grasses, with herbaceous associates including either native wildflowers or invasive ruderal species. Grasslands generally grow in well-developed soils on gentle slopes and flats. For example, grassland covers the fine textured soils of coastal terraces, as well as the deeper soils of rolling hills at higher elevations. Areas dominated by grasses would most likely revert to shrublands or even woodlands if burning and disturbance frequencies were reduced. (Zedler et al. 1997.)

The predominant grassland plant community observed at Lyons Canyon Ranch is *Avena-Brassica-Silybum* Alliance (Ruderal Grassland), which is dominated by nonnative and often invasive annual and perennial grass and forb species. Prior to the wildfire onsite, *Nassella pulchra* Alliance (Perennial Grassland) was expected in scattered patches onsite, and California Annual Grassland Alliance was expected to be more predominant than Ruderal Grassland onsite. Perennial Grassland is predominantly native and is dominated by native perennial bunchgrass species and native forbs, while California Annual Grassland, although dominated by introduced annual grass species, includes a large component of native wildflowers and native grasses. *Nassella pulchra* Alliance and California Annual Grassland have likely been reduced to Ruderal Grassland since the more competitive introduced species have taken advantage of the project site disturbances. Since *Avena-Brassica-Silybum* Alliance is currently the most predominant grassland onsite, this alliance is discussed in further detail below and is mapped in Figure 8 (above).

***Avena-Brassica-Silybum* Alliance (Ruderal Grassland)**

Avena-Brassica-Silybum Alliance (Ruderal Grassland Alliance) is predominated by *Avena* spp. (Wild Oats), *Brassica* spp. (or *Brassica nigra* [Black Mustard] and *Hirschfeldia incana* [Summer mustard]), and *Silybum marianum* (Milk Thistle). This alliance is typically in early successional stages resulting from severe disturbance by natural or human causes, and/or is due to recurrent disturbance. These areas are dominated by pioneering herbaceous plants that readily colonize disturbed ground. The ability of exotic species to invade disturbed areas arises from their relationship to old-world ancestors that have co-existed with humans for millennia, and thus are

more adapted to exploit disturbed land. Ruderal communities are typically a threat to regional biodiversity since they continually distribute nonnative propagules into native plant communities. These exotic species can colonize natural disturbances, such as burns, and typically can successfully compete with the more desirable natives. (Zedler et al. 1997.)

Ruderal Grassland is found on most level areas and overgrown roads on the project site. This plant community is located in the northeast portion of the project site, and along Lyons Ranch Road and side roads. Many of the same grass species of California Annual Grassland - including *Avena* spp. (wild oats), *Bromus* spp. (bromes), *Hordeum* spp. (barley), and *Vulpia* spp. (fescues)- are often abundant in Ruderal Grassland; however, Ruderal Grassland is predominated by introduced and often invasive plant species. In addition to the typical introduced annual grass species, the predominant invasive plant species observed throughout the project site is *Silybum marianum* (Milk Thistle). Other invasive associate species observed include *Amaranthus albus* (Tumbleweed), *Brassica nigra* (Black Mustard), *Carduus pycnocephalus* (Italian Thistle), *Centaurea melitensis* (Tocalote), *Chenopodium album* (Lambsquarters), *Cirsium vulgare* (Bull Thistle), *Erodium* spp. (filarees), *Foeniculum vulgare* (Sweet Fennel), *Hirschfeldia incana*, *Lactuca serriola* (Prickly Wild Lettuce), *Malva parviflora* (Cheeseweed), *Medicago polymorpha* (Bur-clover), *Picris echioides* (Bristly Ox-tongue), and *Sonchus* spp. (sow-thistles).

Disturbed Area

Disturbed Areas are often not vegetated due to development or disturbance, or may be planted areas onsite. Disturbed Area include the Road/Disturbed areas of the project site (including the pump station on the southern edge of the site, a dirt road on the western edge, and paved roads on the southern and eastern boundary), and Ornamental Plantings, which are areas that have been planted with introduced, often exotic or invasive plant species. These cover types are discussed below.

ROAD/DISTURBED

Road/Disturbed describes land or habitat that has been negatively altered, either by human activities (for building and road development purposes) or by natural causes (fires). As a result, this altered land is generally initially bare ground until either development occurs or natural succession begins. Habitat succession is a slow process of reestablishing original plant communities, but successional habitats are readily invaded by ruderal grass and forb species.

Disturbed areas on the project site are primarily existing dirt roads. Limited vegetation occurs in this land cover type and tends to be weedy. These plant species include invasive species such as *Centaurea melitensis*, *Silybum marianum*, and *Hirschfeldia incana*.

ORNAMENTAL

Ornamental vegetation occurs on the southeastern corner of the project site. This vegetation type includes landscaped areas with planted species such as *Pinus* spp. (pines). Other ornamental species observed onsite include *Ailanthus altissima* (Tree-of-heaven), *Cupressus* sp. (cypress), *Magnolia* sp. (Magnolia), and *Vinca major* (Periwinkle).

Species Anticipated Onsite

A total of 325 plant species was observed at the Lyons Canyon Ranch project site, and 90 wildlife species were observed onsite. Twenty-seven (27) special-status plant species are reported in the vicinity of the project site. Of those 27 species, 8 special-status plant species were observed onsite.

Ninety (90) wildlife species were observed onsite, while at least 70 other vertebrate wildlife species are expected onsite. Fifty-one (51) special-status wildlife species are reported in the vicinity of the project site. Of those 51 species, 3 special-status wildlife species (including a raptor nest) were observed onsite. For all plant and wildlife species observed and anticipated at the Lyons Canyon Ranch project site, refer to Section 3, General Biota Survey; Section 4, Special-Status Biological Resources; Appendix C, Plant Species Observed at Lyons Canyon Ranch; and Appendix D, Wildlife Species Observed and Expected at Lyons Canyon Ranch.

Project Site Flora and Fauna Population Estimates

No specific population estimates were made by BonTerra Consulting² or DMEC as part of their assessments. However, DMEC documented the relative percent cover of plants occurring at each of the wetland delineation sample plots, focusing on dominant species at each plot. The relative percent cover of the species observed at each plot aids in the estimation of the abundance of all plant species onsite; however, nearly all the vegetation had been burned prior to these surveys. Since most vegetation was cleared by the fire, DMEC can only estimate the abundance of plant species onsite.

Approximately 325 plant species were observed onsite (which included the parcel to the southeast of the Lyons Canyon Ranch parcels). Of those 325, approximately 77 taxa observed are considered *common* species within the boundary of the Lyons Canyon Ranch project site. These common taxa are dominant or important contributor species of the habitats onsite, with an estimated 1,000 individuals or more existing onsite. Approximately 183 plant taxa observed are considered *uncommon* species onsite, which are associate species to the habitats onsite, with estimated populations of 100 to less than 1,000 individuals onsite. The remaining approximate 65 plant taxa are considered *scarce* on the project site, since these taxa are estimated to have fewer than 100 individuals. Appendix C, Plant Species Observed at Lyons Canyon Ranch, estimates abundance for each plant species.

DMEC counted individual wildlife species as they were observed onsite, and DMEC conducted small mammal trapping onsite. (No quantitative data were gathered by BonTerra Consulting on wildlife species to determine population sizes present onsite.) Based on the general occurrences observed during the general surveys, the amount and type of habitats present onsite, and the results of the small mammal trapping, a general estimated abundance for each wildlife species observed has been made. These estimates are provided partially in the following subsection, as well as in Appendix D, which lists the estimated abundance (scarce, uncommon, or common) for each wildlife species observed.

² Scott White of White & Leatherman Consulting provided DMEC with abundance estimates, which were incorporated into Appendix C.

Three mammal species were caught onsite, including California Pocket Mouse, Deer Mouse, and Western Harvest Mouse. One special-status species was detected during the trapping sessions, San Diego Desert Woodrat (nest). A total of 349 trap nights were established, with a total of 128 captures (~37% success). Six individuals were recaptured. Each consecutive trapping session resulted in a higher success rate. Based on the number of individuals trapped for each species (refer to Table 6, Small Mammal Trapping at Lyons Canyon Ranch), DMEC estimates that the general abundance for these species is as follows: San Diego Desert Woodrat onsite is *scarce* in that less than 100 individuals are expected onsite; and California Pocket Mouse, Deer Mouse, and Western Harvest Mouse onsite are *common* in that more than 1,000 individuals are expected onsite.

CHARACTERISTICS OF THE SURROUNDING AREA

This section discusses the existing land uses, open space reserves, and biological resources surrounding the Lyons Canyon Ranch project site. The biological resources surrounding the project site are discussed in terms of Lyons Canyon Ranch in relation to the general surrounding vegetation types, biotic mosaic, estimated species population sizes in the range, and the overall biological value of the area. Figure 9, Lyons Canyon Ranch Regional Context Map, illustrates these landscape components of the surrounding area and their relation to the project site. Understanding the relationships between the project site and the surrounding environment is significant in understanding connectivity and fragmentation of habitats and wildlife resources, migration corridors, and gene pools. Appendix B, Photograph Key Map of Lyons Canyon Ranch and Surrounding Area with Photographs, provides representative photographs and their location to illustrate the general characteristics of the surrounding area. (Refer also to the Oversized Maps at the end of this report for the Color USGS Oat Mountain Quad Sheet.)

Existing Land Uses

The general condition of the Lyons Canyon Ranch project site is influenced by several factors. Although the approximate 235-acre project site is predominantly open space and is undeveloped, with no active land uses currently, the project site has been influenced greatly by humans for many years. Historically, the property was used as an outdoor set for filmmaking, such as for the television series “Dukes of Hazzard”. Although undeveloped, the site is transected by numerous dirt roads, which were created for various television and film productions. The project site is scattered with film props and portions of the property (lower elevations) have been graded for filming purposes as well. Additionally, the project site includes fencing and an abandoned water tank, water wells, and irrigation lines. Other utility structures, such as Southern California Edison electrical distribution lines, are adjacent to or traverse portions of the site.

Additional commercial uses in adjacent areas, such as restaurants, gas stations, grocery stores, and local shops, are located nearby, approximately a half-mile north of the site near the Lyon Canyon Road/I-5 interchange. Six Flags Magic Mountain amusement park is located approximately five miles north, west of I-5. Figure 10, Surrounding Land Uses and Their Effect on Adjacent Watersheds, illustrates the current land uses in the vicinity of Lyons Canyon Ranch, and their influences on the surrounding and immediate watersheds.

Figure 9. Lyons Canyon Ranch Regional Context Map

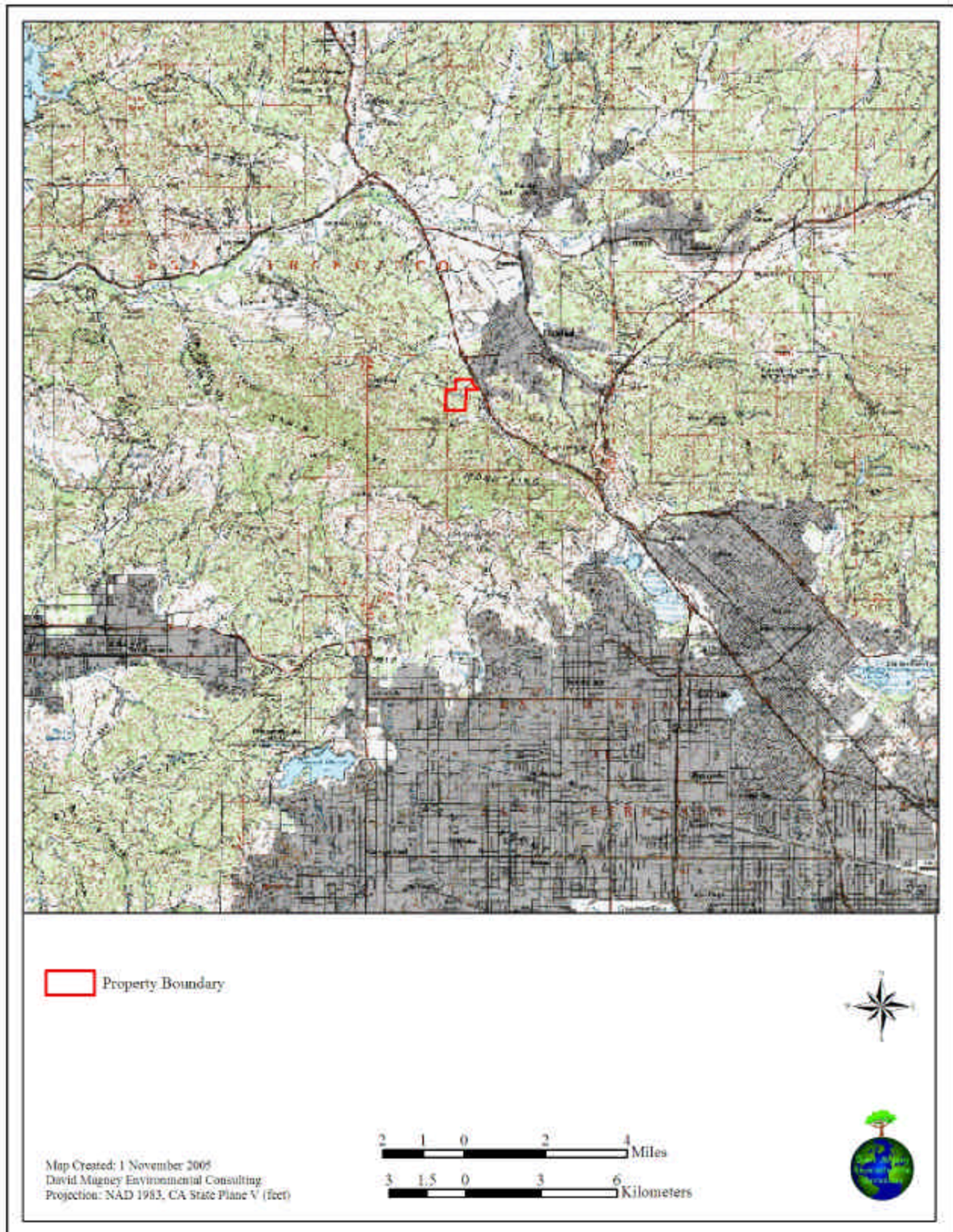
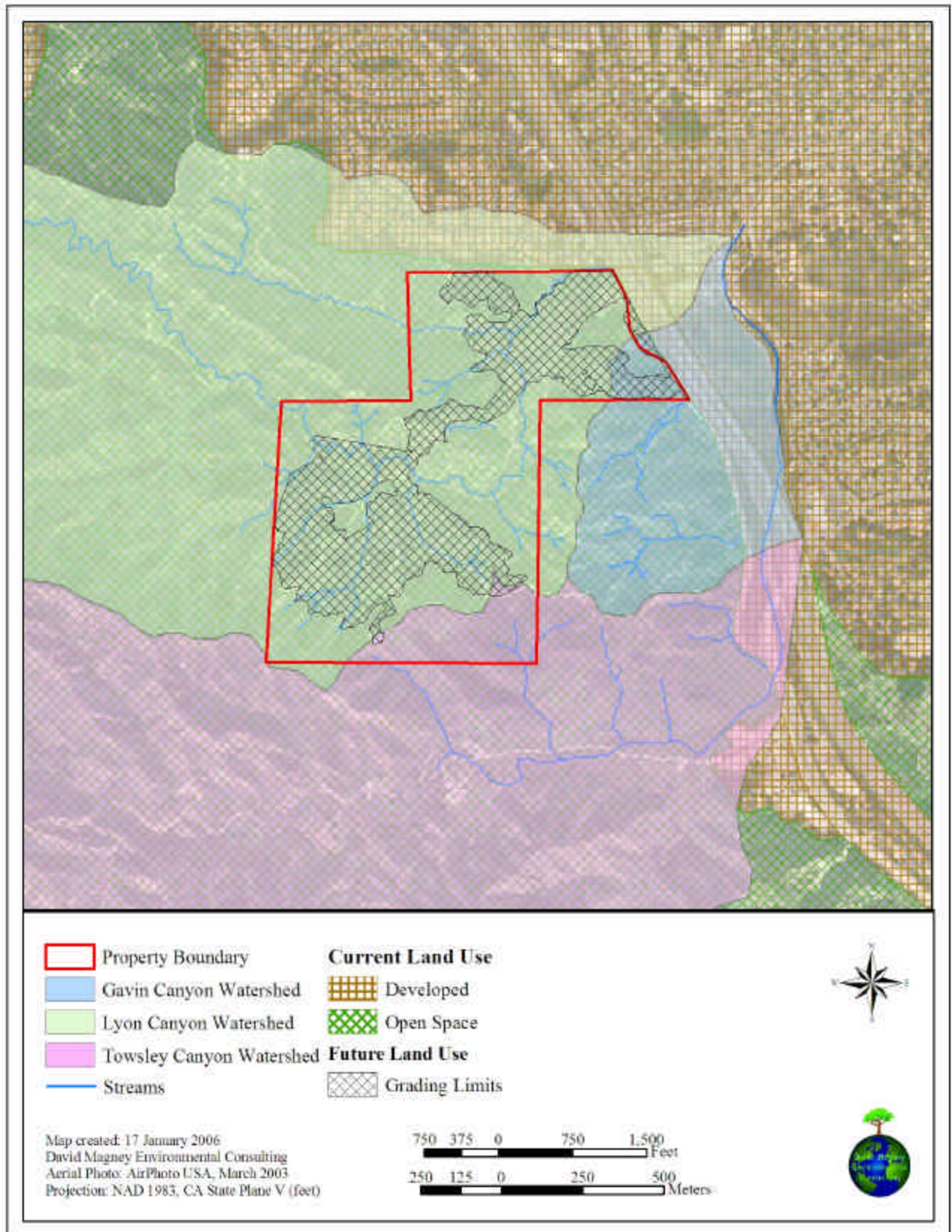


Figure 10. Surrounding Land Uses and Their Effect on Adjacent Watersheds



Open Space Reserves

Ed Davis Park in Towsley Canyon (otherwise known as Towsley Canyon Park) is a subset of the Santa Clarita Woodlands Park, and is an open space reserve located immediately to the south of Lyons Canyon Ranch. Other than Ed Davis Park, Lyons Canyon includes the majority of the remaining open space, including SEAs, as illustrated on Figure 11, Existing Land Uses, Including Open Space Reserves, in Areas Surrounding Lyons Canyon Ranch.

The County of Los Angeles defines two SEAs in the general area of the project: the Lyon Canyon SEA (SEA No. 63), and the Santa Susana Mountains SEA (SEA No. 20), portions of which are located within the project boundaries. As such, these portions of the project site are designated with an SEA Overlay designation in the County's General Plan: the Lyon Canyon SEA Overlay and the Santa Susana Mountains SEA Overlay, respectively. These SEAs are areas that the County of Los Angeles has designated as ecologically fragile or important land, and water areas that are valuable as plant or animal communities.

Santa Susana Mountains SEA 20 is approximately 18,410.5 acres total. Approximately 17.5 acres of SEA 20 exist onsite. SEA 20 includes the southernmost portion of the Lyons Canyon Ranch property.

Lyon Canyon SEA 63 is approximately 174.5 acres total. Approximately 58.5 acres of SEA 63 exist onsite. SEA 63 is not precisely defined, but is described as a relatively narrow canyon that contains both an oak woodland community and a substantial Chamise Chaparral community. The oak woodland, found in the southern portion of the Lyon Canyon SEA, contains both *Quercus agrifolia* and *Quercus lobata* (Valley Oak) trees. The northern portion of the SEA contains the Chamise Chaparral community consisting of *Rhus ovata* (Sugarbush), *Ceanothus crassifolius* (Snowball Ceanothus), *Salvia mellifera*, *Baccharis salicifolia*, and *Adenostoma fasciculatum*, which is the dominant shrub.

Surrounding Vegetation

The uses surrounding the project site are I-5 on the east, Ed Davis Park in Towsley Canyon to the south, vacant land to the west, residential uses on Sagecrest Circle and the Stevenson Ranch development, opposite of Sagecrest Circle, to the north. Due to the I-5 and the Stevenson Ranch development there is no vegetation bordering the project site to the east or to the north, respectively. South of the project site lies Ed Davis Park in Towsley Canyon, which contains habitat similar to that found onsite, including the following: Riparian Scrub/Woodland, California Annual Grassland, Coastal Sage Scrub, Chaparral, and Coast Live Oak Woodland. The undeveloped land to the west of the project site contains similar general vegetation types, with fewer oaks than encountered on the project site, and less riparian habitat, concentrated in narrow corridors.

These general vegetation types are mapped below in Figure 12, Vegetation in Areas Surrounding Lyons Canyon Ranch. Figure 12 shows vegetation at least 0.5-mile area surrounding the project site boundary (illustrating the vegetation occurring beyond as well), which equals approximately 1,421 acres of vegetation (only within the 0.5-mile area). Table 4 provides acreage totals for the vegetation alliances in the area within a 0.5-mile radius surrounding the project site.

Note: The mapping depicted in Figure 12 was not performed at the same level of detail as vegetation mapping performed for the project site; however, it is not implied that higher vegetative or biological diversity exists inside project boundaries compared to surrounding areas.

Flora and Fauna Population Estimates in the Range

Wildlife within the Santa Clarita Valley-Santa Susana Mountains is extremely diverse with a special abundance in undeveloped high quality habitats. The river channels and open upland areas are ideal habitat for movement and foraging by wildlife species. The nearby Angeles National Forest also offers habitat and movement corridors for larger species. Native mammal diversity is extensive and abundant. Among others, bats, rodents, rabbits, weasels, American Badger, skunks, Raccoon, fox, Bobcat, Black Bear, and Coyote are known to primarily inhabit canyon areas scattered throughout the region.

Bird diversity within the region is related to habitat opportunities for resident, migrant, and seasonal species that occupy the area. Numerous raptors, sparrows, quail, hummingbirds, swallow, larks, and owls, along with Federal and State special-status species such as Southwestern Willow Flycatcher (*Empidonax traillii extimus*) and Least Bell's Vireo (*Vireo bellii pusillus*) occupy habitat within the region, primarily along the Santa Clara River. Amphibians and reptiles are abundant and relatively diverse within certain segments of the region. Snakes, toads, frogs, lizards, and salamanders, although habitat specific, are primarily found along the Santa Clara River as well as other creek areas. The Unarmored Threespine Stickleback (*Gasterosteus aculeatus williamsoni*) is an important member of the aquatic community. The California Red-legged Frog (*Rana aurora draytonii*) has also been identified in San Francisquito Canyon several miles north of the Lyons Canyon Ranch project site. (City of Santa Clarita and County of Los Angeles 2001.)

Project Site Relationship with Surrounding Biotic Mosaic

The project site provides habitat similar to that in the undeveloped land to the west and south (Towsley Canyon), including riparian scrub/woodland, California Annual Grassland, Coastal Sage Scrub, chaparral, and Coast Live Oak Woodland. The steep slopes and ridges combined with the canyon lowlands provide a diversity of habitats locally.

The project site contains more oaks and more riparian habitat than the natural areas surrounding it. However, the surrounding area has some communities with little to no representation at the project site, including: *Pseudotsuga macrocarpa-Quercus chrysolepis* Alliance (Bigcone Spruce-Canyon Oak Forest), *Juniperus californica* Alliance (California Juniper Woodland), *Pinus monophylla* Alliance (Pinyon-Juniper Woodland), *Platanus racemosa-Alnus rhombifolia* Alliance (Southern Sycamore-Alder Woodland), *Salix lasiolepis* Alliance (Southern Willow Scrub), vernal pools, and *Lepidospartum squamatum* Alliance (Riversidian Alluvial Fan Sage Scrub). Most of these other habitats are more than a half-mile from the project site (see Figure 12, which does not show all of the above-mentioned plant communities). This increase in habitat diversity probably reflects an increase in community diversity of the surrounding area, versus the project area. The land to the north and east of the project site is developed and provides little to no habitat.

**Figure 11. Existing Land Uses, Including Open Space Reserves,
in Areas Surrounding Lyons Canyon Ranch**

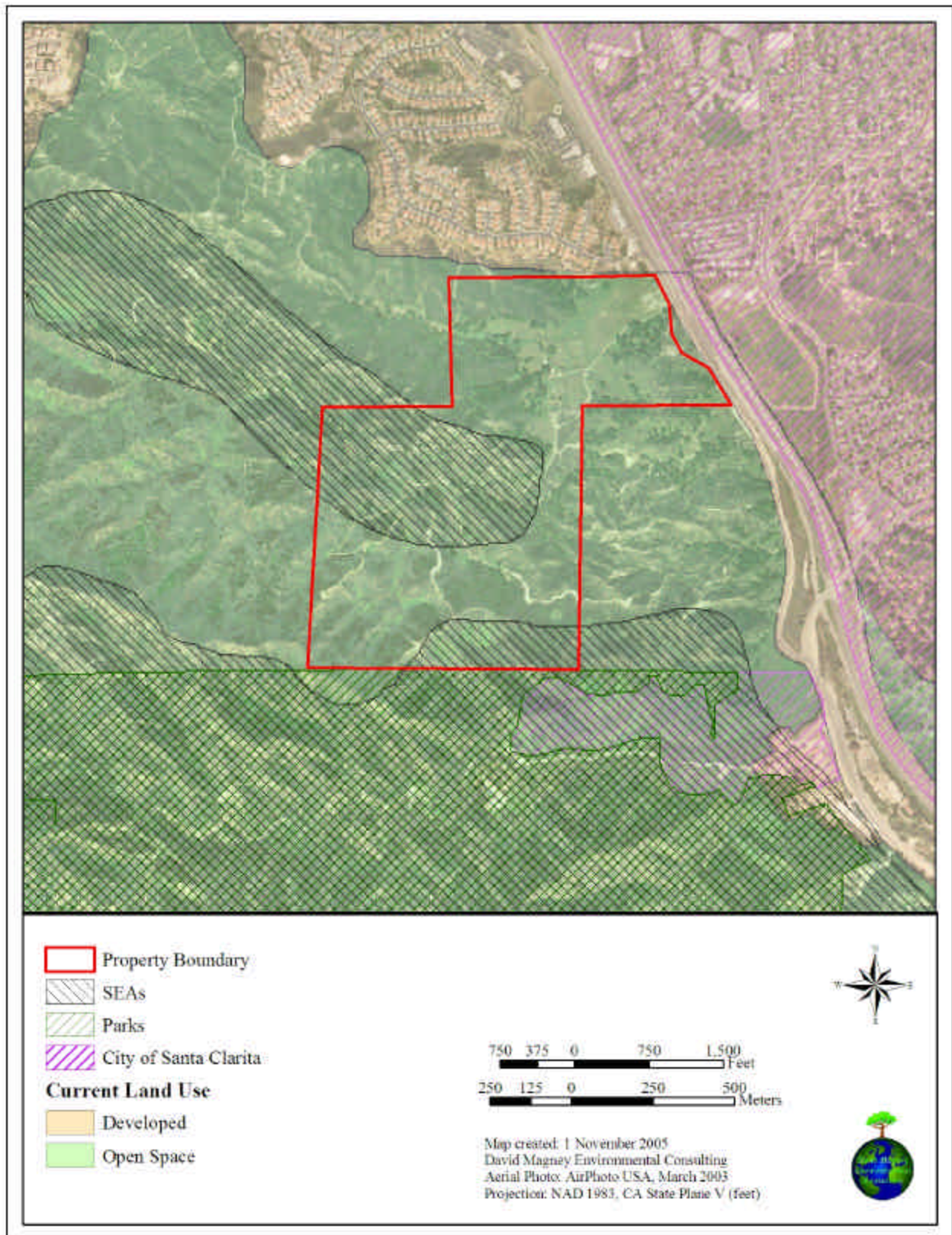


Figure 12. Vegetation in Areas Surrounding Lyons Canyon Ranch

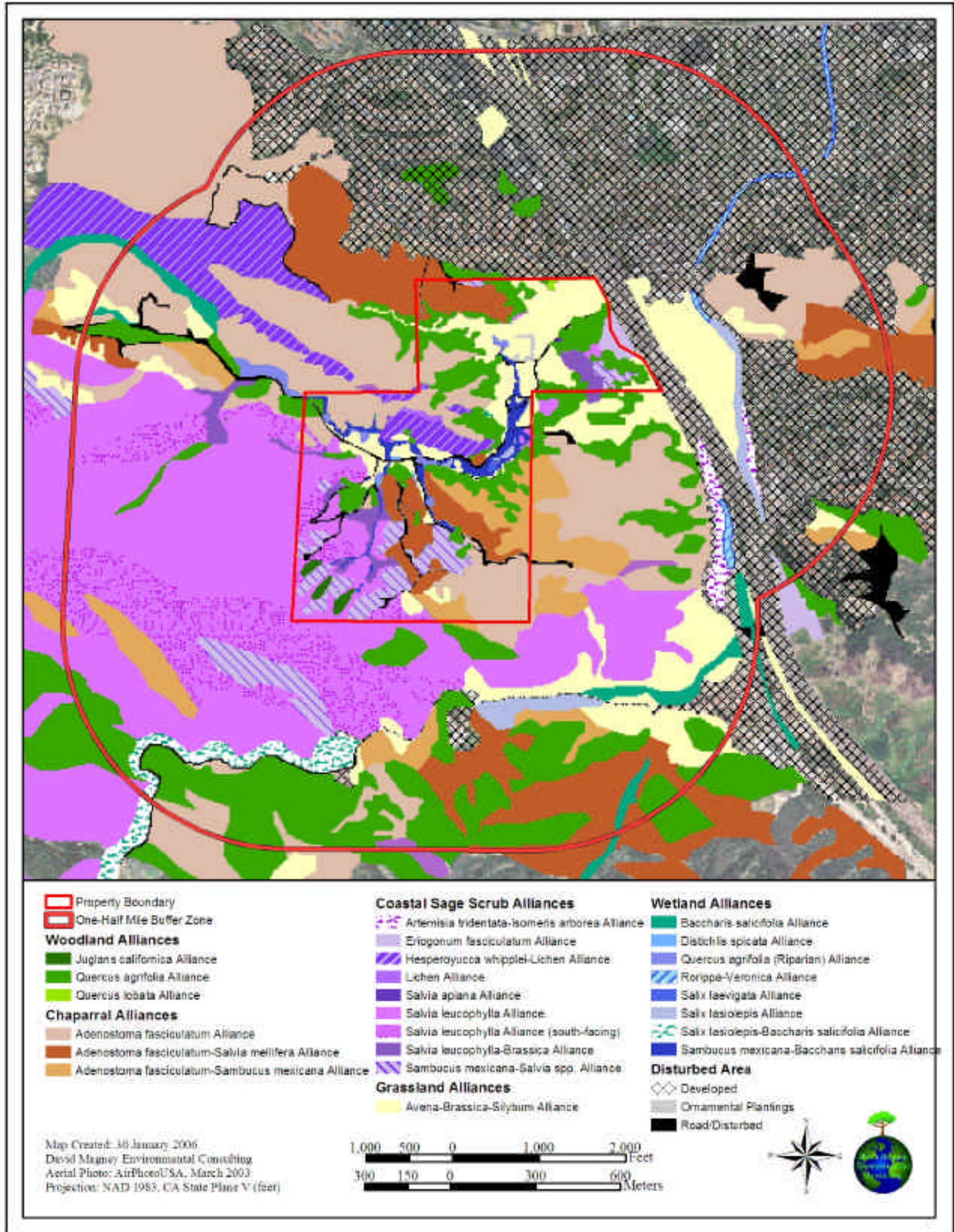


Table 4. Lyons Canyon Ranch Surrounding Vegetation Alliance Acreage Totals

Alliance	Acres
<i>Wetland</i>	
<i>Quercus agrifolia</i> (Riparian) Alliance	2.43
<i>Salix lasiolepis-Baccharis salicifolia</i> Alliance	12.88
<i>Salix lasiolepis</i> Alliance	11.21
<i>Baccharis salicifolia</i> Alliance	14.68
<i>Rorippa-Veronica</i> Alliance	3.33
<i>Woodland</i>	
<i>Quercus agrifolia</i> Alliance	157.64
<i>Chaparral</i>	
<i>Adenostoma fasciculatum</i> Alliance	171.5
<i>Adenostoma fasciculatum-Salvia mellifera</i> Alliance	89.84
<i>Adenostoma fasciculatum-Sambucus mexicana</i> Alliance	52.32
<i>Coastal Sage Scrub</i>	
<i>Eriogonum fasciculatum</i> Alliance	2.6
<i>Sambucus mexicana-Salvia</i> spp. Alliance	12.22
<i>Artemisia tridentata-Isomeris arborea</i> Alliance	7.31
<i>Hesperoyucca whipplei</i> -Lichen Alliance	35.77
<i>Salvia leucophylla</i> Alliance	204.59
<i>Salvia leucophylla</i> Alliance (south-facing)	91.69
<i>Salvia leucophylla-Brassica</i> Alliance	4.53
Lichen Alliance	2.98
<i>Grassland</i>	
<i>Avena-Brassica-Silybum</i> Alliance	87.59
<i>Human-Influenced</i>	
Developed	444.31
Dirt Road/Disturbed	11.84
Total Acreage³:	1,421.21

The surrounding area provides relatively significant suitable connective habitats for species with large home ranges, such as Mountain Lion and Black Bear. There are more streams with less concrete in the surrounding area to the west and south, so the occurrence of special-status aquatic wildlife is more probable. California Red-legged Frog is known to occur in San Francisquito Creek, and the Unarmored Threespine Stickleback and Southern Steelhead are present in the Santa Clara River, neither of which has been observed at the project site. Southwestern Willow Flycatcher (*Empidonax traillii extimus*) and Least Bell's Vireo (*Vireo bellii pusillus*) occupy habitat within the surrounding area. The Southwestern Willow Flycatcher typically occupies the unincorporated county portion of the Santa Clarita Valley Planning Area near Castaic Creek just west of the Santa Clarita City boundary (a few miles north of the project site), while the Least Bell's Vireo is found in local riparian habitats. (City of Santa Clarita and County of Los Angeles 2001.) Neither of these special status birds has been observed at the project site and suitable habitat is not present onsite.

³ Total acreage of habitats surrounding the project site includes only the area within 0.5 mile of the property.

Overall Biological Value of the Area

The Santa Clarita Valley area is 377,637 acres, of which 50% is open space (191,823 acres). Approximately 36% is vacant land, which is not committed for permanent open space. Developed land composes about 12% of the total acreage, and 58% of this is residential. (City of Santa Clarita and County of Los Angeles 2001.)

Although a substantial portion of the area along the Santa Clara River and I-5 has been developed, portions of the region are vacant or open space, and still support native plant and animal habitats and communities. These communities are adapted to the Mediterranean-type climate of the area, in that they thrive in the cool, wet winters and dry hot summers typical of the area. Predominant vegetation types where these communities are found are coastal and desert scrub, and chaparral. Other vegetation types in the region include Bigcone Spruce-Canyon Live Oak Forest, Coast Live Oak Riparian Woodland, Juniper Woodland, Pinyon-Juniper Woodland, Southern Sycamore Alder Woodland, Southern Willow Scrub, freshwater marsh, vernal pools, Coastal Sage Scrub, Chaparral, Alluvial Fan Sage Scrub, and native and nonnative grassland.

Sensitive terrestrial communities in the Valley include Southern Coast Live Oak Woodland; Valley Oak Woodland; Southern Mixed Riparian; Southern Riparian Scrub; Riversidian Sage Scrub; Mainland Cherry Desert; Walnut Woodland; Sycamore Alder Riparian Woodland; Southern Cottonwood-Willow Riparian Forests; And Southern Willow Scrub. Vernal pools have been identified on Cruzan Mesa, Plum Canyon, and Fair Oaks Ranch. These are significant sensitive resources within the Valley. (City of Santa Clarita and County of Los Angeles 2001.)

A number of sensitive bird species, including the federally endangered Least Bell's Vireo and Southwestern Willow Flycatcher, depends on nesting and foraging habitat provided by vegetation communities found within the region. Other sensitive species within the region potentially include at least eighteen plants, two fish, an amphibian, seven reptiles, twenty-five birds, seven mammals, and an invertebrate species. CDFG identifies all listed sensitive species and their habitats on its website (www.dfg.ca.gov) (CDFG 2005). Important habitats and biological resource areas within the region include the following:

- Land within the Angeles and Los Padres National Forests, including Elsmere Canyon and wildlife corridors between the Santa Susana Mountains and the San Gabriel Mountains;
- Canyon areas, including Whitney, Elsmere, Wiley, East, Towsley, Rice, San Francisquito, and all other canyons that provide important habitat (water, food, shelter, and movement corridors);
- Biological resources that add to the viewshed of the Santa Clarita Valley;
- Land between SR-14 and Sand Canyon Road provides critical habitat for the Arroyo Toad;
- State-listed endangered and threatened plant and wildlife species associated with riparian woodlands in the Santa Clara River;
- Open water habitats provided by Castaic Lake, Castaic Lagoon, and isolated locations along the Santa Clara River;
- Habitat for State and federally endangered and threatened plant and wildlife species found in Chaparral and Coastal Sage Scrub;

- Habitat and associated biological resources in the SEAs designated by the County of Los Angeles;
- Habitat for federally listed endangered, threatened, or rare plant and animal species associated with the riparian woodlands in the Santa Clara River; and
- Oak, sycamore, cottonwood, and willow trees located within the City of Santa Clarita and along the Santa Clara River. (City of Santa Clarita and County of Los Angeles 2001.)

Although the overall biological value of the area is high, a number of factors have contributed to the reduction in species diversity within the region. Those contributing factors include:

- The impact of nighttime lighting on wildlife may increase as development continues to encroach on habitat areas.
- Encroachment from development onto wildlife corridors and SEA areas has not been adequately addressed.
- Impacts on wildlife movement and reproductive capabilities have not been assessed.
- There are no current mitigation banks within the region; therefore, when habitat is lost within the region due to development, it is being restored (i.e. mitigated for) outside the Planning Area. This leads to a net loss of habitat within the region.
- The lack of a local land swap program precludes the conservation of large areas of open space in return for tax credits.
- Single-family housing development is currently allowed in SEAs. The SEATAC review board works with developers to modify plans to meet SEA requirements.
- Non-contiguous areas impact species diversity, corridors, and larger animal migration; mitigation should focus on preserving and creating contiguous areas (e.g. river corridor). (City of Santa Clarita and County of Los Angeles 2001.)

The Santa Clara River Enhancement and Management Plan Study (SCREMP) identified several key wildlife movement corridors within the Santa Clarita Valley. These corridors are generally located in undisturbed canyon and Riverine stream habitat areas. The preservation of these areas is essential for maintaining the wildlife diversity within the Planning Area. The Santa Monica Mountains Conservancy (SMMC) and the Mountain Recreation and Conservation Authority have also identified wildlife corridors in the region. These corridors include Elsmere Canyon, Towsley Canyon, Weldon/Bee Canyon and crossings along SR14 near Whitney Canyon and crossings between Canyon Country and Sulphur Springs. Elsmere Canyon is an integral part of the Rim of the Valley Trail Corridor and Wildlife Corridor, linking the Santa Clarita Woodlands, Whitney, and Placerita Canyons. The Rim of the Valley Trail Corridor traverses the Santa Monica, Santa Susana, and San Gabriel Mountains. As mitigation to a major transportation project, the San Gabriel/Santa Susana Wildlife Corridor and Open Space Acquisition Project identified key wildlife linkage corridors within the mountainous areas that lay along the high occupancy vehicle lanes proposed along SR14 between San Fernando Road and Sand Canyon Road. The corridors include the Whitney Canyon Movement Route and the highway underpass known as the Los Pinetos undercrossing. These corridors link significant Coastal Sage Scrub, oak woodland, and riparian woodland/scrub habitats. (City of Santa Clarita and County of Los Angeles 2001.)