EXISTING CONDITIONS AND ISSUES

UNIT SUMMARY

EXISTING LAND USES

OVERVIEW

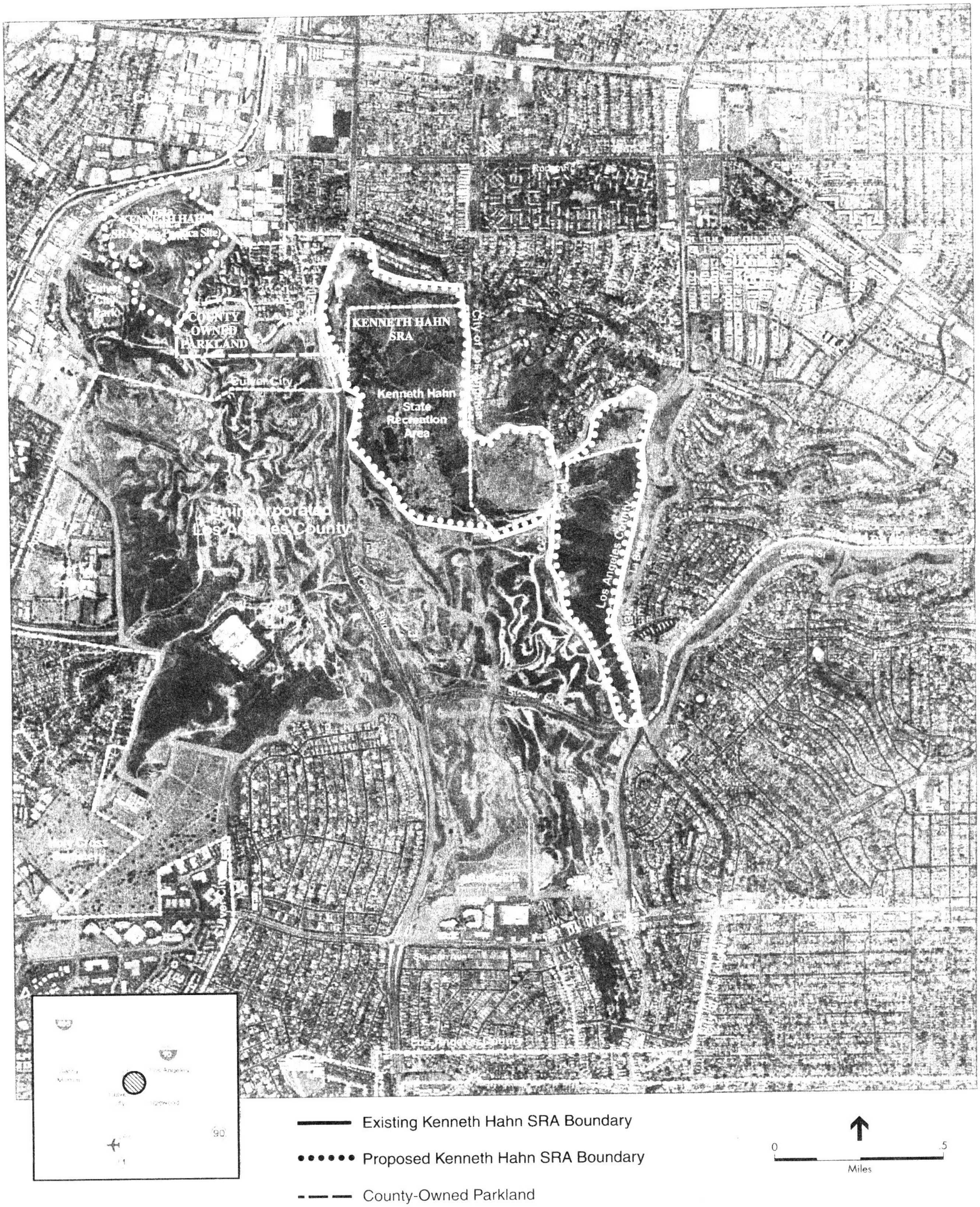
Kenneth Hahn State Recreation Area (KHSRA or the park) comprises approximately 387 acres of parkland set in the midst of urban Los Angeles. The existing park is managed by the Los Angeles County Department of Parks and Recreation and includes 319 acres native coastal sage scrub habitat, scenic overlooks, interpretive facilities, lawns and landscaped areas, picnic sites, tot lots, a fishing lake, lotus pond, community center, day-use parking, and five miles of trails. There are six restrooms within the park. The community center has four administrative offices and a small meeting room. A small maintenance yard and native plant nursery is maintained on-site. Activities within the park include but are not limited to hiking, biking, walking, running, fishing, picnicking, play, and nature interpretation and education. The Vista Pacifica Scenic Site consists of 50 acres of open space and a scenic view site at the northern tip of the western ridgeline. County-owned parkland that connect the Vista Pacifica Scenic Site to La Cieniga Blvd include a total of 18 acres of open space. Both the Vista Pacifica Scenic Site and adjacent County-owned parklands are currently closed to the public.

REGIONAL LAND USE

Residential, commercial, and recreation associated uses dominate the surrounding area. Refer to Figure 4 for jurisdictional boundaries.

ADJACENT RECREATION USES

Three established local parks currently occur in the vicinity of KHSRA. These include Norman O. Houston Park, Ladera Ball Fields, and Culver City Ball Fields. Norman O. Houston Park is four acres and is managed by the City of Los Angeles Department of Recreation and Parks, and includes a lawn area and tot lots located to the east of the park. Ladera Ball Fields (31 acres) includes three baseball diamonds, owned and managed by the Los Angeles County Department of Parks and Recreation, and is located southwest of the park. Culver City Park's 30-acre ball field and park is immediately adjacent to the Vista Pacifica Scenic Site, and includes three baseball diamonds, a small skate park and handicapped access trail.



SOURCE: Community Conservancy International; GreenInfo Network

Figure 4

City Jurisdictions and Unincorporated Areas

ADJACENT OIL PRODUCTION

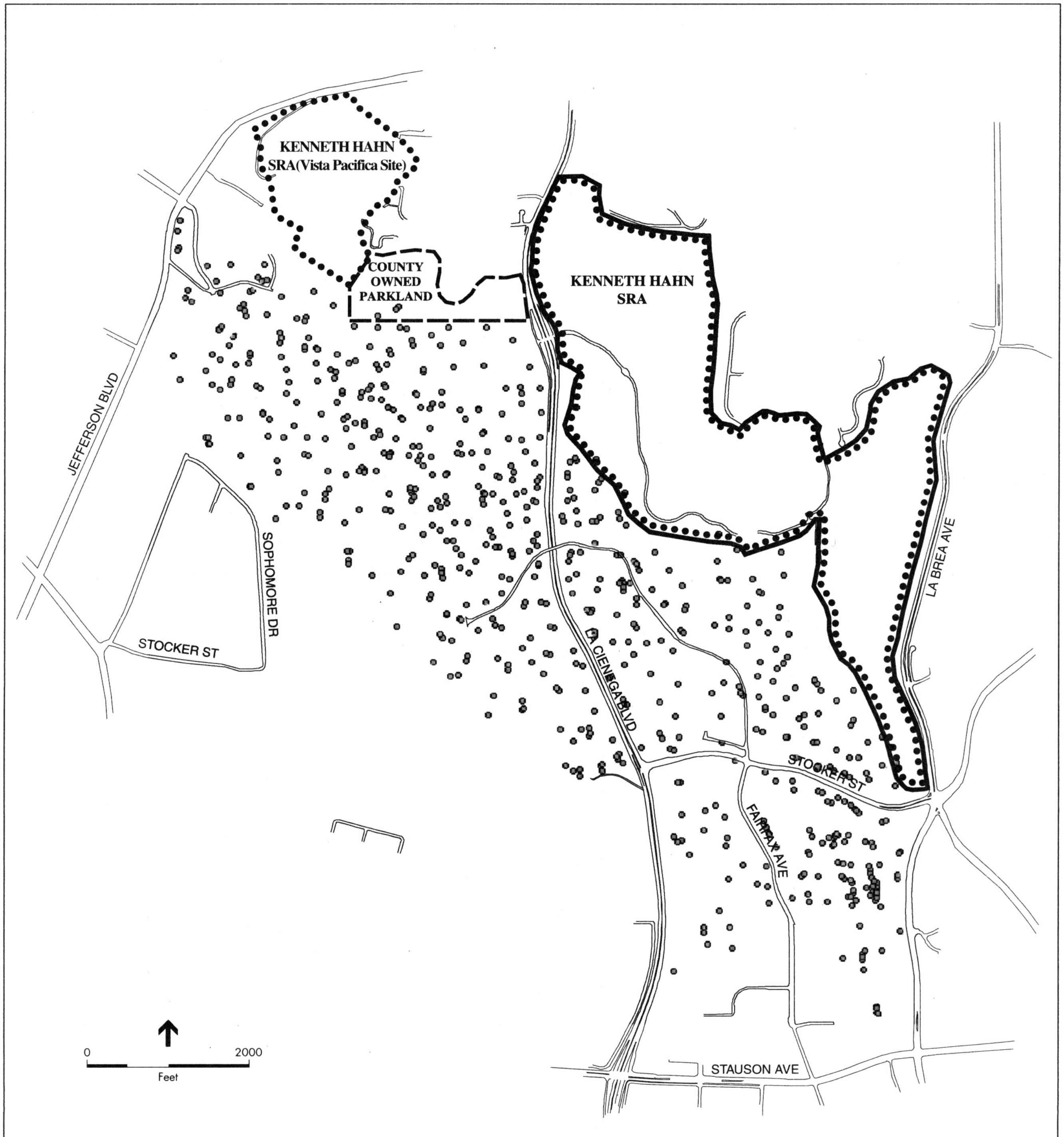
There are approximately 950 acres of active oil fields adjacent to KHSRA (Figure 5). Related surface structures generally include oil wells, pipes, water treatment and gas plants, storage tanks, buildings and service roads. Stocker Resources, Inc. has their administrative headquarters on site. Southern California Edison maintains a transmission facility at the southern end of the western ridgeline. A historic home built by the Chandler family exists on the western ridgeline and is currently in use as a private residence.

ADJACENT URBAN LAND USES

The areas immediately surrounding the park are primarily made up of single family homes (45%), multi-unit apartments (17%) and commercial office space (17%) (Figure 6). Several single-family residences are located along the ridgelines of the western and eastern portions of the Baldwin Hills. Directly north of the park in the adjacent lowlands along Rodeo Road, there is the multi-unit development known as the Village Green, a 70-acre self-contained middle class community of 540 homes. Other condominium and townhouse communities exist in all areas surrounding the park. These are typically gated communities ranging in size from 100 to 240 units. Traveling east along the foothills there is a marked increase in density of housing. Large neighborhoods of now dilapidated multi-unit apartment complexes are situated just below Jim Gilliam Park off of La Brea Avenue. This area connects to Santa Barbara Plaza, which is a vacant shopping center that suffers from severe deferred maintenance.

A half-mile stretch along Jefferson Boulevard in Culver City is dominated by business and industrial uses. This area lies just south of Ballona Creek and features businesses ranging from private storage to waste management facilities to commercial office buildings. Two mini-malls and several neighborhood businesses and restaurants exist in the area. There are several major retail outlets and food markets along the southwestern strip of Jefferson Blvd. Major franchises such as Target, Kinko's and Shakey's Pizza are all located at this commercial hub in Culver City.

Slauson Avenue has high concentrations of retail and commercial office buildings as you travel east from Culver City. The Fox Hills Mall and Corporate Point dominate the area to the south. Holy Cross Cemetery and Fox Hills Park are open space areas located north and south of Slauson Avenue respectively. Continuing east, the single-family residences of Ladera Heights span Slauson Avenue ending at La Cienega Blvd. On Slauson Avenue between La Cienega Blvd., and La Brea Avenue, there are three mini-malls, a shopping center, a commercial office building complex and a pre-school all on the north side of Slauson. The Los Angeles County Fire Department has a station at Fairfax and Slauson. The south side of Slauson Avenue is primarily residential with the exception of two churches and Ladera Park. East of La Brea Avenue, Slauson Avenue hosts a few established restaurants and miscellaneous businesses. This area lacks many amenities that are readily available in other parts of the city, including health spas, gourmet markets, hotels and other franchise businesses.

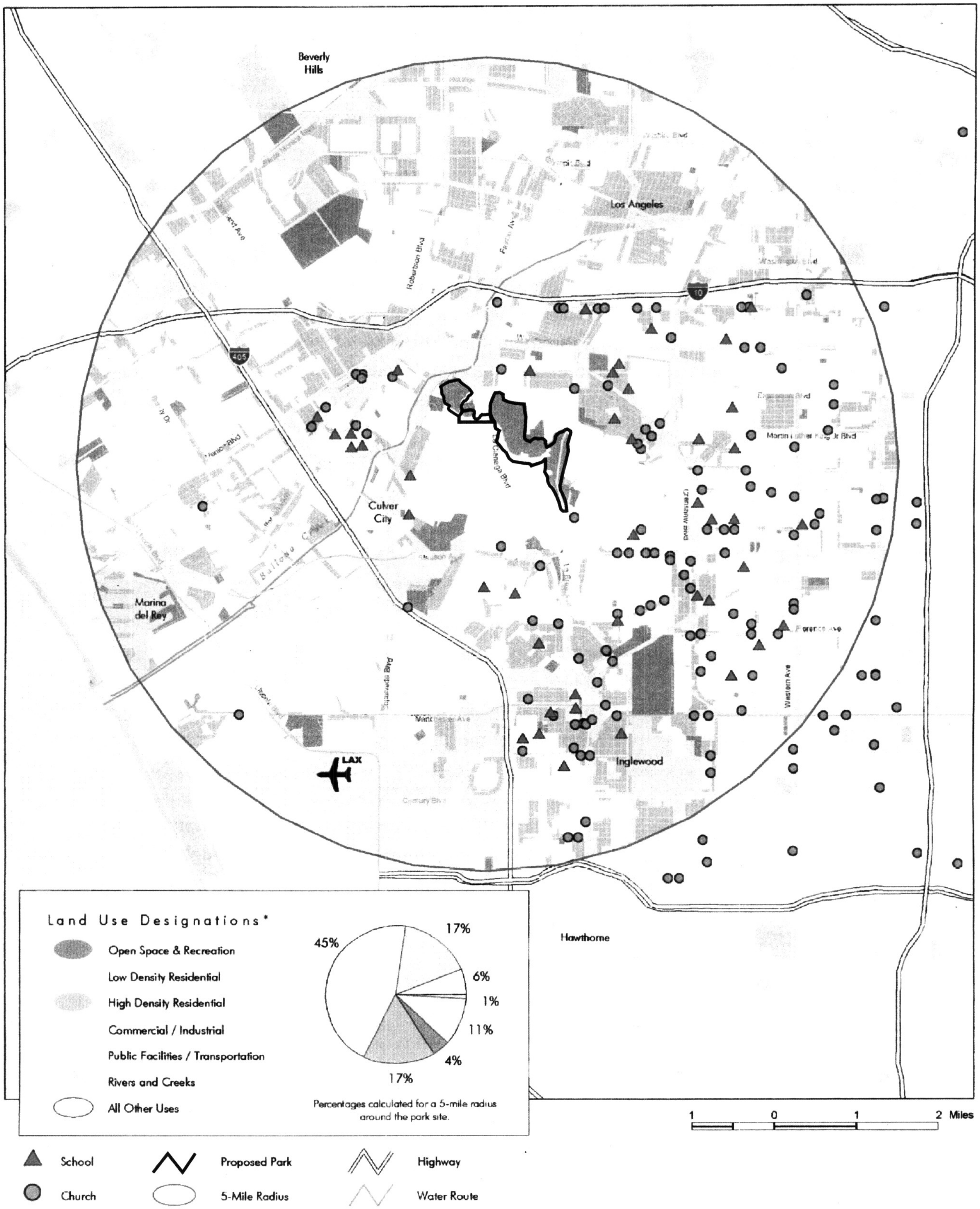


● Oil Well Locations
━━━ Existing Kenneth Hahn SRA Boundary
•••••• Proposed Kenneth Hahn SRA Boundary
— — — County-Owned Parkland

NOTE: Data presented on other public or private lands is for informational purposes only.

SOURCE: Community Conservancy International; GreenInfo Network

Figure 5
Oil Drilling Facilities Map



SOURCE: Community Conservancy International; GreenInfo Network

Figure 6
Land Use with Area Schools and Churches

West Los Angeles College is located southwest of the Vista Pacifica Scenic Site. This community college serves over 2000 students and covers nearly 70 acres. West Los Angeles College plays a significant role in the chain of education in the area, as many of the high school graduates from nearby Crenshaw and Dorsey High Schools attend the junior college while in transition to universities.

SIGNIFICANT RESOURCE VALUES

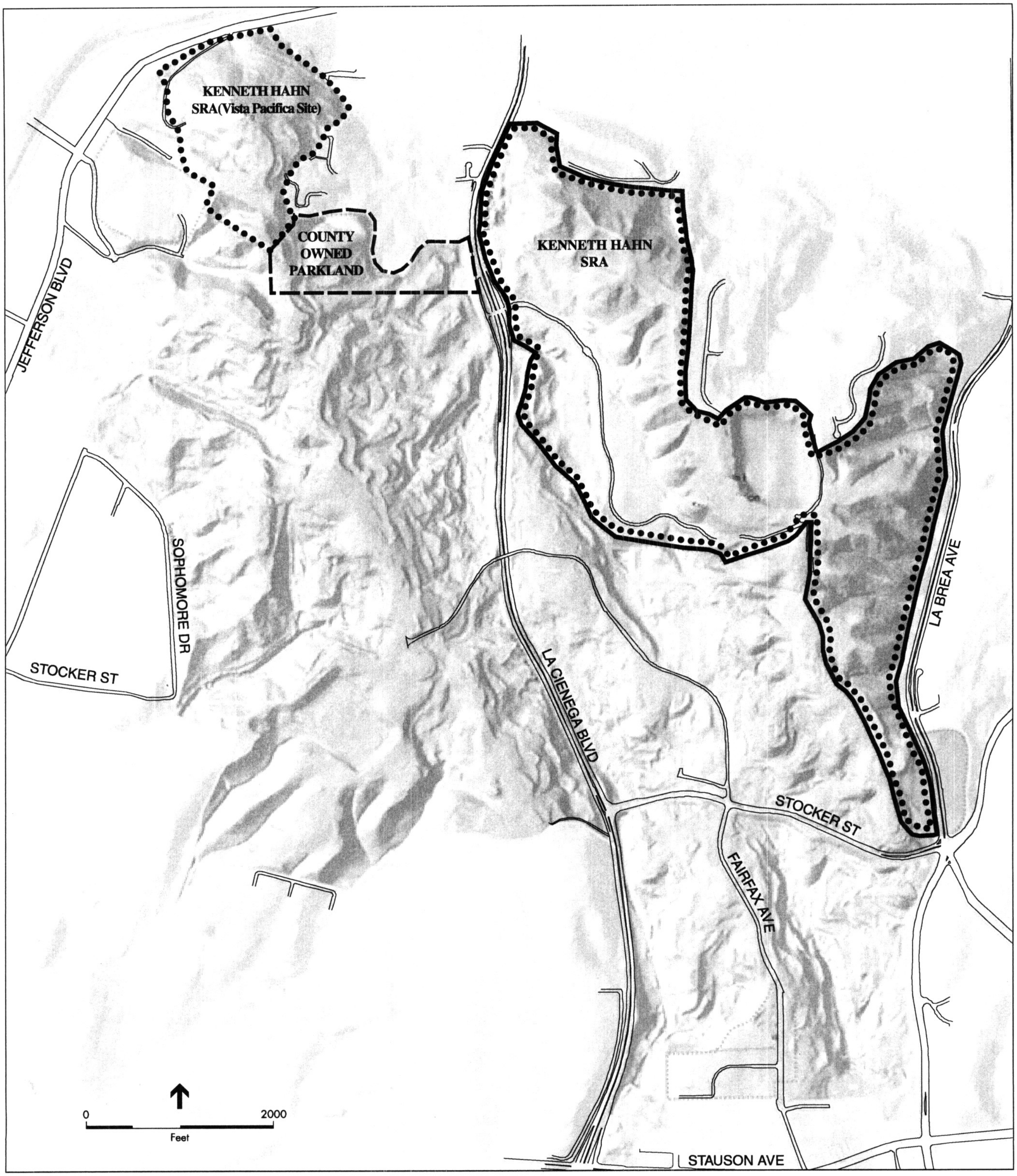
The park and the larger Baldwin Hills area are a unique part of the Los Angeles County landscape, rising from the middle of an otherwise flat and intensely developed plain. The long ridgelines are easily recognizable from throughout the Los Angeles Basin, and provide dramatic panoramic views of the surrounding mountains, cities and Santa Monica Bay. Despite years of urban and industrial development, the Baldwin Hills retain a number of intact areas of Southern California's unique coastal sage scrub vegetation, and they are still home to hundreds of native plants and animals, providing important habitat to many wildlife species that can't survive in the surrounding lowlands.

PHYSICAL RESOURCES

TOPOGRAPHY

Viewed from above, the park appears as two long northwest-trending ridgelines protruding upward five hundred feet above the middle of the Los Angeles plain, midway between the coast and downtown, with an intervening central valley (Figure 7). These hills, along with an interrupted line of similar rises, mark the track of the Newport Inglewood fault, which has, over the past several million years, created a series of terrestrial wrinkles that extend from Newport Beach to Beverly Hills. Of these the portion of the Baldwin Hills within the park are the most prominent. Continuing faulting has ruptured the middle of the hills from south to north, creating a central rift valley flanked on both east and west by eroded ridges, composed throughout of geologically youthful and easily erodible bay sands and silts. The hills are one of a chain of northwesterly trending hills, which extend 40 miles from the Cheviot Hills in Los Angeles southeast to the Newport Mesa in Orange County.

To the west, north and east, the hills rise abruptly from the flat basin floor, forming steep faces along linear scarps; on the south side the hills descend more gently. Overall, the hills are quite steep, and are cut by many canyons which descend on either side of both the east and west ridgelines (Figure 8). Much of the site has slopes of over 20%. The highest point in the Baldwin Hills is the Vista Pacifica Scenic Site. At 511 feet it is the highest elevation along the Newport-Inglewood Structural zone. Grading operations related to oil field activities and a previously approved subdivision have resulted in considerable modification of the natural topography of the Vista Pacifica Scenic Site.



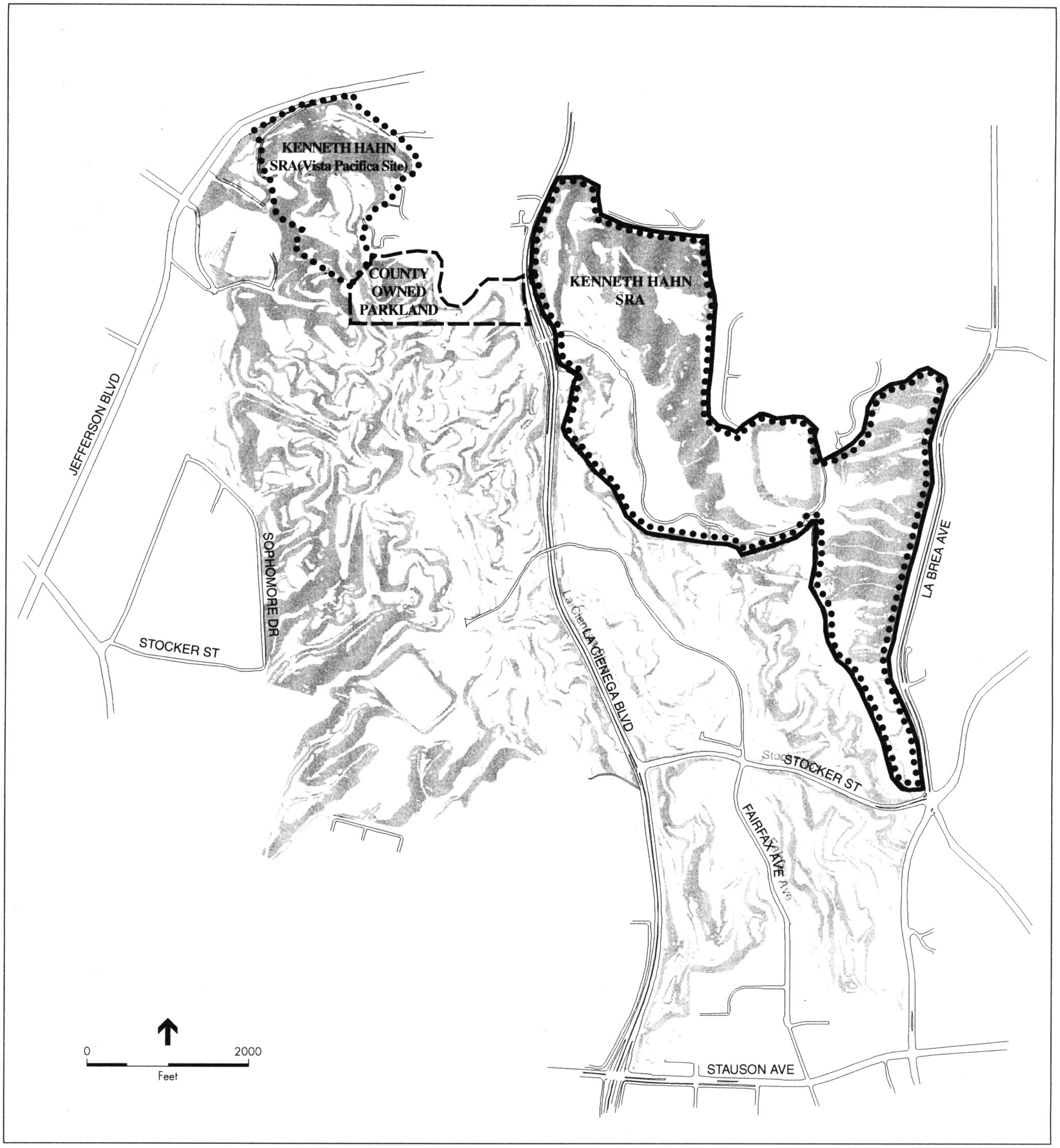
Existing Kenneth Hahn SRA Boundary

Proposed Kenneth Hahn SRA Boundary

County-Owned Parkland

SOURCE: Community Conservancy International; GreenInfo Network

Figure 7
Shaded Relief Map



Slope Ratios

≤ 15% Slope

> 15% Slope

Existing Kenneth Hahn SRA Boundary

Proposed Kenneth Hahn SRA Boundary

County-Owned Parkland

SOURCE: Community Conservancy International; GreenInfo Network

Figure 8
Slope Analysis

METEOROLOGY

The park shares with the rest of the California coast a mild Mediterranean-type climate, with dry warm summers and winter precipitation from storms originating thousands of miles away in the northern Pacific. Mean annual rainfall is about 15 inches, though both drought years and years with three times the average are not uncommon. The park contains a variety of slope exposures and elevations, from 150 to 500 feet. Wide variations of rainfall occur within short distances due to topography, with most of the precipitation falling between November and April. A coastal overcast commonly slides in from the sea at night and covers the hills on spring and summer mornings. Temperatures range generally from 50 to 80 degrees F, with cooler temperatures at the higher elevations. The typical wind pattern is a west or southwest breeze off the Pacific Ocean, which brings marine air into the area.

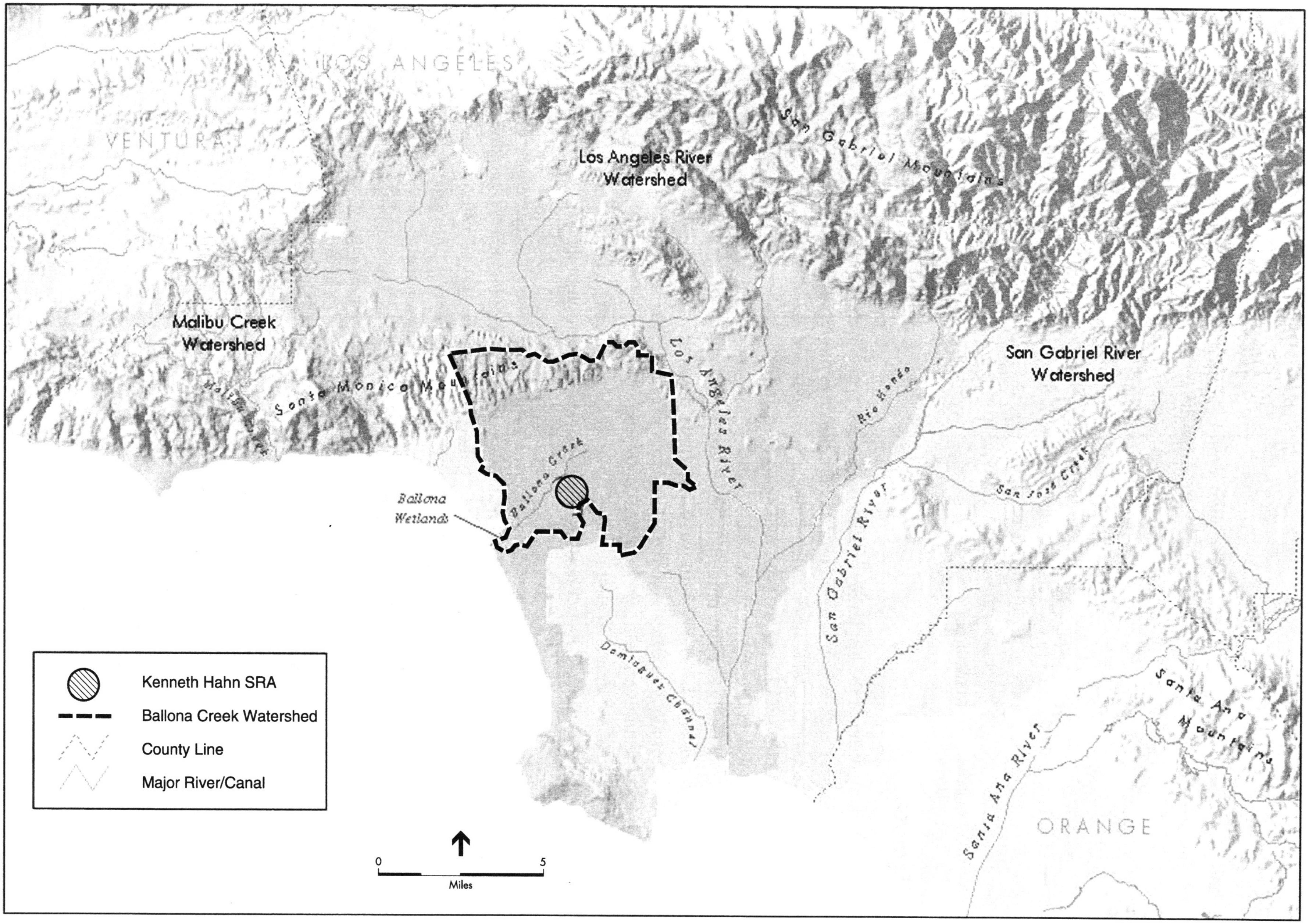
HYDROLOGY

The park is a component of the last large, undeveloped open space in the urban portion of the 127 square mile Ballona Creek Watershed (Figure 9). Park hillsides drain into both Ballona Creek and its tributary, Centinela Creek, through the Ballona Wetlands and then into Santa Monica Bay. Several small watersheds lead from the park to detention basins constructed by the oil producers to collect injection water. These detention basins overflow to Ballona Creek. Since the site covers the apex of the Baldwin Hills, numerous small watersheds direct storm water and irrigation runoff from the site. The eastern wátershed flows down the steep hillsides to culverts and collection systems along La Brea Avenue. The major portion of the site collects storm water in the surface water features and ultimately drains north along La Cienega Avenue. The northwest disconnected site drains in all directions since the site is mostly a hilltop. Ballona Creek is located approximately 500 feet north of the northwestern portion of the park.

The hills are dissected by past erosion into several smaller sub-watersheds of a square mile or less in size, which sporadically discharge storm runoff through a half dozen or so brushy, steep-walled canyons. The maximum 24-hour rainfall intensity is 6 inches during the 100-year storm. The park is entirely outside of the 100-year flood plain designated by the Federal Emergency Management Agency (FEMA). The only storm water runoff occurring on the site is rain that falls on the site. As a result, there is little risk of flooding in the project area. The existing drainage system leading north to Ballona Creek from the hills is sized to accommodate the 50-year flood.

Several man-made surface water features exist on the site. On-site ponds are fed by irrigation water runoff and municipal water supply. The water features are generally landscaped with non-native vegetation. A portion of the site was once used as a reservoir. The reservoir dam failed in 1963 causing severe flooding in the highly urbanized Los Angeles Basin north of the site. Use of the reservoir was abandoned soon after the dam failure.

Toward the top of the hills the sediments are sandier and more likely to be of riverine rather than marine origin. With potential evaporation rates five times the annual rainfall, these sediments rarely accumulate more than a few inches of water during the winter and have the capacity to



SOURCE: Community Conservancy International

Kenneth Hahn SRA Recirculated General Plan Amendment and EIR / 202310 ■

Figure 9

Watersheds of Los Angeles County

store minor amounts of fresh water in local perched water tables which discharge as small springs on the slopes or in the local canyons that flank the hills. Nonetheless, this perched local system of groundwater flow may have significant impact on the ecology of the hills in their original natural state or in a future restoration, though it would probably not offer a significant source of water to wells.

Water quality from the park is important to the downstream water quality of Ballona Creek, the Ballona Wetlands and in Santa Monica Bay. The unpaved nature of most of the park site results currently in the majority of runoff and rain percolating into the soil, rather than flowing over streets and highways and collecting a pollutant load.

GROUNDWATER

The Baldwin Hills are located at the junction of three major groundwater basins: the Santa Monica Basin, the West Coast Basin, and the Central Basin. These basins underlie the coastal plains. The Baldwin Hills are a topographic highland that is elevated above the surrounding water table. Consequently, waterbearing strata in the adjacent lowlands are non-waterbearing in the hills. Rainfall that infiltrates these permeable sediments migrates through the dipping strata to the groundwater basins outside of the hills.

GEOLOGY, SOILS, AND SEISMICITY

Geology

The park is located partially in Culver City and the City of Los Angeles in the west central part of Los Angeles County. This portion of Los Angeles County is located on a northwest-trending alluviated lowland plain referred to as the Los Angeles Basin, and is bounded by mountains and hills along the north, northeast, east, and southeast. The basin slopes gently southward from the mountains toward the ocean where it is interrupted by the Newport-Inglewood belt of hills along the south and west from the foot of the Santa Monica Mountains to Newport Beach in Orange County, and by the Palos Verdes Peninsula in the extreme southwest.

The park includes most of the eastern portion of the Baldwin Hills, a part of the Newport Inglewood Hills. Geologic units underlying the Baldwin Hills consist of a thick layer of Tertiary and Quaternary sedimentary rocks that rest on a crystalline basement complex. The late Pleistocene Lakewood Formation and the early Pleistocene San Pedro Formation outcrop in the area. Holocene alluvial and/or colluvial deposits are present in drainage courses and at lower elevations of the Baldwin Hills. Deformation in the Baldwin Hills is believed to have started between 10 to 26 million years ago during middle Miocene time and is still occurring. This deformation has resulted in the formation of numerous oil traps such as the Wilmington, Signal Hill, and Inglewood Oil Fields.

Oil and Gas

The Inglewood oil field occupies an irregularly shaped area that extends diagonally across the trend of the hills along the axis of the faulted Inglewood anticline and covers approximately 700 acres. Oil was first discovered in the Inglewood field in 1924 as the result of a well drilled by Standard Oil. It was explored and developed rapidly such that its peak oil production occurred only a year later at a rate of over 50,000 barrels of oil per day. Production and development, mainly by "in-fill" drilling between wells, continued steadily to the present. Altogether some 368 million barrels of oil and 269 billion cubic feet of natural gas (principally methane) have been produced. As the hydrocarbons in the field are gradually depleted, an increasing amount of salty brine water is produced with the oil and gas. Starting in the 1950s, the brine water along with additional make-up water has been injected back into the field to sweep additional oil toward wells for recovery. As of 2000 there were approximately 1,200 wells in the oil field, consisting of 430 active wells, 215 inactive or shut-in wells, and about 530 abandoned wells. Field production as of October 2000 was 6,700 barrels of oil per day, 2,650,000 cubic feet of gas per day, and 180,000 barrels of brine water per day.

A significant subsidence area has developed over the years over the oil field. Oil field subsidence, when it occurs, is related to the volume of hydrocarbons and fluids removed from the geologic sediments underlying an oil field. For the Inglewood field, the most recent survey evidence from the 1970s shows that the center of the oil field has subsided more than 10 feet since the 1920s as a result of extraction of hydrocarbons and brine water. It is possible , considering the intensified oil field operations activity of the past few years, that a few inches of localized ground movements may continue to occur in the northwest part of the oil field, which is the most active area of extraction since the 1970s. Previous small ground movements and faulting have been associated with oil field activities and processes including withdrawal-induced subsidence and pressure injection. Future subsidence is minimized, however, by the significant quantities of water being injected into the field to replace the produced fluids.

There are hundreds of abandoned wells in the Baldwin Hills area adjacent to the park, many of which predate recent decades when abandoned wells have been required to be sealed under State supervision. Experience elsewhere, such as at the Los Angeles, Salt Lake, and Playa Vista oil field areas, indicate the possibility of hydrocarbon (gas) seeps for those early vintage wells.

Erosion and Soils

Soils in the park and surrounding Baldwin Hills generally consist of artificial fill, landslide debris, and the Pleistocene alluvial deposits of the Lakewood and San Pedro formations.[1] The Lakewood Formation is composed of marine and non-marine, poorly consolidated, crudely stratified to cross-bedded sand, silty sand, and gravel with lenses of silt and clay. The San Pedro Formation, which unconformably underlies the Lakewood Formation, consists of marine, well-

1 LeRoy Crandall and Associates, *Report of Geotechnical Evaluation for Environmental Impact Report, Proposed Vista Pacifica Development, Los Angeles and Culver City*, California, January 3, 1991.

consolidated silts to very fine sands that are locally clay-rich. Stratification is poorly to moderately developed.

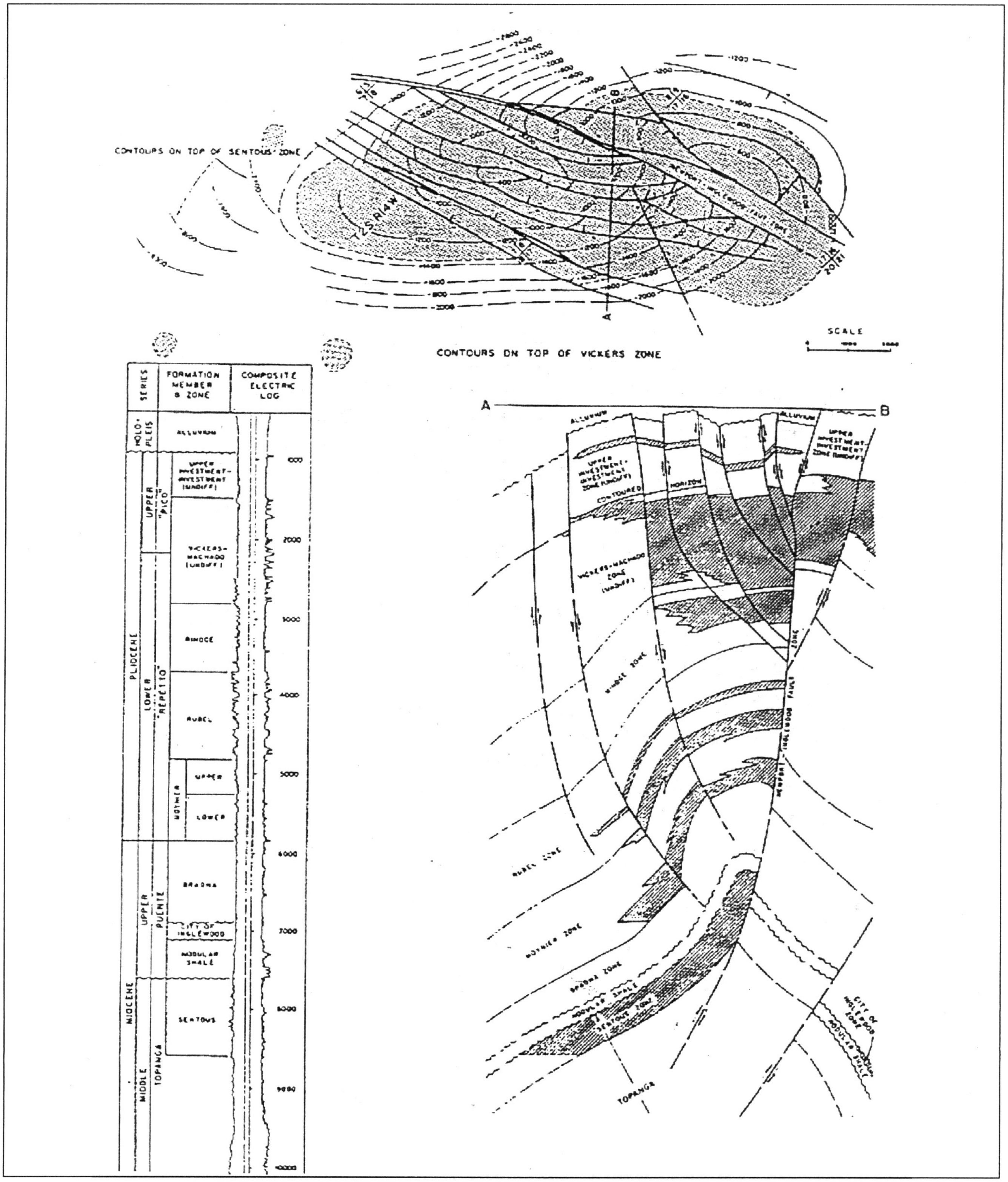
Fill soils consist of silty sand, sandy silt, and some debris, and range in thickness between two and nine feet. In addition, there is an abandoned landfill (the Hetzler Dump) near the Vista Pacifica Scenic Site. The trash fill within the limits of the former landfill ranges from 33 to 43 feet thick and generally consists of asphalt, concrete, rock, brick, plasterboard, wood, metal debris, and other types of building materials. The landfill is a maximum of 75 feet deep with 70 to 80 percent of the material consisting of soil.

The park has a well-documented history of landslide and erosion problems that are associated with their unstable soil strata and the destabilizing effects of rainfall. Slope failures are manifested by shallow slides and wet season debris flows especially on slopes, which have been artificially oversteepened by grading. Combined with these properties, the geologically young relief of several hundred feet assures chronic slope instability on the exterior rim and in the many gullies that dissect the terrain of the park. This is exhibited in the form of landslides and debris flows which typically occur every three to five years, especially on the outer rim of the Baldwin Hills.

Seismicity

Southern California is a region that has historically experienced high seismicity. In the past 100 years, several earthquakes of magnitude 5.0 or larger have been reported on the active San Andreas, San Jacinto, Elsinore, Garlock, and Newport-Inglewood fault systems. The Baldwin Hills are located within one mile of the Newport-Inglewood fault zone, which consists of a series of discontinuous northwest-trending faults and a complex pattern of subsidiary faults extending from the southern edge of the Santa Monica Mountains south-eastward to offshore of Newport Beach. The Newport-Inglewood fault zone is represented on the surface as a series of geomorphically young anitclinal hills and mesas formed by the faulting and folding of sedimentary rocks. At depth, the fault zone is considered to be a complex fault system that serves as the boundary between the basement complex of igneous and metamorphic rocks and the overlying sedimentary bedrock. Figure 10 illustrates the fault network in southern California.

The Baldwin Hills share with the rest of the Los Angeles basin an exposure to frequent strong earthquakes in the range of M=6+, of which the 1997 Northridge, and 1971 San Fernando, and the 1933 Long Beach earthquakes (the latter specifically associated with the Newport-Inglewood Fault) might be taken as type examples. There are numerous Alquist-Priolo Earthquake Fault Zones traversing the site. Other nearby potentially active faults include the Overland fault, located one mile west-southwest of the project site; the Charnock fault, located 2.2 miles west-southwest of the site; and the Santa Monica fault, located 3.4 miles to the northwest. This significant earthquake threat at the Baldwin Hills is about the same as elsewhere in the basin including downtown Los Angeles. Hence, there will exist for any future development, whether buildings, natural or fill slopes, water facilities, and lifelines such as fire protection facilities, pipes, roads, or a land bridge need to design for strong ground motions.



SOURCE: California Oil & Gas Fields, Volume 2;
California Dision of Oil & Gas, 1991

Figure 10
Baldwin Hills Fault Map

Geologic Hazards

Potential geologic hazards include:

- **Expansive soils.** Expansive soils possess a "shrink-swell" behavior that occurs in fine-grained clay sediments from the process of wetting and drying, which may result in structural damage over a long period of time.

- **Settlement.** Loose, soft soil material comprised of sand, silt, and clay, if not properly engineered, has the potential to settle after a building is placed on the surface. Settlement of the loose soils generally occurs slowly, but over time can amount to more than most structures can tolerate.

- **Subsidence.** The extraction of water, mineral, or oil resources can result in subsidence from the removal of supporting layers in the geologic formation. The impacts of subsidence could include lowering of the land surfaces, increased potential for flooding, potential disturbance to buried pipeline and associated structures, and damage to structures designed with minimal tolerance for settlement.

- **Landslides.** The material in a slope and external processes such as climate, topography slope geometry, and human activity can render a slope unstable and eventually initiate slope movements and failures. Shaking during an earthquake may lead to seismically-induced landslides, especially in areas that have previously experienced landslides or slumps, in areas of steep slopes, or in saturated hillsides.

- **Ground shaking.** Shaking intensity can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material underlying the area. Areas that are underlain by bedrock tend to experience less ground shaking than those underlain by unconsolidated sediments such as artificial fill.

- **Surface fault rupture.** Rupture of the surface during an earthquake is generally limited to the narrow strip of land immediately adjacent to the fault on which the earthquake is occurring. Surface fault rupture may occur suddenly during an earthquake or slowly in the form of fault creep and almost always follows pre-existing faults, which are zones of weakness. Not all earthquakes will result in surface rupture.

- **Liquefaction ground failures.** Liquefaction is the process by which unconsolidated sandy soil materials lose strength and become susceptible to failure during strong ground shaking in an earthquake. Areas with shallow groundwater and saturated soils have an increased potential for liquefaction.