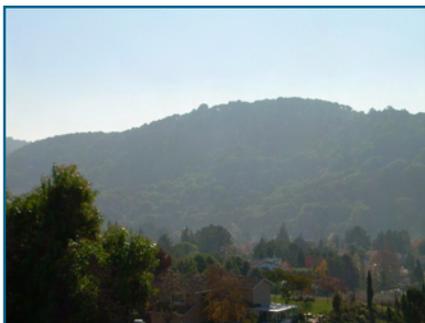


# Natural Resources and Open Space Background

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# Natural Resources and Open Space Background



Ridgelines surrounding Pinole

*Existing open space resources are a considerable asset to the community.*

## INTRODUCTION

This section of the Background Report describes the existing open space and natural resources in the City of Pinole. Relevant planning documents and policies are also described.

For more information regarding parks, trails, recreation facilities and services in Pinole, refer to Chapter 4, Community Facilities and Services, of this Background Report.

## OPEN SPACE AND ENVIRONMENTAL PROTECTION BACKGROUND

### BACKGROUND OF OPEN SPACE IN PINOLE

The City of Pinole has substantial open space resources in various forms of ownership. The City itself has large holdings, while other parcels are under the stewardship of homeowners associations, the West Contra Costa Unified School District, the Contra Costa County Flood Control District, and private land owners. The existing Open Space Plan is part of the General Plan (1995) and is provided in this chapter of the Background Report as **Figure 6.1**.

Existing open space resources are a considerable asset to the community. The General Plan (1995) includes important goals to protect open space resources. The General Plan (1995) also notes that open space in the City is fragmented and discontinuous. The City's open space system does not function effectively as an integrated community-wide open space and recreation system nor contiguous wildlife corridors.

The General Plan (1995) recommends that this discontinuity should be remedied by creating an open space system that links Pinole with surrounding open space resources, that provides pedestrian connections from the city center to other parts of the community, and that meets both the active and passive recreation needs of City residents. Substantial open space resources exist in and adjacent to the City of Pinole. The existing General Plan asserts that directed actions should

## Natural Resources and Open Space Background



*Pinole is located in the  
Pinole Creek Watershed*

be taken to identify, preserve and/or acquire key elements of the open space system. The existing General Plan states that planning efforts with adjacent jurisdictions and agencies should address open space and trails on a regional level with Pinole leading the effort.

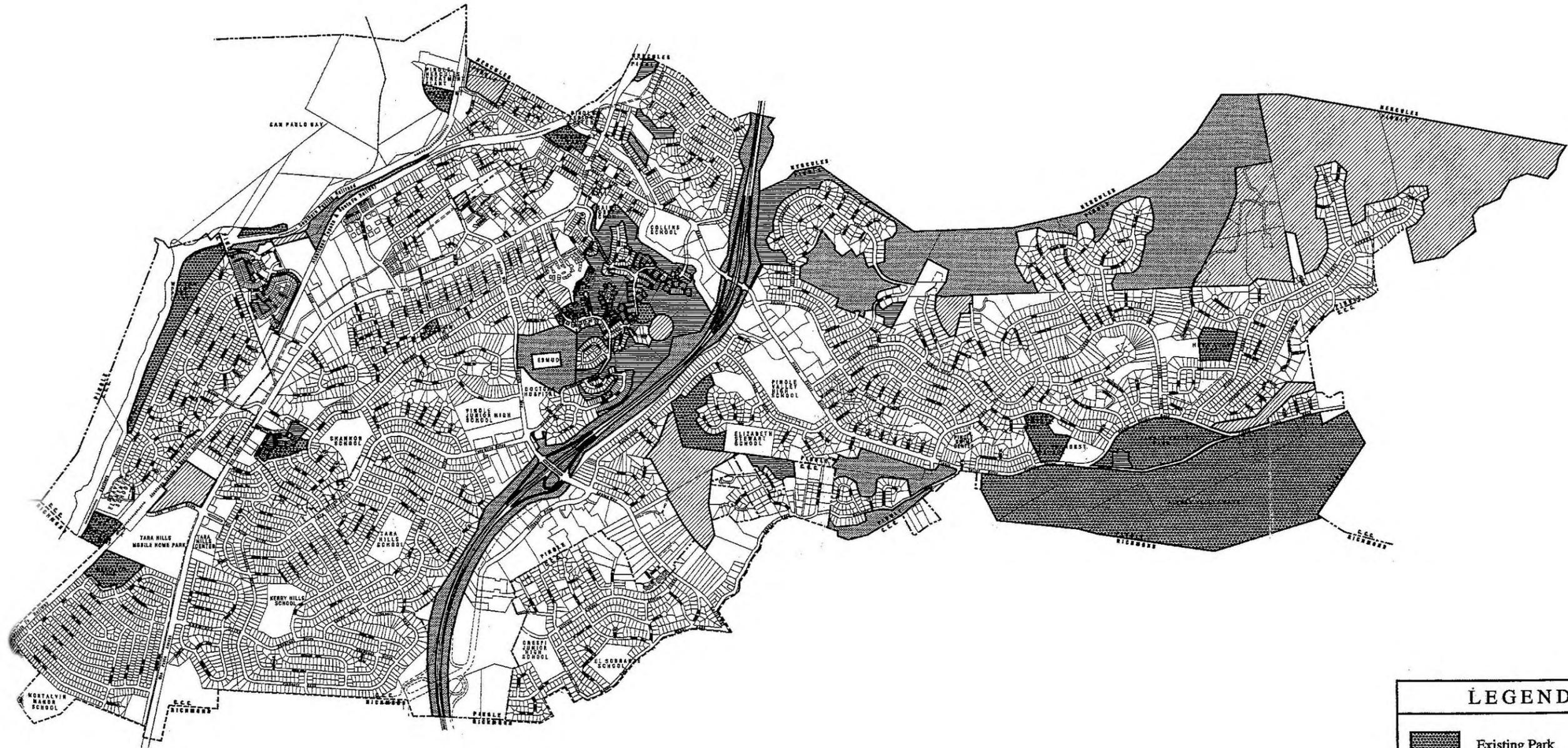
### **REGIONAL OVERVIEW**

Pinole is located in the Pinole Creek Watershed which covers approximately 15 square miles of the west Contra Costa County Briones Hills. The Briones Hills drain into San Pablo Bay north of Point Pinole. Pinole Creek runs south to north through the City of Pinole and drains into San Pablo Bay. In 1965, the U.S. Army Corps of Engineers channelized a portion of Pinole Creek from Interstate 80 to San Pablo Bay due to flooding problems. (Refer to Chapter 7, Health and Safety for more information related to flooding in Pinole.)

Contra Costa and Alameda County's open space lands and preserves system encompasses over 95,000 acres and is managed by the East Bay Regional Park District (EBRPD). EBRPD provides City residents with an array of recreational opportunities, which is complemented by City-owned and maintained neighborhood parks.

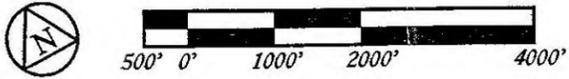
EBRPD maintains 65 regional parks, recreation areas, wilderness, shorelines, preserves and land bank areas. There are 29 regional inter-park trails and 1,150 miles of trails within EBRPD parklands. In addition to Pinole's outdoor trails, the City provides recreational facilities including parks and trails, which are discussed in Chapter 4, Community Facilities and Services, of this Background Report.

Open Space Plan



**LEGEND**

- Existing Park
- Existing Open Space (Publicly Owned)
- Existing Open Space (Privately Owned)
- Potential Open Space



## Natural Resources and Open Space Background

### STATE AND NATIONAL PERSPECTIVES ON OPEN SPACE

*Recreational lands differ from other open space lands; they tend to have greater public access and are predominantly used for recreation.*

California Government Code Section 65560(b) defines “open space land” as any parcel or area of land or water that is unimproved and devoted to an open space use. Open space land is designated on a local, regional, or state open space plan as any of the following:

- 1) Open space for the preservation of natural resources, including but not limited to areas required for the preservation of plant and animal life, including habitat for fish and wildlife species; areas required for ecological and other scientific study; rivers, streams, bays and estuaries; and coastal beaches, lakeshores, river and stream banks, and watershed lands.
- 2) Open space used for the managed production of resources, including but not limited to forestlands, rangeland, agricultural lands and areas of economic importance for the production of food and fiber; recharge areas for ground water basins; bays, estuaries, marshes, rivers and streams important for the management of commercial fisheries; and areas containing mineral deposits.
- 3) Open space for outdoor recreation, including but not limited to areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes, including access to lakeshores, beaches, and rivers and streams; and areas that serve as links between major recreation and open space reservations, including utility easements, river and stream banks, trails and scenic highway corridors.
- 4) Open space for public health and safety, including but not limited to areas that require special management or regulation because of hazardous or special conditions, such as earthquake fault zones, unstable soil areas, floodplains, watersheds, high fire risk areas, areas required for the protection of water quality and water reservoirs, and areas required for the protection and enhancement of air quality.

## Natural Resources and Open Space Background

Recreational lands are different from other open space lands; recreational lands tend to have greater availability for public access and for direct recreational uses. Recreational lands vary by size, use, and facilities.

### **REGIONAL OPEN SPACE PRESERVES**

The extensive array of regional open space lands in and adjacent to the City, combined with marsh and wetland sites along the Bay frontage, add to the availability of recreational open space in Pinole.

The East Bay Regional Park District (EBRPD) was established for the acquisition and management of open space lands in Contra Costa and Alameda Counties. EBRPD's operations are funded largely through (79 percent of District funding) an ongoing property tax and assessment district levies in two counties. These lands provide open space and community separators in the urban corridor of Contra Costa and Alameda Counties, as well as passive recreational opportunities for Pinole residents. These preserves are open to the public for hiking, horseback riding, mountain biking, picnicking, bird watching and fishing.

Wilson Point East Bay Regional Park is owned and managed by EBRPD and is located at the end of Pinole Shores Drive. The Regional Park is 64.5 acres and includes extensive walking trails, a drinking fountain and benches along the walking paths.

### **LOCAL OPEN SPACE PRESERVES**

There are several unimproved open public space areas in the City of Pinole. These preserves cover approximately 14.5 acres in the City limits (see **Table 6.1**). Active parks and recreational facilities are discussed in Chapter 4, Community Facilities and Services, of this Background Report.

## Natural Resources and Open Space Background

**TABLE 6.1  
UNIMPROVED OPEN PUBLIC SPACE AREAS IN PINOLE**

OPEN SPACE AREA	LOCATION	SIZE OF AREA (ACRES)	DESCRIPTION
Hugh Young Park	3760 Victor Street	7.92	Undeveloped open public area.
Sarah Drive Park	1850 Sarah Drive	10.22	Natural habitat for deer and wildlife; undeveloped open public area.
View Park	2021 Henry Drive	2.37	Walking trail up to reservoir; undeveloped open public area.
Henry Avenue	Henry Avenue	10.82	Undeveloped open space parcel
Pinole Valley Park	3790 Pinole Valley Road	169.75	
Pinole Valley Adobe Grove and Dog Parks	1267 Adobe Road	34.04	
<b>TOTAL AREA</b>		<b>235.12</b>	

Source: City of Pinole Recreation Department, November, 2006

*Unimproved open space in Pinole covers 235.12 acres in the City limits.*

The General Plan (1995) also identifies hillside property that has been preserved in Pinole Valley Park; the Crown Ridge Subdivision (Marsten Ranch); undeveloped land at the end of Wright Avenue. The General Plan identified Wright Avenue as a linkage that would connect Crown Ridge Subdivision (Marsten Ranch) to the EBMUD watershed open space. The General Plan also recommended identifying critical linkages and open spaces to develop a community-wide system of trails.

In addition to open space preserves, marshes and wetlands in the City enhance recreational values as open space and wildlife sanctuaries that provide important habitat for plant and wildlife. These areas include mudflats, tidal salt marshes, diked marshlands, associated uplands and freshwater marshes. As part of the San Pablo Bay wetlands system, Pinole marshes provide important habitat for many birds, as well as expand the City's recreational opportunities for passive recreational activities.

## Natural Resources and Open Space Background

Collectively, these open space areas total in excess of 235.12 acres, and when combined with open space preserves of the EBRPD, total approximately 353.5 acres.

### NATURAL RESOURCES, HABITAT TYPES AND VISUAL RESOURCES



*Annual Grasslands in Pinole*

#### OVERVIEW

On December 5, 2006, two PMC biologists performed a reconnaissance level site investigation in order to verify existing conditions, examine areas of concern, examine areas of potential dispute, and identify recent changes in habitat for special status species and wetlands. This field reconnaissance focused upon habitat areas and locations where special status species and habitats exist or may occur.

Pinole's open space is diverse and includes the San Pablo Bay shoreline, creeks and ridges. Open space provides environmental protection and conservation to numerous biotic resources.

#### HABITATS TYPES IN PINOLE

The geography and climate of Pinole have resulted in the establishment of numerous distinct habitat types, ranging from tall riparian forest and well established coast live oak-bay forest to open grassland and salt marsh. A total of 9 habitat types were identified within the site, including annual grasslands, saline emergent wetlands (salt marsh), coastal oak woodland, and coastal scrub (see **Figure 6.2**). In addition, several potential habitat types for special status species have been assessed within the site. Acreages of habitat types mapped within the City are detailed in **Table 6.2**.

*9 habitat types were identified in Pinole.*

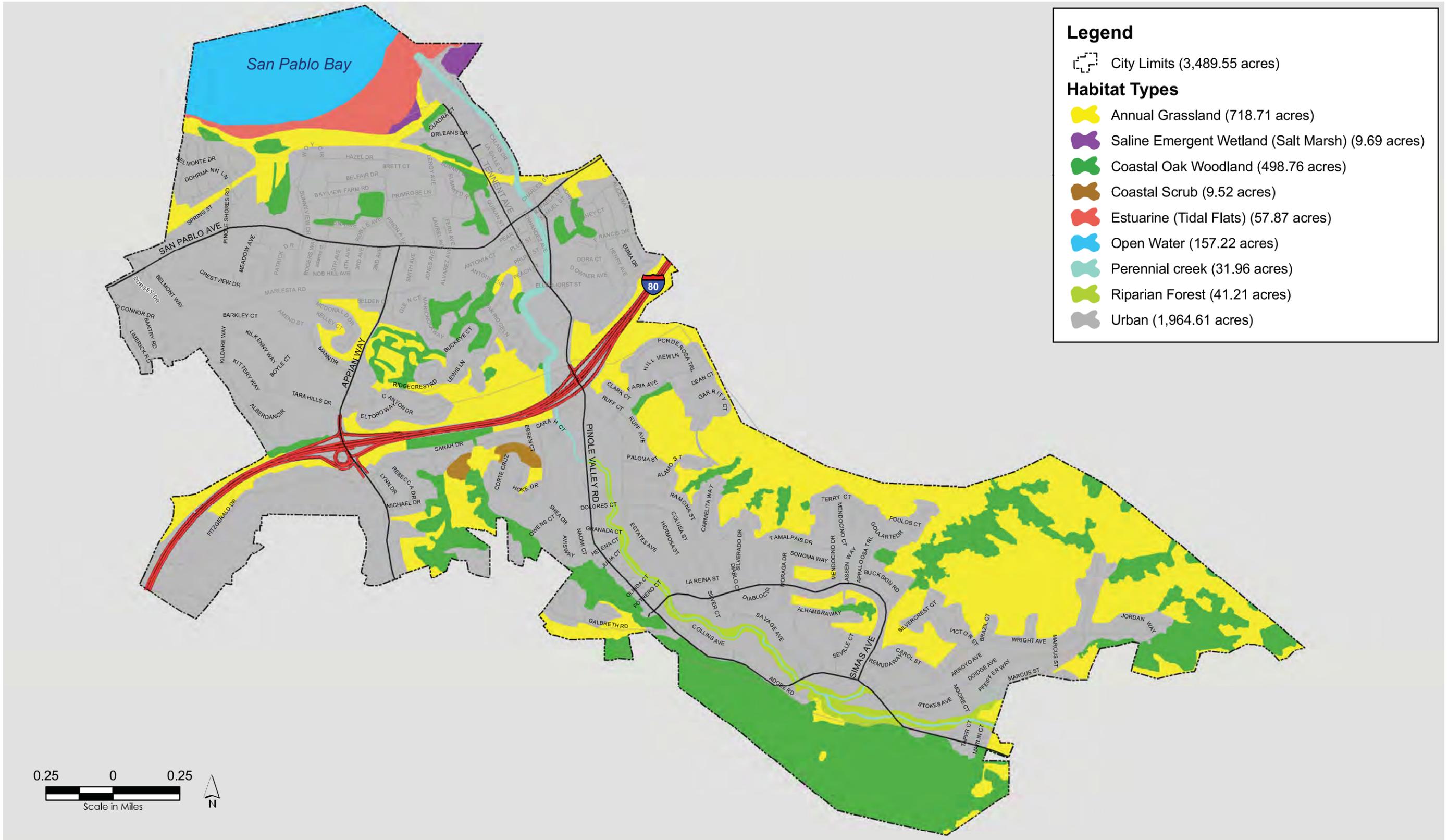
## Natural Resources and Open Space Background

**TABLE 6.2  
EXISTING HABITATS FOUND WITHIN THE CITY OF PINOLE**

<b>HABITATS MAPPED IN THE CITY OF PINOLE</b>	<b>ACREAGE OF EACH HABITAT TYPE MAPPED IN THE CITY OF PINOLE (ACRES)</b>
Annual Grassland	716.71
Saline Emergent Wetland (Salt Marsh)	9.69
Estuarine (Tidal Flats)	57.87
Riparian Forest	41.21
Coastal Scrub	9.52
Coastal Oak Woodland	498.76
Perennial Creek (Pinole Creek)	31.96
Open Water (San Pablo Bay Conservation Area)	157.22
Urban	1,964.61
<b>Total Acreage Delineated</b>	<b>3,489.55 acres</b>

Source: PMC, Baseline Biological Report, 2006

Habitat Map



## Natural Resources and Open Space Background

### CHARACTERISTICS OF OBSERVED HABITATS

#### ANNUAL GRASSLAND

Annual grassland is typical of slopes throughout the City. Annual species dominate with scattered perennial grasses and shrubs. Species include ripgut brome (*Bromus diandrus*), soft chess brome (*Bromus hordeaceus*), slender wild oats (*Avena fatua*), short-pod mustard (*Hirschfeldia incana*), storksbill (*Erodium* sp.), geranium (*Geranium* sp.), purple needlegrass (*Nassella pulchra*), coyote brush (*Baccharis pilularis*) et al.

Areas of disturbance that are re-colonized by invasive, non-native forb species are typically referred to as ruderal. In Pinole, this habitat type is found mainly along roadsides and railroad tracks. Annual grasses (*Bromus* sp, *Avena* sp, *Lolium* sp, etc) and bristly ox-tongue (*Picris echinoides*), short-pod mustard, radish (*Raphanus sativus*), oyster root (*Tragopogon dubius*), poison hemlock (*Conium maculatum*), yellow star thistle (*Centaurea solstitialis*), and Italian plumeless thistle (*Carduus pycnocephalus*) are typical of this habitat.

#### ESTUARINE (TIDAL FLATS)

Estuarine (tidal flats) are found at the saltwater/freshwater mixing zone of Pinole Creek. Pickleweed (*Salicornia virginica*), cocklebur (*Xanthium strumarium*), bristly ox-tongue, river bulrush (*Scirpus fluvatilis*), California cord grass (*Spartina foliosa*), marsh gumplant (*Grindelia stricta* var. *angustifolia*) and creeping wildrye (*Leymus triticoides*).

#### SALINE EMERGENT WETLAND (COASTAL SALT MARSH)

This habitat type is found within the San Pablo Bay Conservation Area and Bayfront Park. This 9.69 acre patch of habitat is dominated by pickleweed with salt grass (*Distichlis spicata*), marsh gumplant, dodder (*Cuscuta salina*), California cord grass and common reed (*Phragmites australis*).



The San Pablo Bayfront

## Natural Resources and Open Space Background

### COASTAL SCRUB (COYOTE BRUSH SCRUB)

Patches of coastal scrub were found on a limited number of hillsides, typically a mix of coyote brush (*Baccharis pilularis*), poison oak (*Toxicodendron diversilobum*), and toyon (*Heteromeles arbutifolia*) with California bay (*Umbellularia californica*), California buckeye (*Aesculus californica*), coast live oak (*Quercus agrifolia*), pampas grass (*Cortaderia selloana*), and blue wild rye.

### COASTAL OAK WOODLAND

This closed-canopy forest is characteristic of Pinole Valley Park and lower slopes and drainages of the surrounding hills. Coast live oak and California bay are co-dominant with an understory of toyon, poison oak, California buckeye and occasional Monterey pine and blue gum (*Eucalyptus globulus*).

### RIPARIAN FOREST

Well developed riparian forest lines Pinole Creek in the eastern half of town. Three species of willow (*Salix* spp.), California buckeye, California bay, coast live oak, valley oak (*Quercus lobata*), California sycamore (*Platanus racemosa*), Himalayan blackberry (*Rubus discolor*), and English ivy (*Hedera helix*) were commonly encountered.



*Pinole Creek in Pinole*

### PERENNIAL STREAM

Pinole Creek has four distinct habitat types within the City of Pinole: brackish marsh; urban; ruderal; and riparian forest (See below).

### OPEN WATER OF SAN PABLO BAY

The open water area of San Pablo Bay includes open water of the San Pablo Bay Conservation Area. It is located in front of the Pinole Wetland Field Station and Bayfront Park.

## Natural Resources and Open Space Background

### URBAN

This vegetation type includes typical residential and commercial landscaping materials. Lawns, shrubs, and trees of various size, density, and arrangement are found throughout Pinole.

Three additional habitats were found within the City, including, Closed-Cone Coniferous Forest, Intermittent Creeks, and Eucalyptus groves. These habitats are not mapped in **Figure 6.2** and are not listed in **Table 6.2** since these habitats are found in small, fragmented areas throughout the City. The following is a description of the three additional habitat types:

- **Closed-Cone Pine-Cypress (Closed-Cone Coniferous Forest):** Although pines are probably not native to this planning area, many pines appear to thrive here. Stands of Monterey pine (*Pinus radiata*) appear to have naturalized along the margins of the coastal oak woodland and the established neighborhoods of Pinole.
- **Intermittent Creek:** Numerous drainages were observed along the hills surrounding Pinole. These intermittent creeks are tributaries to Pinole Creek. These creeks were dry during the site visit and most contained no vegetation.
- **Eucalyptus:** Native to Australia, various species of Eucalyptus now thrive and are naturalized in California. Small groves of blue gum are scattered throughout Pinole.

**Table 6.3** contains a list of all habitats identified as suitable for special status species within 5 miles of the City. Presence and commonality of these habitats within the City was used to determine the potential presence of each special status species within the City boundary. The potential presence of each special status species is listed in the Baseline Biological Report, which is Appendix C of this Background Report.

## Natural Resources and Open Space Background

**TABLE 6.3  
ASSESSMENT OF HABITATS FOR SPECIAL STATUS SPECIES THAT  
MAY OCCUR IN THE CITY OF PINOLE**

HABITAT (WHR)	PRESENCE
Annual grassland	Yes, very common
Saline Emergent Wetland (Salt Marsh)	Yes, common along coast
Closed-Cone Pine-Cypress	Yes, uncommon
Coastal Oak Woodland	Yes, common
Coastal Scrub	Yes, uncommon
Eucalyptus	Yes, scattered in wooded & residential areas
Intermittent Creek	Yes, tributaries to Pinole Creek
Riparian forest	Yes, common east of I-80.
Riverine (Pinole Creek)	Yes, Pinole Creek
Urban	Yes, common
Estuarine (Tidal Flats)	Yes, adjacent to Bayfront Park
Fresh Emergent Wetland	Not noted
Freshwater marsh	Not noted
Northern Maritime Chaparral	Not noted
Oak savannah	Not noted
Riparian scrub	Not noted
Vernal swale	Not noted

Source: PMC, Baseline Biological Report, December, 2006

### **SPECIAL STATUS SPECIES' HABITATS AND WETLANDS IN PINOLE**

The vegetation of Pinole ranges from highly disturbed annual grassland (forb dominated) to coastal oak woodland and saline emergent wetland (salt marsh). Therefore, it is likely that the City of Pinole supports one or more of the special status species known to occur in the region.

## Natural Resources and Open Space Background

The steep slopes of the surrounding hillsides appear to be well-drained and are not likely to support wetlands or other features which would fall under the jurisdiction of the U.S. Army Corps of Engineers. The lower slopes and valley floor are largely developed and landscape does not appear to support any areas where water is ponded or where jurisdictional features may occur. Pinole Creek, which drains through the middle of the city, is a perennial creek and is likely to support wetlands or other jurisdictional features along the channel and its tributaries.

### **THREATENED AND ENDANGERED SPECIES**

The Coastal Commission determined that the San Pablo Bay watershed is home to over ten (10) threatened or endangered species. The San Pablo Bay watershed (Reference Number 18050002) is grouped in the highest category, Priority I (Impaired), by the State of California.

### **INVASIVE SPECIES**

The City of Pinole is home to several invasive species. Invasive plant species such as giant reed (*Arundo donax*), Scotch broom (*Cytisus scoparius*), yellow star thistle (*Centaurea solstitialis*), Himalayan blackberry (*Rubus discolor*) and many others are established in segments of Pinole Creek.

### **OPEN SPACE AND THE CITY'S RESPONSIBILITY**

#### **MAINTENANCE AND RESTORATION OF OPEN SPACE**

The Fire and Public Works Departments are responsible for the maintenance of open space and parks in Pinole. The Fire Department's maintenance responsibilities and costs for any City-owned open space includes fire prevention, weed control, litter and safety patrol, and cleaning of drains and culverts. The Public Works Department is responsible for the maintenance of facilities such as restrooms, playgrounds, game courts and any other open space facility. The City considers long-term expenses when priorities are set for acquiring land and developing recreational facilities.

*The San Pablo Bay watershed is home to over 10 threatened or endangered species.*

## Natural Resources and Open Space Background

City of Pinole has established the Pinole Creek Restoration Project. The purpose of the City's Pinole Creek Restoration Project is to restore high quality riparian habitat, provide additional flood protection and improve water quality in Pinole Creek. The Pinole Creek Greenway Demonstration Project is funded by the State of California Resources Agency Prop. 50, which awarded \$2.65 million in June 2006. Proposition 50 funding benefits 37 proposed river parkway projects statewide.

A study on historical Bay Area salmonid populations by the Center for Ecosystem Management and Restoration (CEMAR) identified the Pinole Creek Watershed as a good candidate for restoration. CEMAR is seeking funding to develop a steelhead restoration program for Pinole Creek.

San Pablo Bay watershed is a significant natural resource. The northern reaches of San Pablo Bay are characterized by large expanses of diked former tidal baylands and tidal baylands. The Coastal Conservancy found that within the San Pablo Bay area, there are opportunities to increase the State's wetland acreage by over five percent. Many of the threatened or endangered species in this watershed are found in this area. These listed species add special significance to the unique opportunity for restoration in this watershed. San Pablo Bay watershed has experienced increased soil erosion, stream channel degradation, loss of riparian and oak woodland habitat, and declining groundwater values. It is the general belief of researchers in the field that the ecological resources remaining in this area are declining in quantity and quality due to waterway modification, development of rural lands, and increased pollution.

### **OPEN SPACE AND ENVIRONMENTAL PROTECTION AREA ACQUISITION METHODS**

#### **IDENTIFIED LAND ACQUISITION AREAS**

The existing General Plan suggests land to preserve in the future to connect existing open space and to develop a trail system. Land near the end of Wright Avenue would connect Crown Ridge Subdivision (Marsten

## Natural Resources and Open Space Background

Ranch) open space to the EBMUD watershed open space. Examples of land that could be preserved include Pinole Creek, the San Pablo Bay shoreline, ridgelines and portions of key parcels in private ownership subject to development pressure. The General Plan (1995) advises that many private parcels that could provide valuable connections between large parcels of open space are currently undeveloped. Once key areas have been identified and prioritized, specific steps toward implementation should be developed. These may include regulations, dedication, or acquisition. Priority decisions must consider the City's ability to operate and maintain additional facilities.

The General Plan (1995) states that trail systems could be developed to and along Pinole and Sobrante ridges. In order to develop a community-wide trail system, the General Plan recommends that critical linkages and pieces of open space should be identified, and priorities set for protecting, acquiring or regulating them. This is still a potential project and direction for the City's trail systems.

### **ACQUISITION METHODS**

The City of Pinole uses different types of open space and environmental protection area acquisition methods. The General Plan (1995) identifies various methods of land acquisition. The type of acquisition that is appropriate for a given parcel depends on the location, physical characteristics, designation and intended use of the land. The General Plan makes the following suggestions for different reasons to preserve a parcel:

## Natural Resources and Open Space Background

- To protect visual amenity - a scenic easement is a sufficient method.
- To avoid hazards - an open space designation and/or adopting a ridge protection ordinance would be the best method.
- To preserve habitat – an open space designation must be maintained.

Open space areas that provide for recreational uses generally require more than a designation or granting of an easement. The General Plan (1995) recognizes that fee ownership by the City may not be necessary in the future. The existing Plan makes the following suggestions for future park development:

- A neighborhood park for a new development could be set aside as a dedication to a neighborhood association, who could then maintain it.
- Play areas can be developed in cooperation with schools.
- Regional acquisitions could provide connections in regional trail corridors, such as the EBRPD parcel near Wilson Point.
- Access easements could provide passageways to “landlocked” parcels.

The General Plan (1995) highlighted a major challenge to open space acquisition: creating large contiguous areas that contain a variety of habitat types. The General Plan (1995) identified maintaining and following existing open space designations as a first step in creating a contiguous area of open space. When dedications are made as part of new development, the land dedications can be designed early in the development process as a part of the City’s overall open space system. School parks could also be selected and designed to provide vital links in this system. The City could also purchase key connecting parcels where other acquisition methods are not available.

## Natural Resources and Open Space Background

### OPEN SPACE INTERESTED PARTIES AND PLANS

Friends of the Pinole Creek Watershed is a community organization dedicated to protecting and enhancing Pinole Creek and its watershed and to improving the health of San Pablo Bay. The mission of Friends of Pinole Creek Watershed is to assure the return of Pinole Creek to a natural riparian environment that can sustain native riparian wildlife including anadromous fish, waterfowl and migratory bird species.

Pinole Creek Watershed Vision Plan is the result of a local community-based effort funded by the California Coastal Conservancy. The Plan includes a restoration concept for the lower channel. Several agencies participated in the planning process including: the Urban Creeks Council of California, Friends of Pinole Creek Watershed, the City of Pinole Redevelopment Agency, and the Contra Costa County Flood Control and Water Conservation District.



*View from ridgelines in Pinole.*

### OTHER RESOURCES

#### VISUAL RESOURCES

The diverse open space system in Pinole contributes to the community's unique visual qualities. The City's San Pablo Bay shoreline, creeks (particularly Pinole Creek), ridgelines and other areas, as well as the historic qualities of Old Town, are focal points recognizable from many locations in the City. **Figure 6.3** identifies the visual resources in the City of Pinole.

#### SOIL

The U.S. Department of Agriculture (2006) identifies 23 mapped soils series units within the City boundary. Contra Costa County has only conducted a general soil survey to the series level, so all soil types within the Planning Area are described according to the most recent information for the County. Soil series descriptions are from the U.S.

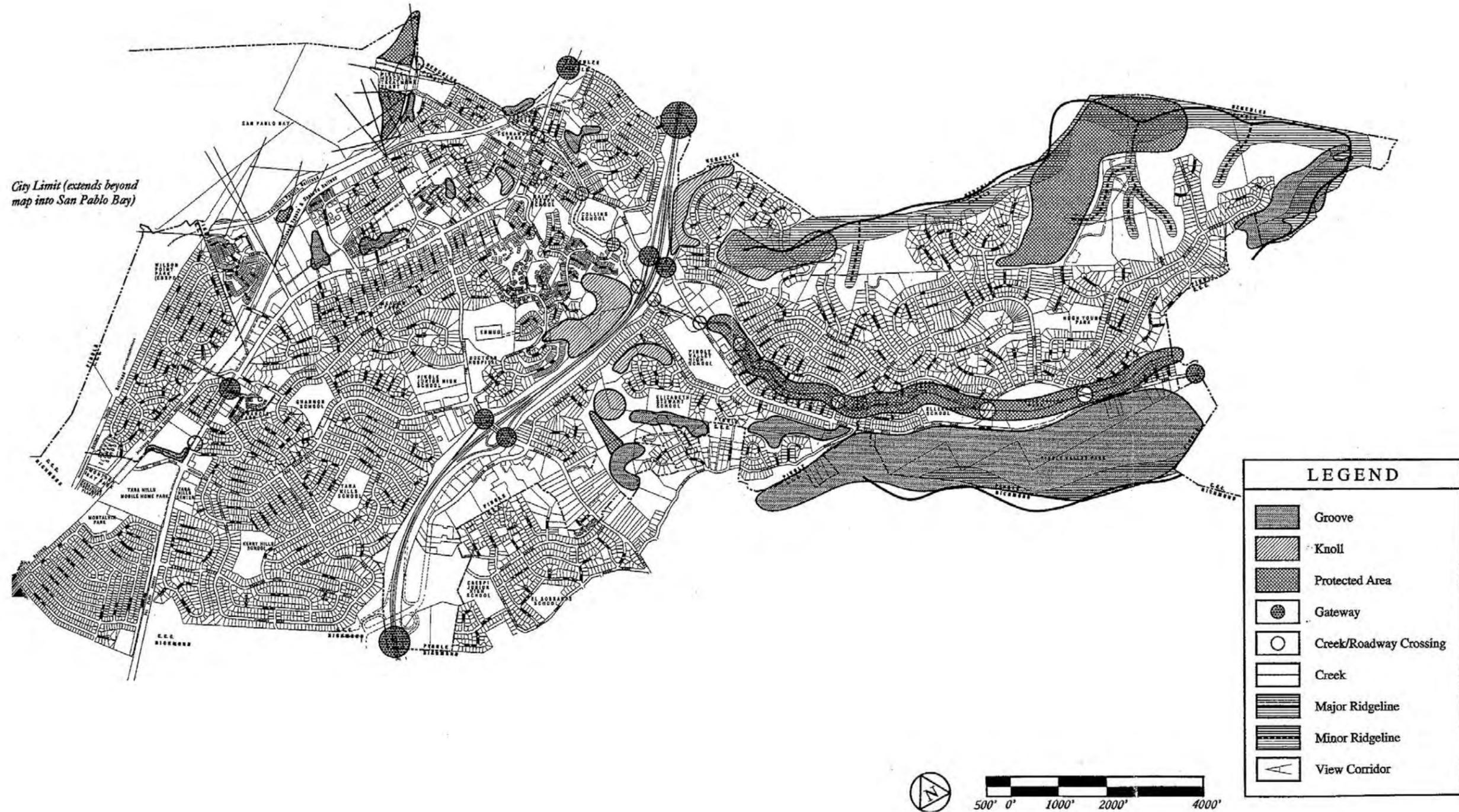
## Natural Resources and Open Space Background

Department of Agriculture (2006) and are provided in the Geology Report. A soils map of the Planning Area is presented as **Figure 6.4**.

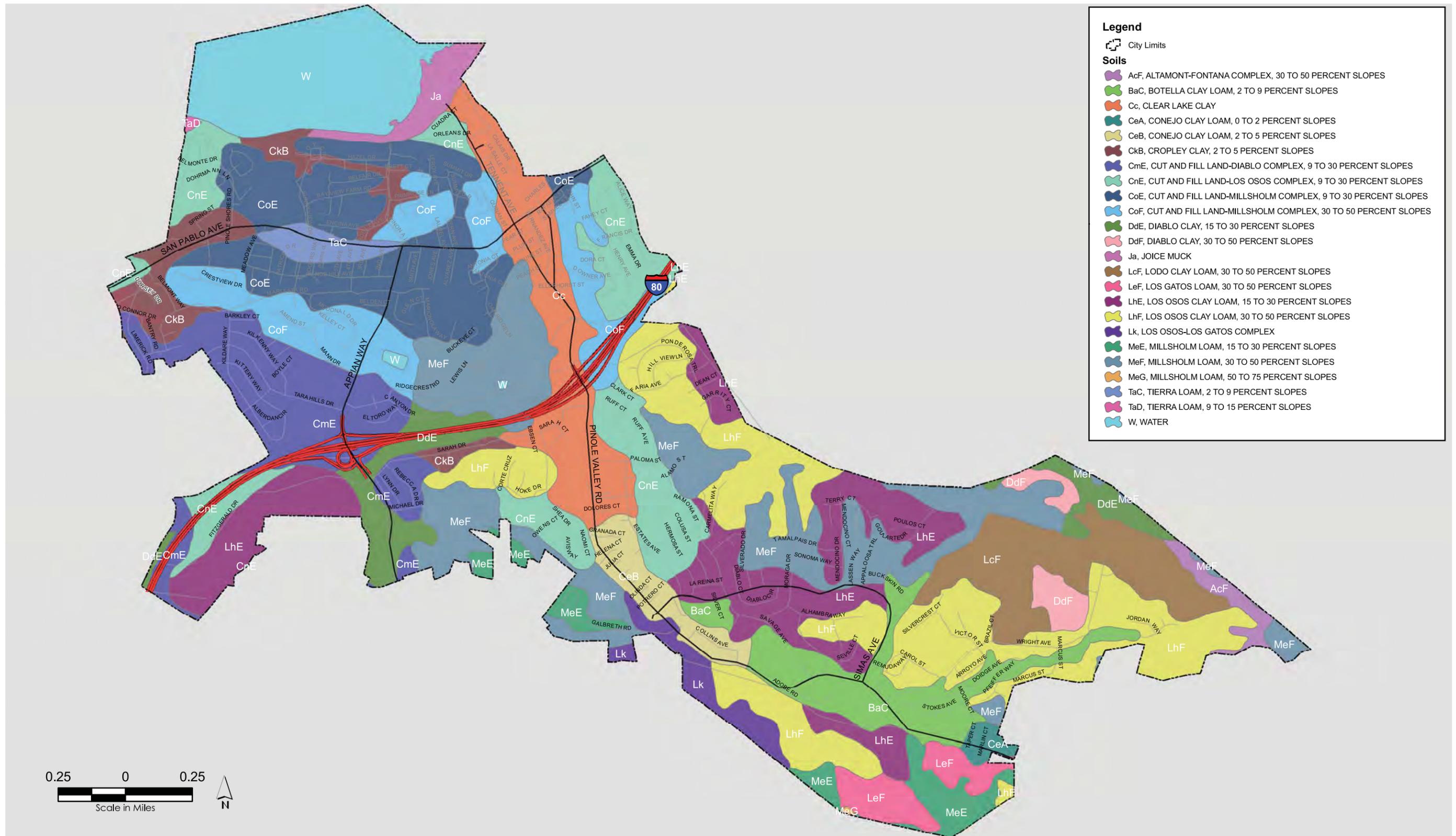
### **WATER QUALITY**

An integral part of the Pinole Creek Watershed, Pinole Creek is a natural resource that extends through Pinole. In 2002, Contra Costa County initiated a macro-invertebrate sampling program to assess water quality in Pinole Creek. The results from the first year of sampling have been compiled. Overall, the sampling found that segments of Pinole Creek owned by EBMUD had the best water quality while the samples taken in the upper and lower watersheds were of lower quality.

The City of Pinole's Clean Water Program provides school assemblies on water quality for Kindergarten through sixth grades. Pinole Community Television airs clean water programming including Public Service Announcements (PSAs). The Kids Creek Fest is an annual event sponsored by the Friends of the Pinole Creek Watershed and funded through City of Pinole Redevelopment Agency funds in the Community Group Funding Program. The event attracts 800 to 1,000 attendees and pays 75 volunteers. Attendees and participants learn about and clean up the Pinole Creek.



Soils Map



## Natural Resources and Open Space Background

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