

Master Plan *for the* **White Point Nature Preserve**



Prepared for the
City of Los Angeles
Department of Recreation and Parks
by the
Palos Verdes Peninsula Land Conservancy
in cooperation with the
White Point Nature Preserve Steering
Committee
August 27, 2001



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Introduction

Situated amid the densely populated, culturally diverse community of San Pedro, the White Point Nature Preserve offers a pleasant repose from urban sprawl. The gentle slopes and terraces that rise above scenic ocean bluffs boast over 100



acres of open space suitable for coastal sage scrub and native grassland restoration. This area, known as White Point, holds a colorful past that in many ways mirrors the dramatic history of California. Traces of its past have left their mark on the land and beckon a new beginning. To the people of the surrounding neighborhoods and the entire Pacific Region, this Preserve fills a critical need to protect the declining urban wilderness and to provide passive recreation and educational opportunities for all to enjoy.

The White Point Nature Preserve will not only provide natural parkland for broad regional use, but it will also fulfill an important ecological need. The Preserve's location and geological features make it particularly well suited for critical habitat restoration for threatened and endangered species such as the Palos Verdes Blue Butterfly, the California Gnatcatcher and the Cactus Wren. It's location along the Pacific Ocean bluffs at the southerly base of the Palos Verdes hills will extend and provide connectivity to existing wildlife corridors and support other on-going habitat restoration efforts of the emerging Natural Communities Conservation Program along the coast.



The ecological, cultural and passive recreational opportunities that the White Point Nature Preserve has to offer the community are profound. This Master Plan will describe the vision to preserve and enhance this special and unique resource.

Background

The 102 acre White Point property was transferred to the City of Los Angeles in 1978, by means of a quit claim deed from the Secretary of the Interior for “perpetual use as and for public park and recreation purposes.” Extensive study, research, and community input regarding the best use of the property culminated in June, 1999 with the recommendation of the White Point Park Citizen Advisory Committee that the park be used for coastal open space retention, habitat restoration, passive recreation and historical preservation.



The Board of Recreation and Park Commissioners of the City of Los Angeles adopted the White Point Citizen Advisory Committee’s proposal in December of 1999. The park was formally dedicated as Nature Preserve on May 6, 2000 by the City of Los Angeles Department of Recreation and Parks and Councilman Rudy Svorinich, Jr., 15th Council District. To begin implementation of this proposal, the Department of Recreation and Parks entered into a three-year operating agreement with the Palos Verdes Peninsula Land Conservancy (PVPLC), a local nonprofit organization. Under this agreement, the PVPLC was given responsibil-

ity to manage the development of a community based Master Plan for the White Point Nature Preserve and, subsequent to the adoption of this plan, to begin implementing the restoration program it sets forth.

In November, 2000, the White Point Steering Committee approved the ***Preliminary Framework Plan for the White Point Nature Preserve*** upon which this Master Plan is based. The Preliminary Framework Plan was widely distributed to the City of Los Angeles Recreation and Parks Department, State regulatory agencies and the general public. It was also made available in its entirety on the Palos Verdes Peninsula Land Conservancy’s web site for over six months, beginning in January 2001. During this time, the White Point Steering Committee held regularly scheduled and noticed public meetings to further refine and discuss issues pertaining to the development of the Master Plan for the preserve. The City of Los Angeles Recreation and Parks Department, through contract with the environmental consulting firm of Jones & Stokes, issued its ***Notice of Preparation and Initial Study for the Preparation of an Environmental Impact Report for the White Point Nature Preserve Framework Plan***, on April 13, 2001. The ***Draft Environmental Impact Report for the White Point Park Nature Preserve*** was prepared and circulated for public review from June 28, 2001 to August 13, 2001.

Palos Verdes Peninsula Land Conservancy

The Palos Verdes Peninsula Land Conservancy is a nonprofit, public-benefit corporation dedicated to preserving undeveloped land in perpetuity as open space for historical, educational, ecological, recreational and scenic purposes. It is particularly well qualified to conduct habitat restoration and native plant propagation, and to encourage and maintain passive recreational and educational activities on the site. The Conservancy currently manages and is restoring habitat to over 50 acres of Peninsula open space and has recently implemented reintroduction of the Palos Verdes Blue Butterfly, an endangered species found only at one location on the Peninsula, on the Conservancy's Chandler Preserve. The Conservancy also provides on-site naturalists and interpretive and educational programming for nature centers and school districts in neighboring cities.

The Conservancy's management team consists of a project manager dedicated full time to the White Point Nature Preserve, as well as on-staff expertise in land stewardship, natural science education, volunteer management and grant development. The Conservancy contracts for professional consultant services to perform the biological studies and baseline reports required for developing restoration plans for its projects.

For a detailed overview of the Palos Verdes Peninsula Land Conservancy's up to date and on going activities, services and accomplishments, refer to the Conservancy Web Site at www.pvplc.org.

White Point Nature Preserve Steering Committee



In an effort to insure community involvement in the planning process, the White Point Nature Preserve Steering Committee was created in May of 2000. The committee, officially appointed by Councilman Svorinich, Council District 15 and the City of Los Angeles Department of Recreation and Parks, consists of thirteen volunteers from the community. The volunteer members represent a broad cross-section of the community and includes representatives from the Palisades Residents Association, South Shores Homeowners Association, Point Fermin Residents Association, Friends of White

Point, White Point Citizen Advisory Committee, South Bay Chapter of the Audubon Society, the Sierra Club-South Bay Angeles Chapter, and World War II veterans. The Steering Committee is chaired by the PVPLC's White Point project manager.

In addition to community members, there are non-voting members holding offi-

cial or advisory roles to the Steering Committee. These members include the Deputy to 15th District Councilman Svorinich and representatives from the City of Los Angeles Department of Recreation and Parks, the Los Angeles Air Force Base and the Palos Verdes Peninsula Land Conservancy.

The Steering Committee holds regularly scheduled meetings which are open the public and conform to Brown Act requirements. The Steering Committee, under the management and direction of the PVPLC, has been charged with the responsibility to develop a Master Plan for the White Point Nature Preserve. This report represents the Steering Committee's preliminary findings that support the general framework that will guide the Master Plan. It is expected that final Master Plan development will be complete in the following six months.

Planning Process

The purpose of the planning process is to develop a specific management plan for the site that will meet established goals and objectives. The development of a site- and use-specific management plan will allow the various uses of the property to be integrated and will provide the opportunity to minimize any adverse impacts of these uses on the ecological, cultural, historical and scenic resources of the site.



The Conservancy, with experience in open space land stewardship and native habitat restoration, will oversee Master Plan development for the White Point Nature Preserve. The Conservancy will work closely with the City of Los Angeles and the community-based Steering Committee to develop specific goals, recommendations for land use improvements, and management guidelines for the Nature Preserve. Coordination among these entities will be regular and ongoing.

The Master Plan will include the Restoration Plan for the site that identifies areas to be restored/revegetated and provides details on public access, educational, and recreational opportunities and trail management. Also incorporated within the Master Plan will be recommendations for interpreting the ecological, historical and cultural significance of the site. The plan will also address management issues and responsibilities outside the scope of the PVPLC's proposal.

Implementation of the Master Plan will not begin until final approval has been given by the City of Los Angeles and the Board of Directors of the PVPLC and a determination to proceed has been granted following Environmental Impact Report findings.

About the Preserve

Site Description

The White Point Nature Preserve is located within the community of San Pedro in the City of Los Angeles. The site consists of 102 acres that are delineated by Western Avenue to the west, Paseo del Mar to the south, Weymouth Avenue to the east and the Los Angeles Air Force Base housing to the north. In the southwest corner

of the property there is an approximately 1/4 acre parcel which belongs to the City Sanitation District of Los Angeles County and is used as a sanitary pump station.



The property lies in the coastal zone directly adjacent to the Los Angeles County Royal Palms Beach Park. The Royal Palms Beach Park encompasses White Point's ocean bluffs, rocky seashore and tide pools. This county park has visitor facilities that include a parking lot, restrooms, play ground, interpretive panels, picnic tables and benches. The Los Angeles Harbor and San Pedro Bay lie about two miles south of White Point.

The property consists of a low marine terrace parallel to the coastline, a second smaller marine terrace in the northwest portion of the property and steep slopes on the north side that are incised with narrow draws. The elevation varies from about 125 feet above sea level along Paseo del Mar, to approximately 360 feet above sea level along the northerly border. The site

offers spectacular ocean views of the rugged coastline and Santa Catalina Island. Open fields, dominated by non-native, annual grassland cover the majority of the site. It is estimated that as much as 90 % of the site's open fields are suitable for native plant restoration.



Paved roadways provide access to several abandoned military structures and foundations that remain above and below ground on the site. In addition, close to Paseo del Mar on the western portion of the property is the former location of the Ramon Sepulveda homestead or guesthouse. Although an overgrown mound is all that in-

dicates the location of these buildings, there are some plantings, dominated by a grove of Phoenix palms that frame this local historic site.

History

As with other parts of the Los Angeles Basin, the White Point area may have been sporadically used by early people. A records search was conducted at the South Central Coastal Information Center of California State University Fullerton. The records search indicated that many studies have been conducted within the project area, and that there are five recorded archeological sites located within the White Point Preserve. All five of the sites were tested for National Register of Historic Places eligibility in 1986, and four of them were recommended to be eligible for NRHP. One site was excavated as part of a data recovery study in 1989. (Jones & Stokes, 2001)

When the Spanish explorers arrived in force on the San Pedro coast about 1770, they encountered gathering camps of peaceful native people. These people became later known as the Gabrielino, named after the San Gabriel Mission. Like the prehistoric culture before them, the Gabrielino were a hunter/gather group who lived in small sedentary groups of 50 to 100 people. Their subsistence relied heavily on plant foods, but they supplemented this with a variety of meat, especially from marine resources. With the Spanish colonization of southern California at the end of the 18th century, this native culture disappeared. (Fink, 1987)

White Point became part of California's first private land concession when a Spanish soldier named Juan Jose Dominguez received 75,000 acres in recognition for his service to the Crown. This land grant was named Rancho San Pedro. In 1827, well over a third of this land grant had come under the control of the enterprising Jose Dolores Sepulveda, and the Rancho de los Palos Verdes was born. What is now White Point was part

of the newly formed Rancho and became part of the Sepulveda's cattle ranch operation. The 1860's brought hard times to the Rancho de los Palos Verdes, as flood and drought ravaged the cattle and crops. (Fink, 1987)

Between the turn of century and the beginning of WWII, the area was home to a Japanese community of abalone fisherman and farmers. In 1899, Japanese immigrants leased beachfront property at White Point from Ramon Sepulveda with the intention of establishing an abalone fishery at the location. By 1903, they had earned enough to invest in canning equip-

ment and established a plant at the fishery. In addition to abalone, they harvested lobster, octopus, red crab, sea urchins and sea snails. After the closure of the fishery, White Point became a Japanese farming community and a seaside resort locale. In 1917, a group of Japanese investors constructed a seaside resort



centered around a natural sulfur spring at the foot of the cliffs. The resort was completed in 1925 and consisted of a 2-story hotel and restaurant, three salt water plunges, an enclosed boating area and a bathhouse. However, in 1933, an earthquake closed off the sulfur spring and along with the depressed economic conditions, the resort was forced to close in the late 1930's.



Following the bombing of Pearl Harbor in 1941, the Japanese farmers at White Point were forced to leave. Federal agents raided the farming community on February 7, 1942 and in April of that same year, the Japanese families living at White Point were moved to internment camps. (Jones & Stokes, 2001)

During WWII, White Point was taken by the federal government and incorporated into the Coastal Defense system of Fort MacArthur. The battery installations installed at White Point, housing two, 16-inch guns, was completed and operational

in 1943. It was deactivated in September 1945, and most of the armament was sold for scrap metal in 1946.

After WWII, Fort MacArthur served as a training base. In the 1950's changing technology and changing threats led to defense strategies that concentrated on protection against long-range strategic bombers with nuclear armament, rather than battleships. In 1954, numerous Nike missile bases were planned throughout Southern California, and Fort MacArthur became an anti-aircraft missile site. The Nike facility at White Point was completed and occupied by 1955. By 1974, the Nike missile sites had become obsolete and were shut down.

In 1978 the Secretary of the Interior of the United States of America transferred 102 acres of the White Point U.S. Naval Reservation to the City of Los Angeles to be used as public park and recreational area. The park has remained closed to the public since this transfer.

Existing Conditions

A variety of on site investigations and surveys have been conducted on the White Point site over the past five years. In 1996, the IT Corporation conducted an exhaustive environmental investigation for the U. S. Air Force Installation Restoration Program (IRP) for the Los Angeles Air Force Base. Further investigation for the ongoing IRP was performed by Woodward-Clyde and culminated with the "No Further Response Action Planned, Category III Decision Document" of April 1998. These environmental investigations also included surveys of the geological, hydrological, surface water, climate and biological status of the site.

A study to determine the existing condition of the former military structures remaining on the site was performed for the City of Los Angeles in 1999 by the structural engineering firm of Melvyn Green and Associates, Inc. The intent of this historic structures report was to determine the architectural integrity and historical significance of the existing WW II and Nike Missile Era buildings which remain at White Point.

In June, 2001, at the request of the City of Los Angeles Department of Recreation and Parks, the firm of Jones and Stokes submitted a Draft Environmental Impact Report for the White Point Park Nature Preserve that provides more detailed coverage and analysis of the significance of historical and paleontological resources on the site. A Paleontological Survey of the site was prepared for Jones & Stokes by Dr. John Minch and is included in the Draft Environmental Impact Report. In addition, as part of the EIR process, a Traffic Impact Analysis was prepared by Linscott, Law and Greenspan, Engineers to evaluate potential traffic impacts of the proposed White Point Nature Preserve on Paseo Del Mar and the area circulation system.

Further studies were performed on the site in 2000 by Angelika Brinkmann-Busi, land management consultant to the Palos Verdes Peninsula Land Conservancy. The surveys conducted for the Palos Verdes Peninsula Land Conservancy concentrated on the mapping of existing vegetation and potential conflict areas with the proposed use for habitat restoration and passive recreational use.

This Master Plan refers to and relies in part on the findings of all the aforementioned studies with particular emphasis on the vegetation surveys and revegetation plans conducted most recently by Angelika Brinkman-Busi.

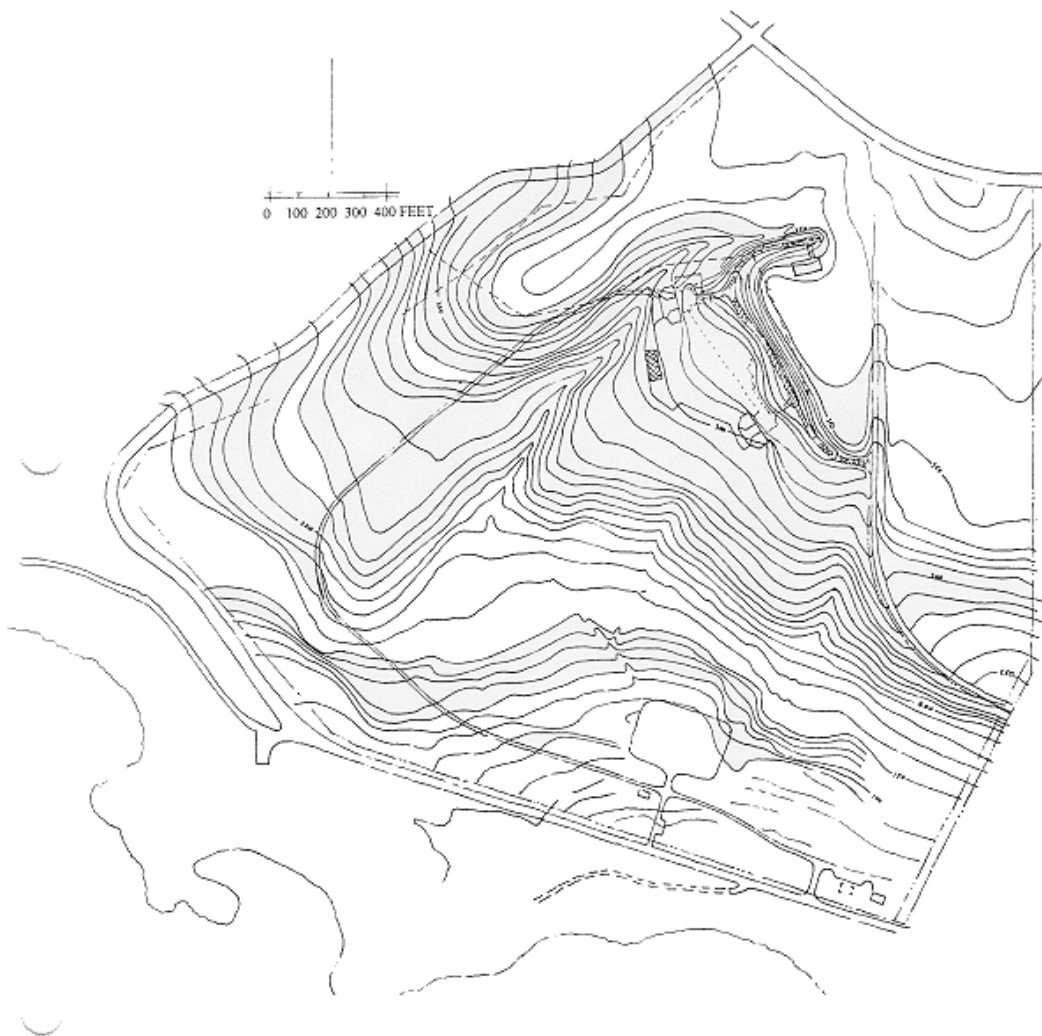
Geology

The White Point Preserve is located in the Palos Verdes Hills, an uplifted fault along the southwestern edge of the Los Angeles Basin. This Palos Verdes uplift includes predominantly northwest-southeast trending folds and faults, including the Palos Verdes Fault (considered to be active) approximately four miles northeast of the site. Strata observed at the White Point site show obvious indications of near surface deformation (folding). Lithology within the White Point site consists predominantly of shale with siltstone and sandstone of the Monterey Formation overlain by shallow marine deposits. (Woodward-Clyde, 1998)

During uplift of the Peninsula and with changes in sea level, marine (abrasion) terrace platforms were eroded into the flanks of the hills. The marine Miocene Altamira Shale member of the Monterey Formation constitutes the exposed bedrock over most of the Peninsula. The geologic units encountered at the White Point site include terrace deposits, non-engineered fill, alluvial fan detritus, landslide debris, and the Altamira Shale or bedrock. (Woodward-Clyde, 1998)

No faults were identified at the site (Converse Consultants, 1984). Earlier investigation by Engineering Geology Consultants, Inc. (EGCI) in December 1974 indicated no faults, but did note shear zones associated with the folding of the

WHITE POINT PARK NATURE PRESERVE SITE TOPOGRAPHY



Source: CEES Blackhawk Geosciences Division

sedimentary units. The EGCI report indicates bedding beneath the southeastern corner of the site may dip toward the exposed sea cliffs, creating a potentially unstable area. The determination of bedding is based on exposed outcrops along the sea cliffs. (Woodward-Clyde, 1998)

Hydrogeology

The Monterey Formation that underlies the entire site is largely impervious and considered to have the characteristics of an aquitard; although localized sandstone units within the formation may contain connate waters whose salinity ranges from about half that of ocean water to that of ocean water. From investigations and research performed by Woodward-Clyde (1998) there were no industrial or potable water supply wells completed in the Monterey Formation on the Palos Verdes Peninsula, and there are no known operating water supply wells within 2 miles of White Point. (Woodward-Clyde, 1998)

No groundwater in the vicinity of the site is used as a drinking water supply. The nearest ground water source used for potable supply is the Silverado Aquifer located in the Los Angeles Basin located approximately three miles north of the site. The Silverado Aquifer does not exist at this site and is geologically isolated from the geologic units underlying the site by the Palos Verdes Fault. (Woodward-Clyde, 1998)

Surface Water

Surface water at White Point drains from north to south, primarily as sheet flow, and is directed by road gradient to the Pacific Ocean. Storm water collected above White Point in the Air Force housing area is directed along a concrete channel to a 60 inch concrete lined storm water system just west of the former WWII bunker that empties directly in to the ocean at White Point beach. Because of the vegetation on the slopes and terraces, it is likely that little storm water exits the site during typical Southern California winter storms. Based on observations, the canyon in the mid-west section of White Point probably contains significant water flow (sufficient for collection of samples) only during prolonged major winter storms. Other than the canyon, there is no well developed drainage system at White Point. Surface water transport is by sheet flow over most of the site (Woodward-Clyde, 1998)

Climate

The White Point site lies within the South Coast Air Basin. The climate of the basin is classified as Mediterranean, characterized by a pattern of cool, wet winters and warm, dry summers. Typical dry summers are caused by a semi-permanent high-pressure cell located over the eastern Pacific Ocean. This system generally blocks storms from moving into the basin during the summer months. Average monthly temperature ranges from a low of 55.2 degrees Fahrenheit in

January to a high of 73.9 degrees Fahrenheit in August. The average annual temperature is 63.8 degrees Fahrenheit. Rainfall averages 11.5 inches per year, with most rain occurring during the winter months (November through February). (Woodward-Clyde, 1998)

Vegetation

White Point is a highly disturbed parcel of land comprised of large open field areas with limited road access to several buildings, foundations and underground structures.



All vegetation habitats have been exposed to varying degrees of anthropogenic disturbances. Prior to these man-made alterations to the area, the land was most likely composed of coastal sage scrub (CSS), coastal bluff scrub and native grassland plant communities. At present, the native habitat has been replaced almost completely by annual non-native grassland and disturbed ruderal vegetation with planted ornamental trees scattered throughout the site. Remnants of coastal sage scrub vegetation can be found on the site in the form of small patches of sage scrub

shrubs and individual CSS plants. (Brinkmann-Busi, 2000)

The botanical surveys for the vegetation map were implemented in early May 2000. Follow-up checks allowed the inclusion of additional plant species that flower later in the year. The distribution and assemblage of existing plant communities as described in the Vegetation Map are identified as:



- Non-native annual grassland
- Disturbed ruderal vegetation
- Coastal sage scrub, remnant patches
- Invasive non-native vegetation
- Ornamental shrubs and trees
- Riparian Elements
- Native plantings

The predominant vegetation occurring at White Point is annual grassland dominated by non-native annual grasses such as wild oats (*Avena fatua*, *A. barbata*),

ripgut grass (*Bromus diandrus*), barleys (*Hordeum leporinum* and *Hordeum*



vulgare), and false brome (*Brachypodium distachyon*) as well as mustards (*Braassica nigra* and *Hirschfeldia incana*.) Occasionally, the native succulent lupine (*Lupinus succulentus*), cliff aster (*Malacothrix saxatilis*), narrowleaved milkweed (*Asclepias fascicularis*), and in one area linda tarde (*Gaura coccinea*) can be found within the annual grassland community.



Adjacent to the old roads and buildings, especially in the southern part of the property, the density of non-native herbaceous species among the annual grasses justified the separation of disturbed, ruderal vegetation. Among the dominant invasive, non-native, herbaceous plants of this unit are mallows (*Malva sylvestris*, *M. nicaensis*, *M.*), ox-tongue (*Piecris echinoides*), sow thistle (*Sonchus asper*, *S. oleraceus*), garland daisy (*Chrysanthemum coronarium*) and sweet clover (*Melilotus indicus*, *M. albus*). Also, the occasional dense carpets of kikuyu grass (*Pennisetum*

clandestinum) were included in this disturbed community.

White Point has only very small remnants of coastal sage scrub (CSS), dominated by either California bush sunflower (*Encelia californica*) or golden bush (*Isocoma menziesii*). The most diverse patch, located in the upper northeastern draw, consists of California sagebrush (*Artemisia californica*), California bush



sunflower (*Encelia californica*), prickly pear cactus (*Opuntia littoralis*), and bladder pod (*Isomeris arborea*). Another small patch of prickly pear cactus (belonging to a non-native specie) and California sagebrush occurs adjacent to the former homestead site of Ramon Sepulveda. A few individual lemonade berry shrubs (*Rhus integrifolia*) occur along the less exposed slopes on the north side of the bunker.

Additional native plants associated with CSS occur outside the fence along the slope to Western Avenue. They include native grasses (*Nassella lepida*, *Melica imperfecta*, *Leymus condensatus*), as

well as annual coastal lotus (*Lotus salsuginosus*).

Among the most invasive non-native herbs of White Point are fennel, garland daisy, mustards, giant reed and ice plant. White Point Park has several, fortunately still relatively small, patches of perennial ice plant species (mostly

Carpobrotus edulis, *C. chilensis*) and of giant reed (*Arundo donax*.) The occurrences of invasive species are partly indicated on the map depicting the existing plant communities.

The influence of introduced landscape specimens from the adjacent residential development is clearly evident. Among the ornamental species planted below the houses on the northwest side are pride of Madeira (*Echium fatsuosum*), sea lavender (*Limonium perezii*) and gazania (*Gazania species*), all three of which readily re-seed and are potentially invasive. In one corner, pampas grass (*Cortaderia species*), a highly invasive species, was established.

The ornamental shrubs and trees of the property are partly remnants from early landscaping, but also include naturalized species. While the most common trees are palms (*Washingtonia robusta*, *Phoenix dactylifera*), there are also Brazilian pepper trees (*Schinus terebinthifolius*), Cuban locust (*Ceasalpinia spinosa*), sycamore (*Platanus racemosa*), Natal plum (*Carissa macrocarpa*), olives (*Olea europea*), myoporum (*Myoporum laetum*), acacias (*Acacia species*), agave species, and others. Brazilian pepper, myoporum and acacia can be invasive. In addition species like Washingtonia, Phoenix palms, Cuban locust and olives easily naturalize.

While there are no perennial surface bodies of water at White Point Park, the draws concentrate seasonal rainfall and support more dense vegetation in their flood aprons. Several clusters of the highly invasive, giant reed (*Arundo donax*), a wetland obligate, occur along the base of the slopes. Two California sycamores (*Platanus racemosa*), a native riparian species, occur in an unsuitable location near Paseo del Mar; they are presumably plantings rather than natural occurrences.

During the 1999-2000 rainy season, an approximately 40' x 30' area near the intersection of Paseo Del Mar and Weymouth was planted by community members, in cooperation with the Palos Verdes Peninsula Land Conservancy. The specimens planted were Coastal Sage Scrub plants, propagated from local plant sources. The dominant species are California bush sunflower (*Encelia californica*) and California sage brush (*Artemisia californica*). Other locally native species planted are California aster (*Lessingia filiginifolia*), California fuchsia (*Epilobium canum*), bladder pod (*Isomeris arborea*) and bush monkeyflower (*Mimulus aurantiacus/longiflorus*). (Brinkmann-Busi, 2000)

Wildlife

Because of the disturbed nature of the native vegetation at White Point, the site provides habitat for only the most common wildlife species that are associated with, or tolerant of, urbanized conditions and human activity. No candidate, rare, threatened, endangered or other special status species of animals have been observed at White Point. A survey of wildlife conducted in the White Point area concluded that the quality of wildlife habitat is low except for the presence of trees and shrubs that provide some perching, nesting, and roosting areas for birds.

Due to the lack of native vegetation and natural terrestrial habitats on-site, the area was found to contain the typical residential-type wildlife assemblage (lizard, gopher, snake, fox, skunk, mouse, opossum) and a variety of bird species (gulls, kestrels, doves, hummingbirds, crows, starlings, sparrows, finches, etc.) (Woodward-Clyde, 1998). Among the birds observed during the most recent surveys were red-winged blackbirds (spring migration), kestrels and a red-tailed hawk with a snake in its talons. There have been anecdotal reports (Heindel, M., 2000) that burrowing owls and meadow larks once nested at White Point. (Brinkman-Busi, 2000)

Jonathan Atwood et al (1994, 1995, 1996, 1998) studied California gnatcatchers and cactus wrens on the Palos Verdes Peninsula, which supports a population of approximately 50 pairs of gnatcatchers. The California gnatcatcher (*Poliophtila californica*) is a bird species that is federally listed as threatened. Surveys conducted by the Manomet Observatory for Conservation Sciences (Jonathan Atwood et al. 1994, 1995a, 1995b, 1996, 1998) show the closest populations of this bird to White Point on the southeast-facing slope of Shoreline Park and in the Switchbacks area of Rancho Palos Verdes.

These same sites also are home to the closest populations of the coastal cactus wren (*Campylorhynchus brunneicapillus*), which has been designated a species of special concern by the CDFG. These birds live in southern cactus scrub and in scrub communities, in which *Opuntia species* are an important component. The slopes of Shoreline Park are approximately 1.1 miles from White Point, and the Switchbacks area is 1.3 miles distant. Habitat restoration at White Point Park will enhance the potential for dispersal of gnatcatchers and cactus wrens into the area. (Brinkmann-Busi, 2000)

Park Infrastructure

At present, the White Point Preserve's perimeter is totally enclosed by an 8 foot high, chain link fence on the south, east and west borders and by newly installed fencing on the northern border. Major portions of the chain link fence are in poor, dilapidated condition with several gaps and holes that have been caused by vandalism and in some cases severe rusting due to the marine environment.

There are three main entrances to the park accessed by gates and paved roadways entering the site off Paseo del Mar. Asphalt roadways, which remain in fair condition, provide access to abandoned military structures in the interior of the site and extend up the grade along the western end of the site to the WWII Bunkers at the top of the hill.

An historic structures report prepared for the White Point site was performed by Melyvn Green and Associates, Inc. in 1999. This report examined and provides a detailed description of each of the former military structures that remain on the site, including the WWII artillery battery and related underground bunkers on the top of the hill. While entrances to these bunkers have been secured, evidence of vandalism and graffiti is apparent. The bunkers are covered with soil

and vegetation so that only its two concrete passage entrances are clearly visible.

In the lower portion of the property, several structures and foundations, which were associated with the Nike Missile program, remain. Recognizable still are



three larger buildings (warhead building, missile assembly building and ready room), the Nike Launch Pad and underground weapons magazine area, and several small guard post buildings. Scattered around the property are several concrete foundations and remnants of metal fence posts. All of these structures are in disrepair and show visible signs of vandalism. Except for the underground Nike launch facility and Battery Paul D. Bunker, the existing buildings are not secured and may pose an attractive nuisance and public safety hazard in their present condition of disrepair. In August 2000, the State His-

toric Resources Commission designated the Battery Paul D. Bunker and Nike missile facility as a state historic district. Further analysis of the significance of the historic district is discussed in the Draft Environmental Report of 2001.

Utility service to the site includes water, sewer and electrical lines along Paseo del Mar. Currently, a two-inch water line is connected to a serviceable backflow meter just west of the proposed main entry to the park. Fire suppression hydrants are located along the perimeter of the property on Paseo del Mar, Western and Weymouth Avenue.

Environmental Status

A thorough environmental investigation for the Nike Missile Site was completed in 1996 by the IT Corporation for the U.S. Air Force Installation Restoration Program (IRP). Further investigation for the ongoing IRP was performed by Woodward-Clyde which culminated in the "No further Response Action Planned, Category III Decision Document" of April 1998. For detailed discussion of the environmental investigation and findings, please refer to these documents. Seven monitoring wells remain on the site.

Vision for White Point Nature Preserve

The Preserve's Role In The Community

The White Point Nature Preserve fills a critical need for urban parkland within the City of Los Angeles, which currently has less than one acre of parkland per 1000 people. The vision of a living, working natural landscape that will serve the recreational and educational needs of the region is a true inspiration for the new millennium.



Restoration efforts at the preserve will not only enhance its ecological value, but will also provide nurturing open space to all residents of urban neighborhoods in the region. Interpretive exhibits and educational programming will enhance the community's appreciation of the scenic, cultural and historical significance of the site.

The uniqueness of White Point's resources, and its proximity to Los Angeles City schools and the Cabrillo Marine Aquarium, provides a meaningful foundation to encourage scientific study and volunteerism among youth. Restoration work will provide employment opportunities for at-risk youth through the utilization of services provided by the Los Angeles Conservation Corps.



In addition to providing natural parkland for broad regional use, the preserve will also serve as a community focal point, encouraging involvement by local residents. In fact, the community has already become actively involved in the stewardship of the nature preserve, coming together to organize monthly clean-up days, which regularly attract over 100 volunteers. The community has also been successful in receiving two grants from the Neighborhood Matching Fund for site beautification. These volunteer efforts have brought the community together in support of natural open space preservation and encourage a sense of ownership

and proper stewardship of public property.

The management of the preserve by the Palos Verdes Peninsula Land Conservancy will demonstrate the effectiveness of public and private partnerships and

further encourage public involvement and participation.

The proposed project is also consistent with the Natural Community Conservation Program (NCCP). The NCCP was initiated by the California Department of Fish and Game in order to streamline and coordinate development and preservation of habitat, especially coastal sage scrub and related plant communities. The program is established by the Natural Conservation Planning Act of 1991 (Fish and Game Code Section 2800.)

The intent of this program is to encourage cooperation among landowners and developers, conservationists and regulatory agencies to protect long-term viable populations of California's native plants and animals in their natural habitats and in landscape units which are large enough to ensure their continued existence. The NCCP Planning Agreement identifies six target species for the Rancho Palos Verdes planning area: California gnatcatcher, cactus wren, San Diego horned lizard, Palos Verdes blue butterfly, El Segundo blue butterfly and a plant, the bright-green dudleya or live forever.

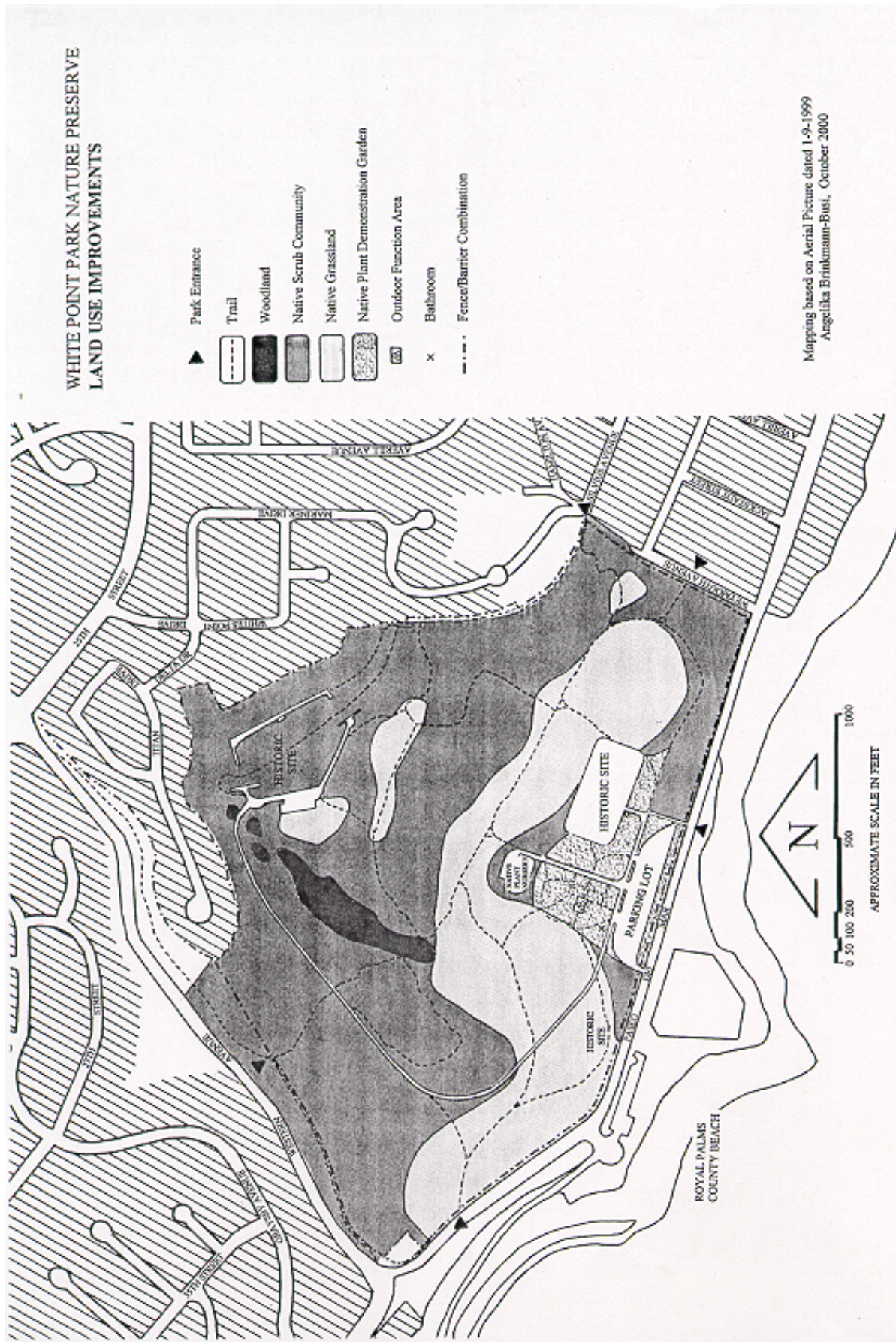
Conservation Easement

Habitat restoration is an investment in the future. The success of any habitat restoration program is not fully realized until the vegetation becomes self-sustaining and is able to support viable biological systems. This ecological transformation can take many years, and for this investment to have lasting effects on the environment, it must be protected in perpetuity. One of the best ways to protect this investment is through a conservation easement. Because such a large portion of the White Point Nature Preserve will be dedicated to habitat restoration, the lasting protection a conservation easement would provide is advisable.

The establishment of a conservation easement, held by a qualified conservation organization, would allow the City of Los Angeles to retain title to the property while ensuring that the habitat values are protected in perpetuity. The certainty that such a legal device would allow is an essential component to attracting funding for the project. In the case of many granting agencies and foundations, perpetual protection of the habitat values is a minimum requirement for consideration. The establishment of a conservation easement on the property is not only good policy, it is an essential component of long-term management and financing of the restoration components of the project.

Land Use Improvements

The White Point Nature Preserve provides the City of Los Angeles with a unique opportunity to create park usage that acknowledges the value of its natural resources and topography. The planned land use improvements promote sustainability and integrity of the natural areas while providing for a mix of compatible passive recreation uses. Please refer to the Land Use Improvements Map for a visual orientation of these improvements.



Planned Land Use Improvements

Land use improvements planned for White Point Park include:

- Providing improvements to make the preserve safe and accessible to the public.
- Installing safety and security features where appropriate.
- Constructing improved park entrance, signage and trailhead orientation.
- Removing non-functional asphalt surfaces (recycle as asphalt grindings for use as surface material in the parking lot) and improve existing roadways.
- Providing safe, ADA compliant, off-street parking for visitors and buses.
- Providing new perimeter fencing to replace old, deteriorated fencing.
- Developing new trail linkages and improve existing trails and footpaths.
- Providing trailside benches and viewing areas.
- Providing casual, picnic areas utilizing natural seating arrangements
- Improving a portion of the interpretive trails to be ADA accessible.
- Constructing restroom facility and drinking fountain for visitor use.
- Providing self-guided interpretive trails.
- Creating a native plant demonstration garden with interpretive signage.
- Providing interpretive and educational programming reflecting the scenic, ecological, cultural and historical resources of the site.
- Removing non-native vegetation.
- Providing native habitat restoration and revegetation over 90 acres of the preserve.
- Providing temporary and semi-permanent irrigation system.
- Providing a temporary, on-site, native plant nursery and maintenance yard.
- Providing trash receptacles and recycle bins and initiate trash removal service.
- Establishing on-going maintenance and monitoring program at the preserve.

Permitted and Non-Permitted Uses

Permitted Uses

- Casual, walk-on visitors
- Runners, hikers
- Volunteer activities
- Casual picnics in designated areas
- Dogs on-leash
- Nature observation/photography/plein-aire painting
- Self-guided nature and historical tours
- Naturalist-led nature and historical tours
- School group tours
- Interpretive exhibits and programming
- Summer programs for youth
- Other passive recreation activities found to be compatible to park goals.

Non-Permitted Uses

- Off-road vehicles
- Bicycling off roads
- Overnight camping
- Paintball combat
- Barbecues or campfires
- Disc golf
- Fenced in dog park
- Sports fields or organized sports activities
- Other activities not compatible with park goals
- Unlawful activities such as: alcohol use, graffiti, littering, loitering after park closure, dogs off leash, vandalism to park property

Goals for the Preserve

The goals for the White Point Nature Preserve were developed to provide a strong foundation upon which to base land use decisions. The goals serve as the foundation for the proposed recommendations and policies that are described in this Master Plan. Thoughtful implementation of the goals will provide purpose and meaning to the plan and provide guidance in planning park improvements and programs.

Goal # 1

Provide safe and accessible natural parkland for broad regional use and enjoyment.

Goal # 2

Create passive recreational and educational opportunities that will inspire visitor appreciation of the scenic value and ecological, cultural and historical significance of the preserve.

Goal # 3

Enhance the ecological value of the preserve through the restoration of native habitat and plant communities.

Site Objectives and Policies

Goal 1. Provide safe and accessible natural parkland for broad regional use and enjoyment.

Objective 1.1 The existing, deteriorated chain link fencing (8 ft high) around the perimeter of the preserve shall be removed and replaced with an alternative fencing system which shall serve to prevent vehicular access to the interior of the Preserve, while allowing for several convenient pedestrian access points.

Policy 1.1.1 In order to protect the scenic aspects of the preserve, perimeter fencing shall not exceed 3 feet in height.

Policy 1.1.2 The fencing system shall be constructed of economic and durable material that is marine resistant and will require minimum maintenance.

Policy 1.1.3 The design of the fencing system shall be compatible with the scenic, cultural and historical aspects of the surrounding community.

Policy 1.1.4 Where possible, the fencing system shall be made of natural materials that blend well with the surrounding environment.

Policy 1.1.5 The fencing system shall provide adequate barrier to prevent vehicular access to the interior of the preserve, except as allowed for through gates to existing access roads intended to provide controlled access for emergency and service vehicles and to accommodate handicap access to the bunkers at the top of the hill.

Policy 1.1.6 The fencing system shall allow for several, convenient and safe pedestrian access points around the perimeter of the preserve.

Objective 1.2 An off-street parking area shall be constructed at the preserve, along Paseo Del Mar, to provide improved multi-modal public access to the preserve that will allow for safe, ADA compliant accessibility by car, bus, specialized transit, or bicycle.

Policy 1.2.1 In order to protect the scenic, coastal views and provide a more aesthetically pleasing interface with the surrounding community, the parking area shall be set back from Paseo Del Mar by a green space buffer zone to be landscaped with native vegetation.

Policy 1.2.2 The parking area shall be open to the public, without fee, during regular park hours.

Policy 1.2.3 The parking area shall be accessed from Paseo Del Mar through the main inbound only entry gate, and vehicles shall exit the parking area via a one-way only spiked exit.

Policy 1.2.4 The material used to surface the parking area shall be of a permeable nature (such as of gravel, decomposed granite and/or asphalt grindings).

Policy 1.2.5 The parking area shall accommodate 63 cars, 3 disabled access spaces, and an area to park up to three buses for safe loading and unloading of school children. The parking area shall be designed to sufficiently accommodate a possible, additional 33 spaces to accommodate needs in the future.

Policy 1.2.6 The parking area shall include bicycle parking racks.

Policy 1.2.7 The parking area shall be designed to provide convenient and safe access linkage to the preserve's trail system, interpretive areas, restrooms and other visitor amenities.

Objective 1.3 A trail system shall be established and maintained to provide accessible pathways for the public to experience, first-hand, the preserve's natural resources, interpretive areas, cultural and historical sites and scenic vistas.

Policy 1.3.1 The proposed trail system shall provide approximately 3.5 miles of pedestrian access routes throughout the interior of the preserve, of which approximately 1/3 will be made ADA accessible.

Policy 1.3.2 A portion of the trails shall be maintained to ADA standards to provide accessibility from the parking area to historic sites, the Native Plant Demonstration Garden, the restroom facilities and visitor orientation/interpretive area, outdoor function area and a representative sample of the habitat restoration area.

Policy 1.3.3 Remaining trails should be developed and maintained as footpaths, with their adjacent habitat in mind and in accordance with the habitat management plan to minimize impact to restored vegetation or wildlife.

Policy 1.3.4 Footpaths shall be maintained in a natural manner with no mowing along the edges.

Policy 1.3.5 The design of the trail system shall encourage loop options to minimize back tracking in order to reduce the number of people seen on the trail and to minimize trail wear.

Policy 1.3.6 New trails shall be linked with existing trails to create more loop options and provide more convenient access thereby discouraging "off-trail" use.

Policy 1.3.7 Measures shall be taken to reduce impacts of erosion when planning and maintaining trails within the preserve.

Policy 1.3.8 Benches shall be installed at convenient resting spots and in locations that provide scenic viewing opportunities along the trail system.

Policy 1.3.9 Trails planned to provide access to the cultural and historical ar-

areas of the preserve shall be designed with environmental sensitivity, pursuant to archeologist recommendation, so as not to adversely impact these resources.

Objective 1.4 A site maintenance plan shall be developed for the preserve to properly maintain the physical grounds and safe upkeep of the park's facilities for public use.

Policy 1.4.1 The Department of Recreation and Parks will outline the specific park maintenance duties to be performed on a regular basis and shall incorporate them into the Department's maintenance responsibilities.

Policy 1.4.2 The Department of Recreation and Parks shall provide the appropriate staff to provide site maintenance services as required at the Preserve, not including the habitat restoration areas.

Policy 1.4.3 The Palos Verdes Peninsula Land Conservancy shall provide the necessary staff to properly maintain the irrigation and upkeep of the habitat restoration areas of the preserve.

Policy 1.4.4 Any buildings or historical structures remaining at the preserve shall be periodically evaluated and maintained by the Department of Recreation and Parks to meet public safety standards.

Policy 1.4.5 The Department of Recreation and Parks shall ensure that required brush clearance is performed at the site to meet fuel modification requirements.

Objective 1.5 The preserve shall be open to the public without fee, from dawn to dusk.

Policy 1.5.1 The gate to the parking lot shall be opened at a set time in the morning and closed at a set time in the evening.

Policy 1.5.2 The park shall be monitored periodically for security by the Park Rangers and, in emergency situations, by the Los Angeles Police Department and City of Los Angeles Fire Department.

Objective 1.6 The PVPLC shall insure that the entrance to the preserve is clearly marked and that additional entryway and trailhead signage orients the visitor to the park and makes their experience at the preserve pleasant, informed and safe.

Policy 1.6.1 Park entryway signage shall be installed by the PVPLC so that it is clearly visible by traffic traveling both Northbound and Southbound along Paseo Del Mar.

Policy 1.6.2 The entryway signage shall identify the site as the "White Point Nature Preserve".

Policy 1.6.3 Visitor orientation signage shall describe park rules, hours of operation, disabled access information, and inform the public of the partnership between the City of Los Angeles and the Palos Verdes Peninsula Land Conservancy and other public funding agencies' participation in the project.

Policy 1.6.4 A trailhead orientation map and/or interpretive panel shall be located near the outdoor function area or on the restroom building to orient the visitor as to their location in the park and show how to access the trail system and the scenic, historic/educational areas of the preserve.

Policy 1.6.5 The design of all park signage shall be reviewed by the White Point Steering Committee and the Department to assure that it meets standards set forth for durability, aesthetic/scenic value, consistency with preserve goals and objectives, content and purpose.

Objective 1.7 The preserve shall be managed through a creative partnership between the City of Los Angeles, Recreation and Parks Department and the Palos Verdes Peninsula Land Conservancy.

Policy 1.7.1 The management partnership shall be defined by the operation agreement between the two entities and further refined by a site management plan to be developed and agreed upon by the partners. Coordination between the partners shall be regular and on-going.

Policy 1.7.2 The PVPLC shall develop and implement procedures to properly manage, maintain and monitor the 90 acres of habitat restoration planned for the preserve.

Policy 1.7.3 The PVPLC shall provide volunteer training and volunteer services management and promote volunteer opportunities and community involvement at the preserve.

Policy 1.7.4 The PVPLC shall provide management of the interpretive and educational programming at the preserve.

Policy 1.7.5 The City of Los Angeles Department of Recreation and Parks shall provide management of the general maintenance and securing of the buildings and parking facilities at the preserve.

Policy 1.7.6 In order to ensure community involvement and participation in the management of the preserve, the White Point Steering Committee shall be given the opportunity to review, comment and make recommendations regarding the management operations at the preserve.

Goal # 2. *Create passive recreational and educational opportunities that will inspire visitor appreciation of the scenic value and ecological, cultural and historical significance of the preserve.*

Objective 2.1 The trail system shall provide passive recreation opportunities for all age groups to enjoy.

Policy 2.1.1 Visitors may utilize the trail system for activities such as hiking, wildlife viewing, nature photography, bird watching, nature study, enjoying the scenic views and other, compatible passive recreational uses.

Policy 2.1.2 The trail system shall include short, easy walking trails that wind through the demonstration gardens and historical areas, and longer, more vigorous trails that wind up the hills and through the habitat areas to meet the needs of different age and interest groups.

Policy 2.1.3 The trail system shall include benches and scenic/wildlife viewing areas that provide vistas of ecological areas, cultural/historic sites, the Pacific Ocean, Santa Catalina Island and whale migration.

Objective 2.2 The preserve shall include a self-guided interpretive program making the park experience more meaningful to visitors through the interpretation of the preserve's ecological and historic resources in a manner that sparks the visitor's interest and involvement while retaining the natural, scenic value of the preserve.

Policy 2.2.1 The design and content of the self-guided interpretation program shall be sensitive to the scenic and natural environment of the Preserve and encourage good stewardship and respect for the site among park visitors.

Policy 2.2.2 Interpretive panels shall be confined to designated interpretive areas such as the demonstration gardens, the visitor orientation/restroom area, and at the historic sites to retain the natural, scenic value of the preserve.

Policy 2.2.3 Along the trails, a system of unobtrusive trail markers shall be used as a low impact, highly versatile approach to self-guided interpretation. These markers shall be tied to a variety of interpretive brochures, geared to different age, language, disability and interest levels, meeting the needs of a diverse community.

Policy 2.2.4 The design of all interpretive signage shall be reviewed by the White Point Steering Committee and the Department to assure that it meets the standards set forth for durability, aesthetic/scenic value, consistency with preserve goals and objectives, content and purpose.

Objective 2.3 A Native Plant Demonstration Garden shall serve as an interpretive exhibit area for close-up study of native plants found in the preserve and the habitat restoration and water conservation techniques being implemented at the preserve.

Policy 2.3.1 The demonstration garden shall provide groupings of specimen native plants as they may be found naturally dispersed in the various micro-habitats that exist within Coastal Sage Scrub and native grassland communities.

Policy 2.3.2 Plant identification labeling and information panels shall interpret the native plants within the exhibit areas and describe the habitat restoration and irrigation techniques being implemented at the preserve.

Objective 2.4 Naturalist led interpretive programs shall be developed to communicate the significance of the historical, cultural, ecological and scenic resources of the White Point site.

Policy 2.4.1 The content of the interpretive programs shall be focused on the ecological, historical and cultural resources specifically related to the White Point site.

Policy 2.4.2 Interpretive programs shall be developed to meet the needs and knowledge level of different age and interest groups. Efforts shall be made to offer a variety of programs at convenient times to encourage attendance.

Policy 2.4.5 The goals and objectives of the preserve's interpretive programs for school-age groups and field trips shall be correlated with the State of California Education Content Standards in Science and Social Studies.

Objective 2.5 The preserve shall provide educational opportunities, in an outdoor classroom setting, in the areas of biology, botany, geology, ecology, natural history and environmental studies.

Policy 2.5.1 The PVPLC shall offer its field-tested, third grade curriculum, "My Nature Handbook" to local schools in the vicinity of the preserve.

Policy 2.5.2 The PVPLC's education department shall develop other educational programs specifically related to White Point's resources.

Policy 2.5.3 In addition to providing an outdoor classroom experience for grade school students, opportunities for scientific study and observation shall be encouraged at the high school, college and graduate level as well.

Policy 2.5.4 The on-going habitat restoration and monitoring program at the preserve shall provide research opportunities and encourage volunteerism among youth.

Objective 2.6 The facility improvements at the preserve shall provide the visitor services necessary to safely accommodate the physical needs of school groups and the general public.

Policy 2.6.1 An ADA-compliant restroom facility shall be installed at the preserve to accommodate the needs of school groups, programs and tours and the general public visiting the preserve.

Policy 2.6.2 Water fountains and trash bins shall be located near the restroom facility for convenient visitor access and use.

Policy 2.6.3 A low profile, natural seating arrangement (similar to an amphitheater) shall be installed around the outdoor function area to provide group seating for education programs or casual picnicking.

Policy 2.6.4 Benches and scenic viewing areas shall be installed along the trail system to provide rest stops and areas to collect groups during educational or interpretive programs or site tours. Care shall be taken to locate several of these rest area benches in areas that provide shade from the sun.

Goal # 3. Enhance the ecological value of the preserve through the restoration of native habitat and plant communities.

Objective 3.1 Habitat restoration priorities shall emphasize site appropriate native plant communities that provide habitat for native species, especially those that are considered to be rare, sensitive and/or threatened.

Policy 3.1.1 The PVPLC restoration biologist shall determine, as set forth and approved in the Master Plan, the native plant communities to be restored at the preserve.

Policy 3.1.2 Enhancing the existing, remnant native coastal sage scrub patches shall serve as the primary focus of the restoration efforts, thereby enhancing the goal of obtaining mixed-age class structure and faunal diversity.

Policy 3.1.3 The habitat restoration program shall strive to recreate native plant communities that are not only self-sustaining, but that will also function as ecologically viable habitat for native wildlife, once re-established.

Objective 3.2 Site preparation methods for the habitat restoration areas shall follow established, and field-tested PVPLC procedures and practices.

Policy 3.2.1 The techniques used to prepare the site prior to restoration shall be determined by the restoration biologist and shall be consistent with accepted PVPLC restoration practices.

Policy 3.2.2 Exotic weed eradication procedures shall be regularly monitored for their success and repeated or modified as necessary to control competition with the native vegetation. These procedures shall be determined by the restoration biologist along with the pest control advisor, and may include hand weeding, mowing and removal of non-native vegetation, and approved herbicide applications.

Policy 3.2.3 The removal of highly invasive perennial species such as giant reed, fennel, castor bean and iceplant shall have first priority.

Policy 3.2.4 Special care shall be taken to prevent soil disturbance during site preparation that may encourage soil erosion and germination of the invasive, non-native seed bank in the soil.

Objective 3.3 Whenever possible, native plants used in the habitat restoration program shall be propagated from locally collected seed and/or plant sources to maintain endemic genetic characteristics.

Policy 3.3.1 An on-site, native plant nursery managed by the PVPLC shall provide the propagation and care of the native plant stock necessary for the habitat restoration program.

Policy 3.3.2 Records shall be kept of the source of all seed and plant material used in the restoration program.

Objective 3.4 Seeding and planting procedures for the habitat restoration program shall be determined by the restoration biologist, as set forth in the Master Plan,. The PVPLC stewardship director shall oversee all restoration efforts to insure that the recommended procedures are being implemented at the site.

Policy 3.4.1 The planting procedures for the Coastal Sage Scrub habitat areas shall be determined by the PVPLC restoration biologist in accordance with the restoration plan as set forth in the Master plan.

Policy 3.4.2 The primary method for establishing shrub cover in the Coastal Sage scrub areas shall be through container planting of local CSS species, the native grassland areas may be primarily restored through seeding practices.

Policy 3.4.3 The seed mix for the restoration program shall generally consist of the basic shrubs, such as California sagebrush, California bush-sunflower, purple sage, goldenbush, and ashy-leafed buckwheat, with commercially grown annuals, such as succulent lupine, mixed in prescribed proportions. On slopes with erosion risk, and in native grassland habitat areas, commercially grown, annual grass seed shall be included in the mix with the proportion increasing on steeper slopes, to provide systematic ground coverage as

recommended by the restoration biologist.

Policy 3.4.4 Seeded areas shall be supplemented with container plants propagated from local plant sources

Policy 3.4.5 To take advantage of natural precipitation, seeding and planting for the habitat restoration program shall be done in the late fall to winter, following the first rainfall of at least 0.5", preferably in soil that is still moist. When this is not possible, newly installed plants shall be deep watered to reduce the severity of root shock from transplanting.

Policy 3.4.6 The area around newly planted shrubs shall be regularly weeded or mowed to prevent competition from non-native species until the native plants are well established and can out compete the weedy species.

Policy 3.4.7 Once the dominant shrubs are well established, the restoration areas shall be supplemented and replenished with a variety of native perennials and annuals associated with coastal sage scrub to increase diversity of the plant community.

Objective 3.5 Temporary irrigation of the restoration areas shall be implemented as necessary to stimulate plant germination and healthy growth and to supplement natural precipitation during drought conditions until the native plants are well established and competing successfully.

Policy 3.5.1 The irrigation system shall be designed in a manner which promotes water resources conservation management.

Policy 3.5.2 Irrigation in the habitat restoration areas shall be of a temporary, above-ground nature and may consist of drip lines or low-flow overhead sprinklers.

Policy 3.5.3 Typically irrigation shall be required for one to two years, during the planting season in late Fall and Winter and extend for a period of three to four months. The stewardship director shall monitor the conditions specific to each site before recommending length and duration of irrigation requirements for each restoration area.

Policy 3.5.4 A more permanent irrigation system may be required in the parking area landscape and native plant buffer zone, the native plant demonstration garden and the Riparian-Woodland area.

Policy 3.5.6 A separately controlled irrigation system shall be required in the native plant nursery.

Objective 3.6 The PVPLC shall conduct regular habitat maintenance procedures in restoration areas to ensure the successful establishment of native plant coverage. The goal of the maintenance program shall be to establish habitat that will become self-sustaining and eventually require only minimal on-going maintenance.

Policy 3.6.1 Maintenance of restoration areas shall consist of regular weed control measures, maintenance of the irrigation system, and other special maintenance tasks as necessary.

Policy 3.6.2 The PVPLC shall encourage, provide training and coordinate volunteer efforts, such as an “adopt-an-acre program,” in the maintenance management of the habitat areas.

Policy 3.6.3 The PVPLC shall develop and manage a maintenance plan for the restoration areas that conforms to the requirements of the fuel modification program.

Policy 3.6.4 The Department of Recreation and Parks shall implement the required brush clearance program as necessary to meet fuel modification requirements of the Los Angeles Fire Department.

Objective 3.7 The PVPLC shall conduct a minimum of five years of habitat monitoring in the restoration areas in order to determine the status of each of the individual restoration polygons relative to the success criteria established by the Department of Fish and Game and the PVPLC restoration biologist.

Policy 3.7.1 Standard line point-intercept transects of 50-meter lengths each shall be established on site. All transects shall run annually and quantitative estimates of species frequency, species cover and height shall be reported on.

Policy 3.7.2 Systematic records shall be kept to document restoration and revegetation plots, seeding and planting dates, number of plants and species planted, species composition, vegetation structure and origin of plant material.

Policy 3.7.3 A plant inventory of the preserve shall be updated annually to document increased diversity of natives.

Policy 3.7.4 An arbitrary number of reference points shall be established for photographic documentation, with no less than 20 photo points established on site. Photos shall be taken from the same vantage points in the same direction at least once a year to document revegetation activities.

Policy 3.7.5 The PVPLC shall provide annual monitoring reports to the Department of Fish and Game for each restoration area for a period of five years.

Public Access - Visitor Accommodations

Accessibility

The White Point Nature Preserve can easily be accessed from adjacent communities from the 110 Harbor Freeway with exits at Pacific Coast Highway to Western Avenue or the exit at Gaffey Street to Paseo del Mar. Public transportation is provided to the area by Metro line service along Paseo del Mar and Western Avenue with the closest stop at Western Avenue and 25th Street. The area is also serviced by the Municipal Area Express (MAX), which has more frequent stops along Paseo del Mar. Planned improvements to the south side of Paseo del Mar include a pedestrian walkway and curb. Stripped bicycle lanes presently run in both north and south directions along Paseo del Mar along the southern boundary of the preserve.

Improvements planned for the main entry to the park will allow all visitors arriving by car or bus to enter the preserve's parking area from Paseo del Mar. The parking area as well as the preserve will be open to the public without fee. The main entryway, parking and visitor areas will conform to all ADA requirements. Maintenance and emergency vehicles will enter at the same gate, but will be allowed access to the interior of the preserve through a second, controlled gate. The existing paved roadway will provide access through the interior of the park and to the bunkers at the top of the hill for emergency, maintenance and handicap access. Pedestrian entry points will be established at convenient locations around the perimeter of the preserve to allow access from the local community.

A traffic assessment is suggested to determine traffic flow and public safety considerations for the public access plan for the preserve.

Visitation Projections

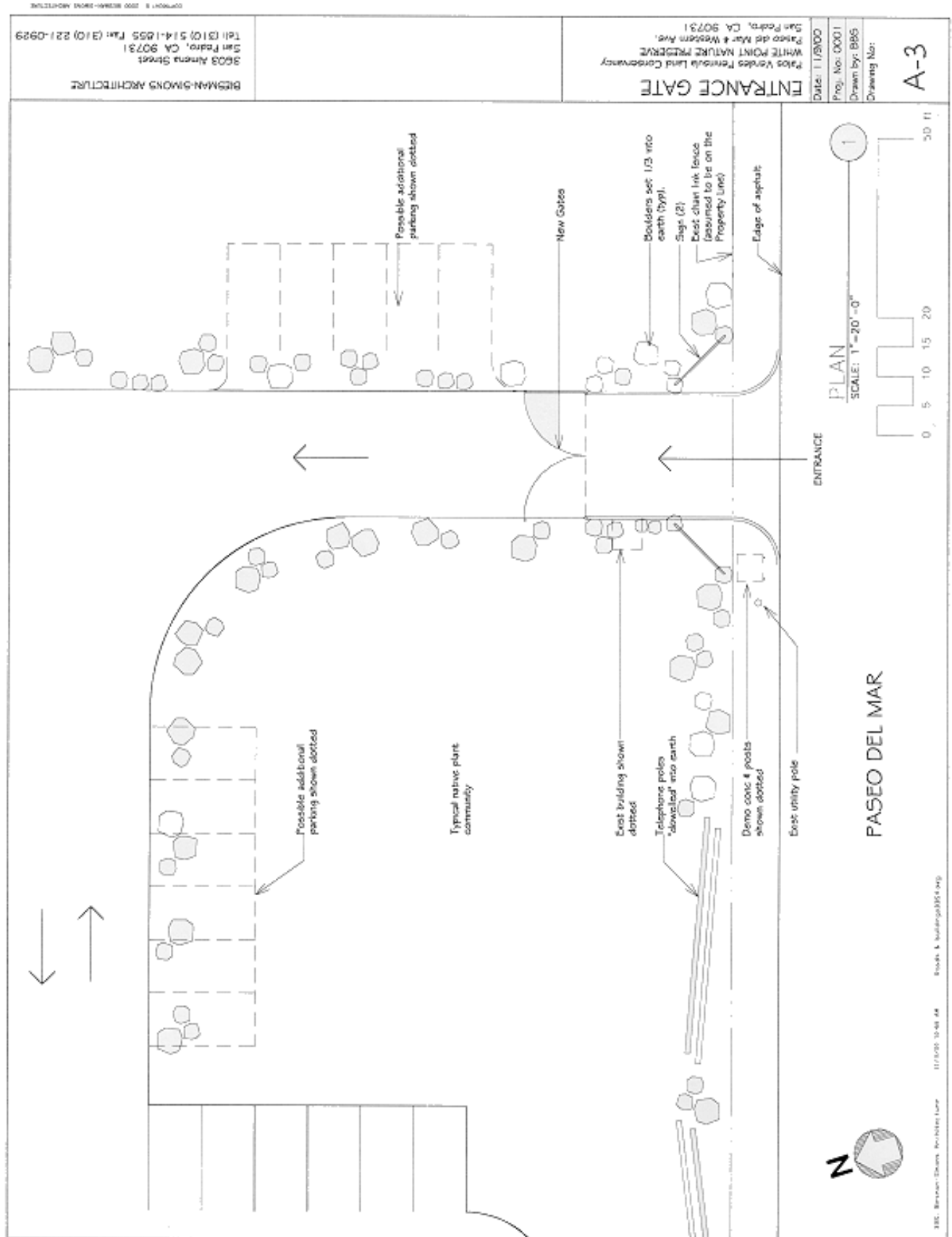
Visitation projections for the White Point Nature Preserve are based on a comparison study of similar facilities in the region. Specific visitation statistics were difficult to obtain because, as will be the case at White Point, public access is not controlled by gate fees or tickets. The most difficult visitation projections are for the casual, walk on visitor while programming statistics were more precisely monitored and recorded.

Based on this comparison study, it is estimated that the White Point Nature Preserve will have annual, walk-on visitation of between 20,000 to 30,000 people. Supplementing this casual use, it is estimated that an additional 15,000 to 30,000 people will visit the preserve as a result of planned events and educational and recreational programming.

WHITE POINT PARK NATURE PRESERVE
TRAILS PLAN

Mapping based on Aerial Picture dated 1-9-1999
Angelika Brinkmann-Bust, October 2000





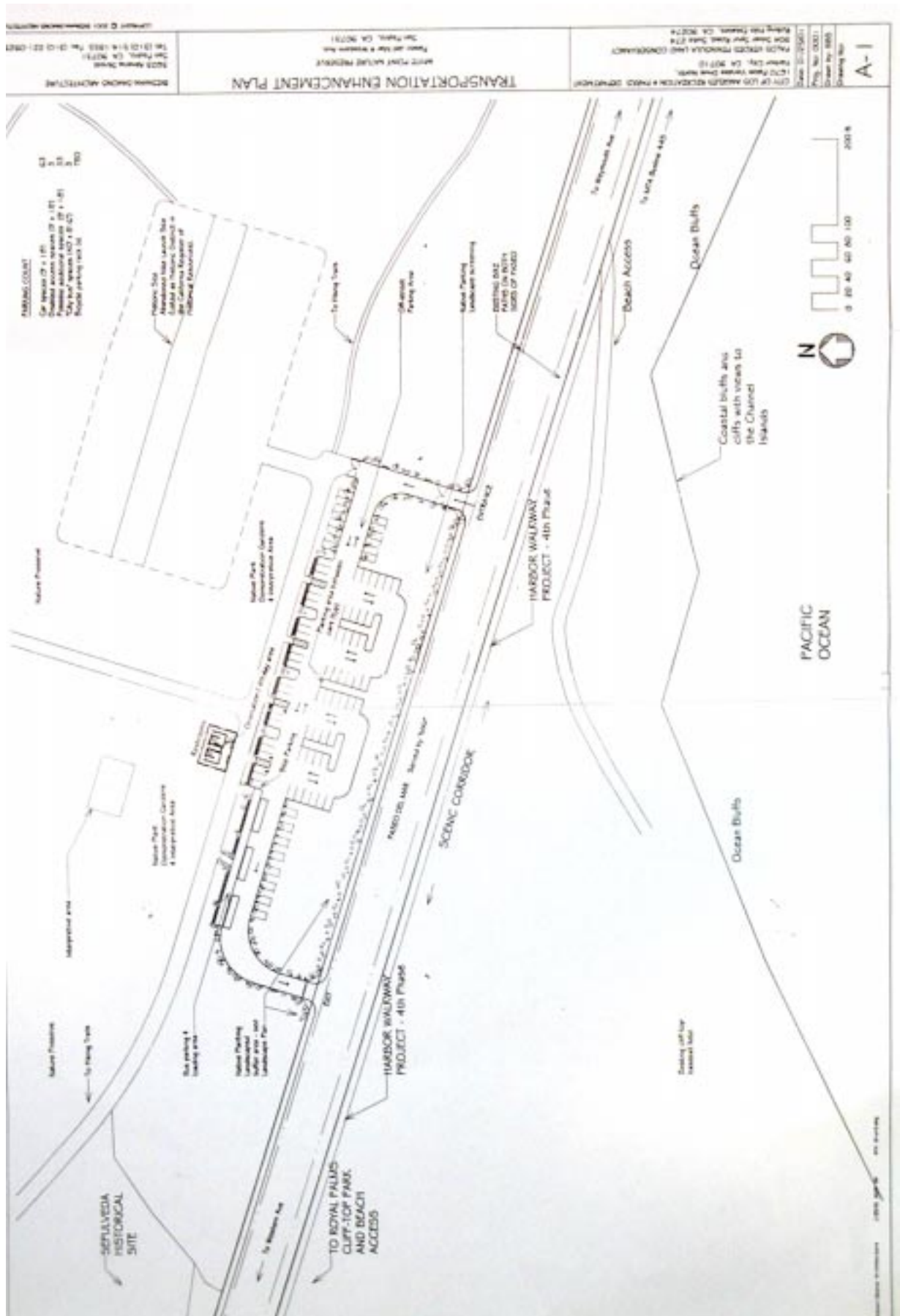
Parking

The planned parking area will be accessed off Paseo del Mar through the main entry gate. The parking area will be open to the public, without fee, during regular park hours. After hours, the main gate will be closed and any remaining cars will be allowed to exit the parking area by means of the one-way-only spiked exit. A visual depiction of the parking area is shown on the next page.

The material used to surface the parking area will be of a permeable nature composed of decomposed granite, gravel and asphalt grindings (re-cycled from removal of some existing asphalt surfaces in other areas of the park). The parking area will be screened from the Paseo del Mar, by a 30 to 60 foot green space to be landscaped with native vegetation. The parking area will allow for traffic to enter one way and exit out the other side.

The traffic impact analysis report, prepared by Linscott, Law & Greenspan on May 7, 2001, evaluated the proposed parking configuration and found that the parking lot site plan and the on-site circulation was adequate to accommodate the expected visitor traffic (including bus turning movements) at the Preserve. The traffic impact analysis also found that the expected visitor traffic at the Preserve would not significantly impact any intersections or traffic flow along Paseo Del Mar, and that the available sight distance from the proposed out-bound driveway will be more than adequate. (Linscott, Law and Greenspan, 2001)

A comparative analysis of similar facilities indicated that regular, daily use of their parking areas was minimal (5-10 space average at any given time), but that larger capacity was needed on weekends, programming days and special events. Another finding of the comparative study was that the largest groups of people, usually school children, most often arrived by bus, and that bus parking was an important component of their facilities. Because of this finding, the parking plan for White Point incorporates an area to park and safely unload three large buses at one time. The parking area planned for the preserve will allow for an off-street parking capacity of 63 cars, 3 disabled access spaces, 3 buses, a special area for bicycles, and include the possibility to add an additional 33 car spaces.



Perimeter Fencing

The existing 8 foot high, chain link perimeter fencing is in poor condition and will need to be replaced. The existing chain link material has not effectively withstood the marine environment nor vandalism as is evident by the rusting gates, missing sections and gapping holes. It is believed that, while the current



fencing has been effective in prohibiting vehicular access, it has not been effective in preventing unauthorized pedestrian access to the preserve. This is confirmed by the trespassing that occurs daily on the closed site through vandal-created holes in the fences.

Taking these existing conditions in to account and planning for the proposed usage of the site as a nature preserve open to the public, the following guidelines are recommended for fence replacement:

• The purpose of the proposed perimeter fencing will be to prohibit vehicular traffic while allowing for pedestrian access at several convenient locations.

- Because of the size of the park and the pedestrian traffic patterns in the surrounding communities, it is best to plan for several pedestrian entry points.
- These pedestrian entry points should be determined by existing traffic patterns as established by the holes in the current fence lines.

The new fencing system will be designed in accordance with the specific criteria as set forth in Policies of Objective 1.1 of the Master Plan.

Trailhead and Visitor Orientation



The purpose of trailhead and visitor signage is to orient the visitor to the park and make their experience at the facility more pleasant and safe. The proposed plan calls for new park entryway signage to signal the entrance to the preserve. The signage will identify the site as the “White Point Nature Preserve” and will clearly mark the entrance and exit points. Additional

signage will describe park rules, hours of operation, disabled access accommodations, restroom facilities and other information as needed to orient the visitor.

A trailhead orientation map and/or interpretive panel will be located near the

outdoor function area or on the restroom building to orient the visitor as to their location in the park and show how to access the different trails and areas within the park. The design of all park signage will be developed and approved by the Steering Committee to meet standards set forth for durability, aesthetic value, consistency, content and purpose.

Trail System

The trail system planned for White Point will provide pathways for people to experience the preserve and its resources first hand. Trails allow visitors the pleasure of walking, hiking, nature observation or simply enjoying the views. The White Point trail system will offer breathtaking ocean views in a natural setting that may be enjoyed by all for generations to come. Trails will also be used for participation in self-guided or naturalist-led interpretive programming. The trail system will provide access through the natural habitat to scenic vistas and to the cultural and historical areas of the preserve. A map of the proposed trail system is provided on the next page.

There are different types of trails planned for different purposes within the preserve. Some of the trails will be used for self-guided interpretation, such as through the demonstration garden and historical areas of the park. Other, smaller trails or footpaths will be used primarily for walking, nature observation or simply enjoying the quiet tranquility and views. The proposed plan includes over 3.5 miles of trails and roadways, of which approximately 1/3 will be made ADA accessible.

Some of the existing trails and roadways will be abandoned or removed in the new trail plan. In the western portion of the preserve, an unauthorized mountain bike course has been developed. The bike trail ruts and jumps that this unauthorized use has made on the land have created serious erosion and safety concerns that are incompatible with the planned goals of the preserve. It is proposed that these bike trails be smoothed over and replanted. In addition, there are several asphalt-surfaced road segments, identified on the trails map, that serve no functional purpose which have been slated for removal. It is proposed that the asphalt removed from these road segments be made into grindings that can be recycled for use in surfacing the proposed parking lot.

Trail standards will vary based on type and use. For example a footpath will be narrower and of a different compaction standard than an ADA-accessible interpretive trail. Specific guidelines have been established to insure the proper use and maintenance of the trail system as stated in policies 1.3.1 through 1.3.8 of the Master Plan.

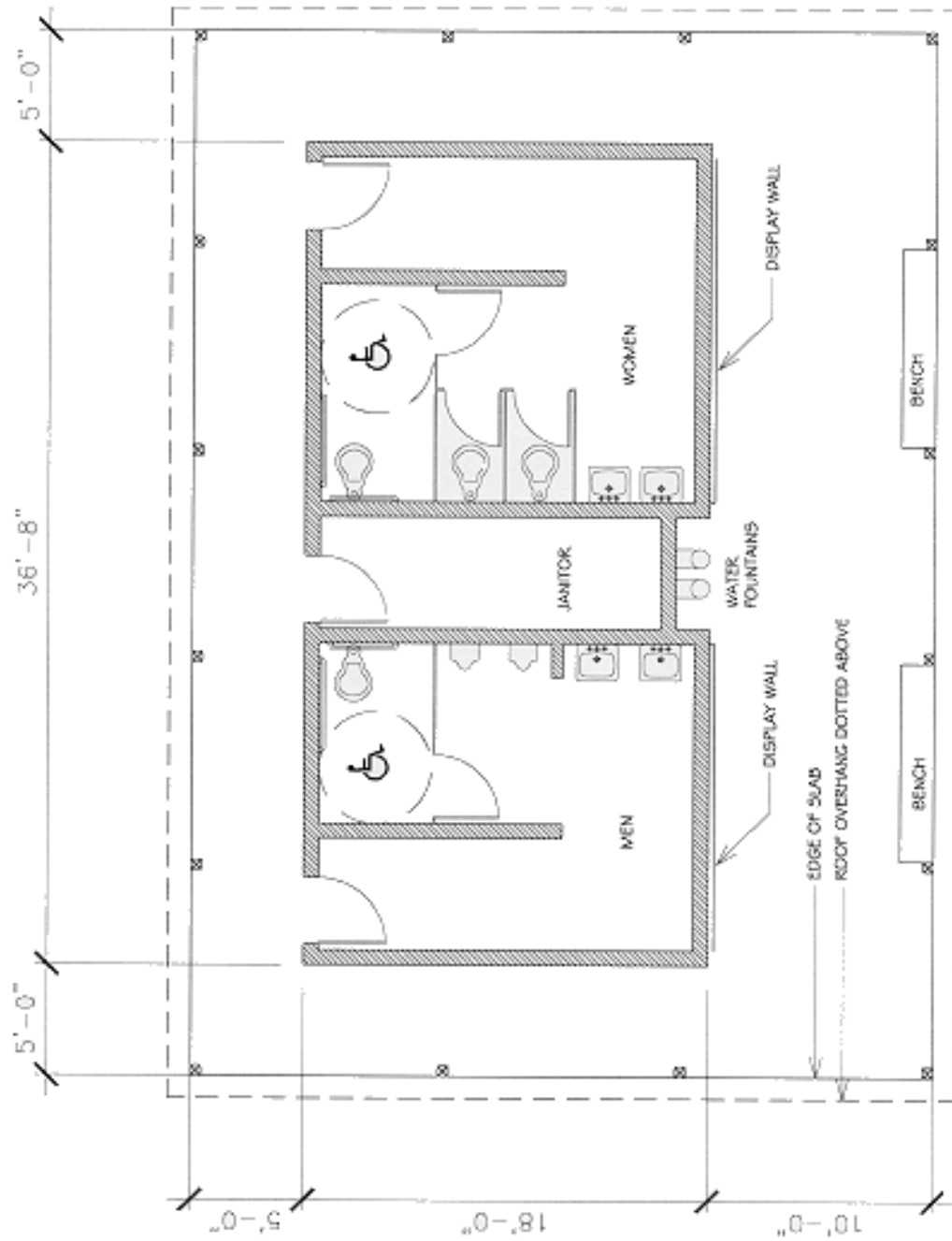
Restrooms

Restroom facilities are a planned improvement to the White Point Nature Preserve. A restroom facility is necessary to accommodate the needs of school

groups, tours and other visitors to the Preserve as the nearest, existing public restroom is located on the opposite side of Paseo del Mar at the Royal Palms Beach Park. The proposed restroom facility building will also provide the location for the trailhead orientation panels.

The design of the facility includes a porch-like overhang with benches facing interpretive panels that serve to orient the visitor to the location of the trails and historic sites within the Preserve (refer to the architectural drawing of the restroom facility).

The restrooms will be located near the parking area and will be designed to meet ADA requirements. Drinking fountains will be installed in a convenient location near these facilities. The design of the restroom facility will be sensitive to the natural surrounding and consistent with the design features and cultural context of the preserve. It is proposed that the restrooms remain open to the public only when the park is open and staffed to minimize unlawful use.



PLAN
SCALE: 1/8" = 1'-0"

1

Passive Recreation and Interpretation

Hiking And Nature Observation

The trail system planned for the preserve will provide miles of scenic pathways for people to explore and experience this urban wilderness. The visitor will be able to choose between a vigorous hike or more leisurely stroll. Different trails will lead up the hills, around the perimeter, or through the habitat areas to reach breathtaking vista points. There will also be shorter walking trails that wind through the demonstration gardens and interpretive areas of the preserve. Benches and viewing areas will be provided at scenic overlooks and in peaceful areas for quiet solitude and relaxation.

Visitors may utilize the preserve for hiking, nature photography, plein-air painting, bird watching, or simply getting away to relax in a natural environment. The hills of White Point will also serve as an ideal vantage for whale watching off the Pacific Coast during migration seasons.

Self-Guided Interpretive Trails

It is estimated that approximately half of the annual visitation to the preserve will be from casual, walk-on visitors. The intent of a self-guided interpretive trail is to make the park experience more meaningful, especially to this informal group of visitors. The self-guided interpretive trails planned for White Point will interpret the preserve's resources and historical significance in a manner that sparks the visitor's interest and involvement.

The design and content of the self-guided interpretation will be developed in a manner that is sensitive to the scenic and natural environment of the preserve. It is suggested that interpretive areas be confined to the historical sites and the native plant demonstration garden. The use of numbered stops with interpretive brochures is a low impact, highly versatile approach to self-guided trails. This is because one set of numbered stops may be tied to a variety of brochures, geared to different age, language, disability and interest levels, meeting the needs of a diverse community.

In some areas, interpretive panels may be appropriate to orient the visitor and provide a schematic representation of the historical aspects of the park. The tunnel walls of the bunkers are one such location. These tunnel walls would provide an ideal canvas for historical panels and, at the same time, provide a cool, shady spot to relax and learn more about the history of the site. Another proposed location is on the walls of the new restroom building. This building will be located in a convenient location to the park entrance and to the native plant demonstration gardens.

Interpretive Programming

Interpretive programs are designed to reveal meanings of our cultural and natural heritage to the visitor through communication processes that provide connections and involvement with the site and its resources. The intent is that through interpretation comes knowledge, and through knowledge comes respect, appreciation and protection of the site's resources. A good interpretive program will provide much more than information; it will connect and involve the visitor and tell a story that will be remembered.

White Point has a wealth of stories to tell, around which the interpretive program will be based. Programming will be developed to interpret the historical, cultural, ecological and scenic resources of the site as well as its role in the community. The programming will be adapted for different age levels and interests to meet the visitors needs. Some of the interpretive stories that may be told are:

Cultural/Historical:

- *A typical day in the life of a Gabrielino woman as she wandered the coastal sage covered hills collecting lemonade berries for her tribe.*
- *The challenges that Ramon Sepulveda faced operating the Rancho de los Palos Verdes during periods of alternating drought and floods.*
- *The struggles of a Japanese fisherman as the realization of the depletion of the abalone beds became apparent.*
- *The daily routine of a military officer or sentry man guarding the Nike Missile Launcher during the Cold War.*

Ecological:

- *The story of the little blue butterfly that was almost lost to extinction because of the disappearance of its food plant from the landscape.*
- *The struggle of a California gnatcatcher pair searching for a suitable nesting site.*
- *The interdependence of the various plant and animal species that inhabit the coastal sage scrub and grassland habitats of White Point.*

Community:

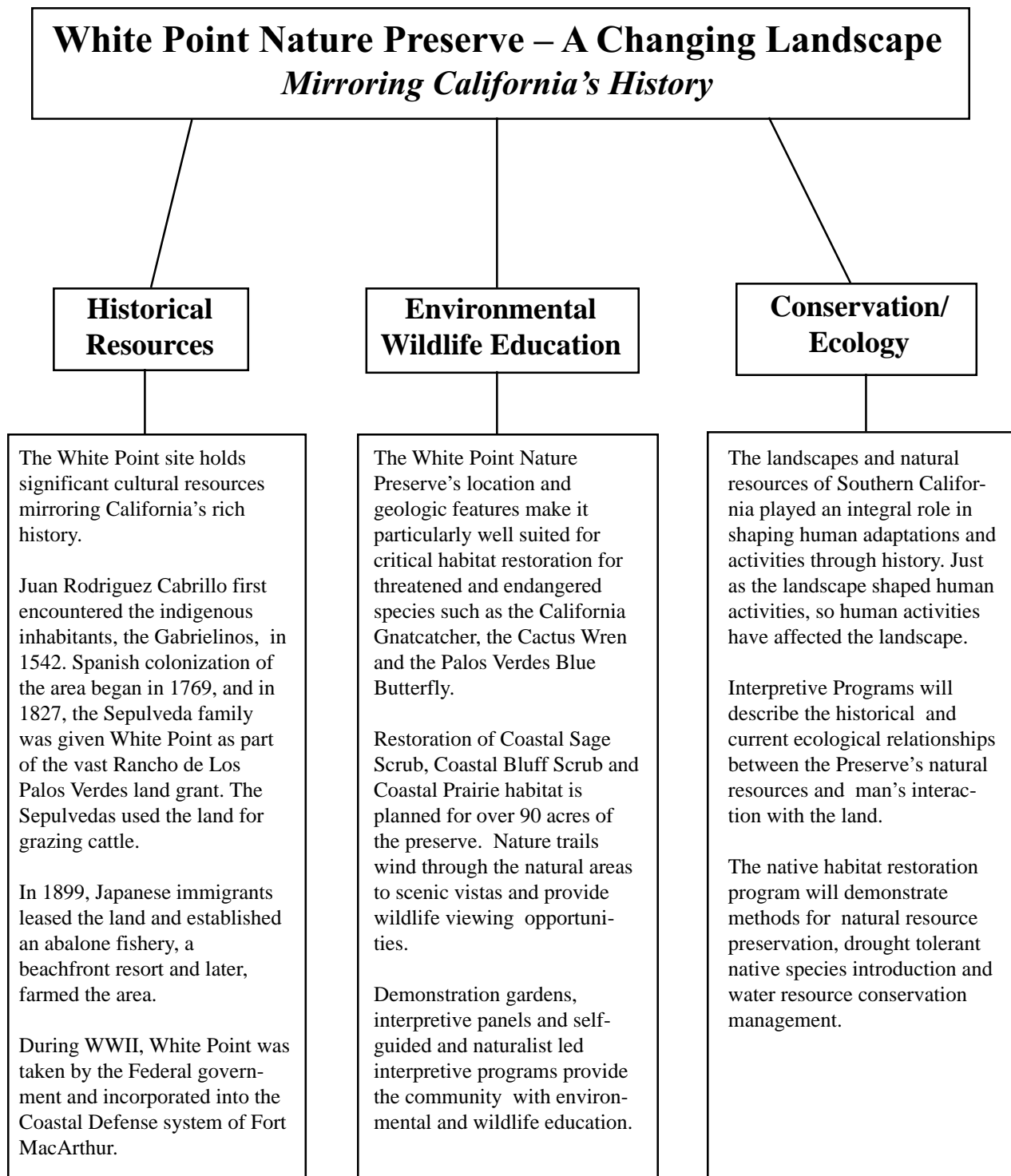
- *The story of how neighborhoods came together to make a difference in their community by cleaning up and caring for the White Point Nature Preserve.*
- *The story of the girl scout troop or third grade classroom that grew native plants in their own homes and then helped to replant them in the preserve.*
- *The benefit of community partnerships, working together, to bring about creative solutions to involve and improve their communities.*

Sample of interpretive themes and interpretive programs and media are given in the following tables.

SITE RESOURCE: Coastal Sage Scrub Habitat***** Sample of Educational Goals *****

GOALS	OBJECTIVES	INTERPRETIVE PROGRAMS & MEDIA
To impart the value and significance of preserving Coastal Sage Scrub habitat. (All visitors)	<ol style="list-style-type: none"> 1.To learn about the threatened and endangered species which depend on CSS habitat for survival. (Specifically the Palos Verdes Blue Butterfly) 2.To be able to identify at least five plant species which are native to CSS. 3.To be able to identify historical impacts and potential threats to the viability of CSS habitat, ie: past land uses, non-native invasive plants, human intervention , etc. 	Interpretive panels within the native plant demonstration garden, trail guides (geared to different age and interest groups), naturalist led nature walks and tours. For younger children, coloring books, matching activities and structured "plant treasure" hunts may be appropriate.
To enhance the awareness of species diversity and the uniqueness of individual plants within CSS habitat and micro-habitats. (All visitors)	<ol style="list-style-type: none"> 1.Encourage the close examination of individual plants, seeing details and discovering differences rather than generalities. 2.Focus on specific characteristics of plants; growth pattern, leaf shape, flower and/or fruit, color and size. 3.Learn to utilize contour drawing techniques to create linear, proportional drawings that depict the characteristics of at least 3 plant species. 	Best interpreted through small group programs, workshops, hands-on activities and art lessons. Naturalist/artist or volunteer led group activities may include; hands-on plant study, matching, and field research. A step-by-step, directed drawing lesson (contour-technique) will reinforce scientific observation skills, hand-eye coordination and small motor skills to visually record observed differences accurately.
To understand the concepts of habitat, ecosystems and ecology. (All visitors)	<ol style="list-style-type: none"> 1.To learn what makes a habitat, the living and non-living components. 2.To understand the relationships and interdependencies of living organisms and their environment. 3.To receive hands-on experience with the sights, smells, sounds and touch of the natural habitats and micro-habitats of the preserve. 	Utilizing the nature preserve as an outdoor classroom for field study, naturalist-led programs will expose visitors to a variety of scientific observations and experiences. Interpretive materials and field guides will inform the casual visitor, through self-guided tours, of the ecology of the preserve.
NOTES: These objectives are correlated with State of CA. Science Content Standards: Grade 1-Life Science standards 2a-e, Grade 2 Life Science standards 2a-g, Grade 4- Life Science standards 3a-d, Grade 6-Ecology standards 5a-e ,Grade 7 – Evolution/diversity, Grade 9-Ecology standards 6a-g.		

Interpretive Theme



Outdoor Classroom

In addition to the interpretive programming to be offered at the preserve, there will also be structured educational programming geared to provide study and observation of the natural environment in an outdoor classroom setting. The Palos Verdes Peninsula Land Conservancy's education department has devel-



oped and field-tested curriculum in the areas of biology, botany, geology and ecology that utilize local natural areas as outdoor classrooms to reinforce the learning.

The PVPLC offers these educational units to teachers at local schools and also provides naturalists to give lessons in the classroom which culminate in a field trip to the site for further study and observation of what they have learned. The most successful of these programs is the third grade "My Nature Handbook" curriculum that provides hands-on activities emphasizing investigation and experimentation that is later reinforced on

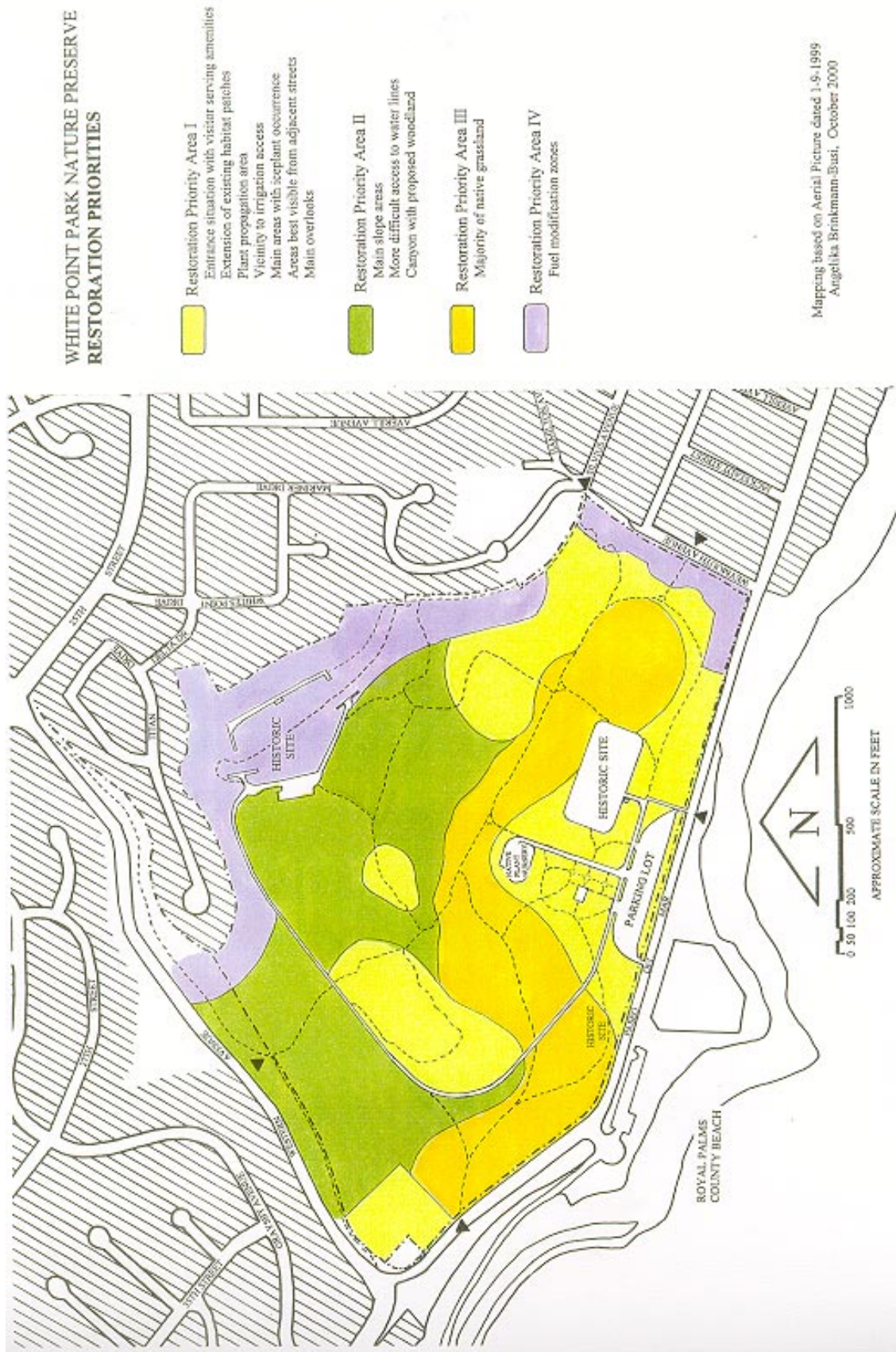
the field trip to the site. All of these educational units have been correlated to the new California State Science Standards.

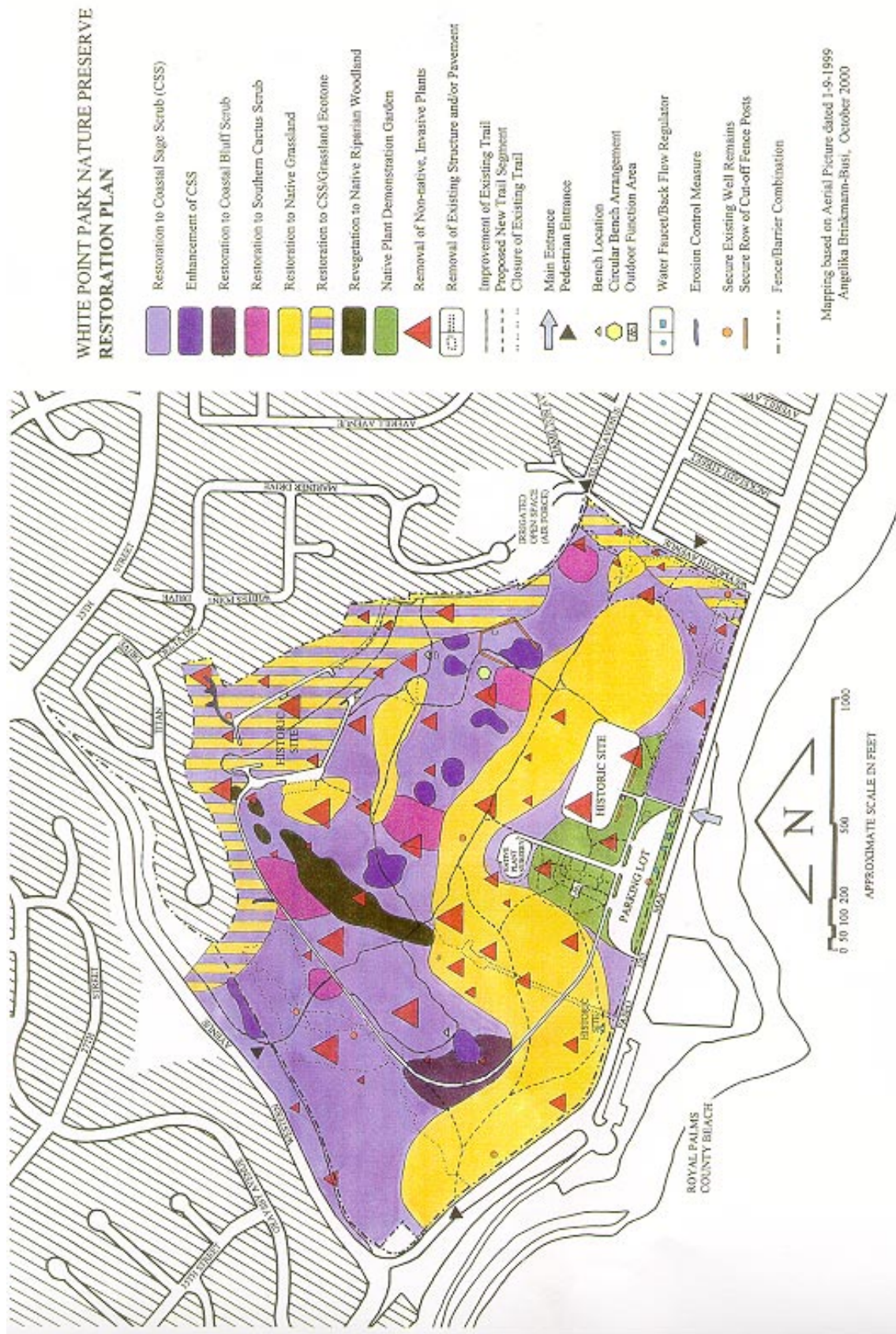
In addition to providing an outdoor classroom experience for grade school students, the White Point Nature Preserve will also provide an excellent site for scientific study and observation at the high school, college and graduate level as well. The habitat restoration program will provide a multitude of research possibilities for students in advanced study of biology, botany, and ecology.

Native Plant Demonstration Garden

The intent of the Native Plant Demonstration Garden is to exhibit, in a limited area for closer study, specimen plants and plant communities which are representative of the plant diversity of the Palos Verdes Peninsula. The garden will be arranged to display the plants as they would occur in their natural distribution and then further grouped to show the variation of different microhabitats that exist within the coastal sage scrub and grassland community.

There will also be planting displays that demonstrate the potential use of native plants in residential landscaping. A demonstration area that describes propagation and irrigation techniques for growing native plants may also be included. A nature trail winding through the demonstration area will provide interpretive material that describes the plants and plant communities.





Habitat Restoration and Management

Restoration Priorities

Emphasis will be put on the enhancement and restoration of native plant communities that provide habitat for native species, especially those that are considered to be rare and/or sensitive. The term “restoration” means the re-creation of the native plant community that would typically be found in a given location due to the geologic, climatic and site specific local conditions. The goal is to recreate a plant community that is not only self-sustaining once re-established, but which is also able to function as habitat for native wildlife. Considering the existing conditions and comparable sites on the Palos Verdes Peninsula, the White Point area is mainly potential coastal sage scrub, southern cactus scrub and coastal bluff scrub habitat.

A few good quality remnants of native coastal sage scrub exist on the site, and the primary goal will be to restore and enhance these remnant patches so that they may serve as the nuclei of the restoration effort. Use of existing stands as core habitat areas will enhance the goal of obtaining mixed-aged class structure and attendant faunal diversity. Further revegetation of coastal sage scrub and associated scrub communities should then be initiated around existing coastal sage scrub patches outside of the fuel modification requirement zone, and in non-native grassland and disturbed areas of the site. Areas covered with non-native grassland or disturbed vegetation will then be restored to native grassland and/or native scrub to recreate and support natural plant and wildlife diversity. (Brinkmann-Busi, 2000)

Targeted Plant Communities and Sensitive Species.

Among the plant communities proposed for restoration are a number of sensitive habitat associations, including coastal sage scrub, southern cactus scrub, coastal bluff scrub and annual native grassland (coastal prairie). The bright-green live forever (*Dudleya virens*), a sensitive island plant species, grows within the coastal bluff scrub community. The Palos Verdes Peninsula is its only natural mainland occurrence. Although not state or federally listed, the plant is considered by the California Native Plant Society to be rare and endangered in California and elsewhere. It is also one of the target species for the local NCCP. (Brinkman-Busi, 2000)

Other examples of sensitive species are the California gnatcatcher and the coastal cactus wren, both federally listed. Each of these species are targets of the ongoing Natural Communities Conservation Plan (NCCP) that is being developed on the Palos Verdes Peninsula. In the case of these two bird species, once substantial habitat is restored, it is expected that they will re-inhabit the preserve, although this cannot be predicted with certainty. (Brinkmann-Busi, 2000)

Ocean locoweed (*Astragalus trichopodus lonchus*), a plant species of early successional stages of coastal sage scrub and open, grassy areas, is one of the tar-

geted plant species planned for reintroduction at White Point. Ocean locoweed is the food plant of the Palos Verdes blue butterfly, a federally listed endangered species that was rediscovered in San Pedro in 1994. This species is being reintroduced into other natural areas on the Peninsula as part of a recovery plan for this species.



Once a suitable habitat for the Palos Verdes blue butterfly has been established at the White Point Nature Preserve, it may be used as candidate site for reintroduction of this species. Jess Morton, a local naturalist, reported that he had observed ocean locoweed on the White Point Park site in 1983, but that there were not enough plants to maintain a butterfly population. No ocean locoweed were found at the site in 1986 or 1993 (Woodward-Clyde, 1998.) No specimens of these plants were found during the vegetation survey in May 2000. (Brinkman-Busi, 2000) Dr. Rudi

Mattoni, who directs the Conservancy's captive rearing and recovery program for the PV blue butterfly, states that White Point, once restored, would be an excellent reintroduction site.

Restoration and Revegetation of Coastal Sage Scrub

Initial restoration will focus on enhancement of the existing coastal sage scrub patches at the site. The enhancement of these native scrub patches will be implemented carefully in order to prevent disturbance of this existing native vegetation. For example, when introducing new native plants within patches of existing scrub, it is important to rely on natural precipitation or to supplement irrigation only during winter months in order not to disturb the natural vegetation.

Re-creation of new coastal sage scrub stands will be initiated adjacent to existing coastal sage scrub patches and in non-native grassland that lack native annual and/or herbaceous perennial species. Sites on relatively flat areas and shallow slopes with purely non-native vegetation will be treated to remove non-native grasses and forbs as thoroughly as possible. Afterwards, these areas can be either seeded or planted.

Experience has shown that planting local CSS species from containers is the fastest way to establish shrub cover. An easily germinating basic native shrub mix would consist of coastal sage brush (*Artemisia californica*), California bush sunflower (*Encelia californica*), goldenbush (*Isocoma menziesii*, *Hazardia squarrosa*), and ashy-leaf buckwheat (*Eriogonum cinereum*).

(Brinkmann-Busi, 2000)

Once an initial cover of native shrubs is established, the plant assemblage should be refined by planting those natives that are easier to propagate from cuttings, like sages and lemonade berry, and other natives for which only limited local seed sources are available. It is more effective to grow the latter in controlled conditions instead of seeding them out directly, possibly risking the loss of collected seed material.

On steeper slopes, where potential erosion problems may occur, only very small areas need to be cleared of the existing non-native vegetation in order to plant up to gallon-size native plants. This helps to keep the majority of the slope undisturbed and covered with vegetation. However, it is advisable to mow the non-native forbs between the planted natives, so that they are not able to produce seeds. Even though native shrubs are planted among non-native grasses and forbs, CSS restoration experience has demonstrated that once the native plants are established, they effectively out-compete the non-native species. Plantings close to existing coastal sage scrub may profit from the existing mycorrhizae in the soil; these fungal organisms facilitate plant uptake of soil nutrients.

The following plant palette compiled for the restoration of coastal sage scrub should be refined for the individual planting areas, because a variety of different slope exposures, degrees and microhabitats exist within the site. In the remark column of the plant palette, indications for the best general use is given. Some of the included species, like bush sunflower (*Encelia californica*), goldenbush (*Isocoma menziesii*, *Hazardia squarrosa*), and deer weed (*Lotus scoparius*), may be co-dominant species only in the beginning. These pioneer plants will eventually be out-competed by other sage scrub shrubs. (Brinkmann-Busi, 2000)

PLANT PALETTE FOR COASTAL SAGE SCRUB

Scientific Name	Common Name	Life	
		Form	Remarks
<i>Artemisia californica</i>	California Sagebrush	S	dominant species
<i>Encelia californica</i>	Bush Sunflower	S	co-dom., esp. in early stages
<i>Eriogonum cinereum</i>	Ashy-leaved Buckwheat	S/P	co-dominant
<i>Eriogonum fasciculatum</i>	California Buckwheat	S/P	mixed in
<i>Someris arborea</i>	Bladderpod	S	mixed in, esp. in S facing locations
<i>Baccharis pilularis</i>	Coyotebush	S	occasionally mixed in
<i>Socoma menziesii</i>	Coast Goldenbush	S	mixed in, esp. in early stages
<i>Lizardia squarrosa</i>	Sawtoothed Goldenbush	S	mixed in, esp. in early stages
<i>Salvia leucophylla</i>	Purple Sage	S	mixed in, often S-E facing locations
<i>Salvia mellifera</i>	Black Sage	S	mixed in
<i>Ernantherium fasciculatum</i>	Everlasting	P	scattered in, more in open spots
<i>Malacothrix saxatile</i>	Cliff Aster	P	scattered in, more in open spots
<i>Marabilla californica</i>	Four O'Clock	P	mixed in
<i>Castilleja affinis</i>	Paint Brush	P	mixed in
<i>Astragalus trichopodus</i>	Ocean Locoweed	P	scattered in, more in open spots
<i>Solanum douglasii</i>	White Nightshade	P	scattered in, more in open spots
<i>Nassella lepida</i>	Foothill Needlegrass	P	scattered in, more in open spots
<i>Melica imperfecta</i>	California Melic	P	scattered in, more in open spots
<i>Dichelostemma capitatum</i>	Blue Dicks	B	scattered in, more in open spots
<i>Calochortus catalinae</i>	Catalina Mariposa Lily	B	scattered in, more in open spots
<i>Bloomeria crocea</i>	Golden Stars	B	scattered in, more in open spots
<i>Lupinus succulentus</i>	Arroyo Lupine	A	scattered in, more in open spots
<i>Lupinus bicolor</i>	Mini Lupine	A	scattered in, more in open spots
<i>Epilobium canum</i>	California Fuchsia	P	mixed in, esp. along open channel
<i>Rhus integrifolia</i>	Lemonadeberry	S	mixed in, esp. N-NW facing loc.
<i>Leymus condensatus</i>	Giant Ryegrass	P	mixed in, esp. N-NW facing loc.
<i>Heteromeles arbutifolius</i>	Toyon	T	mixed in, esp. N-NW facing loc.
<i>Eriophyllum confertiflorum</i>	Golden Yarrow	P	mixed in, esp. N-NW facing loc.
<i>Stachys rigida</i>	Hedge Nettle	P	mixed in, esp. N-NW facing loc.
<i>Collinsia heterophylla</i>	Chinese Houses	A	occ. in open areas on N-NW slopes
<i>Mimulus aurantiacus</i>	Bush Monkeyflower	S/P	mixed in, esp. N-NW facing loc.
<i>Geckelia cordifolia</i>	Climbing Penstemon	P	mixed in, esp. N-NW facing loc.
<i>Lathyrus vestitus vestitus</i>	Canyon Pea	P	can be occ. scattered in
<i>Horkelia cuneata</i>	Horkelia	P	occasionally mixed in
<i>Brickellia californica</i>	Brickle Bush	P	occasionally mixed in
<i>Opuntia oricola</i>	Prickly Pear Cactus	S	occasionally on S-facing slopes
<i>Opuntia prolifera</i>	Coast Cholla	S	occasionally on S-facing slopes
<i>Lotus scoparius</i>	Deerweed	P/S	occasionally in open areas
<i>Eucrypta chrysanthemifolia</i>	Eucrypta	A	occasionally in open areas
<i>Pholistoma auritum</i>	Fiesta Flower	A	occasionally in open areas
<i>Lotus salsuginosus</i>	Coastal Lotus	A	occasionally in open areas
<i>Antirrhinum nuttallianum</i>	Purple Snapdragon	A	occasionally in open areas
<i>Daucus pusillus</i>	Rattlesnake Weed	A	occasionally in open areas
<i>Acourtia microcephala</i>	Perezia	P	occasionally mixed in
<i>Dichondra occidentalis</i>	Western Dichondra	P	occasionally mixed in
<i>Dudleya lanceolata</i>	Lance-leaved Dudleya	P	on rock outcrops

T - tree, S - shrub, P - perennial, V - vine, A - annual, B - bulbous plants.

Revegetation of Southern Cactus Scrub

Southern Cactus Scrub has been characterized as a low, dense scrub with a cover of 50 to 85% dominated by succulent shrubs, primarily prickly pear cactus (*Opuntia littoralis*, *O. oricola*) and coast cholla (*Opuntia prolifera*) (David. L. Magney, 1992).

Associated native species on the south side of the Peninsula are *Artemisia californica*, *Encelia californica*, *Eriogonum cinereum*, *Mirabilis californica*, *Dudleya lanceolata*, *Nassella lepida*, and *Isomeris arborea*. Also occasionally present are large amounts of non-native annual species like mustards, wild oats, non-native brome grasses and yellow starthistle.

Southern Cactus Scrub occurs primarily on south facing slopes with interspersed sandy soils and rocky areas, and merges with coastal sage scrub on slightly moister sites. This plant association can be found from coastal southern Santa Barbara County southward to northern San Diego County.

The Southern Cactus Scrub plant community provides important habitat for the coastal cactus wren, one of the locally sensitive species that the White Point Nature Preserve hopes to attract in the future. Therefore, the restoration of this plant community on south facing slopes is recommended. (Brinkmann-Busi, 2000)

PLANT PALETTE FOR SOUTHERN CACTUS SCRUB

Scientific Name	Common Name	Life	Form	Remarks
<i>Opuntia oricola</i>	Prickly Pear Cactus	S		dominant
<i>Opuntia littoralis</i>	Prickly Pear Cactus	S		dominant
<i>Opuntia prolifera</i>	Coastal Cholla	S		dominant
<i>Artemisia californica</i>	California Sagebrush	S		mixed in
<i>Encelia californica</i>	Bush Sunflower	S		mixed in
<i>Isomeris arborea</i>	Bladderpod	S		mixed in
<i>Eriogonum cinereum</i>	Ashy-leaved Buckwheat	S/P		mixed in
<i>Mirabilis californica</i>	Four O'Clock	P		mixed in
<i>Nassella lepida</i>	Foothill Needlegrass	P		mixed in
<i>Nassella pulchra</i>	Purple Needlegrass	P		mixed in

S - shrub, P - perennial

Revegetation of Southern Coastal Bluff Scrub

Southern Coastal Bluff Scrub occurs along the ocean cliffs. This plant community occupies steep coastal bluffs with extremely shallow, poorly-developed soils which are routinely exposed to wind and salt spray.

Some of the dominant sub-shrubs and shrubs that form this plant community also occur in coastal sage scrub, such as *Artemisia californica*, *Rhus integrifolia*, *Encelia californica*, *Isocoma menziesii* and *Isomeris arborea*. This community also includes species that are largely restricted to it, at least at the Palos Verdes Peninsula, such as bright-green dudleya (*Dudleya virens*), box thorn (*Lycium californicum*), California saltbush (*Atriplex californica*) and seacliff buckwheat (*Eriogonum parvifolium*). Other components include quail bush (*Atriplex lentiformis* spp. *lentiformis*) and two plants that are associated with salt marshes on the base of the bluffs—sea blite (*Suaeda taxifolia*) and frankenia (*Frankenia salina*). (Brinkmann-Busi, 2000)

PLANT PALETTE FOR SOUTHERN COASTAL BLUFF SCRUB

Scientific Name	Common Name	Life Form	Remarks
<i>Opuntia oricola</i>	Prickly Pear Cactus	S	dominant
<i>Opuntia prolifera</i>	Coastal Cholla	S	dominant
<i>Lycium californicum</i>	California Boxthorn	S	dominant
<i>Artemisia californica</i>	California Sagebrush	S	mixed in
<i>Encelia californica</i>	Bush Sunflower	S	mixed in
<i>Isomeris arborea</i>	Bladderpod	S	mixed in
<i>Eriogonum cinereum</i>	Ashy-leaved Buckwheat	S/P	mixed in
<i>Eriogonum parvifolium</i>	Seacliff Buckwheat	S/P	mixed in
<i>Isocoma menziesii</i>	Coast Goldenbush	S	mixed in
<i>Dudleya virens</i>	Bright-green Liveforever	P	mixed in
<i>Mirabilis californica</i>	Four O'Clock	P	mixed in
<i>Calocortus catalinae</i>	Catalina Mariposa Lily	B	mixed in
<i>Malscothrix saxatile</i>	Cliff Aster	P	mixed in
<i>Antirrhinum nuttallianum</i>	Purple Snapdragon	A	mixed in
<i>Salvia columbariae</i>	Chia	A	mixed in
<i>Cryptantha clevelandii</i>	Popcorn Flower	A	mixed in
<i>Rhus integrifolia</i>	Lemonadeberry	S	mixed in
<i>Atriplex lentiformis</i>	Quail Bush	S	occasionally

S - shrub, P - perennial, A - annual, B - bulbous plants.

Revegetation of Native Grassland

Coastal sage scrub can be a very open community that includes grassland patches. To compliment the native scrub communities and to maintain parts of the character of the site, selected areas of non-native, annual grassland are proposed for restoration to native grassland. A wildflower grassland would also fulfill fuel modification requirements, since annual native species and perennial native grasses have a much lower fuel volume than the commonly naturalized non-native annual grasses and forbs. However, once the transformation to a native grassland has been initiated, the fuel modification zone should be managed differently—preferably, it should be mowed after the spring wild flowers have set seeds. (Brinkmann-Busi, 2000)

PLANT PALETTE FOR NATIVE GRASSLAND WITH WILDFLOWERS

Scientific Name	Common Name	Life Form	Remarks
<i>Nassella pulchra</i>	Purple Needlegrass	P	dominant
<i>Nassella cernua</i>	Nodding Needlegrass	P	dominant
<i>Nassella lepida</i>	Foothill Needlegrass	P	scattered in
<i>Melica imperfecta</i>	California Melic	P	scattered in
<i>Lupinus succulentus</i>	Arroyo Lupine	A	mixed in
<i>Lupinus bicolor</i>	Mini Lupine	A	mixed in
<i>Lupinus truncatus</i>	Collar Lupine	A	mixed in
<i>Eschscholzia californica</i>	California Poppy	A	mixed in
<i>Trifolium tridentatum</i>	Tomcat Clover	A	mixed in
<i>Verbena lasiostachys</i>	Common Vervain	P	mixed in
<i>Castilleja exserta</i>	Ow's Clover	A	mixed in
<i>Dichelostemma capitatum</i>	Blue Dick	B	mixed in
<i>Calocortus catalinae</i>	Catalina Mariposa Lily	B	mixed in
<i>Bloomeria crocea</i>	Golden Stars	B	mixed in
<i>Eriogonum elongatum</i>	Wand Buckwheat	P	mixed in
<i>Lotus scoparius</i>	Deerweed	S/P	mixed in
<i>Astragalus trichopodus</i> lonch	Ocean Locoweed	P	mixed in
<i>Lessingia filiginifolia</i>	California Aster	P	mixed in
<i>Malacothrix saxatile</i>	Cliff Aster	P	mixed in
<i>Asclepias fascicularis</i>	Milkweed	P	mixed in
<i>Hemizonia fascicularis</i>	Tarplant	A	mixed in
<i>Gnaphalium species</i>	Everlasting	P	mixed in
<i>Clarkia purpurea</i>	Purple Clarkia	A	mixed in
<i>Amsinckia menziesia</i>	Fiddleneck	A	mixed in
<i>Grindelia camporum</i>	Gum Plant	P	mixed in
<i>Camissonia bistorta</i>	Southern Sun-Cup	A	mixed in in sandy spots
<i>Trichostema lanceolatum</i>	Vinegar Plant	A	occasionally mixed in

T - tree, S - shrub, P - perennial, A - annual, B - bulbous plants.

Revegetation to Coastal Sage Scrub/Grassland Ecotone

Ecotones are transitional areas where different plant communities mingle. While coastal sage scrub can naturally vary from open to dense shrub cover, the term coastal sage scrub/grassland ecotone is used to describe a mixture of native grassland with patches of coastal sage scrub. Ocean locoweed (*Astragalus trichopodus lonchus*) should be added in these more open areas. (Brinkmann-Busi, 2000)

Revegetation to Riparian Scrub/Woodland

Except for a small depression where water may temporarily collect, there is presently no riparian habitat on the site. However, it would enhance and increase the diversity of the area if some native trees could be established. The widest and deepest of the existing draws, which is located on the northwest side of the park, is probably the best suited for such a proposal.

Arroyo Willow is the dominant willow in riparian areas on the Palos Verdes Peninsula. This plant is adapted to seasonal water flow, and can endure drought periods. Willows and mule fat, another facultative wetland species, should be planted in the lowest portion of the draw. Other tree species that occur in southern live oak riparian forests such as Coast Live Oak, Mexican Elderberry and Toyon may be suitable for introducing on the slopes of the draw.

The understory should consist of plants that are not necessarily wetland species, but are in a wider sense associated with riparian areas. These include plants such as California fuchsia, California rose, California gooseberry, hedge nettle, snowberry, and giant rye. (Brinkmann-Busi, 2000)

PLANT PALETTE FOR RIPARIAN WOODLAND

		Life	
Scientific Name	Common Name	Form	Remarks
<i>Salix lasiolepis</i>	Arroyo Willow	T	dominant tree in canyon bottom
<i>Sambucus mexicana</i>	Mexican Elderberry	T	scattered in
<i>Quercus agrifolia</i>	Coast Live Oak	T	dominant on slope above willows
<i>Heteromeles arbutifolia</i>	Toyon	S/T	scattered in
<i>Baccharis salicifolia</i>	Mule Fat	S	mixed in
<i>Rosa californica</i>	California Wild Rose	S	occasionally mixed in
<i>Ribes californicum</i>	Hillside Gooseberry	S	occasionally mixed in
<i>Rubus ursinus</i>	Blackberry	P	occasionally mixed in
<i>Mimulus aurantiacus</i>	Bush Monkeyflower	S	mixed in
<i>Symphoricarpos mollis</i>	Snowberry	P	mixed in in part shade
<i>Keckia cordifolia</i>	Climbing Penstemon	P	mixed in
<i>Clematis ligusticifolia</i>	Virgin's Bower	V	occasionally mixed in
<i>Epilobium canum</i>	California Fuchsia	P	mixed in
<i>Artemisia douglasiana</i>	Mugwort	P	mixed in in herb layer
<i>Leymus condensatus</i>	Giant Wild Rye	P	mixed in in herb layer
<i>Stachys rigida</i>	Hedge Nettle	P	mixed in in herb layer
<i>Nassella lepida</i>	Foothill Needlegrass	P	mixed in in herb layer
<i>Melica imperfecta</i>	California Melic	P	mixed in in herb layer
<i>Muhlenbergia rigens</i>	Deergrass	P	mixed in in herb layer
<i>Bromus carinatus</i>	California Bromegrass	P	mixed in in herb layer

T - tree, S - shrub, P - perennial, V - vine.

Fuel Modification and Fire Prevention

Native vegetation can fulfill fuel modification requirements if the plants are selected, spaced and maintained according to fuel modification guidelines. The measures within fuel modification zones mainly consist of thinning out existing vegetation to reduce fuel volume. Within these zones, it is recommended that trees and shrubs be spaced a minimum of 15 feet, or three times their diameter, apart from other shrubs. Trees should be spaced to allow a minimum of 30 feet between the canopies at maturity. Additionally, to prevent vertical fuel continuity, small shrubs should not be planted under tall ones and larger shrubs should not be planted underneath trees.

Plants selected for fuel modification areas should be fire resistant species and should be regularly maintained to minimize the risk of fire. Although all plants will eventually burn if exposed long enough to high temperatures, plants with a high water content due to irrigation or the natural ability to store water in plant parts (succulents, cacti), and those without high-risk physical or chemical features, are much more resistant to fire. Additionally, plants lower than two feet in height generally provide less fuel and produce shorter flame length than larger plants.

To keep the fuel volume low, revegetation within fuel modification areas should emphasize low growing vegetation, with well-spaced low and medium sized shrubs mixed in. The trimming of the shrubs and trees within this zone should be phased in order to provide a more diverse interface. Native bunch grasses and wildflowers produce lower fuel volume than the tall-growing annual non-native grasses and would be appropriate for fuel modification zones.

To prevent the buildup of fuel within the fuel modification zone, dead branches and other dead material need to be regularly removed. Overgrown shrubs and trees should be pruned and thinned out to remove unnecessary canopy growth, and to reduce wind resistance. Most coastal sage scrub shrubs can take heavy pruning.

Shrubs that re-sprout readily, such as *Artemisia californica*, *Encelia californica* and *Eriogonum cinereum*, can even be cut down to the base every few years, which will result in more compact and bushy plants. Likewise, ground covers, annual wildflowers and perennials can be cut back after the plants have bloomed to reduce the total amount of vegetation.

In the outer “Interface Thinning Zone,” correct maintenance requires major pruning every three to five years. To maintain healthy plants and a strong root system, native plants should be cut back during their dormancy in the summer. Perennial native grasses can be mowed in the late summer, after they set seed and when they are semi-dormant. They will re-sprout in fall as the weather cools off.

Plants that are highly flammable, such as non-native grasses and weeds should be totally or partially removed. Ornamental species that are known to be of high hazard, such as Acacias, pines and pampas grass should also be removed. All

debris from thinning and cutting should be exported out of the area. (Brinkmann-Busi, 2000)

Erosion Control

Although spaced and managed vegetation is important to reduce the fire hazard, this goal has to be balanced with the goal of watershed management and erosion control. Low growing plants, which are preferred for fuel volume reduction, usually have relatively shallow root systems, while tall plants have relatively deeper and more extensive root systems, which are preferred for watershed management. Therefore, while reducing fire hazards is a critical priority, at the same time it is a high priority, particularly on sloping terrain, to maintain a groundcover of deep-rooted plants that can stabilize the soil and reduce the erosive impact of surface water flow.

A vegetation cover with deep and strong root systems will be able to control surface erosion and reduce soil creep by anchoring the soil more effectively than shallow-rooted grasses and weeds. An added advantage is that deep rooted plants transpire more water out of the soil, and thereby increase the absorption of winter rains. Ground covers should be interspersed with taller, deep rooted shrubs and woody ground covers. The prostrate form of coyote brush (*Baccharis pilularis*), for example, has an exceptionally deep root system for a low ground cover (Klaus W.H. Radtke, 1982).

Restoration Maintenance

Maintenance of the restored and enhanced areas will consist of replacement of dead or sick plants, regular weed control measures, irrigation, regular checks of the drip system, and other special management tasks as necessities arise. The restored areas, if implemented successfully, will eventually become self-sustaining and need little maintenance. Long-term management will be required, however, for screening plantings, native plant demonstration areas, and possibly for the riparian woodland revegetation and fuel modification zones. (Brinkmann-Busi, 2000)

The White Point site holds significant cultural resources mirroring California's rich history.

Juan Rodriguez Cabrillo first encountered the indigenous inhabitants, the Gabrielinos, in 1542. Spanish colonization of the area began in 1769, and in 1827, the Sepulveda family was given White Point as part of the vast Rancho de Los Palos Verdes land grant. The Sepulvedas used the land for grazing cattle.

In 1899, Japanese immigrants leased the land and established an abalone fishery, a beachfront resort and later, farmed the area.

During WWII, White Point was taken by the Federal government and incorporated into the Coastal Defense system of Fort MacArthur.

Restoration Monitoring

Regular monitoring of restoration measures will provide crucial feedback for ongoing evaluation and improvement of project strategies and methods. Systematic records should be kept, for example, to document restoration and revegetation plots, seeding and planting dates, numbers of plants and species planted, species composition, vegetation structure and origin of seeds and cuttings. All documentation should employ standardized protocols developed and strictly adhered to in order to maintain continuity and comparability of data.

The monitoring program should include both qualitative and quantitative surveys. Qualitative surveys should systematically assess the overall health and condition of the restored and/or enhanced areas and plants. Quantitative surveys should incorporate more detailed sampling methods and quantitative estimates of species assemblages, species cover and height.

Regular walkovers should be conducted to observe and document plant mortality, growth rates, height, coverage, signs of drought stress, possible disease problems and other pertinent data. To collect quantitative data, permanently-marked transect lines and monitoring lots should be mapped and sampled; information should be gathered about shrub height, density, reproduction rate, weed infestation and potential erosion problems, along with general information regarding the annual precipitation, etc.

The plant inventory of the preserve should be updated annually to document the increased diversity of natives and the successful eradication of non-native plant species.

Permanently marked reference points should be established for photographic documentation. Photographs should always be taken from the same vantage point in the same direction at least once a year to document the progress of the restored areas.

Monitoring can easily be divided into different tasks which could be implemented by volunteers, possibly even boy/girl scout troops and/or student from nearby schools with the proper instruction and managerial oversight. (Brinkmann-Busi, 2000)

Restoration Methods

Site Preparation

The techniques used to prepare the restoration sites depend on existing specific conditions, such as steepness of slope and presence of native plants. Obviously, special care has to be taken to protect any existing coastal sage scrub patches and native plant species. The first step in restoring a natural area is the removal



of invasive, non-native species that easily naturalize and therefore have the ability to crowd out and displace native vegetation. The seed bank of invasive non-native grasses and forbs accumulated at White Point Park is so extensive that weed eradication will be an integral part of the restoration project. The selected weed eradication procedures will have to be regularly checked for their success and repeated, as long as necessary. However, special care should be taken to prevent soil disturbance, which would favor the germination of invasive non-native plants once again.

The removal of highly invasive perennial species, particularly giant reed, fennel, castor bean, iceplant and kikuyu grass should have first priority. The “Restoration and Management Plan” shows the occurrence and distribution of these species within the preserve. Once the mature non-native perennials are completely removed (and thereby the seed sources eliminated), regular follow-up checks and weeding operations are easier to accomplish and should be effective in keeping these plants out. It will also be helpful to prevent further accumulation of the weed seed bank by removing the seed heads of problem plant species before they can mature and disperse.

Areas with a dense cover of iceplant should be easiest to replant after the exotics have been removed. Iceplant usually crowds out any other plants, so that not many other weed seeds are in the ground below them. Small, germinating iceplants can be removed fairly easily.

Many of the invasive species are highly competitive annual plants from other areas with Mediterranean-type climate conditions. These plants quickly generate large numbers of seeds, then die, becoming a fire hazard. Well-established annual species like mustards, radish, and non-native grasses will be difficult to eradicate, since there are already millions of their seeds on site, and they can remain viable for many years.

Mechanical weeding or hand weeding is the most labor-intensive method. However, in areas with existing native vegetation, this method may be the only available option. It should be emphasized that the soil should be disturbed as little as possible, so as not to initiate another crop of weeds.

Besides hand weeding, the seed bank of non-native annual grasses and herbs can be diminished by mowing the purely non-native grassland and herbs at an early stage, before the seeds have a chance to ripen. Adjacent to implemented restoration areas, early mowing of such annuals before they could set seeds may help to prevent or reduce re-infestations. The cut material should be removed from the site. Repeated mowing at a later time may be necessary to remove possible subsequent crops of non-native annuals.

With a large amount of invasive non-native vegetation it is sometimes more realistic to rely on the use of herbicides. The use of herbicides, as a component of the weed control program in the restoration areas, must be approved by the restoration biologist and a person holding a qualified applicator certificate. The program may include a “grow and kill” method of repeated applications of appropriate herbicides (including round-up and/or pre-emergent). As with other site preparation procedures, special care should be taken to prevent soil disturbance during weed eradication that may encourage the germination of the non-native seed bank existing in the soil. Herbicidal weed control measures will be regularly monitored for success and repeated or modified as necessary to control competition with the native vegetation.

Herbicide applications may have to be repeated after a couple of weeks. Herbicides should be applied on warm, windless days to prevent incidental over-spray drifting onto native plants, and should not be sprayed shortly before or after rainfall. If possible, areas that are targeted for weed removal should be irrigated beforehand to stimulate the germination of weed seeds in the ground, before they are targeted. The germination procedure should be repeated if possible. (Brinkmann-Busi, 2000)



Native Plant Nursery

An on-site, native plant nursery is proposed at White Point for the propagation and care of native plants to be used in the restoration program. The establishment of temporary, on-site nursery facilities will increase efficiency of the restoration process. The nursery will require a separate, specially controlled irrigation system and shade structure. In addition, the nursery will require a secured enclosure to protect from vandalism.

Irrigation

Irrigation is necessary to stimulate plant germination and to supplement precipitation in case of drought conditions for newly planted natives. However, this irrigation is only needed on a temporary basis of two to four years at any given habitat restoration site. Once the plants are established, they should survive without irrigation. Typically, irrigation is required during the planting season in late Fall and Winter and extends for a period of three to four months. Deep root watering is the most successful method of irrigation in establishing a strong root system that will be more tolerant of drought conditions.

To provide the most efficient irrigation for this use, a temporary, above-ground drip system, or low-flow overhead sprinklers (placed only where needed) is most advisable. On the steep slopes, however, a drip system is preferable, because it would allow supplemental deep watering of the planted specimens without soaking the rest of the hill side. It is estimated that approximately ten acres of land during each planting season will be revegetated. Irrigation will be required to service each ten acre parcel for two to four years, creating a need of no more than 30 to 40 acres of irrigated land at any given time. Once a revegetated area has become established, the irrigation system may be removed and relocated at a newly planted site.

A more permanent irrigation system will be required for the proposed revegetation of the Riparian Woodland in the western draw. While it is hoped that the selected trees, shrubs and perennials will be able to survive on their own after initial establishment, it would be preferable to have a longer term, below ground, irrigation system available to provide supplemental water if needed. The same is true for the entrance green-scaping and the proposed Local Native Plant Demonstration Garden. A more permanent irrigation system would allow these plantings to be lush all year round and therefore to more effectively provide the desired screening and demonstration functions. Approximately four to five acres of land will require this semi-permanent irrigation system.

In addition to the above irrigation needs, a separately controlled irrigation system will be needed to service the native plant nursery.

Seeding and Planting

All local native plants used for restoration should be propagated from plant sources on the Palos Verdes Peninsula in order to maintain the local genetic characteristics. Non-local seeds and plants should be used only when recommended plant species no longer occur naturally on the Palos Verdes Peninsula, as is the case for example with oaks and deergrass. Seed material should be collected locally whenever local populations exist.

Since the proposed nature preserve has few surviving native plants, seeds and cuttings should be collected from other sites on the Palos Verdes Peninsula. The permission of the individual owner of the property, where collections are planned,

must be obtained. Since the seeds can be hand-broadcast not long after they have been collected, it may not be necessary to clean them from attached and/or incidentally gathered plant particles.

To take advantage of natural precipitation, seeding and planting should be done from late fall to winter, following the first rainfall of at least 0.5" and preferably in still moist soil, and shortly before heavy rains are expected. When that is not



possible, plants should be deep-watered after planting to reduce the severity of root-shock from transplanting.

Areas proposed for seeding should be carefully cleared of existing non-native plant material and preferably be prepared by repeated weed control treatments. Best results can be expected if additional irrigation is available in case of drought periods.

The seed mix for coastal sage scrub should consist of seeds of the basic shrubs, namely California sagebrush, California bush-sunflower, purple sage, goldenbush, and ashy-leafed buckwheat. Annuals, like the succulent lupine

could be mixed in. On slopes with an erosion risk, commercially grown annual fescue (*Vulpia microstachys*) seeds could be included in the seed mix, with the proportion increasing on steeper slopes, to provide systematic ground coverage and thereby reduce erosion risks. After the initial shrub cover is reestablished, the restoration area should be supplemented with container plants of additional species propagated from local plant sources.

Some natives, such as sages and lemonade berry, are easier to propagate from cuttings than from seeds. To maintain genetic diversity, care should be taken to collect cuttings from a range of different plants, where possible from different local populations, for each species desired. Generally, the best genetic variability is maintained by propagating plants from seeds. Locally rare and uncommon plant species should be grown from seeds in a controlled environment (to maximize germination and survival rates) and later planted out. These container plants should be used to increase the species diversity of the restored and/or enhanced sites within the preserve. Larger sage scrub species like coastal sagebrush, bush sunflower and purple sage should be planted at least six feet apart, while smaller species can be planted closer together.

Larger plants should be deep-watered after transplantation, and may also need supplemental deep-watering during the winter months if there is insufficient precipitation. Plantings should be implemented before the end of January, in order to give the plants a better chance to get established with the remaining winter rains. Once the planted natives are established, they will be able to slowly

shade out the weedy species; however, until then, the area around them should be regularly hand weeded and/or mowed to prevent competition until the plants are well established.

To enhance existing scattered coastal sage scrub patches, shrubs pre-grown from local plant stock should be planted in the late fall and winter, preferably in soil still moist from the first good rainfall (at least 0.5"), and immediately before heavy rains are expected. Since natural precipitation is not very reliable, it would be preferable, if it is possible, to water the plants thoroughly after transplanting, and to provide deep watering during the winter season in case sufficient precipitation is not forthcoming. Once the dominant shrubs are well established, the enhancement areas should be supplemented and replenished with a variety of native perennials and annuals also associated with coastal sage scrub. (Binkmann-Busi, 2000)

Maintenance

Operating Hours

The preserve will be open to the public, without fee, from dawn to dusk. The gate to the parking lot will be opened at a set time in the morning and closed at a set time in the evening. The restroom facilities will be open only when the park is staffed and open to the public.

Maintenance Yard

A secure maintenance yard will be needed as a storage and staging area for maintenance and restoration equipment needed in the operation of the preserve.

Grounds Maintenance

A grounds maintenance program will be developed for the preserve to properly maintain the physical grounds, and safe upkeep of the park's facilities. The specific duties to be performed on a regular basis will be identified and incorporated in to the City of Los Angeles Recreation and Parks Maintenance Department responsibilities. The habitat restoration areas will be managed and maintained by the PVPLC.

Restroom and Refuse Service

A regular program of restroom servicing and refuse removal will be established for the park and incorporated into the City of Los Angeles Recreation and Parks Maintenance Department responsibilities.

Fire Protection and Brush Clearance

The management partners at the White Point Nature Preserve will work closely with the Los Angeles County Fire Department to develop a fuel modification program for the site. The City of Los Angeles will perform annual brush clearance as required. The PVPLC will develop and manage a restoration plan that conforms to the requirements of the fuel modification program.

Park Management

Management Partners

The White Point Nature Preserve will be managed through a creative partnership between the City of Los Angeles, Recreation and Parks and the Palos Verdes Peninsula Land Conservancy. The partnership will be defined by the operating agreement between the two entities and further refined by a site management plan to be developed and approved by the partners. The coordination between the partners will be regular and ongoing.

Site Manager / Stewardship Director

The PVPLC will provide a site manager to oversee the management of the preserve and its daily administrative and programming needs. The PVPLC will also provide a stewardship director to manage and monitor the habitat restoration and native plant nursery operations at the preserve.

Volunteer and Docent Management

The PVPLC will provide volunteer training and volunteer services management for the preserve. Volunteers will play an important and critical role in the management of the preserve. Possible opportunities for volunteer involvement will include:

- Habitat planting and maintenance activities
- Trail work and maintenance
- Docent opportunities for leading nature and history tours and programs
- Scientific study, observation and restoration monitoring
- An adopt-an-acre program for local volunteer groups
- Regularly scheduled volunteer clean-up and weeding days

Many aspects of the interpretive program and habitat restoration process can be effectively carried out through volunteer efforts. Involving the community at all levels of the process creates a feeling of ownership that plays an important role in the effective management of public parks. The PVPLC will utilize its experience and expertise in providing docent training and supervising volunteer restoration efforts.

Education Programs Director

The Education Director for the PVPLC will provide management of the educational programming at the preserve. The Education Director will develop a comprehensive educational program for the preserve that will involve local schools and provide outreach to the region through school field trip programs. The Education Director will also develop site specific programs to address the unique ecological, cultural and historical resources at White Point targeted to meet the needs of the public.

General Maintenance

The City of Los Angeles, Recreation and Parks Department will provide the necessary staff to provide general maintenance services as required at the preserve.

Safety and Security Measures

Safety Recommendations

A complete study of the measures needed to provide a safe park for public use must be performed for the site, followed by the implementation of a program to address these public safety concerns. The initial findings of site surveys have identified several safety recommendations.

It has been determined that the majority of the existing safety hazards at the site are associated with the abandoned military structures. The dilapidated and vandalized condition of the buildings, and the fact that they are not secured, poses significant risks to public safety. The buildings can be entered through missing doors and windows, providing an attractive nuisance and a place to hide for unlawful activities. There are many sharp protrusions and overhead hazards inside the buildings. Studies have also determined that the buildings are made of un-reinforced concrete that does not meet building safety code requirements. Although entrances to the underground portions of the bunkers and the Nike Missile pad have been welded shut, there are signs of increased vandalism to these entrances that also may provide safety problems. Another safety hazard noted in the survey is a precipice danger created by the earthen berm that covers the bunker tunnels.

This Master Plan for the White Point Nature Preserve has been developed so that it is not dependent on the disposition of the Military structures; however, these safety concerns will need to be addressed before the park can be safely open to the public.

The preserve's topography provides an open view to the majority of the site which is helpful in providing security; however, it is suggested that security lighting be provided at the new restrooms. This security lighting would be motion activated so that it would only provide illumination in the case of after hour, unauthorized use.

Security

The preserve will be serviced on a 24 hour basis by the Park Rangers and, in emergency situations, by the Los Angeles Police Department and Los Angeles County Fire Department.

Funding

Sources of Funding

To accomplish the goals and planned land use improvements set forth in this Master Plan, the Palos Verdes Peninsula Land Conservancy, in cooperation with the City of Los Angeles, will work diligently to secure funding from local, state, county and federal sources as well as private sector donations. A major portion of the funding for this project is targeted for monies available through Proposition 12. Grant requests have been made for allocations from both the Los Angeles City per capita dollars and Wildlife Conservation Board allotments.

The Palos Verdes Peninsula Land Conservancy, as a non-profit corporation, has donated over \$60,000 of its own funds toward the development of this project. In addition, current funding, totaling \$20,000 has been obtained from the Neighborhood Matching Fund for entryway improvements. Volunteer efforts totaling over \$40,000 in documented hours and private sector donations have provided and will continue to provide significant alternative funding for this project through donated services, materials, and volunteer labor.

The PVPLC has also has been successful in identifying funding sources and submitting grant requests to cover \$1,816,000 in funding requirements. A grant request of \$301,000 has been made to the MTA 2001 Call and has received a score of 92% indicating a high probability of award. This grant would cover the costs associated with the parking area and entryway improvements as well as some interpretive signage. An, \$810,000 State Prop 12 grant request has been made to the Wildlife Conservation Board to cover the costs of habitat restoration to 90 acres of the preserve. A pending agreement for this grant request has been issued by the Wildlife Conservation Board. In addition, Senator Betty Karnette has made a legislation request for \$445,000 in Prop 12 funds to cover the costs associated with the educational and interpretive programming, the restroom facility and the demonstration garden. Council District 15 has designated \$260,000 in Prop12 funding to the White Point project to cover the costs associated with preparing the site for public access and making accommodations for visitor safety.

Budget

The following budget has been developed to represent the projected costs of the proposed project as outlined in this Master Plan. This budget represents the total cost to complete the planned land use improvements and to provide the management and programming needed to accomplish the goals and objectives set forth in the plan.

The budget items have been grouped into categories that reflect the main goals of the plan for providing habitat restoration, public access, visitor services and

educational and interpretive programming. The budget also groups costs in a manner that identifies general use categories targeted for the specified funding sources available.

The first budget category, habitat restoration, is the primary focus of the plan and therefore would be the first priority for funding. The second category, public access, is equally important and represents the costs associated with opening the preserve to the public. The educational/historical interpretation categories in the budget are less time critical and can be developed as funding becomes available. The management and administrative costs are a necessary component to providing the level of service described in the plan.

There may be additional costs associated with this project that are not included in this budget because they were outside the scope of this Plan. These associated costs may include: (1) Costs that may be incurred by the City of Los Angeles associated with Environmental Impact Review and reporting requirements, (2) Costs which may be incurred by the City of Los Angeles associated with the removal and/or renovation of the existing buildings on the site, and (3) Costs associated with the City's Department of Recreation and Parks Maintenance Department for increased maintenance responsibilities at the site once it is opened to the public.

White Point Nature Preserve Funding Requirements

Habitat Restoration

Native Plant Stock, Propagation and Nursery Care	\$250,000
Temporary Nursery Facility	30,000
Restoration Materials & Supplies	29,500
Signage	500
Restoration Site Prep., Planting & Maintenance	180,000
Irrigation System	180,000
Engineering & Design	20,000
Contract Management/Administrative	70,000
Restoration Monitoring	15,000
<u>Contingencies</u>	<u>35,000</u>
Sub-Total	\$810,000

Public Access

Parking and Entryway	\$301,000
Accommodations for Visitor Safety	180,000
Fencing Removal and Replacement	80,000
<u>Refurbishment of Existing Roadways</u>	<u>30,000</u>
Sub-Total	\$591,000

Interpretive & Educational Program

Restroom Facilities	\$140,000
Trailhead Orientation	20,000
Hiking Trails	20,000
Demonstration Gardens	50,000
Trailside Benches and Viewing Areas	35,000
Water Fountains	5,000
Ecological & Historical Interpretive Panels	110,000
Education Program Development/Brochures	45,000
<u>Education Program Administration</u>	<u>20,000</u>
Sub-Total	\$445,000

Total Master Plan Development Costs	\$1,846,000
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