

# Chino Hills State Park

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## Discovery Center Interpretation Project Plan



**Chino Hills State Park Discovery Center Interpretation Project Plan**

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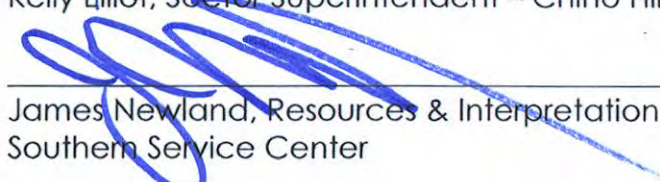
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**Cover image:** View of the new Chino Hills State Park Discovery Center.



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# Introduction

## Project Overview

Chino Hills State Park features significant open space that supports healthy wildlife and plant communities within the Mediterranean California Ecoregion, one of the most biologically diverse areas in the world. A new Discovery Center and day-use facilities located at the western end of Chino Hills State Park will provide opportunities for visitors to better understand the park's significance and value.

The new 2,065 square foot Discovery Center (approximately 1,500 square feet of exhibit space), a multi-purpose room (approximately 1,652 square feet), and associated elements will provide improved park access, restroom facilities, parking, visitor orientation, safety information, and further communicate the significance of the park. The area will include interior and exterior exhibits, an outdoor amphitheater, viewing platforms, and a "Discovery Trail" landscaped with native plants. The main exhibit hall will provide visitors with interpretive media and activities, while the multi-purpose room will support rotating exhibits, and community events.

The Chino Hills State Park Visitor Center Project came into fruition as a result of 2000 Bond Act funding and a \$950,000 donation from the Wildlands Conservancy. The current budget allocation for construction of this project is \$2,189,000 from DPR bond funds. An additional \$500,000 is budgeted for interior exhibits, while \$225,000 is allocated for exterior improvements: outdoor exhibits (\$90,000), interpretive landscaping (\$115,000), and parking lot landscaping (\$20,000).

Near trailheads and scenic views of riparian habitat, the Discovery Center will provide visitors with opportunities to enhance their park experience, participate in community-based programs and events, support educational programs for school groups, and a place to embark on an adventure at Chino Hills State Park.<sup>1</sup> Interpretation is often considered the best ally in the protection of such a precious place. Educational and interpretive programs will play a key role in

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<sup>1</sup> Trail use by equestrians, mountain bikes, and hikers will be permitted within the area, but off-trail use poses a threat to native plants and animals.

enhancing the protection of this irreplaceable open space area so close to a large urban population.

The Discovery Center is a desirable location to explore the concepts of the park's biodiversity, regional biocorridors, and human impacts on and relationship with the Chino Hills environment. Drawing upon resource specialists, Hills for Everyone, and park staff, this plan proposes media, themes, and methods for interpreting the extraordinary biodiversity and resources within Chino Hills State Park.

### **Chino Hills State Park Discovery Center Mission Statement**

The Chino Hills State Park Discovery Center is dedicated to the preservation and interpretation of the biological diversity and natural and cultural resources of Chino Hills State Park. The facility provides unique learning opportunities, inspires positive environmental actions, and builds lasting connections between humans and this precious urban wildland.

### **Project Goals**

The Chino Hills State Park Discovery Center will be a premier educational and interpretive destination for children, teachers, and the local community. Overall goals for the Chino Hills Discovery Center include the following. The interpretive facility will:

- Protect the park's natural and cultural resources and the biological diversity of Chino Hills State Park through education and interpretation.
- Enhance visitors' experience with exhibits, displays, and park information.
- Enrich the experience of school groups by providing curriculum related activities, exhibits, and educational opportunities.
- Provide learning experiences that appeal to visitors with different levels of knowledge and interest.
- Offer a multi-use area to encourage community based learning and activities.
- Upon visiting the Chino Hills Discovery Center and exploring its exhibits, visitors will want to explore the rest of the park.

# Overview of Chino Hills State Park

## Declaration of Purpose

The purpose of Chino Hills State Park is to preserve the natural, cultural, and scenic resources of the rolling hills, wooded canyons, and riparian forests that are representative of the early California landscape, and make them available for public enjoyment and education.

California State Parks will endeavor to preserve and restore native habitats in the park for their intrinsic natural values, to promote biological diversity, and to support the integrity of regional ecosystems. California State Parks will endeavor to protect the cultural and scenic resources, promote an understanding of the park's unique features, and provide recreation opportunities in a manner consistent with the protection of natural and cultural values.<sup>2</sup>

## Spirit of Place

Chino Hills State Park gives those who visit it a sense of being transported back in time to an earlier and more undeveloped California. Upon entering the park, the transition from the human-made environment to the natural environment is abrupt; housing tracts quickly give way to open hills, and once inside, the sights and sounds of modern intrusions are minimal and one feels many miles away from cities and freeways. The park interior is enveloped by its ridgelines, and one perceives the land as being secluded, protected, and still. Without city noises and visual obtrusions, visitors become aware of the park's subtle movements, natural smells, and variations in microclimate, vegetation, and topography. Many endearing values of the park are intangible. The qualities of open space, natural sounds, and fresh air cannot be quantified like physical resources can, but they allow visitors to be aware of and reconnected with the natural world.

The forces of nature that have shaped the land are evident by the steeply cut valleys, landslides, and rolling hills of the park. These places mark the passage of time through their variation of seasonal colors. The park's landscape changes over the course of a year from one that is dry and dusty to one that is moist and lush. These variations can also be discovered while moving from the exposed ridgetops to the dense shade under riparian tree canopies.

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<sup>2</sup> California Department of Parks and Recreation, *Chino Hills State Park General Plan* (San Diego: CDPR Southern Service Center, 1999), 48.



The park is one of few in the Los Angeles Basin that offers opportunities for tranquility, solitude, and relief from the hectic urban life that surrounds it. It gives visitors a place to explore and recreate at their leisure. As the pace of life in this area quickens and the size of the population adjacent to the park grows, these values will become increasingly precious to many park visitors.

One comes away from Chino Hills State Park feeling refreshed. But the effect of one's experience at the park is most apparent when one returns to the urban environment. The park leaves visitors with a feeling of compassion for the disappearing values of California's past landscapes and a sincere appreciation for the remaining open space that is available for today's enjoyment.<sup>3</sup>

## **Location**

Chino Hills State Park is an open space area located within three, highly urban counties (Orange, Riverside, and San Bernardino). It is a significant biocorridor linking wildlife habitats of the Puente-Chino Hills and Santa Ana Mountains. This area is one of the few Los Angeles Basin parks offering opportunities for tranquility, solitude, and relief from the hectic urban life that surrounds it.

Its 14,102 acres encompass stands of forest, scrub, and grassland habitats. The park is part of an important 31 mile long regional wildlife movement corridor of natural open space where animals move back and forth between the Santa Ana Mountains and the west end of the Whittier Hills. The Cleveland National Forest in the Santa Ana Mountains is just south of the Coal Canyon area of the park on the opposite side of Highway 91.

Chino Hills State Park is a vitally important refuge for many species of plants and animals as a link between natural areas. It is biologically connected to Santa Ana Mountains and the Cleveland National Forest via the Coal Canyon biocorridor, the only remaining viable link between them. Other parks in the vicinity include Carbon Canyon Regional Park to the west, Prado Regional Park to the east, Featherly Regional Park to the south, and Yorba Regional Park to the southwest.<sup>4</sup>

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<sup>3</sup> CDPR, *Chino Hills State Park General Plan* (San Diego: CDPR Southern Service Center, 1999), 4.

<sup>4</sup> California Department of Parks and Recreation, *Chino Hills State Park General Plan* (San Diego: CDPR Southern Service Center, 1999), 1.

## **Park History**

Over the centuries, many people have made use of the open spaces and plentiful water, plant and animal resources of the Chino Hills. Prior to European contact, the Gabrielino (Tongva) Indians, who lived along the Santa Ana River basin, set up temporary camps for gathering acorns, elderberries, and other seeds.

After the Spanish founded Mission San Gabriel in 1771, the Chino Hills were used extensively for grazing by mission cattle. During the Mexican Republic era, the hills were used as spillover grazing from such surrounding Mexican ranchos as Santa Ana del Chino and La Sierra Yorba. After Mexico ceded California to the United States in 1848, the land was still used primarily for grazing.

Private land acquisition began in the 1870s and continued into the 1890s. In 1948, the 1,720-acre Rolling M Ranch was established and the land leased to nearby landowners for cattle grazing. Some late nineteenth and early twentieth century oil exploration and mining activity also took place in the park. A ranch house, barn, and several windmills and watering troughs serve as reminders of the cattle ranching days.

In 1977, the California legislature passed a resolution directing California State Parks to conduct a study about acquiring Chino Hills land for park purposes. A local citizens group, Hills for Everyone, worked closely with California State Parks and the legislature to create the park with an initial acquisition of 2,237 acres. In 1984, the State Park and Recreation Commission officially declared the area a unit of the State Park System. Since that date, numerous land acquisitions from various private landowners have expanded the park to its present acreage.<sup>5</sup>

## **Geography**

Ranging from 430 feet to 1,781 feet in elevation, the park straddles the north end of the Santa Ana Mountains and the southeast portion of the Puente-Chino Hills, which together form the northern end of the Peninsular Ranges in Southern California. This formation interrupts the generally flat Los Angeles Basin with a variety of rolling hills, mountains and canyons on its south and east sides. The hills are a result of uplift and folding along the Whittier and Chino faults.

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<sup>5</sup> California State Parks, *Park History*, [http://www.parks.ca.gov/default.asp?page\\_id=21967](http://www.parks.ca.gov/default.asp?page_id=21967).



The Puente-Chino Hills are made up of sedimentary rocks of the Puente Formation, deposited from five to fifteen million years ago. Associated with this formation are petroleum resources that have been explored and exploited in the Los Angeles region since the late 1800s. Fine clay soils are found in these formations, as well as a few areas of alluvial deposits that wash down from the hills and mountains during winter rains.<sup>6</sup>

## **Plant Communities**

Diversity is perhaps the most important feature of the vegetation found within Chino Hills State Park. In fact, Chino Hills has several different kinds of vegetation in each of its major habitats.

In the park's creek zones, cattail stands provide habitat for a variety of wildlife, among them red-winged blackbirds. Along seasonal and year-round creeks, the willow and sycamore woodlands have understories of wild rose, stinging nettle and mule fat. These riparian areas provide cover and food for numerous animals and nesting birds. Many of these nesting birds are migratory species that come to the streamside habitats from Central and South America each spring to raise their young. Southern California black walnut trees join coast live oaks to form woodlands above the creeks, often on north facing slopes. These walnut woodlands are another important and rare plant community preserved in the park. Only a few thousand acres of this California habitat still exist, with about 1500 acres in preserves. Several hundred acres are protected at Chino Hills State Park.

The Tecate cypress is another special type of plant community found only in a few places in the United States. Several Tecate cypresses are found in Coal Canyon, adjacent to the larger ecological reserve managed by the California Department of Fish and Game.

Scrub and chaparral communities along the hills and slopes above the canyon floors include coastal sage scrub, dominated by California buckwheat and California sagebrush and mixed chaparral dominated by laurel sumac and toyon. Many California wildlife species depend on these scrub and chaparral communities for survival. Because these communities are disappearing as urban development continues, they form an increasingly important part of the biological resources protected in the park.

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<sup>6</sup> California State Parks, *Geography*, [http://www.parks.ca.gov/default.asp?page\\_id=21971](http://www.parks.ca.gov/default.asp?page_id=21971).

Most of the grassland in the park is non-native annual European grasses that were introduced here during the early ranching years. However, grassland species native to California, such as purple needle grass and giant rye can be found among the annuals. An active grassland restoration program in the park is restoring native grassland to its more natural and dominant state.<sup>7</sup>

## **Wildlife**

Because of its great variety of habitats and microclimates, Chino Hills State Park is an ideal location for observing many wildlife species native to Southern California. Red-tailed hawks and turkey vultures soar above. Coyotes, deer, bobcats and other mammals are often seen in the woodlands, scrub, and grasslands. Visitors with good ears and sharp eyes will enjoy the many songbird species seen and heard foraging and raising young in the trees and shrubs.

More than 200 species of birds and mammals, numerous reptiles and amphibians, and thousands of types of insects and other invertebrates live in the park. Some of these animals, including least Bell's vireo, the California gnatcatcher and the coastal cactus wren, are considered rare, threatened or endangered. The local diversity of native plants and animals found here in the Southern California region is greater than in any other area of comparable size in the United States.<sup>8</sup>

## **Building the Chino Hills Bio-Link**

For humans relaxing or recreating in the park, Chino Hills is an island of tranquility in a sea of urbanization. For the plants and animals in the park, it is a link to other natural areas. By providing a major biological link between islands of open space, Chino Hills State Park effectively makes habitats larger and helps to ensure species diversity.

The many different watersheds of Chino Hills State Park combine to make up a biological corridor that allows wide-ranging species such as bobcats, mountain lions and a variety of rare species to avoid becoming trapped in isolated patches of habitat. When small patches of wilderness are cut off from other open space areas, many of the species present at the time of isolation will inevitably disappear.<sup>9</sup>

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<sup>7</sup> California State Parks, *Plant Communities*, [http://www.parks.ca.gov/default.asp?page\\_id=21972](http://www.parks.ca.gov/default.asp?page_id=21972).

<sup>8</sup> California State Parks, *Wildlife*, [http://www.parks.ca.gov/default.asp?page\\_id=21970](http://www.parks.ca.gov/default.asp?page_id=21970).

<sup>9</sup> California State Parks, *Building the Chino Hills Bio-Link*, [http://www.parks.ca.gov/default.asp?page\\_id=21969](http://www.parks.ca.gov/default.asp?page_id=21969).

Biological corridors help to maintain healthy populations of plants and animals by allowing for genetic exchange, species migration, maintaining a balanced food chain, and repopulating after a catastrophe such as the 2008 fire that burned “More than 95% of the park's 14,100 acres...”<sup>10</sup>

## **Recreational Resources**

The proximity of its natural open space to urban populations and extensive trail network make Chino Hills State Park a popular and valuable recreational resource. Visitors enjoy both active and passive forms of recreation that focus primarily on trail use. People frequently visit the park from adjacent communities to walk, jog, bike, or ride horses. The park is also a popular spot for family and equestrian campers, as well as picnickers.<sup>11</sup>

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<sup>10</sup>David Kelly, “A state park left a shambles,” *Los Angeles Times*, November 29, 2008, sec. B.

<sup>11</sup> California Department of Parks and Recreation, *Chino Hills State Park General Plan* (San Diego: CDPR Southern Service Center, 1999), 36.

# Current Status of Interpretation

## Existing Interpretive Planning Documents

Derived from the original general plan and resource inventory completed during the 1980s, a revised *Chino Hills State Park General Plan* was completed in 1999. This document outlines interpretive themes, resources, interpretive collections, and proposed facilities (including plans for a visitor center) within the park. Suggesting a new emphasis on habitat connections, native plant and animal diversity and fragility in the area, the general plan provides the framework for the interpretive programs, media, and facilities within the park.<sup>12</sup> No formal interpretive planning documents have been previously completed for the park.

## Interpretive Collections

The Department acquires and maintains collections for several reasons. First, to preserve elements of the natural and cultural environment original to the park; second, to document the people, events, and cultural and natural features that are central to the park's purpose; and third, to support the interpretation of themes that are important to the park.

The following Goal and Scope of Collections Statement, identified in the park's 1999 General Plan, states the management objectives and provides guidelines for the type of park collections at Chino Hills State Park.<sup>13</sup>

**Goal:** Provide for the collection of natural and cultural artifacts original to Chino Hills State Park which supports the Declaration of Purpose and Department mission.

### **Scope of Collections Statement:**

*Natural and cultural material and object collections at Chino Hills State Park will have a specific connection to the natural and cultural history of the park, or provide support for interpretive themes and programs. Archaeological and paleontological materials, natural history specimens of park flora and fauna, and objects like historic furnishings, equipment, or personal items associated with the park are all potential collection items at Chino Hills State Park. Historic object collections will include those of the ranching period up to the year 1950.*

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<sup>12</sup> California Department of Parks and Recreation, *Chino Hills State Park General Plan* (Sacramento: CDPR, 1999), 44.

<sup>13</sup> *Ibid*, 66-67.

- *Acquisition of ranching era artifacts and props will have a local historical association to the Rolling M Ranch, or other ranching activities within or near Chino Hills State Park.*
- *Natural history specimens of rare species will not be collected. Only lawfully salvaged specimens will be maintained in collections.*
- *The Department will establish safe and secure spaces for storage and display of park collections, and systems for inventory and management. Policies as outlined in the Department Operations Manual (DOM) Chapter 20 will be followed.*

The Chino Hills State Park interpretive collections were inventoried on March 25, 2008 by Christina Swiden (Museum Curator III, Northern Service Center) with the assistance of Larrynn Carver (Inland Empire District Archaeologist) and Dennis Stephen (Chino Hills State Park Ranger) at the Rolling M Ranch. Thirteen objects with cultural significance were cataloged and photographed and included Native American and historic ranching artifacts. Natural objects such as animal bones, antlers, bird's nest, geological specimens, and the Chino Hills State Park plant catalogue were not inventoried as museum objects.<sup>14</sup>

Interpretive and photographic collections not owned by the park may be acquired from the Hills for Everyone archives, Chino Hills State Park Interpretive Association, Olinda Oil Museum, The Puente Hills Landfill and Native Habitat Preservation Authority, Hillside Open Space Education Coalition, The Pomona Valley Audubon, Sea and Sage Audubon Society, The Angeles Chapter of the Sierra Club, the California Native Plant Society, Department of Fish and Game, United States Fish and Wildlife Service, the Brea Museum and Heritage Center, The Fairchild Aerial Photography Collection at Whittier College, CalPhotos at UC Berkeley, State Park staff, Johnny Bennet, Bruce Farnsworth, Daniel S. Cooper, and other local photographers.

## **Visitor Orientation**

The Chino Hills State Park brochure was revised in 2007 and is available at various locations within the park or online on the California State Park website.<sup>15</sup> These park brochures are offered at the entrances of Bane Canyon, Rolling M Campground, and Chino Hills Discovery Center.

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<sup>14</sup> California Department of Parks and Recreation, *Rolling M Ranch, Chino Hills State Park Museum Collection Inventory*, (Sacramento: Northern Service Center, Christina Swiden, 2008).

<sup>15</sup> California State Parks, *Chino Hills State Park brochure*, <http://www.parks.ca.gov/pages/648/files/ChinoHillsPDF.pdf>.

Outside the park, the Olinda Oil Museum makes Chino Hills State Park brochures available to the visiting public. Other external forms of information and orientation include "Franko's Map of the Santa Ana Mountains & Chino Hills State Park," which displays the trails within the park and interprets significant features in the area.<sup>16</sup>

### **Interpretive Facilities and Media**

The majority of interpretive facilities are located at or near Rolling M Ranch and Coal Canyon. No orientation or major interpretive components exist at the far-western end of the park. The Discovery Center will create much-needed interpretive facilities that are non-existent at the western end of the park.

The only other major interpretive area is located at the Rolling M Ranch within the far eastern section of the park. With little emphasis on the importance of the area's natural heritage, the interpretation and education at the Rolling M Ranch mostly focuses on cultural history. This area includes a campfire amphitheater and interpretive panels about various topics such as ranching, sensitive birds, and wildfire issues. There is an interpretive station along the Santa Ana River Trail at Coal Canyon. There is some interpretive signage within Coal Canyon and near the confluence of Bane and Aliso drainages.

Signs focused on the interpretation of Native Americans are located along the Hills for Everyone Trail. This is a one mile long route that begins west of the Rolling M Ranch off of Telegraph Canyon Trail.

Audio-visual programs related to environmental conservation and biodiversity within Chino Hills State Park were created by Hills for Everyone and the Puente Hills Landfill Native Habitat Preservation Authority. These forms of media were produced in partial cooperation with California State Park staff and should be further evaluated for their relevance to this project.

### **Park Programs and Events**

Chino Hills State Park was closed in 2009 due to the economic crisis affecting the state of California. Recently re-opened, budget constraints are limiting staff availability to provide services at the site. With improved funding, it is anticipated that park programs will again be available, including campfire and educational talks, school tours, nature hikes, bird

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<sup>16</sup> Franko Maps Ltd, *Franko's Map of the Santa Ana Mountains & Chino Hills State Park*, [http://www.frankosmaps.com/Santa\\_Ana\\_Mountains.htm](http://www.frankosmaps.com/Santa_Ana_Mountains.htm).

walks, and flower walks. The Junior Ranger program, offered to children seven to twelve years of age, is also expected to resume.

Two key special events that have traditionally been held at the park – and that are expected to continue – are Living History Day (the last Saturday in April) and Wilderness Day (in the fall).

Other events include overnight camp out fundraisers that are hosted by the Chino Hills State Park Interpretive Association. These special events feature interpretive programs on topics such as bird calls, coyotes, and meteors.<sup>17</sup>

Special events also include park restoration, trail clean-up days, and Earth Day. These types of events incorporate safety talks and interpretive programs to increase visitor awareness and understanding of park resources.

Some of the park programs and events are expected to continue to be held on the eastern side of the park (Rolling M Ranch). Others will be held on the western side of the park, upon completion of the new Discovery Center.

The California State Parks website can be checked for upcoming programs and events at Chino Hills State Park:  
[http://www.parks.ca.gov/default.asp?page\\_id=648](http://www.parks.ca.gov/default.asp?page_id=648)

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<sup>17</sup> Chino Hills State Park Interpretive Association, *Past Events*,  
[http://www.chinohillsstatepark.org/Take\\_A\\_Tour/photo\\_gallery/meet-the-meteors.htm](http://www.chinohillsstatepark.org/Take_A_Tour/photo_gallery/meet-the-meteors.htm).



# Special Concerns

## Potential Audience

The park is situated within the counties of Orange, Riverside, and San Bernardino, and borders on Los Angeles County. Bordered on the northeast by the City of Chino Hills, on the south by the City of Yorba Linda, on the southeast by the City of Corona, on the west by the City of Brea, and is close to the communities of Chino, Olinda Village, and Sleepy Hollow. Chino Hills State Park is a popular destination for horseback riders, mountain bikers, joggers, wildlife enthusiasts, researchers, families, and organized groups. With fifteen million people living within a one-hour drive of the park, an extremely diverse population could potentially visit the park. Over the last five years, an average of 113,307 people visited the park on an annual basis.<sup>18</sup>

The Discovery Center portion of Chino Hills State Park is within the City of Brea and approximately 35,400 residents live in close proximity to this park entrance.<sup>19</sup> The primary audience currently visiting the park consists of twenty to forty year old males who are interested in trail recreation, wildlife viewing, and camping.<sup>20</sup> With access to three major trails, the Discovery Center is expected to attract mountain bikers, joggers, wildlife viewers.

The Discovery Center will also appeal to school groups from Anaheim, Brea, Chino, Chino Hills, Corona, Placentia, Yorba Linda, and beyond with curriculum-based programs and educational opportunities. In Brea alone there are six elementary schools, one junior high school, and two high schools.<sup>21</sup> The park's close proximity to the urban core creates many possibilities for visitation. Some schools, such as Olinda Elementary, are less than a mile from the Discovery Center. The proximity to new educational opportunities may inspire frequent visitation from school groups.

Community outreach, creative marketing, and accessible curriculum-relevant programming must be a top priority to meet the needs of school groups. A recent survey of nearly three hundred teachers from the local area showed that ninety-seven percent of teachers had never taken their

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<sup>18</sup> California State Parks, *State Park System Statistical Reports 2003-2007*, [http://www.parks.ca.gov/?page\\_id=23308](http://www.parks.ca.gov/?page_id=23308).

<sup>19</sup> According to the 2000 United States Census, Brea is a city of approximately 35,400 people with a median income of \$59,759. Approximately 77% of the population is white, 20% Hispanic, and 9% Asian.

<sup>20</sup> California Department of Parks and Recreation, *Chino Hills State Park General Plan* (San Diego: CDPR Southern Service Center, 1999), 1 and Expanded from memorandum 4-30-04 (Karen Barry to Joanne Redoble)

<sup>21</sup> Brea Olinda School District, "Schools," <http://www.bousd.k12.ca.us/schools/default.asp>.

class to Chino Hills State Park and seventy-four percent said that lack of information had prevented them from visiting the park. The survey also revealed that many teachers are faced with lack of funding for transportation and limited ability to go on field trips. Taking these obstacles into consideration, the interpretive programs and media at the Discovery Center aim to ease limitations to access and exceed educational expectations in order to further develop a dedicated park constituency and an educational community tied to Chino Hills State Park and its resources.<sup>22</sup>

### **Staffing and Park Support**

To be a successful interpretive institution, the Chino Hills State Park Discovery Center will need sufficient staff to meet the needs of visitors seven days a week. The Discovery Center will require the attention of maintenance and interpretive staff to meet visitor expectations of facility cleanliness and comfort. They will also answer telephone calls, arrange group visits and special events, and support regular interpretive and educational programs at the Discovery Center.

The facility will be supported by a State Park Ranger, an Interpreter, District Archaeologist, Environmental Scientists, maintenance workers, seasonal support, and volunteers. While volunteers will be essential to supporting the facility, it should be noted that volunteer management and training will require a significant amount of support and staff time.<sup>23</sup>

Current park partners include the Chino Hills State Park Interpretive Association, a State Park cooperating association that supports interpretation and education in the park. Other potential support for future park program development includes Hills for Everyone, Metropolitan Water District, Aera Energy LLC, Olinda Oil Museum, and other local community groups.

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<sup>22</sup> California State Parks conducted a K-12 teacher survey in May 2008 which included responses primarily from the Placentia-Yorba Unified School District and the Brea Olinda Unified School District.

<sup>23</sup> Refer to the following for more information regarding volunteer development and management: California State Parks, *The Gift of Time: Effective Volunteer Program Management for Local Parks and Recreation Agencies*, <http://www.parks.ca.gov/pages/795/files/the%20gift%20of%20time.pdf>.

# Overall Interpretive Direction

## California State Parks' Interpretation Mission Statement

Interpretation is a special form of communication that helps people understand, appreciate, and emotionally connect with the rich natural and cultural heritage preserved in parks. It is the mission of interpretation in California State Parks to convey messages that initially will help visitors value their experience, and that ultimately will foster a conservation ethic and promote a dedicated park constituency.<sup>24</sup>

## Interpretive Goals

Interpretation is based on the premise that knowledge deepens the park experience and provides lasting benefits not only to individuals but also to society in general. The goal of interpretation at Chino Hills State Park is to expand the visitor's awareness, understanding, and appreciation of the park's resources and explore how they are part of Southern California's natural and cultural heritage.<sup>25</sup>

The following new goals outline the expectations for communication and delivery of meaningful interpretive experiences at the Chino Hills State Park Discovery Center.

- Convey the significance of Chino Hills State Park as a regional biological corridor and a hotspot for biological diversity, essential to the survival of diverse natural communities.
- Create an appreciation among visitors for Chino Hills State Park as an urban wildland, connected to and influenced by the cities and populations surrounding the park.
- Provide interpretive programs that are compatible with the other interpretive methods and media offered within the park.
- Inform visitors that staying on the trails and following park regulations protects both the visitor and the park's irreplaceable resources.
- Inspire visitors to take an active role in protecting their natural and cultural heritage.

## Interpretive Objectives

Interpretive objectives refer to specific statements of expected accomplishment or desired future condition within the context of achieving a broader goal. The following objectives have been developed

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<sup>24</sup> California State Parks Interpretation and Education Division, *Interpretation and Education Mission Statements*, [http://www.parks.ca.gov/?page\\_id=23434](http://www.parks.ca.gov/?page_id=23434).

<sup>25</sup> California Department of Parks and Recreation, *Chino Hills State Park General Plan*, 66.

to determine what people will learn, feel, and do as a result of their experience at the Chino Hills State Park Discovery Center.

### **Learning Objectives**

- Visitors will be able to identify plants and animals as they explore the park.
- Visitors will understand that the preservation of native plants is essential to biodiversity.
- Visitors will understand that plants and animals play a distinct role within their community.
- Visitors will understand what a food chain is and its role in the ecosystem.
- Visitors will understand that the walnut woodland community found within Chino Hills State Park is rare.
- Visitors will understand the concept of biodiversity and the variety of plant and animal life within Chino Hills State Park.
- Visitors will understand that plants and animals need regional wildland connectivity to survive and stay in balance.
- Visitors will understand the challenges that an animal faces living on the urban edge and navigating through the biocorridor.
- Visitors will understand the relationship between the urban and wildland environments.
- Visitors will understand that their actions at home impact natural processes.
- Visitors will understand that humans depend on and use diverse natural resources in a variety of ways.
- Visitors will understand the actions that led to the preservation of the park and its resources including the civic involvement of Hills for Everyone and California State Parks.
- Visitors will understand the importance of environmental stewardship to Southern California.
- Visitors will understand the variety of plant communities within Chino Hills State Park.

### **Emotional Objectives**

- Visitors will be visually introduced to the park's spirit of place.
- Visitors will want to explore the park and its biodiversity.
- Visitors will want to explore the Discovery Center and the rest of the park.
- Visitors will see the environment through the eyes of the animals that live within the Chino Hills area.
- Visitors will feel that they are connected to the natural world.
- Visitors will feel more connected to the plants and animals at Chino Hills State Park.

- Visitors will feel that they have a role in protecting biodiversity.
- Visitors will appreciate the biodiversity at Chino Hills State Park.

### **Behavioral Objectives**

- Visitors will easily find park facilities, features, and information.
- Visitors will explore the park in safety.
- Visitors will explore the variety of plant communities within Chino Hills State Park.
- Visitors will explore the amphitheater and the relationships between plants, animals, and people.
- Visitors will explore the combined forces that shape biodiversity at Chino Hills State Park.
- Visitors will use a microscope to study insect and seed specimen and will compare biological differences.
- Visitors will engage in activities related to environmental stewardship that extend beyond Chino Hills State Park.
- Visitors will study specimens associated with the park's plants, animals, and habitats.

## **Interpretive Themes**

Interpretive themes define a point of view given to the park's natural, cultural, aesthetic, and recreational resources. Themes link tangible resources to intangible, universal concepts that engage and inspire visitors. Tangible resources related to Chino Hills State Park include plants, animals, wildlands, and the bordering urban development. Universal concepts relevant to the messages communicated at the Discovery Center include survival, adaptation, irreplaceable loss, refuge, and interconnectivity. The following themes will direct the messages and media delivered at the Discovery Center.

### **Unifying Interpretive Theme**

Media, exhibits, and programs conducted at the Discovery Center will be related to the following unifying theme:

**Chino Hills State Park is an irreplaceable urban wildland of regional and global biological significance.**

The unifying theme communicates the main idea interpreted at the Chino Hills State Park Discovery Center. The park is unique because of its preservation of wildlands within a highly urban core of Southern California and the biologically diverse plant and animal populations that depend on these wildland areas within and connected to Chino Hills State Park to survive. Visitors will explore how human actions are impacting the natural areas within the region and why the protection of wildlands is vital today and for the future. Interpretive topics will explore concepts of biodiversity, regional connectivity, and human interrelationships with the Chino Hills environment. Additional themes and key messages are listed below:

**Primary Theme I:** The biodiversity connected to Chino Hills State Park makes it an exceptional place.

**Supporting Theme IA:** The connection of Chino Hills State Park to other wildland areas is crucial to the survival of plants and animals throughout the region.

**Supporting Theme IB:** Diverse rare, threatened, and endangered native plants and animals find refuge in the fragile natural environment of Chino Hills State Park.

**Primary Theme II:** Living on the edge of wildlands brings challenges and responsibilities for preserving the delicate balance between the habitats of wild animals and the needs of human residents.

**Primary Theme I:  
The biodiversity connected to Chino Hills State Park makes it an exceptional place.**

**MESSAGES**

**What is biodiversity?**<sup>26</sup>

- 1.1 Biodiversity simply means the variety of plants and animals and other living things in a particular area or region.

Generally, the higher the degree of biodiversity, the healthier an ecosystem tends to be.<sup>27</sup>

- 1.2 Chino Hills State Park, an important open space area within the Los Angeles Basin, provides refuge for an unusually large number of plant and animal species for an open space area of its size.

More than 200 species of birds and mammals, numerous reptiles and amphibians, and thousands of types of invertebrates can be found in the park.

- 1.3 “Maintaining a wide diversity of species in each ecosystem is necessary to preserve the web of life that sustains all living things.” Chino Hills is a unique variety of interconnected plants and animals.<sup>28</sup>

Biodiversity is not only important to the natural world, it is important to all people. The world’s plants and animals provide them with food and medicine, clean air and water, and places to escape city life.

**Global and Regional Significance**

- 1.4 California contains the greatest number of endangered plants and the greatest number of endangered birds of any region in the continental U.S.<sup>29</sup>

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<sup>26</sup>California Biodiversity Council, *California Biodiversity Council: An Applied Definition of Biodiversity*, [http://biodiversity.ca.gov/Biodiversity/biodiv\\_definition.html](http://biodiversity.ca.gov/Biodiversity/biodiv_definition.html) and Michael G. Barbour and Jack Major, *Terrestrial Vegetation of California* (Davis: California Native Plant Society, 1988), 111.

<sup>27</sup> The Field Museum, “Underground Adventure-Soil Biodiversity,” [http://www.fieldmuseum.org/UndergroundAdventure/teachers/soil\\_biodiversity.shtml](http://www.fieldmuseum.org/UndergroundAdventure/teachers/soil_biodiversity.shtml).

<sup>28</sup> Ibid.

<sup>29</sup> U.S. Fish and Wildlife, <http://endangered.fws.gov>.



Los Angeles, Santa Barbara, San Diego, and San Bernardino counties are four of ten counties in the continental United States with the largest number of threatened or endangered plant and animal species.<sup>30</sup>

- 1.5 The Mediterranean California Ecoregion, which covers much of western California and northwestern Baja California, is recognized worldwide as a significant area of biodiversity. This area contains a greater number of biological resources than any other area of comparable size in the United States.<sup>31</sup>
- 1.6 The Mediterranean climate type only occurs in four locations outside of the region surrounding the Mediterranean Sea. Sometimes it is considered relatively "rare" when compared to other world climate types. Only a very narrow area of the earth's surface actually supports plants and animals found in Mediterranean climates.

Among the recognized hotspots of biodiversity on Earth, all five main regions with a Mediterranean climate are included: The California Floristic Province; Central Chile; The Mediterranean Basin; The Cape Floristic Region and Southwest Australia.<sup>32</sup>

Mediterranean ecosystems are among the most threatened on Earth. More than 41 percent of their land has been converted to farmland and urban uses. Worldwide, only 5 percent of their natural area is protected.

Most people understand the plight of tropical rainforests, where habitat loss exceeds habitat protection by 2 to 1. In other words, for every acre of rainforest saved, two have been lost to conversion or development. In Mediterranean habitats, the disparity is much greater. For every acre of Mediterranean habitat saved, eight acres have been permanently lost.<sup>33</sup>

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<sup>30</sup> California State Parks, *Chino Hills General Plan* (Sacramento: State Park and Recreation Commission, 1999), 27-29.

<sup>31</sup> Environmental Protection Agency, Western Ecology Division "Ecoregions of North America," [http://www.epa.gov/wed/pages/ecoregions/na\\_eco.htm](http://www.epa.gov/wed/pages/ecoregions/na_eco.htm)

<sup>32</sup> Royal Botanic Gardens Kew, "Evolutionary Origin of Biodiversity Hotspots with a Mediterranean Climate," <http://www.kew.org/science/directory/projects/HOTMED.html>.

<sup>33</sup> Nature Conservancy, *California Saving Mediterranean Habitats Worldwide*, <http://www.nature.org/wherewework/northamerica/states/california/projectprofiles/shawquestions.html>.

## **Building Blocks of Biodiversity**

- 1.7 “Soil is a living thing. A single gram can contain as many as 15, 000 different species, 6 million creatures in total. Talk about diversity! While most of us may never actually see these life forms with our own eyes, they are there — and they are immensely important to us.”<sup>34</sup>

Chino Hills State Park is located in Soil Region VII-Southern California. The Soil Conservation Service has mapped thirty-nine soil units representing twenty soil series. These soils vary widely in depth, fertility, permeability, and other important characteristics, which support diverse animal life.<sup>35</sup>

The soil, as the major medium for plant growth, is the basic resource for all land use and development. The healthier the soil, the more life that ecosystem can support, resulting in a greater degree of biodiversity.<sup>36</sup>

- 1.8 The Chino Hills are part of the divide between the Los Angeles and Santa Ana Hydrologic Basins. Chino Hills State Park contains some complete watersheds such as Aliso Canyon, Telegraph Canyon, and Water Canyon. Most of the park drains toward the Santa Ana River or Carbon Creek. The high divide in the park between San Juan Hill and Gilman Peak creates microclimate differences due to rain shadow effect.

### **Supporting Theme IA:**

**The connection of Chino Hills State Park to other wildland areas is crucial to the survival of plants and animals throughout the region.**

## **MESSAGES**

### **The Biocorridor**

- 1.9 Habitat fragmentation is the tearing of the fabric of natural landscapes into smaller and smaller pieces. The alteration of habitats by human activities has been called the greatest threat to biodiversity on earth.<sup>37</sup>

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<sup>34</sup> GreenTreks Network, Inc, *Biodiversity: Healthy Soil*,

<http://www.greentreks.org/documentaries/biodiversity/healthysoil.asp>.

<sup>35</sup> California State Parks, *Chino Hills State Park General Plan* (Sacramento: State Park and Recreation Commission, 1999), 18.

<sup>36</sup> The Field Museum, “Underground Adventure-Soil Biodiversity,”

[http://www.fieldmuseum.org/UndergroundAdventure/teachers/soil\\_biodiversity.shtml](http://www.fieldmuseum.org/UndergroundAdventure/teachers/soil_biodiversity.shtml).

<sup>37</sup> Melanie Marie Schlotterbeck, *GIS Mapping of Biological Studies in the Puente-Chino Hills Wildlife Corridor Including Species Diversity and Relative Abundance* (Masters Thesis: CSU, Fullerton, 2001), 8.

Roads, trails, developments, and power lines are all ways a landscape is fragmented. Fragmentation begins with a gap, the initial loss of native habitat, which overtime gets bigger and bigger.<sup>38</sup> The Puente-Chino Hills, including the park, have become increasingly isolated by the conversion of the surrounding landscape to urban uses.

- 1.10 Biocorridors, like hallways between rooms, are extensions of habitat that connect one core habitat area to another. Small isolated areas of habitat simply cannot support as many species as larger areas. In order for the biodiversity of the park to be maintained at or near current levels it must remain connected to other protected wildlands in the region.

Biological corridors help to maintain healthy populations of plants and animals by allowing for genetic exchange, species migration, maintaining a balanced food chain, and repopulating after a catastrophe such as a fire. When small patches of wilderness are cut off from other open areas, many of the species present at the time of isolation will inevitably disappear or become extinct.

- 1.11 The habitat linkages important to the biological survival within the park include Coal Canyon, Sonome Canyon, and the natural slopes and drainages that connect the park to the Prado Basin to the east.

Coal Canyon links the park to the Cleveland National Forest and the Santa Ana Mountains. This is the most important biocorridor in the park because of its linkage to these much larger wildland areas.

Sonome Canyon links Chino Hills State Park to Tonner Canyon and other wildlands to the northwest, which lies in Los Angeles County.

Natural slopes and drainages east of the park connect it to important core habitat in the Prado Basin east of State Route 71. Both the Santa Ana River and the Prado Basin enhance the biocorridor.<sup>39</sup>

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<sup>38</sup> Melanie Marie Schlotterbeck, *GIS Mapping of Biological Studies in the Puente-Chino Hills Wildlife Corridor Including Species Diversity and Relative Abundance* (Masters Thesis: CSU, Fullerton, 2001), 8-9.

<sup>39</sup> California State Parks, *Chino Hills State Park General Plan* (Sacramento: State Park and Recreation Commission, 1999), 17.

## **Food Chains and Ecosystems**

- 1.12 Wide-ranging species mostly include predators at the top of the food chain that are essential for the maintenance of healthy ecosystems. Biocorridors allow wide-ranging species such as bobcats, mountain lions, and a variety of rare species from becoming trapped in isolated patches of habitat.

Mountain lions are predators at the top of the food chain and keep the ecosystem in balance. Bobcats eat smaller fare: rabbits, squirrels, reptiles, birds. Bobcats are near the top of the food chain, but mountain lions sometimes eat them. Both require plenty of space to find enough prey. A healthy ecosystem supports healthy predators.

- 1.13 The greatest threat to wildlife everywhere is habitat loss and fragmentation. Mountain lions and bobcats need a large, contiguous range for adequate prey and successful reproduction. The maintenance of wild areas that are connected by wildlife corridors is essential. A continuous range is the only way to preserve viable populations.
- 1.14 The movement of medium and large terrestrial carnivores occurs within the park and through the park vicinity (see Barrett and Beir, 1993 and Crooks and Haas, 1999).

### **Supporting Theme IB:**

**Diverse rare, threatened, and endangered native plants and animals find refuge in the fragile natural environment of Chino Hills State Park.**

## **MESSAGES**

### **Sensitive Species**

- 1.15 Over 30 species of mammals, birds, reptiles, and amphibians have been documented in the park that are considered Endangered, Threatened or California Species of Special Concern.
- 1.16 When there are too few animals of a species left, the species can no longer successfully reproduce itself, no more individuals are born, and the species becomes extinct.

In our state, the California grizzly bear, the official state animal, and the gray wolf have become extinct, and the California condor teeters on the edge of extinction.

At least twenty-one animal species and thirty-four plant species have become extinct in recent decades in California.<sup>40</sup>

### **Native Plant Communities**

1.17 More than 5,000 plants in California are native. This is more than are found in the northeastern United States and Canada combined, an area 10 times larger than California. At least one-third of these 5,000 plants are found nowhere else in the world.<sup>41</sup>

California's native plants evolved here over a very long period, and are the plants which the first Californians knew and depended on for their livelihood.<sup>42</sup> Plants have adapted to the extreme difference in rainfall and temperature between winter and summer seasons. Sclerophyll plants range in formations from forests, to woodland, and scrub. Fires occur frequently in Mediterranean climate zones.

1.18 These plants have co-evolved with animals, fungi and microbes, to form a complex network of relationships. They are the foundation of our native ecosystems, or natural communities.<sup>43</sup> Plants and animals are uniquely adapted to their environments and can be adversely influenced by changes to their environment.

1.19 Native plants often support 10 to 50 times as many species of native wildlife as non-native plants.<sup>44</sup> Plants are a cornerstone of biological diversity. Native plants do the best job of providing food and shelter for native wild animals. Native plants are used in the development of new foods, medicines and industrial products. Commercial strawberries were developed using our coast strawberry, *Fragaria chiloensis*, and pacific yew, *Taxus brevifolia*, yielded Taxol, an anti-cancer drug. Native plants are also an essential element in the natural beauty for which California is famous.

1.20 Defined by the type of plants that live within them, it is important to recognize that plant communities are not always clearly defined entities with strictly delineated boundaries, and that a given species may well inhabit two or more different such communities. Plant communities or associations are typically dependent on or affected

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<sup>40</sup> U.S. Fish and Wildlife, <http://endangered.fws.gov>.

<sup>41</sup> California Biodiversity Council, *California Biodiversity Council: An Educator's Guide to Biodiversity*, [http://biodiversity.ca.gov/Biodiversity/what\\_is.html](http://biodiversity.ca.gov/Biodiversity/what_is.html).

<sup>42</sup> California Native Plant Society, "Native Plants," <http://www.cnps.org/cnps/nativeplants/>.

<sup>43</sup> Ibid.

<sup>44</sup> California Native Plant Society, "Vegetation," <http://www.cnps.org/cnps/vegetation/>.

by such factors as geographical location, soil types, precipitation rates, angle and direction of slopes, elevations, microclimates and successional considerations, and thus it is not uncommon to find a particular plant or grouping of plants growing outside what would be thought of as its customary habitat if some of the above factors are advantageous to that growth.<sup>45</sup>

- 1.21 The region is rich in flora and fauna, due in part, to the vegetation communities, which support such a diversity of life.<sup>46</sup>

#### *Walnut Woodlands*<sup>47</sup>

- 1.22 The acorn woodpecker, Nuttall's woodpecker, California ground squirrel, western bluebird, great horned owl, band-tailed pigeon, plain titmouse, red-shouldered hawk, Pacific slender salamander, and western skink are typical animals.
- 1.23 Southern California black walnut trees join coast live oak to form woodlands above the creeks, often on the north facing slope. While black walnut used to be very common, only a few thousand acres of protected walnut woodland now exists. Several hundred acres exist in the park.
- 1.24 Walnuts were used for black die by Native Americans.
- 1.25 Woodlands have understories of California redberry, purple nightshade, native bunchgrass, lupines and poppies that blend into the grasslands.

#### *Valley Grasslands*<sup>48</sup>

- 1.26 Most grassland in the park is composed of non-native European annual grass and weed species introduced by early ranching.
- 1.27 Valley grassland once covered the major valleys of Southern California, and consisted mainly of native bunchgrasses. However, these perennial grasses were not well adapted to disturbances

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<sup>45</sup> Calflora, *Southern California Plant Communities*,  
<http://www.calflora.net/botanicalnames/plantcommunities.html>.

<sup>46</sup> Melanie Marie Schlotterbeck, *GIS Mapping of Biological Studies in the Puente-Chino Hills Wildlife Corridor Including Species Diversity and Relative Abundance* (Masters Thesis: CSU, Fullerton, 2001), 1.

<sup>47</sup> Kathy Jacobs, *From the Desert to the Sea: Major Habitats of Southern California*,  
[http://www.lalc.k12.ca.us/uclasp/local\\_habitats/habitats/chaparral.html](http://www.lalc.k12.ca.us/uclasp/local_habitats/habitats/chaparral.html).

<sup>48</sup> Kathy Jacobs, *From the Desert to the Sea: Major Habitats of Southern California*,  
[http://www.lalc.k12.ca.us/uclasp/local\\_habitats/habitats/chaparral.html](http://www.lalc.k12.ca.us/uclasp/local_habitats/habitats/chaparral.html).

created by grazing herd mammals and humans, and have been largely replaced by imported Mediterranean weeds from Europe. In addition, in Southern California, much of the former expanse of this habitat has been built on, and the habitat so completely altered that it is now classified as non-native grassland.

- 1.28 Grassland species native to California such as purple needlegrass and giant rye can still be found among the European annuals at the park.

#### *Chaparral*<sup>49</sup>

- 1.29 Chaparral is the dominant habitat found in the mountains of Southern California.
- 1.30 The plants must be able to tolerate long periods without rain, dry soil, baking sun.
- 1.31 Chaparral plants often have two root systems; shallow roots for catching water when it falls as rain, and tap roots for support.
- 1.32 Some chaparral plants are *allelopathic*, producing toxins which inhibit plant growth near them.
- 1.33 Chaparral plants include chamise, laurel sumac, and coffee berry.

#### *Coastal Sage Scrub*<sup>50</sup>

- 1.34 Coastal sage scrub is found below 3000 feet on dry slopes, usually near the coast (although it can extend into inland valleys). This habitat is cooler than chaparral, but ironically often drier. Rainfall is often heavier at higher elevations, and coastal sage scrub often has rainfall less than 10 inches, which is about the same as in some desert regions. Coastal sage scrub is limited to areas that do not freeze.
- 1.35 Many of the plants are drought-deciduous and strongly odoriferous. Some of the community's plants and animals are also found in desert habitats.

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<sup>49</sup> Kathy Jacobs, *From the Desert to the Sea: Major Habitats of Southern California*, [http://www.lalc.k12.ca.us/uclasp/local\\_habitats/habitats/chaparral.html](http://www.lalc.k12.ca.us/uclasp/local_habitats/habitats/chaparral.html).

<sup>50</sup> Kathy Jacobs, *From the Desert to the Sea: Major Habitats of Southern California*, [http://www.lalc.k12.ca.us/uclasp/local\\_habitats/habitats/chaparral.html](http://www.lalc.k12.ca.us/uclasp/local_habitats/habitats/chaparral.html).



- 1.36 California sagebrush; California encelia; white, purple, and black sages; California buckwheat; Coyote bush; coast goldenbush; and golden yarrow are typical plants.
- 1.37 Some chaparral plants are found scattered within patches of coastal sage scrub. They include lemonadeberry, toyon and laurel sumac. Prickly-pear cactus is also found abundantly here, especially after grazing by cattle.
- 1.38 Two birds considered threatened or sensitive, the coastal California gnatcatcher and the coastal cactus wren, are found here. The cactus mouse, pocket mice, deer mice, coyotes, agile kangaroo rats, and mountain lions are also here.
- 1.39 This habitat is much reduced due to development.

#### *Riparian Woodlands*<sup>51</sup>

- 1.40 Riparian woodland is made up of plants which grow near streams and lakes.
- 1.41 These plants require more water than scrub-adapted plants, and often have large leaves.
- 1.42 In Chino Hills State Park the dominant trees are western sycamore, black willow, red willow, and arroyo willow. Cottonwoods are also found along the Santa Ana River. The riparian understory consists of mule fat, wild rose, poison oak, and stinging nettle.
- 1.43 Due to stream channelization and development, much riparian habitat is disappearing in Southern California, and as it vanishes, so do the animals relying on it.
- 1.44 Before it was listed as Endangered, the least Bell's vireo, a small songbird that breeds in riparian forests, was reduced to less than 300 pairs in Southern California. Habitat destruction, cattle grazing, and brood parasitism by the brown-headed cowbird were the main reason for its decline.
- 1.45 Cattail stands provide cover for a variety of wildlife, including red-winged black birds.

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<sup>51</sup> Kathy Jacobs, *From the Desert to the Sea: Major Habitats of Southern California*, [http://www.lalc.k12.ca.us/uclasp/local\\_habitats/habitats/chaparral.html](http://www.lalc.k12.ca.us/uclasp/local_habitats/habitats/chaparral.html).

## **Primary Theme II:**

**Living on the edge of wildlands brings challenges and responsibilities for preserving the delicate balance between the habitats of wild animals and the needs of human residents.**

### **MESSAGES**

#### **Native American land use**

- 2.1 Native Americans commonly used plants to make baskets, dye, and other items. Native Californians also managed land for preferred species.

#### **Agriculture and Ranching**

- 2.2 Agriculture and other human activities disturbed native species and brought invasive species to the area including an abundance of non-native European annual grasses and weeds.

#### **Urbanization and Edge Effects**

- 2.3 The discovery of oil led to the first major influx of human activity in the hills, which continues to this day. Oil operations attracted commercial business needed to sustain and support the work force. In the quest for oil, settlers created many new towns across the hills including Brea, Yorba Linda, La Habra, and Whittier.<sup>52</sup>
- 2.4 The Inland Empire experienced the largest growth within California and continues to follow this trend. The Inland Empire (Riverside and San Bernardino Counties) added over 666,000 persons between 1990 and 2000. The increase is comparable to the entire population of Kern County.<sup>53</sup>
- 2.5 Urbanization leads to the loss of habitat making it difficult for animals to find food, shelter, and space that they need to survive.

As land in Southern California becomes more developed and wildlands dwindle, the importance of Chino Hills State Park to the preservation of biodiversity will greatly increase.

- 2.6 Edge effects occur where development, including roads, takes place adjacent to wildlands.

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<sup>52</sup> Melanie Marie Schlotterbeck, *GIS Mapping of Biological Studies in the Puente-Chino Hills Wildlife Corridor Including Species Diversity and Relative Abundance* (Masters Thesis: CSU, Fullerton, 2001), 5.

<sup>53</sup> Southern California Association of Governments, Census Data, <http://www.scag.ca.gov/census/>.

Edge effects threaten the ecological integrity, recreational experience, aesthetic quality, public investment, and safety operations of preserved areas.

Because of adverse effects to wildlands from surrounding areas, the following impacts may occur:

- Introduction of exotic vegetation inadvertently carried in from bikes, people, animals or spread from backyards or other areas adjacent to the wildland.
- Fires can become more frequent and severe (as witnessed in November 2008 when 95% of the park burned).
- Pets can act as predators of and competitors with native wildlife, as well as vectors for disease.
- Use and creation of designated trails can degrade the natural environment.
- Introduction of exotic animals which can compete with or prey on native animals.
- Influence on Earth Systems, such as solar radiation, soil richness and erosion, wind damage, hydrologic cycle, and water pollution can affect the natural and built environment.
- Loss of foraging habitat.

### **Park use today**

- 2.7 Concerned individuals and organizations such as Hills for Everyone, The Wildlands Conservancy and California State Parks helped to preserve Chino Hills State Park.

Individuals and groups have made a positive impact on the environment. When realizing the value of wildlands and the biodiversity of the Puente-Chino Hills, concerned individuals and groups such as Hills for Everyone took action to preserve Chino Hills and make it a California State Park. With determination and dedication, concerned individuals continue to support the conservation of open land and biodiversity.

- 2.8 Urban parks also protect watersheds. Natural habitat can filter pollutants out of water, helping to ensure that water is safe to drink.<sup>54</sup>

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<sup>54</sup> The Nature Conservancy, "Do Urban Parks Matter?," [http://support.nature.org/site/PageServer?pagename=asktheconservationist\\_200809](http://support.nature.org/site/PageServer?pagename=asktheconservationist_200809)

- 2.9 Many urban parks exist primarily for the recreation and enjoyment of urban residents. This is very important to many people's quality of life.<sup>55</sup>
- 2.10 Visitors can also become steward of wildlands and promote biodiversity by planting native gardens, removing invasive species, reducing loss of wildlands by limiting new development (living in environmentally friendly, older communities), recycling, staying on park trails, keeping your pets inside or on a leash, and not feeding wildlife.

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<sup>55</sup> Ibid.

## **Interpretive Periods<sup>56</sup>**

The primary interpretive period for the cultural history of Chino Hills State Park spans from the 1920s to the 1980s and represents the most active period of ranching in the area. A secondary interpretive period relates to Native American habitation of the area, though much archaeological data is lacking.<sup>57</sup> The Discovery Center will primarily interpret the urbanization of the twenty-first century that continues to build along the park boundaries.

Most of the current cultural features within the park are associated with ranching, the most dominant historical land use. Other resources are associated with mineral and oil extraction, transportation and other public utilities, and varied agricultural and horticultural uses. The following periods are identified as significant in the 1999 General Plan:

### **Native American period (1,000BP-1771)**

Chino Hills State Park is located in the inland portion of the traditional Gabrielino territory in close proximity to the Juaneño, Luiseño, Serrano, and Cahuilla tribes. The Gabrielino (Tongva) were occupying lands in and around the park at the time the Spaniards arrived in Southern California.

The most recent dates for sites in the Prado Basin and Chino Hills are not well defined, but fall around 1,000 years before present (BP). Mission baptismal records indicate the former presence of aboriginal villages near Chino Hills State Park; however, archeological data about these sites is lacking. One site within Chino Hills State Park yielded dates between 1070 and 2380 years BP.

### **Spanish/Mexican Period (1771-1848)**

Although exploration occurred both north and south of the park, there is no documented evidence indicating the park was formally surveyed during the eighteenth or early-nineteenth century, nor legally acquired prior to the 1830s. Mission San Gabriel was established just twenty miles northwest of the park, so stock grazing may have occurred on park land as early as the 1770s.

### **Early American Period (1848-1920)**

In contrast to the surrounding region, there is no evidence of permanent activity other than grazing in the present-day park prior to the U.S. Surveyor General's public domain surveys. These surveys began in 1853 and were not completed until 1894. The deputy surveyor's field notes do

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<sup>56</sup> California Department of Parks and Recreation, *Chino Hills State Park General Plan*, 31-32.

<sup>57</sup> California Department of Parks and Recreation, *Chino Hills State Park General Plan*, 33.

not indicate any structures, fences, or wagon roads in the park, although much of the land was obtained and used for grazing during this period.

Legal acquisition of public domain land within Chino Hills State Park by private individuals did not begin until the early 1870s. Many of those filing were associated with the small ranching community of Rincon just east of the park boundary along the Prado Basin. Local ranchers such as Fenton Slaughter, who had purchased Raymundo Yorba's home and property in 1868, established successful sheep and cattle ranching operations that extended into the eastern limits of Chino Hills State Park. Activity and ownership increased during the Great Land Boom of the mid-1880s. Those who purchased Chino Hills land for ranching use included the founder of the town of Chino, Richard Gird. By 1895 much of the future park property was under absentee ownership, such as that of the San Francisco based Chino Land and Water Company.

Although most of the Chino Hills land was in ownership by 1900, the first published USGS quadrangle map of 1902 indicates only three miscellaneous structures and a wagon road running within current park boundaries. These structures were likely associated with various ranching and mineral extraction activities. Although no large deposits were located or exploited within the park, several oil wells and mines have been documented from this period.

### **Twentieth Century Development Period (1920s-1980)**

During the inter-war years of the 1920s to the 1940s, the ranching industry reached its most active period at Chino Hills. In 1921, local dairy rancher Frank Pellissier purchased most of the Chino Land and Water Company holdings for his dairy herds, including the area of the future Rolling M Ranch. The first aerial photographs of the region in the late 1930s indicate numerous cleared areas that had obviously received regular grazing activity along almost all the watershed canyons of the park, including near the Santa Ana River and Carbon Canyon.

The 1940s saw the increased development of the Rolling M Ranch complex. Aerial photographs show several structures and cleared areas on the site by 1940. In 1948, the Mollin Investment Company acquired 1,720 acres, subsequently naming the area Rolling M Ranch. The company enlarged and improved the corral system and rehabilitated and enlarged the main house. Mollin owned the property until the establishment of the State Park in the 1980s.

## **California State Parks' Education Mission Statement**

The most powerful forms of education are meaningful, involve the student, promote critical thinking, and appeal to different learning styles. Our mission is to provide educational experiences both in California State Parks and in the classroom, assisting educators with curriculum needs and offering activities that enable students to investigate, research, and participate in interactive learning.<sup>58</sup>

## **California Educational Content Standards**

In 2005, a survey was conducted of thirty-four third to fifth grade elementary school teachers in the areas surrounding Chino Hills State Park. This study found that cultural history, water cycles, plant germination, life cycles, geology, food chains, and responsibility and awareness are the most curriculum relevant topics.<sup>59</sup>

In 2008, this survey was revised and expanded, with more than three hundred K-12 teachers responding. They confirmed the previously identified curriculum content was relevant to a wider student population (beyond third to fifth grade). Life cycles, environmental stewardship/conservation, food chains, and cultural history were identified as the top four curriculum relevant subjects. Interpretive facilities and educational programs at Chino Hills State Park should consider these findings in order to meet the educational needs of the local community.

The Discovery Center will emphasize the connections between humans and the natural environment helping to integrate natural and cultural history curriculum. The identified interpretive topics of biological diversity, urban interface, and environmental stewardship will best relate to the curriculum relevant topics of life cycles, the food chain, plant and animal structures, responsibility and awareness, and other identified curriculum content standards. The following list identifies specific California Department of Education Content Standards<sup>60</sup> for Grades K through 12 with notes identifying the potential application through educational programs and interpretive facilities at the Chino Hills State Park:

### **Kindergarten**

#### **Science Content Standards: Life Sciences**

Different types of plants and animals inhabit the earth. As a basis for understanding this concept:

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<sup>58</sup> California State Parks Interpretation and Education Division, *Interpretation and Education Mission Statements*, [http://www.parks.ca.gov/?page\\_id=23434](http://www.parks.ca.gov/?page_id=23434).

<sup>59</sup> E-mail from Kelly Elliott to Kathy Weatherman, May 23, 2005.

<sup>60</sup> California State Board of Education, "Content Standards," <http://www.cde.ca.gov/be/st/ss/>.



Students know how to observe and describe similarities and differences in the appearance and behavior of plants and animals (e.g., seed-bearing plants, birds, fish, insects).

*Application*

The basis for understanding the concept of biodiversity is discussing the variety, features, and traits of plants and animals within Chino Hills State Park.

**Kindergarten**

**Science Content Standards: Earth Science**

Earth is composed of land, air, and water. As a basis for understanding this concept:

Students know how to identify resources from Earth that are used in everyday life and understand that many resources can be conserved.

*Application*

The Discovery Center will explore how humans use their natural environment.

**Grade One**

**Science Content Standards: Life Sciences**

Plants and animals meet their needs in different ways. As a basis for understanding this concept:

Students know different plants and animals inhabit different kinds of environments and have external features that help them thrive in different kinds of places.

Students know both plants and animals need water, animals need food, and plants need light.

Students know animals eat plants or other animals for food and may also use plants or even other animals for shelter and nesting.

Students know roots are associated with the intake of water and soil nutrients and green leaves are associated with making food from sunlight.

*Application*

Students will explore the factors that impact plants and animals, why animals need certain habitats, and how all native animals and plants within Chino Hills State Park need each other to survive.

## **Grade Two**

### **Science Content Standards: Life Sciences**

Plants and animals have predictable life cycles. As a basis for understanding this concept:

Students know the sequential stages of life cycles are different for different animals, such as butterflies, frogs, and mice.

Students know many characteristics of an organism are inherited from the parents. Some characteristics are caused or influenced by the environment.

Students know there is variation among individuals of one kind within a population.

Students know light, gravity, touch, or environmental stress can affect the germination, growth, and development of plants.

Students know flowers and fruits are associated with reproduction in plants.

#### *Application*

Students will explore how plants and animals reproduce and thrive within Chino Hills State Park. Students will study the factors that can negatively impact biodiversity.

## **Grade Two**

### **Science Content Standards: Earth Sciences**

Earth is made of materials that have distinct properties and provide resources for human activities. As a basis for understanding this concept:

Students know that soil is made partly from weathered rock and partly from organic materials and that soils differ in their color, texture, capacity to retain water, and ability to support the growth of many kinds of plants.

Students know rock, water, plants, and soil provide many resources, including food, fuel, and building materials, that humans use.

#### *Application*

This standard can be aligned with the factors that influence biodiversity and explain the history of the oil industry at Olinda (a former oil town just outside the western park boundaries). This may also include a discussion of how soil influences plant growth and the location of where plants grow.

### **Grade Three**

#### **History-Social Science Content Standards**

Trace the ways in which people have used the resources of the local region and modified the physical environment (e.g., a dam constructed upstream changed a river or coastline).

#### *Application*

Interpretive topics related to this standard include the impacts of increasing urbanization and the variety of human uses associated with the Chino Hills environment. This includes Native California uses; mining, farming which led to the introduction of non-native species; and erosion.

### **Grade Three**

#### **Science Content Standards: Life Sciences**

Students know when the environment changes, some plants and animals survive and reproduce; others die or move to new locations.

Students know that some kinds of organisms that once lived on Earth have completely disappeared and that some of those resembled others that are alive today.

#### *Application*

Interpretive topics related to this standard include plant and animal adaptations, the changes within the Chino Hills environment, urban edge effects, animals that have already become extinct within Southern California, the impacts of fire, and the concept of biodiversity.

### **Grade Four**

#### **Science Content Standards: Life Sciences**

All organisms need energy and matter to live and grow. As a basis for understanding this concept:

Students know plants are the primary source of matter and energy entering most food chains.

Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.

Students know decomposers, including many fungi, insects, and microorganisms, recycle matter from dead plants and animals.

### *Application*

Topics related to this standard include the importance of native plants to the ecosystems within Chino Hills State Park and Southern California.

Living organisms depend on one another and on their environment for survival. As a basis for understanding this concept:

Students know ecosystems can be characterized by their living (biotic) and nonliving (abiotic) components.

Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.

Students know many plants depend on animals for pollination and seed dispersal, and animals depend on plants for food and shelter.

Students know that most microorganisms do not cause disease and that many are beneficial.

### *Application*

Topics related to this standard include biodiversity, ecosystems, adaptation to the urban environment, and food chains and exploring what happens when a food chain/web is broken.

## **Grade Five**

### **Science Content Standards: Earth Sciences**

Water on Earth moves between the oceans and land through the processes of evaporation and condensation. As a basis for understanding this concept:

Students know water vapor in the air moves from one place to another and can form fog or clouds, which are tiny droplets of water or ice, and can fall to Earth as rain, hail, sleet or snow.

Students know that the amount of fresh water located in rivers, lakes, underground sources, and glaciers is limited and that its availability can be extended by recycling and decreasing the use of water.

Students know the origin of water used by their local communities.

Energy from the sun heats Earth unevenly, causing air movements that result in changing weather patterns. As a basis for understanding this concept:

Students know uneven heating of the Earth causes air movements (convection currents).

Students know the influence the ocean has on the weather and the role the water cycle plays in weather patterns.

### *Application*

Topics related to these standards include the water cycle, weather and climate. The movement of water (the water cycle) influences the weather and climate of the Chino Hills environment, which in turn determines the plants and animals living in the area.

## **Grade Six**

### **Science Content Standards: Ecology/Life Sciences**

Organisms in ecosystems exchange energy and nutrients among themselves and with the environment. As a basis for understanding this concept:

Students know energy entering ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis and then from organism to organism through food webs.

Students know matter is transferred over time from one organism to others in the food web and between organisms and the physical environment.

Students know populations of organisms can be categorized by the functions they serve in an ecosystem.

Students know different kinds of organisms may play similar ecological roles in similar biomes.

Students know the number and types of organisms an ecosystem can support depends on the resources available and on abiotic factors, such as quantities of light and water, a range of temperatures, and soil composition.

### *Application*

The Discovery Center will explore ecosystems, food chains, niches, and succession.

## **Grade Seven**

### **Science Content Standards: Focus on Life Sciences**

Biological evolution accounts for the diversity of species developed through gradual processes over many generations. As a basis for understanding this concept:

Students know both genetic variation and environmental factors are causes of evolution and diversity of organisms.

Students know that extinction of a species occurs when the environment changes and the adaptive characteristics of a species are insufficient for its survival.

#### *Application*

Species diversity in Chino Hills State Park includes rare, threatened and endangered species and species which are now extinct or extirpated from the region.

## **Grade Eight**

### **Science Content Standards: Focus on Physical Sciences**

Principles of chemistry underlie the functioning of biological systems. As a basis for understanding this concept:

Students know that carbon, because of its ability to combine in many ways with itself and other elements, has a central role in the chemistry of living organisms.

Students know that living organisms are made of molecules consisting largely of carbon, hydrogen, nitrogen, oxygen, phosphorus, and sulfur.

#### *Application*

These standards can be used to explain processes necessary to the functioning of an ecosystem, such as photosynthesis, evaporation, transpiration and decomposition.

## **Grades Nine Through Twelve**

### **Science Content Standards: Biology/Life Sciences**

#### *Ecology*

Stability in an ecosystem is a balance between competing effects. As a basis for understanding this concept:

Students know **biodiversity** is the sum total of different kinds of organisms and is affected by alterations of habitats.

Students know how to analyze changes in an ecosystem resulting from changes in climate, human activity, introduction of nonnative species, or changes in population size.

Students know a vital part of an ecosystem is the stability of its producers and decomposers.

Students know at each link in a food web some energy is stored in newly made structures but much energy is dissipated into the environment as heat. This dissipation may be represented in an energy pyramid.

Students know how to distinguish between the accommodation of an individual organism to its environment and the gradual adaptation of a lineage of organisms through genetic change.

*Application*

These standards can be directly applied to the concept of biological diversity explored within the Discovery Center.

# Interpretive Recommendations

## Proposed Interpretive Programs

The Discovery Center will offer opportunities for interpretive talks, walks, and educational programs. Possible areas within the vicinity to conduct these activities include the multi-purpose room, the amphitheater area, the Discovery Trail, or along adjacent trails. Topics may include biological diversity, food chains, animal adaptations, human land use, invasive species, life cycles, or other messages of relevance to the park.

The Discovery Center's multi-use facility will also be a desirable place to host community events and educational workshops. This space will allow the local community, visitors, and others to further explore the significant cultural and natural resources of Chino Hills State Park. The amphitheater offers potential for interpretive programming. Recommended messages include food chains, food webs, and how healthy ecosystems support biodiversity.

All interpretive programming should relate to the messages being delivered at the Discovery Center or outlined in the Chino Hills State Park General Plan. Programs should be relevant, accurate, provocative, programmatically accessible, organized, retained, and thematic. See California State Parks' *Basic Interpretive Learning System* or [www.parks.ca.gov/interptools](http://www.parks.ca.gov/interptools) for more information on conducting interpretation at Chino Hills State Park.

Interpretive opportunities within the Discovery Center and outside its doors will stimulate the discovery, appreciation, and protection of the irreplaceable urban wildland of Chino Hills State Park. Thematic, interactive exhibits will focus on the human connections to biological diversity, the regional importance of Chino Hills State Park as a biological corridor, and the impact of human actions on the natural world. It will also introduce the cultural history of the area including Native American involvement in the area and historic ranching.<sup>61</sup>

Exhibits and programs will be primarily geared toward local schools and nearby communities. Discovery Center exhibits and curriculum-aligned interpretive learning carts will inspire an appreciation for the biological diversity of the Chino Hills region and promote environmental stewardship.

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<sup>61</sup> California Department of Parks and Recreation, *Chino Hills State Park General Plan* (San Diego: CDPR Southern Service Center, 1999), 44.



The center will also provide interpretive media and park information for all visitors to make the most of their visit to Chino Hills State Park.

The park's unifying theme will be relevant to all interpretive messages and media developed within the Discovery Center and related interpretive facilities including the amphitheater and trails. This unifying theme, as previously outlined in this document, is:

**Chino Hills State Park is an irreplaceable urban wildland of regional and global biological significance.**

### **Proposed Visitor Flow, Interpretive Areas, and Exhibit Concepts**

Appendix A provides detailed information on the proposed visitor flow, interpretive areas, and exhibit concepts. There are four exterior exhibit areas (Area E-1 through E-4) and eight interior exhibit areas (Area I-1 through I-8) as follows:

**Area E-1: Welcome to Chino Hills State Park!**

**Area E-2: Discovery Trail**

**Area E-3: Walnut Woodland Amphitheater**

**Area E-4: Discovery Cart**

**Area I-1: Welcome to Chino Hills State Park**

**Area I-2: Discover Biodiversity**

**Area I-3: Building Blocks of Biodiversity**

**Area I-4: A Closer Look at Biodiversity**

**Area I-5: Biocorridors: Linkages to Survival**

**Area I-6: Living on the Edge**

**Area I-7: Biodiversity Benefits Us All**

**Area I-8: Become a Park Protector!**

The proposed visitor flow within the Discovery Center begins after passing through the main entrance and sales area where visitors will be greeted at the reception counter (I-1). Straight ahead, an exhibit title wall (I-2) will create a visual invitation to explore the exhibit hall. To the right (I-3) a tactile map of the entire Park will be the central feature of this area. The primary thematic focus here will be on the factors that influence biodiversity at the Park. In the distance, a large floor-to-ceiling window wall offers views of the Chino Hills. The adjoining space beyond features a central counter that serves as an interactive exhibit allowing visitors to have a closer look at biodiversity (I-4). Adjacent exhibits explore the concept of biocorridors (I-5) and the important role they play in species survival. The concept of living on the urban edge takes advantage of the building's interior architecture, creating a series of discovery encounters

such as motion-activated lights, evening sounds, and a vignette portraying a typical urban backyard (I-6). Additional stories for interpretation in the Discovery Center include the benefits of biodiversity (I-7) and an exit message that encourages all visitors to become park protectors (I-8). Visitors will exit the exhibit space through an exterior corridor that leads to a platform with views of the Chino Hills in the distance and of the Walnut Woodland Amphitheater below.

### **Proposed Phasing and Preliminary Budget**

Based on the total funds allocated to the interpretive portion of the project (\$705,000), the following is suggested as the Proposed Phasing and Preliminary Budgets:

Phase I: Interpretive Exhibits - \$514,000

Interior Exhibits (Discovery Center @ \$420K; Discovery Cart @ \$35k)

Outdoor Exhibits (Exterior Interpretive Panels @ \$59K)

Phase II: Interpretive Landscaping and Misc. Outdoor Exhibits - \$139,000

Phase III: Discovery Center Mural - \$52,000

## References

- Alonso, Alfonso, and Francisco Dallmeier, Elise Granek, and Peter Raven. *Biodiversity: Connecting with the Tapestry of Life*. Washington, D.C.:Smithsonian Institution Monitoring and Assessment of Biodiversity Program, 2001.
- Barrett, R.H. and Beir, Paul. *The Cougar in Santa Ana Mountain Range, California*. U.C. Berkeley: Orange County Cooperative Mountain Lion Study, 1993.
- Beck, Larry, Ted Cable, and Douglas M. Knudson. *Interpretation of Cultural and Natural Resources*. State College, PA: Venture Publishing, Inc., 1999.
- Beck, Larry and Ted Cable. *Interpretation for the 21<sup>st</sup> Century*. Champaign, IL: Sagamore Publishing, 1998.
- Branch, Victoria, Jean Dillingham, Marti Lancaster, Sara Lustbader, Sue Othmer, Jean Sedillos, Barbara Smith, Gary Warshefski and Evie Wilke. *Mountains to the Sea: A Visitor's Guide to the Santa Monica Mountains and Seashore*. Second Edition. Los Angeles: Santa Monica Mountains National Recreation Area, 1983.
- California Center for Wildlife, Diana Landau, and Shelley Stump. *Living with Wildlife*. San Francisco: Sierra Club Books, 1994.
- California Department of Fish and Game. *Keep Me Wild*. <http://www.dfg.ca.gov/keepmewild/lion.html>.
- California State Board of Education. *Content Standards*. <http://www.cde.ca.gov/be/st/ss/>.
- California State Parks. *Chino Hills Project, Summary of Inventory of Features*. Sacramento: Resources Protection Division, 1984.
- Chino Hills State Park General Plan*. San Diego: CDPR Southern Service Center, 1999.
- Chino Hills State Park General Plan*. Sacramento: CDPR, 1986.
- Chino Hills State Park Inventory, Draft Monitoring, and Assessment Project Agreement*. San Diego and Sacramento: CDPR Natural

Resources Division, Southern Service Center, Inland Empire District, 2001. <http://www.parks.ca.gov/pages/734/files/sec%204a-chino%20projagree02.pdf>

*Chino Hills State Park Rolling M Ranch Public Use Plan*. San Diego: Southern Service Center, 2000.

*Chino Hills State Park Visitor Center*. San Diego: Southern Service Center, 2002.

*Coming Home to California: The Bioregional Series, The Los Angeles Bioregion*. California State Park Foundation.

*Historical Survey and Conditions Report: Rolling M Ranch Chino Hills State Park*. Pacific Palisades, CA: Greenwood and Associates, 2004.

*Rare Birds Surveys of 1997-1998*. San Diego: CDPR Southern Service Center, 1998.

"Silent Threats: Non-Native Species Invading Our Wildlands." *California State Parks Brochures*. Sacramento: Communications Office and Natural Resource Division, 2007.

*State of California Capital Outlay Budget Change Proposal Narrative 2004-2005*. San Diego: CDPR Southern Service Center, 2005.

*Urban Edge Effects and their Relationship to the Natural Environment*. Inland Empire District: California State Parks, 2000.

[www.parks.ca.gov/interptools](http://www.parks.ca.gov/interptools)

California State Parks and Brenda McMillian. *Biological Resources Technical Report for Chino Hills Visitor Center, California Department of Parks and Recreation, Inland Empire District, Orange County, California*. San Diego: CDPR Southern Service Center, 2004.

California State Parks, California Wilderness Coalition, Ecology and Applied Conservation, The Nature Conservancy, and USGS. *Missing Linkages: Restoring Connectivity to the California Landscape*. San Diego: San Diego Zoo, 2000.

California State Parks and Kim Marsden. *California Department of Parks and Recreation Inventory, Monitoring, and Assessment Program*

- Rare Plant Species at Chino Hills State Park*. San Diego: C DPR Southern Service Center, 2002.
- Conservation International. *Biodiversity Hotspots*.  
<http://www.biodiversityhotspots.org/Pages/default.aspx>.
- Crooks, Kevin. *Connectivity Conservation*. Cambridge: Cambridge University Press; 2006.
- Crooks, Kevin and Chris Haas. *Carnivore Abundance and Distribution throughout the Puente-Chino Hills*. Report prepared for the Mountains Recreation and Conservation Authority and Caltrans District 8, San Bernardino, 1999.
- Environmental Literacy Council. *Hotspots of Biodiversity*.  
<http://www.enviroliteracy.org/subcategory.php/202.html>.
- FAO-SDRN. *World Climate Zones*.  
<http://www.blueplanetbiomes.org/climate.html>.
- Gallegos, Elizabeth A.; Adam R. Backlin; Robert N. Fisher; and Chris D. Haas. *Inventory and Management Needs: Study of Chino Hills State Park Herpetofauna and Ants with Comments on Small Mammals, June 1998-June 2003*. U.S. Geological Survey Western Ecological Research Center, 2004.
- GreenTreks Network, Inc. *Biodiversity: Healthy Soil*.  
<http://www.greentreks.org/documentaries/biodiversity/healthysoil.asp>.
- Gross, Michael and Ron Zimmerman. *Interpretive Centers: The History, Design and Development of Nature and Visitor Centers*. Stevens Point, WI: University of Wisconsin, 2002.
- Ham, Sam. *Environmental Interpretation: A Practical Guide for People with Big Ideas and Small Budgets*. Golden, Colorado: Fulcrum Publishing, 1992.
- Haas, Christopher D. *Distribution, Relative Abundance, and Roadway Underpass Responses of Carnivores throughout the Puente-Chino Hills*. Thesis. California State University, Pomona, 2000.
- Hilty, Jodi, William Z. Lidicker Jr., and Adina Merenlender. *Corridor Ecology: The Science and Practice of Linking Landscapes for Biodiversity Conservation*. Washington, D.C., Island Press, 2006.

- Kelly, David. "A state park left a shambles," *Los Angeles Times*, November 29, 2008, sec. B.
- Kirkby, Clive. "Biodiversity, Soil and Ecologically Sustainable Development." Australia: CSIRO Division of Soils, 2004.  
<http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/N/NetProductivity.html>.
- Kowalik, William S. and Jill Anne Kowalik. *Saving Open Space*. VHS. Hills for Everyone, 2000.
- Leftridge, Alan. *Interpretive Writing*. Fort Collins: The National Association of Interpretation, 2006.
- Louv, Richard. *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*. Chapel Hill, North Carolina: Algonquin Books of Chapel Hill, 2005.
- Lyren, Lisa M. *Movement Patterns of Coyotes and Bobcats Relative to Roads and Underpasses in the Chino Hills Area of Southern California*, 2001.
- The Puente Hills Landfill Native Habitat Preservation Authority. *Living on the Urban Edge: The Coexistence of People and Wildlife*. VHS. The Puente Hills Landfill and Native Habitat Preservation Authority, 2004.
- Rezendes, Paul. *Tracking and the Art of Seeing*. New York: HarperCollins Publishers, Inc, 1999.
- Roach, John. "Conservationists Name Nine New 'Biodiversity Hotspots'." *National Geographic News*, February 2, 2005.  
[http://news.nationalgeographic.com/news/2005/02/0202\\_050202\\_hotspots.html](http://news.nationalgeographic.com/news/2005/02/0202_050202_hotspots.html).
- Fischer, Joern and David Lindenmayer. *Habitat Fragmentation and Landscape Change: An Ecological and Conservation Synthesis*. Washington, D.C.: Island Press, 2006.
- Royte, Elizabeth. "Wilding America: Connect our last parcel of wilderness, like pearls on a necklace, and mountain lions, bobcats, and wolves might once again roam their ancestral ranges." *Discover Magazine*.  
<http://discovermagazine.com/2002/sep/featwild>.

San Diego Zoo. *Mammals: Mountain Lion (Puma, Cougar)*.  
<http://www.sandiegozoo.org/animalbytes/t-puma.html>.

Schlotterbeck, Melanie Marie. "GIS Mapping of Biological Studies in the Puente-Chino Hills Wildlife Corridor Including Species Diversity and Relative Abundance." Masters Project, California State University, Fullerton, 2001.

Stall, Chris. *Animal Tracks of Southern California*. The Mountaineers Books, 1990.

Weaver, Stephanie. *Creating Great Visitor Experiences: A Guide for Museums, Parks, Zoos, Gardens, and Libraries*. Walnut Creek, CA: Left Coast Press, 2007.

# **Appendices**

**Appendix A: Exhibit Concepts (19 sheets, each 11" X 17")**

**Appendix B: Proposed Interpretive Objects List**

**Appendix C: Multimedia and Audio Treatment Plans**

**Appendix D: Interpretive Text Outlines**



## Appendix B: Proposed Interpretive Objects List

The following list is based on proposed interpretive objects identified in Appendix A: Exhibit Concepts. Quantity, materials, and other fabrication/purchase details still to be determined. This list does not include exhibit components such as the tactile map or other interactives, exhibit supports, audio visual equipment, or items such as park brochures.

### Area I-4

- Plant and animal specimens (fabricated) for the diorama
- Magnifiers (sliding carriage, turning, and tethered/hand-held)
- Wentz Scope with rotating specimen wheels
- Natural history specimens/slides\*
- Replica skulls, bones and/or bird bills
- Stools

### Area I-5

- Wildlife camera (actual or fabricated)

### Area I-6

- Motion sensor light
- Trashcan & lid with trash (actual or fabricated)
- Urban Threats sculpture –pesticide containers, plastic can rings, etc. (actual or fabricated)

### Area I-7

- Guest book (or create cover similar to flipbooks with removable pages)

### Area E-4

- Specific objects still to be determined

\*NOTE: The Park will provide some natural history specimens that can be prepared for display by others (e.g., slides). These may include:

- Seeds, pods, leaves, flowers
- Feathers, animal scat/owl pellets, insects/spiders
- Soil samples

## Appendix C: Multimedia and Audio Treatment Plans

### **Multimedia Programs**

#### **Building Blocks of Biodiversity (Area I-3)**

##### Description

This push-button interactive will give visitors an impression of the park's biological significance with a "sprinkling" of the reasons why the building blocks come together at Chino Hills. By exploring the conditions necessary to support biodiversity, visitors will have a renewed appreciation for the rich plant and animal life that Chino Hills State Park sustains. Six (6) buttons will trigger the 5 building blocks (each 30-60 seconds in length) plus one that puts all the blocks together (1-2 minutes in length). Messages will be delivered primarily via captions with related nature sounds.

##### Emotional Impact

- a. Provide examples of the biodiversity "building blocks" in a manner that allows visitors to discover the varied and unique qualities (motion, sound, form, etc.) to be found at Chino Hills SP.
- b. Explain that the biodiversity "building blocks" are connected.
- c. Explore how the various combinations of the "building blocks" shape biodiversity at Chino Hills SP.
- d. Express the program's primary theme: Chino Hills State Park is a special place because it has all of the conditions to create a high level of biological diversity.

##### Specific Method

- a. Putting it all together: Visitors will be invited to discover why Chino Hills has such high biological diversity compared to most places. Image begins with a map of the world with Mediterranean climate areas (see 'Climate' graphic on exhibit concept layout) with zoom to North America, then California, and finally to Chino Hills State Park. Image focuses on the Puente/Chino Hills/Coal Canyon area as story unfolds about the creation of the Chino Hills (geomorphology). The variety of soils, along with climate and water factors, is used to describe the variety of habitats found at CHSP. The presence of the rain shadow effect dramatically conveys the movement of water over wildlands. Examples of plant and animal species (e.g. insects, reptiles, mammals, birds) remind visitors of the life that these wildlands sustain, zooming into the eyes of one of the animals, then panning back out at the "floating" map of CHSP (see 'Attract Loop' below).

- b. Geomorphology: close-up views of maps, photography (including aerials such as DWR 2005 set of 50-copy at DPR/Natural Resources Division), etc. to help visitors read the contours of Chino Hills (canyons, slopes and ridgelines). Possibly include aerial footage from Saving Open Space DVD.
- c. Soil: close-up views (original footage and/or photo stills) to capture the textures and colors of the park's various soil types.
- d. Climate: a journey through the park (via original footage and/or photo stills with related nature sounds) highlighting the wet and dry seasons, wind, and other climactic factors.
- e. Water: watersheds, seasonal wetlands/creeks, and rain shadow effect captured with original footage and/or photo stills and related nature sounds.
- f. Wildlands: from open grasslands to tree-clustered woodlands, Chino's wildlands provide habitat for diverse plants and animals as depicted via original footage and/or photo stills with related nature sounds. The topic of "zone interface" may also be highlighted here.

#### Attract Loop & Surrounding Text

- a. An attract loop will depict a "floating" 3-D animation of Chino Hills SP (use tactile model as reference) with a statement defining biodiversity and its significance at Chino Hills SP. Ambient sounds of diverse animal species may also be used here.
- b. The upright graphic panel (location of interactive monitor) should provide a brief message to encourage visitors to press the buttons below to find out more about the building blocks of biodiversity. Additional text could explain that Chino Hills State Park is a special place because it has all of the conditions to create a high level of biological diversity.
- c. Text on the reader rail (location of interactive buttons) should provide instructions and an attractor statement such as "Select a button below to explore the factors that shape biodiversity".

#### **Biocorridors: Linkages to Survival (Area I-5)**

"Animal Signs – Looking for Clues: Tracks, Scat, Collars, and Cameras!"

##### Description

This push-button interactive will give visitors an in-depth look at how and why scientists study animal presence and movement. Four (4) buttons will trigger specific examples: tracks, scat, collars, and cameras (each approximately 2 minutes in length). Narration may be provided by park staff (biologist and interpreter). Scientists who have conducted animal studies in the area will be invited to explain techniques they have used and data they have gathered – such as

the low presence of certain animals in areas frequented by domestic dogs.

#### Emotional Impact

- a. Demonstrate the variety of methods and techniques used to locate evidence of animal presence and movement.
- b. Provide track and scat examples in a fun and engaging way such that visitors will want to explore the park to look for animal signs.
- c. Explain the use of animal collars, tracking stations, and cameras (video and still) as a study method that requires trained professionals and strategic planning.
- d. Express the program's primary theme: scientific studies are important to determine species survival within the area's biocorridors.

#### Specific Method

- a. Tracks: Locate tracks along the park trails, zooming in to focus on details. Look for a variety of animals such as reptile, mammal (small and large), and bird species. Will require original footage and/or high resolution photography.
- b. Scat: Locate scat along the park trails, zooming in to focus on details. Look for a variety of animals such as reptile (snake and lizard), mammal (small and large), and bird species. Will require original footage and/or high resolution photography.
- c. Collars: Interview scientists such as Paul Beier (mountain lions) and/or Lisa Lyren (bobcats and coyotes) to explain the use of radio collars to monitor animal movement. Photo stills may also be available, particularly of animals using an undercrossing. Animal and human safety, and the concept of "island biogeography" – patches of land that are disconnected – might also be addressed.
- d. Cameras: Interview scientists such as Paul Beier (mountain lions) and/or Lisa Lyren (bobcats) to explain the use of cameras (still and/or video) to monitor animal movement. Video tape from previous studies, if permission can be obtained, might be used here. Photo stills may also be available, particularly of animals using an undercrossing (try not to duplicate ones being used with 'Collars' above). Tracking stations may also be discussed here.

#### Attract Loop & Surrounding Text

- a. An attract loop will provide enticing visual cues to draw visitors in to playing the various programs. Ambient sounds of diverse animal species may also be used here.
- b. Text on upright graphic panel (location of interactive monitor) should provide a brief introduction to the four animal sign "clues"

- and encourage visitors to press the buttons below to find out more. Additional text could explain that the various animal signs are proof that animals are using biocorridors and that places such as Chino Hills State Park are doing a good job of protecting open space.
- c. Text on the reader rail (location of interactive buttons) should provide instructions and an attractor statement such as "Select a button below to find out more clues to animal signs".

### **Living on the Edge (Area I-6): "We all need a safe place to live"**

#### Description

This multimedia program will run as a continuous loop and will require no activation. A series of images and accompanying brief text will convey positive steps that visitors can take both at home and in the park to promote a healthy environment. Amount of steps to correlate with adjacent flip panel exhibits (approximately 10). Steps/text will be approximately 30 seconds each; entire program will be no longer than 5 minutes in length.

#### Emotional Impact

- a. Demonstrate positive actions that visitors can take to promote a healthy environment at home and in the park.
- b. Explain the positive consequences each action has to protecting wildlife and wildlands.
- c. Provide specific examples that are introduced in the adjacent panels and flip panel interactive exhibits. Accompanying text may be repeated here for emphasis and/or as a way to test information learned.
- d. Express the program's primary theme: people can help keep wildlife and wildlands a safe place to live.

#### Specific Method

- a. Predation: keeping pets away from wildlands (dogs on trails & impacts to bobcats)
- b. Let them Be: enjoying nature and keeping it wild by letting it be
- c. Lights Out: having security lights on timers rather than motion activated; using lights only when needed; using low illumination
- d. No to Noise: keeping music volume low, especially at night; minimizing auto-related sounds (gunning engine, screeching breaks, alarms)
- e. Water Wise: using native/drought-tolerant plants and minimizing non-native grass/turf lawns
- f. Natural Products: eliminating (or minimizing) use of herbicides and pesticides; when needed, use those made from natural compounds

- g. Fire Safety: keeping vegetation away from homes
- h. Goodbye Exotics: keeping up with weed abatement and replacing with native plants
- i. Wildlife Attractors: using native plants that attract pollinators, birds
- j. Living Lightly: walking, bicycling, and carpooling

No Attract Loop/Surrounding Text (continuous loop program with text)

## **Audio Program**

### **Living on the Edge (Area I-6): “Evening in an Urban Edge Backyard”**

#### Description

As visitors enter the low-lit space they hear various nighttime sounds associated with nocturnal animals of the natural environment. As they enter further, a motion-activated light is triggered and different sounds associated with the urban environment can be heard. The light dims a bit, providing illumination of the interpretive messages/panels. After a few minutes the lights return to create the low-lit space and the natural environment's nocturnal sounds return.

#### Emotional Impact

- a. Feel the surprise of urban lights and noise as nocturnal animals might experience them.
- b. Recognize actions that help prevent wild species from entering backyards (keep lids on trash cans, pets and pet food inside, etc.)
- c. Appreciate the nighttime sounds of nature.
- d. Express the program's primary theme: people can help keep wildlife and wildlands a safe place to live.

#### Specific Method

- a. Nighttime sounds prior to motion sensor triggered light: frogs, crickets, owls, coyotes, the soft scampering of animals, etc.
- b. Nighttime sounds after motion sensor triggered light: barking dogs, trash can lid falling to the ground, quick sound of panicked animals (e.g. raccoon) quickly leaving the area and rustling through dried leaves, car alarms, gunning engines, etc.

### **Accessibility related notes/questions:**

- All AV programs will be close-caption.
- Use raised tactile elements and/or braille to make the push-buttons more accessible to the visually impaired.
- Consider the use of raised tactile elements on the reader rails to further assist people with visual impairments, such as the use of tracks in Area I-5: Animal Signs.

## Appendix D: Interpretive Text Outlines

### **INTERIOR EXHIBITS**

#### **Area I-2: Discover Biodiversity**

##### Exhibit Title Panel

Discover Biodiversity

The biological richness of Chino Hills

#### **Area I-3: Building Blocks of Biodiversity**

##### Introductory Panel

Discover why Chino Hills has very high biological diversity compared to most places!

- Describe the basic concept of biodiversity
- Explain that Chino Hills has a high biodiversity compared to most places (it has many habitats in one area)
- Invite visitors to discover the rich biodiversity at Chino Hills

##### Building Blocks Panel

#### **Building Blocks of Biodiversity**

What contributes to the biodiversity at Chino Hills?

#### **Climate**

Our Mediterranean climate is the reason so many living things love to call California home.

- Describe Mediterranean Climate & CA floristic province
- Give examples of how these factors influence CH biodiversity

#### **Water**

The availability of water is a major factor influencing the survival of plants and animals.

- Describe the basic concepts of water cycles and watersheds
- Give examples depicting how the seasonality of water influences biodiversity in the Chino Hills area

#### **Wildlands**

A variety of habitats support a great diversity of plants and animals.

- Describe the basic concepts of wildlands and habitats
- Explain how wildlands provide places for biodiversity to thrive
- Give examples of flora and fauna associated with diverse habitats found within Chino Hills (and/or CHSP)

## **Geomorphology**

The diversity of landforms supports a greater variety of plant communities.

- Describe the basic concept of geomorphology
- Give examples of the land-shaping processes that can be found in the Chino Hills (and/or CHSP)

## **Soil**

A tablespoon of soil contains hundreds of microorganisms invisible to the naked eye.

- Explain how soil is different than dirt
- Give examples of the types of soil found in Chino Hills and the associated plants that grow in a given soil type/area (habitat)

## Reading Rail

### **Adaptability**

The plants and animals of this southern California region (or CHSP) have adapted to live in a Mediterranean climate.

- Describe the basic concept of adaptability
- Give examples that show how flora and fauna found in the Chino Hills area (or CHSP) have adapted – generalists & specialists

## Topographical Map Labels

- Identify key landmarks within and surrounding Chino Hills SP
- Provide directional information (compass or just an arrow with 'N')
- Other?

## **Area I-4: A Closer Look at Biodiversity**

### Diorama Title Panel – side 1 (Grassland Soils)

#### **Nature's Rototiller**

Even this common pest serves a purpose.

- Describe the benefits of a pocket gopher to grassland soils

### Diorama Title Panel – side 2 (Woodland Soils)

#### **Nature's Soil Makers**

Woodlands are a community of decomposers.

- Describe the benefits of decomposers to woodland soils

## Closer Look Panel

### **A Closer Look at Biodiversity**

Color – Pattern – Size – Shape

[NOTE: Flip books will have approximately 8 pages, 1 for each specimen]

**Flip book #1: Seed dispersal** (with magnifiers on sliding carriages)



Where do these seeds grow?

- Identify a variety of seeds/seed pods, the plants they come from and location (habitat) where the plant grows
- Give examples of seeds/seed pods that demonstrate a variety of dispersal mechanisms (coordinate examples with exterior exhibits)

**Flip book #2: Animals** (with magnifiers)

What kind of animal is this?

- Identify a variety of animals/animal parts, the animals they come from and the location (habitat) where the animal lives
- Give examples such as feathers, animal scat (e.g., owl pellets), insects, and spiders

**Flip book #3: Soil** (with multiple magnifiers on tethers)

Where does the soil exist?

- Identify the key soil types that exist in the park/Chino Hills, their distinctive characteristics/composition (parent material), and where they are located (habitat)
- Give soil examples that demonstrate the varieties located in the park (coordinate examples with exterior exhibits)

**Wentz Scope**

[Text will primarily be captions based on final specimens selected]

**Area I-5: Biocorridors: Linkages to Survival**

Habitat Fragmentation Panel

**Habitat Fragmentation**

Habitat fragmentation creates a landscape of isolated patches of wildlife habitat.

- Describe the basic concept of habitat fragmentation
- Explain how habitat fragmentation threatens species
- Give examples of habitat fragmentation in the Chino Hills area

Tracking Panel

**Telltale Clues**

How do we know where animals go and what they do?

- Explain that nibbled plant leaves, holes in the ground, and matted down vegetation are clues to animal activity

**Tracks**

- Describe how tracks are indicators of where animals are found and patterns of travel

**Scat**

- Describe how scat indicates what an animal is eating

## **Cameras**

- Describe how cameras help scientists monitor animal movement

## Biocorridors Panel

### **Biocorridors: Linkages to Survival**

#### **What are Biocorridors?**

- Describe the basic concept of biocorridors
- Explain that Chino Hills/CHSP is an important biocorridor

#### **Crossing Design**

- Describe the basic concept of wildlife crossings
- Discuss the different types of wildlife crossings
- Use Coal Canyon as an example to explain how undercrossings work and why one size doesn't fit all

#### **How much space do they need?**

- Define territory vs. range
- Give examples of the 5 animals that are displayed in the interactive to explain how much space they need

#### **Why do they move?**

[Note: This may be developed into an interactive exhibit

- Explain why certain animals need such large territories
- Describe predator-prey relationship in context of animal movement

## Interactives

[Text will primarily be captions and directions – if required – based on final interactive design]

### **Before/After Fragmentation**

#### **What is left of our wildlands?**

**Range of movement map/map inset** [Buttons: See where they go – push buttons activate lighting for paths of travel by various species on the large map and on the smaller map inset]

## **Area I-6: Living on the Edge**

### Introductory Panel

#### **Living on the edge**

- Describe the basic concept of urban edge effects
- Explain the importance of living responsibly in these sensitive areas

### **From Habitat to Homes**

- Describe the change from native habitats to human habitation over time in the Chino Hills including Native American villages
- Provide an overview of the area's land use/ranching history including Rolling M Ranch
- Explain the period/s of population growth in this inland region including new communities surrounding the Chino Hills

### Urban Backyard Panel/s

- Vignette will include 'Keep a lid on it' and 'Don't feed them trash' signs (no other interpretive text here)

### Peace and Quiet Panel

#### **We all need peace and quiet**

Shhhhh!

### **Light and Noise**

- Describe the basic concept of the impacts of light and noise on nocturnal animals

### **Animal "Voice" Bubbles**

- Provide examples from the "perspective" of nocturnal animals of the impacts of light and noise

### Urban Threats Panel

- Ask visitors what they can do to keep wild lands safe [use sculptural 'threat' elements as a counterpoint to the positive steps/actions depicted in the AV program and/or in the Positive Steps Panel]

### Safe Place Panel

#### **We all need a safe place to live**

### **Positive Steps**

[NOTE: The nearby audiovisual program will focus on positive steps to protect wildlands/wildlife; this panel may not be needed]

### **Animal "Voice" Bubbles**

- Provide example/s from the "perspective" of nocturnal animals related to needing a safe place to live

## **Area I-7: Biodiversity Benefits Us All**

### Introductory Panel (All Living Things Feel Stress)

#### **Pushed into a corner**

Urban development has cornered wildlife into increasingly smaller spaces.

- Explain the importance of wildlands such as CHSP to the preservation of biodiversity

### **Balanced Needs**

Living on the edge of wildlands is a delicate balance between preserving wildlife habitat and providing for the needs of humans.

- Describe the challenges to preserving wildlife habitats
- Explain why (or ask visitors why) we should protect habitats

### Food & Medicine Panel

#### **Food & Medicine**

Native plants and animals can provide materials to feed humans and treat many of their illnesses.

- Describe the uses of local plants and animals by California Indians
- Compare cultivated foods with native plant species
- Identify medical contributions provided by native plants & animals

### Clean Air & Water Panel

#### **Clean Air & Water**

Pollutants are filtered out of the air and water by a variety of plants and animals.

- Describe species that are indicators of environmental health
- Explain how plants and animals detoxify and decompose wastes found in water
- Explain how plants filter out contaminants in the air

### Health & Wellness Panel

#### **Health & Wellness**

Wildlands provide spaces for healthy outdoor experiences.

- Identify the variety of outdoor experiences available at CHSP
- Explain the relationship between health and the outdoors
- Describe the intangible, intrinsic values provided by a wildlands experience

### Interactives

[Text will primarily be captions and directions – if required – based on final interactive design]

#### **Food & Medicine**

#### **Polar Motion Wetlands**

#### **Guest Book**

## **Area I-8: Become a Park Protector!**

### Introductory Panel

How Will You Protect Biodiversity?

### Reader Rail Panel

It's easy to become a Park Protector

- Explain that Chino Hills is one of 25 biodiversity hotspots in the world
- Invite visitors to start becoming Park Protectors
- Identify behaviors & activities that protect biodiversity when entering a wild land – locally and globally; include something specific for children

Brochure possibilities: Joining the Chino Hills SP Volunteer Association, Hills for Everyone, and/or California State Park Foundation; Living on the Edge/Urban Edge; Exotic Species; Trail Etiquette/Leave No Trace; CHSP Trails Map.

## **EXTERIOR EXHIBITS**

### **Area E-1: Welcome to Chino Hills State Park!**

#### Park Map Panel

Welcome to Chino Hills State Park!

- Provide a brief introductory message that invites visitors to explore the park (perhaps highlight recreational opportunities and park resources)
- Describe basic safety related to visiting the park and hiking the trails
- List the significant regulatory information that park visitors need to know

#### Brea Canyon Entrance "Inset" Panel

[Text will primarily be captions/labels of park features]

### **Area E-2: Discovery Trail**

#### Discovery Trail Panel

- Describe the basic concept of biodiversity
- Introduce the plant communities found in the park
- Describe the revegetation process in the Discovery Trail area

Plant Communities Panels (one each: Oak Woodland, Grasslands, Coastal Sage Scrub, Chaparral, and Riparian Woodland)

- Describe the characteristics of this habitat (such as the types of animals that thrive here)
- Explain where it can be found in the park (identify specific trails or other features)

### Plant Identification Panels (5 per habitat; 2-3 shapes)

- Describe the types of plants that thrive in this habitat and that are represented along the Discovery Trail

### Planting Table

[Text will primarily be captions/labels of graphics used in final design]

### Soils Display Panels (6 total)

- Describe the characteristics of each soil type that is displayed (such as the associated plants that grow in a given soil type/habitat)
- Explain where it can be found in the park (identify specific trails or other features)

## **Area E-3: Walnut Woodland Amphitheater**

### Walnut Woodland Panel

- Describe the significance of walnut woodlands
- Explain the basic concept of a food chain
- Identify the role of each plant and animal within a food chain that can be found in a walnut woodland habitat

## **Area E-4: Discovery Cart**

### Adaptations & Life Cycles Panel (Positive Steps)

- Provide a brief introductory message that invites visitors to explore how life cycles and adaptations promote biodiversity

### Discovery Drawers/Displays

[Text will primarily be captions/labels based on the cart's final design]