



**CHAPTER | ONE**





## CHAPTER ONE

# background



### A. INTRODUCTION

This document is a Management Plan for the Ballona Creek Watershed (“Watershed”), intended to restore ecological health to the Ballona Creek Watershed. This Plan is an outgrowth of the efforts of the Ballona Creek Watershed Task Force, a stakeholder group formed in 2002 by the Los Angeles County Department of Public Works to collectively set forth a strategy to develop pollution control and habitat restoration actions that could achieve an ecologically healthy watershed.

The Ballona Creek Watershed is located in the northwestern portion of the Los Angeles Basin, as shown in Figure 1-1. The Watershed includes most of the City of Los Angeles west of downtown, the cities of Beverly Hills, Culver City, West Hollywood, and portions of Santa Monica and Inglewood (refer to Figure 1 in the Executive Summary). A natural planning boundary, a watershed is the area drained by a single stream and its tributaries. For Ballona Creek, this plan addresses an area of approximately 130 square miles, roughly bounded by the Santa Monica Mountains and the Hollywood Hills to the north, the I-110 freeway to the east, the Baldwin Hills to the south, and the Pacific Ocean to the west. It is an area in which more than 1.6 million people reside, where the effects of urbanization on water quality, habitat, and open space have been extensive. A map showing the location of the Watershed.



Figure 1-1 **Area Map**

SOURCE: EIP Associates, 2004



In recent years, various groups, cities and agencies have worked to transform Ballona Creek into a valued community asset, improve and expand open space, optimize water resources, preserve and restore habitat (in the Ballona Wetlands, Baldwin Hills and Santa Monica Mountains), and create a network of trails and bike paths. Some of these efforts have been informally coordinated, in recognition of the potential to extend benefits beyond the borders of individual cities, create opportunities to leverage benefits, and maximize funding resources. This plan builds upon these efforts and seeks to generate interest in these issues across the entire watershed and encourage broader participation in watershed planning. This plan is intended to support and inform ongoing planning efforts, as well as provide a framework for future projects that are consistent with the goal to restore ecological health to the watershed, and attract outside funding to individual projects because they are consistent with a comprehensive plan for the Watershed.

The central element of this plan is a compendium of methods, mechanisms and projects intended to improve water quality and restore/create habitat that can begin to improve ecological health of both aquatic and terrestrial ecosystems. This plan does not attempt to address every environmental, economic, or social issue that may warrant attention in the Watershed. Additional planning at both the regional and local levels will be necessary to improve conditions and restore balance between natural and human systems. The vision of the future articulated in this document may require decades to be realized. But if cities, neighborhoods, community-based organizations, nonprofits, and agencies work and plan together, the Ballona Creek watershed can grow greener, water quality can be improved, habitat can be restored and expanded, and ecological health can be restored to an urban watershed.

This document is organized as follows: (1) Background, the context for the plan, (2) Existing Conditions, a description of the physical and environmental conditions of the watershed; (3) Goals and Objectives, responses to real and perceived environmental, recreational and economic problems in the watershed; (4) Methods and Mechanisms, an identification of best management practices, projects and other methods to improve water quality and habitat; (5) Community-Based Monitoring, opportunities to augment existing monitoring programs to assess progress towards achieving ecological health; (6) Stakeholder Commitment and Funding, funding and implementation approaches for selected demonstration projects; (7) Next Steps, a process for reporting progress, updates to the plan and options for additional study and analysis; and (8) References.





## B. HISTORICAL CONTEXT

Over millions of years, Ballona Creek emerged from the Santa Monica Mountains and meandered towards the Pacific Ocean. As the mountains rose and were eroded, sea level rose and fell, and the land was fractured by faults, a broad plain developed, generally ringed by the Santa Monica Mountains complex (including the Hollywood Hills and Elysian Hills), the Los Angeles River (to the east), and the Baldwin Hills to the south. Over time, the course of the Los Angeles River changed, at times draining to Santa Monica Bay and perhaps merging with Ballona Creek at times, or draining to San Pedro Bay, as it has since 1825.

Because of the depth of alluvium (eroded material that is deposited in lowlands) on the coastal plain, much of the water in the creek and its tributaries disappeared into sand and gravel and replenished groundwater, resulting in various marshes, swamps and springs. At locations where surface water was present or groundwater was near the surface, willows and other native trees, roses, grapes, and other flowering shrubs were plentiful. Wetlands, marshes, and springs dotted the landscape. At other locations, surface water was scarce and the vegetation was sparse and dominated by grasses and prickly pear cactus. The wide variety of habitats and available water supplies supported several settlements of indigenous peoples including the Tongva (or Gabrielino).

Transformation of the watershed began with the arrival of settlers in the 18<sup>th</sup> Century. The King of Spain awarded large tracts of land on the coastal plain as ranchos, including Rancho La Ballona. The origin of the name “Ballona” is unknown, although the Rancho’s original owners, Agustín Machado, his brother Ygnacio Machado, and a father and son named Felipe and Tomas Talamantes, called their rancho “La Ballona”—Paso de las Carretas.

Ballona may have been a misspelling of the word “Ballena” (whale in Spanish) which suggests the inspiration came from views of migratory whales in Santa Monica Bay. Another opinion suggests that the Talamantes’ ancestors came from Bayona, Spain, and the part owners named the ranch to honor their heritage.

To support cattle on the working ranchos, land was cleared and nonnative grasses introduced. Dense vegetation surrounding the creeks was cleared to make way for farmland and, later, villages. The availability of surface and groundwater and the favorable climate created ideal conditions for a variety of crops. As the population of the Los Angeles area grew, demand for farmland became more intense, and the flatlands were transformed from cattle ranches to highly productive farmlands.





During the transformation from wildlands to farmlands, proximity to Ballona Creek and its tributaries provided easy access to water. But this convenience was coupled with danger when winter rains caused the creek to spill over its banks or change course.

The arrival of the transcontinental railroads in 1876 provided access to distant markets, and agricultural production in the Los Angeles region expanded greatly. The railroads also brought more people eager to share in the dream made possible by abundant sunshine, farmland, water, and business opportunities. Farmland was subdivided and homes built. The influx of people continued. Surface and groundwater sources were in high demand, and groundwater tables began to drop in some areas. The once-plentiful wetlands and marshes began to shrink and disappeared in some locations. Areas that were once dense with vegetation became dry grasslands. Occasional droughts became a major concern as residents, farmers, and businesses competed for the limited water supply.



In 1913 the Los Angeles–Owens River Aqueduct was built, importing water from great distances to serve the expanding population of the City of Los Angeles. More and more farmland was subdivided and converted to commercial and residential uses. Once-distant farm communities began to grow towards each other. The once-vast open spaces began to disappear. Urban sprawl covered the lowlands and spread into the Hollywood Hills and the canyons in the Santa Monica Mountains.

During transformation of the watershed from farmland to urban metropolis, proximity to Ballona Creek and its tributaries was less critical, but the danger from floods remained. Instead of crops and livestock, homes, businesses, and lives were lost. A variety of measures were employed to keep the creeks and tributaries in their channels, but natural forces prevailed. After two significant floods in the 1930s, the federal government worked with the Los Angeles County Flood Control District to implement a flood control plan to (1) channelize, straighten, and deepen Ballona Creek; (2) install debris basins in the foothills to protect against debris flows during storm events; and (3) convert tributary streams to flood control channels, most in underground tunnels that erased traces of the extensive network of tributaries.

To provide recreational boating opportunities, the County of Los Angeles developed Marina Del Rey in the late 1950s, transforming a large area of former coastal dunes and wetlands into a major small craft marina. The entrance channel to Marina del Rey was constructed immediately north of the Ballona Creek Channel, with a breakwater constructed at the mouth of the creek.



In the past decade, the concept to restore ecological health to the watershed has emerged, beginning with visions of protecting the last remaining wetlands and open space, “restoring” Ballona Creek, and implementing various watershed management strategies. Community organizations, student groups, federal, state and regional agencies, and cities in the watershed have developed concepts and plans to expand natural spaces along the Creek, enhance and extend the bike path along the Creek, and restore the Ballona Wetlands complex and the adjacent lagoons. This plan is an outgrowth of those efforts, seeks to codify and extend those concepts, and provides a framework for future planning by expanding the concept of restoration from Ballona Creek and the Ballona Wetlands to the entire Ballona Creek Watershed.

## C. PLANNING CONTEXT

During initial settlement of the watershed, interest focused on meeting the demand for water: first with surface supplies, then groundwater. As development increased, the focus shifted to protecting farms, homes, and businesses from flooding. As water supply and flood protection needs were met and development continued, focus shifted to improving the quality of waters discharged to Santa Monica Bay through the system of highly modified creek and tributary channels, most of which are lined with concrete. To achieve ecological health in the future, there is a recognition that planning must expand to include a focus on aquatic and riparian habitat, water quality, and open space.



A watershed is the area drained by a single river and its tributaries. Despite this clear spatial identity, watersheds are not the only natural planning boundary. Groundwater basins cross under watersheds and coastal ecosystems fold over ridgelines. Political and jurisdictional boundaries in the watershed add complexity. A sound ecological approach to planning must consider the relationships between human and natural systems, overlapping physical and biological systems, and social, economic, and political systems. And since imported water is an important element of Southern California's water supply, management of the Ballona Creek Watershed can also affect remote watersheds. Watershed planning makes clear the interconnections between the upstream reaches in the foothills and our downstream cities, the beaches and the health of Santa Monica Bay.



Planning at watershed and subwatershed scales necessarily involves consideration of the entire water cycle, both above and below the ground. This includes the intertwined concerns of flood protection, water resources, water quality, protection and enhancement of habitat, open space for passive and active recreation, and strategies to encourage sustainable future development.

To understand the context for this plan, it is useful to provide an historical overview of some relevant plans and planning concepts related to open space, water quality, and habitat in the Ballona Creek Watershed.

### PARKS, PLAYGROUNDS, AND BEACHES FOR THE LOS ANGELES REGION

The most significant and far-reaching of the early open space plans in the Los Angeles basin was proposed in 1930, by the team of Olmsted Brothers and Harland Bartholomew and Associates, who together had developed master plans for the Los Angeles County highway system and a state park system. The Olmsted-Bartholomew plan, entitled *Parks, Playgrounds and Beaches for the Los Angeles Region*, recommended a network of parkways to connect the mountains, rivers, parks, and beaches. Parkway along the rivers and creeks were intended to reduce the need for structural flood protection features. To remedy the deficit of park space (that existed in 1930), the plan proposed a total of 71,000 acres of parkland south of the San Gabriel Mountains. Unfortunately, due to timing (at the start of the Great Depression), cost (\$231 million at that time), and other issues, the Olmsted-Bartholomew plan was quickly shelved and largely forgotten for many years. The centerpiece of that plan, a network of open spaces connected by parkways along the creeks and rivers, remains the path not taken.



### SANTA MONICA MOUNTAINS COMPREHENSIVE PLAN

The Santa Monica Mountains National Recreation Area was formed in 1977. The National Park Service worked with the State of California to create a Santa Monica Mountains Comprehensive Plan, which was adopted in 1979. This led to the formation of the Santa Monica Mountains Conservancy to acquire, preserve, protect, restore, and enhance treasured pieces of the Santa Monica Mountains to form an interlinking system of urban, rural, and river parks; open space; trails; and wildlife habitats that are easily accessible to the general public.

### LOS ANGELES BASIN WATER QUALITY CONTROL PLAN

In 1994, the Los Angeles Regional Water Quality Control Board updated its *Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*. The Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters.

### SANTA MONICA SUSTAINABLE CITY PROGRAM

With adoption of its Sustainable City Program in 1994, the City of Santa Monica committed to meeting its existing needs without compromising the ability of future generations to meet their own needs. The program includes guiding principles that promote the protection, preservation and restoration of the natural environment, recognize that a healthy environment is integral to long-term economic interests, stress the need to educate citizens, community-based groups and businesses, recognize linkages between local, regional and global issues, and mandate environmentally and socially responsible procurement policies. The program has the potential to become a model for other public as well as private organizations in the Watershed.

### SANTA MONICA BAY RESTORATION PLAN

Also in 1994, the Santa Monica Bay Restoration Project, the precursor organization to the Santa Monica Bay Restoration Commission, completed the Santa Monica Bay Restoration Plan, which addresses all of the coastal watersheds that drain into Santa Monica Bay. The Plan identifies almost 250 actions, including 74 priority actions, that address critical problems such as storm water and urban runoff pollution, habitat loss and degradation, and public health risks associated with seafood consumption and swimming near storm drain outlets. The Plan outlines specific programs to address the environmental problems facing the Bay and identifies implementers, timelines, and funding needs.

### BALLONA CREEK AND TRAIL FOCUSED SPECIAL STUDY

In July 1996, as part of the update to the Land Use, Open Space, and Circulation Elements of the General Plan for the City of Culver City, an implementation measure was established to prepare a Ballona Creek and Trail Focused Special Study (BCTFSS) to determine the potential for enhancing the creek as a recreation resource while recognizing its function as a flood protection channel. In October 2001, the California State Coastal Conservancy awarded a grant to the City of Culver City. Based on input from three community-planning workshops, a Refined Concept Plan was developed. The City of Culver City is studying relevant modifications to the City's General Plan and implementation of the proposed trail improvements.



### LOS ANGELES REGION CONTAMINATED SEDIMENTS TASK FORCE

In 1997, Governor Wilson signed into law SB 673 to establish a multi-agency Los Angeles Region Contaminated Sediments Task Force to develop a long-term management plan for dredging and disposal of contaminated sediments and consider aquatic and upland disposal alternatives, treatment, beneficial re-use, and other management techniques. A report to the Legislature on the final plan was originally due January 1, 2003, but that date has been extended to January 2005. Although generally focused on the Los Angeles and Long Beach Harbors, the plan will also deal with contaminated sediments in Ballona Creek and Marina del Rey and include a component focused on the reduction of contaminants at their source, which will likely be relevant to the Ballona Creek Watershed.

### 303(D) LIST OF IMPAIRED WATER BODIES

In 1998, the California State Water Resources Control Board adopted a list of impaired water bodies (the “303(d)” list) in the State of California, including Ballona Creek. The list was amended and updated in 2002 (and adopted in February 2003) and provides the basis for identifying the Total Maximum Daily Loads (TMDLs) for the pollutants of concern identified on the list of impaired water bodies. Although a TMDL for trash in Ballona Creek has already been established (along with a wet-weather pathogen TMDL for Santa Monica Bay and a bacteria TMDL for Mother’s Beach in Marina del Rey), the majority of TMDLs for the Creek, the Ballona Wetlands, and the Marina del Rey Back Basin have not yet been established.

### CITY OF LOS ANGELES INTEGRATED PLAN FOR THE WASTEWATER PROGRAM

In 1999, the City of Los Angeles began work on an Integrated Plan for the Wastewater Program (IPWP) to address the interrelationships between water supply, wastewater, and stormwater. Based on a dual track approach of information gathering and stakeholder outreach, a list of policy recommendations was developed, which include development of new wastewater treatment facilities at “upstream” locations, expand use of recycled water, increase water conservation, increase the diversion of dry-weather urban runoff for treatment, and increase the amount of stormwater that can be captured and beneficially used. The IPWP is the first element of an Integrated Resource Plan for the City of Los Angeles, which will address solid waste and stormwater runoff, and may include implementation of programs and measures to meet future TMDL requirements.

### BALDWIN HILLS PARK MASTER PLAN

In 2000, the Governor signed Senate Bill 1625 to establish the Baldwin Hills Conservancy, to preserve and enhance the Baldwin Hills area and to develop and coordinate an integrated program of resource stewardship so that the Baldwin Hills area is managed for its optimum recreational and natural resource values, based upon the needs and desires of the surrounding community. In May 2002, the Conservancy completed the Baldwin Hills Park Master Plan to serve as a guide for future natural space and parkland acquisition and improvements, facility development and habitat restoration within the Baldwin Hills, and for connections to trails, parks, and other public facilities.



## BALLONA CREEK WATERSHED TASK FORCE

In 2001, the Los Angeles County Department of Public Works invited stakeholders in the Ballona Creek Watershed to join the Ballona Creek Watershed Task Force (BCWTF), in order to collectively set forth a strategy to develop pollution control/habitat restoration actions to achieve an ecologically healthy watershed. The following objectives were proposed for the Task Force: (1) conduct a comprehensive assessment of the watershed's ecological conditions; (2) identify habitat restoration potential; (3) identify target areas for source control of pollutants of concern; (4) select and prioritize cost-effective best management practices for achieving a set of water quality improvement/habitat restoration goals; (5) develop a long-term, community-based watershed monitoring plan; (6) identify existing and future funding sources for plan implementation; and (7) expand the Watershed Management Plan into other watershed issues, such as preserving and creating open space for recreation, habitat restoration, and water conservation.

## SEEKING STREAMS

In 2001, the Cal Poly Pomona 606 Design Studio completed a plan titled: *Seeking Streams: A landscape framework for urban and ecological revitalization in the upper Ballona Creek watershed*. The study explores the potential to restore or “daylight” selected segments of former tributary channels in the upper Ballona Creek Watershed Plan. The plan discussed the natural and cultural history of the watershed, identified current environmental and social issues in the upper watershed, articulated an urban stream paradigm, illustrated design concepts for restoration of Sacatela Creek and Lafayette Park, and suggested phased implementation strategies for selected stream reaches.

## THE BIOTA OF THE BALDWIN HILLS

In 2001, the Natural History Museum of Los Angeles County Foundation and Community Conservation International completed *The Biota of the Baldwin Hills, an Ecological Assessment* of biological resources in the Baldwin Hills, including vegetation, arthropods, reptiles and amphibians, birds and mammals. The document also identifies ecological issues and provides recommendations for restoration.

## LOS ANGELES COUNTY NPDES PERMIT

In 2001, the Los Angeles Regional Water Quality Control Board renewed the National Pollutant Discharge Elimination System permit for stormwater discharge in Los Angeles County, designed to protect the beneficial uses of water bodies in Los Angeles County by reducing pollutants in storm water. This permit was originally issued in 1990 by the Regional Water Quality Control Board and previously renewed in 1996. The permit covers 3,100 square miles in the Los Angeles basin and spans several watersheds, including Ballona Creek, with the County of Los Angeles and 85 incorporated cities in the County as co-permittees. The permit includes a number of conditions that require the cities within the Watershed to reduce pollutants in urban runoff through programs that address (1) public education, (2) industrial/commercial facilities, (3) public agency activities, (4) illegal connections to storm drains, and (5) construction and new development. The permit is scheduled for renewal in 2006.

## SPRAWL HITS THE WALL

The Southern California Studies Center of the University of Southern California published *Sprawl Hits the Wall* (2001), proposing a region-wide approach for a sustainable approach to development. The report recommends that the region grow “Smarter,” “Together,” “Greener,” and “More Civic Minded.”



### SOUTHERN CALIFORNIA WETLANDS REGIONAL RESTORATION STRATEGY

In 2001, the Board of Governors of the Southern California Wetlands Recovery Project, a unit of the California Coastal Conservancy, adopted a Regional Restoration Strategy which identified specific wetland restoration objectives for each county in the Southern California region and site-specific objectives for the Ballona Wetlands Complex, including (1) integrate planning and management for entire Ballona wetlands complex, including Ballona Lagoon, Del Rey Lagoon, Grand Lagoon, Marina del Rey Harbor, and Oxford Lagoon; (2) acquire coastal wetland and associated upland habitat; and (3) develop and implement a restoration and long-term management plan for Ballona wetlands complex.

### SANTA MONICA AND BALLONA WATERSHED GREEN MAP

In 2001, the City of Santa Monica and Duvivier Architects created the *Santa Monica and Ballona Watershed Green Map*, which identifies publicly owned natural areas, parks, Native American sites, bird watching locations, historic wetlands, existing habitat, and opportunity sites for habitat restoration in the Ballona Creek Watershed. A more detailed map of the City of Santa Monica (on the reverse) identifies recycling locations, bicycle paths, clusters of street trees, stormwater percolation sites and “green” buildings that were developed using sustainable principles.

### MISSING LINKAGES: RESTORING CONNECTIVITY TO THE CALIFORNIA LANDSCAPE

A consortium of groups and agencies, including the South Coast Wildlands Project, the Nature Conservancy of California, the California Wilderness Coalition, the Biological Resources Division of the U.S. Geological Survey, and the Center for Reproduction of Endangered Species of the Zoological Society of San Diego, jointly

developed *Missing Linkages: Restoring Connectivity to the California Landscape* (August 2001). This report identified more than 300 existing and former wildlife corridors throughout California that are vital habitat linkages for species diversity, including a linkage between Griffith Park (in the eastern headwaters of the Ballona Creek watershed) and the Verdugo Hills (with a subsequent link to the San Gabriel Mountains).

### WATTLES GARDENS CULTURAL LANDSCAPE REPORT

In 2002, Hollywood Heritage, Inc. completed the *Wattles Gardens Cultural Landscape Report*, to document the history, existing conditions, significance, and integrity of the Wattles Gardens, a historic turn-of-the-century estate located at the base of the Santa Monica Mountains in Hollywood owned by the City of Los Angeles and managed as park space. The report identifies appropriate treatments for the continued maintenance and rehabilitation of the property and may serve as a model for rehabilitation of public open spaces that reinforce, rather than erase the historic connections to the cultural landscape of Los Angeles.

### LOWER BALLONA CREEK RECONNAISSANCE STUDY

In 2002 the U.S. Army Corps of Engineers initiated the Lower Ballona Creek Ecosystem Restoration Los Angeles County 905(b) Reconnaissance Study. The study identifies issues and opportunities for restoration of drainage channels and natural areas in the lower Ballona Creek watershed and serves as the prelude to a feasibility study of three alternatives identified in the Reconnaissance Study. As of this draft, the Corps of Engineers has identified several local cosponsors for the feasibility study and is working to refine the scope.



### LOWER BALLONA CREEK INTERAGENCY TASK FORCE

In 2003, the City of Los Angeles established a joint interagency task force to study options for joint management of natural resources in the lower Ballona Creek Watershed, which may include the Ballona Wetlands, Ballona Lagoon, Del Rey Lagoon and associated water bodies. As of this draft, discussions continue to seek an appropriate structure or mechanism to facilitate management of these resources.

### BALLONA CREEK BMP PRIORITIZATION PROJECT

In 2003, the Santa Monica Bay Restoration Commission initiated a Ballona Creek BMP Project Work Group, to implement a BMP prioritization project for the Ballona Creek Watershed and monitor effectiveness of BMPs in treating 303(d) listed pollutants. In later phases, this work group will develop a planning and implementation strategy that can be used by municipalities to successfully plan, design, implement, and monitor structural retrofit BMPs for storm water quality management.

### BALLONA CREEK WETLANDS ACQUISITION

In 2003, State of California acquired 483 acres of the former Ballona Wetlands, through the acquisition of 192 acres by the Wildlife Conservation Board and the donation of 291 acres (including a portion of the Ballona Creek Channel). In addition, approximately 64 acres (Area C) currently held in trust, will be transferred to State. The Coastal Conservancy will take the lead to plan restoration of the area.

### BALLONA CREEK WATERSHED COORDINATOR

In 2004, the Mountains Recreation and Conservation Authority received a Proposition 50 grant from the State of California Department of Conservation to hire a watershed coordinator for the Ballona Watershed for a three-year period. The objectives for this position are to (1) facilitate implementation of the Ballona Creek Watershed Management Plan by seeking funding for priority projects identified in the Management Plan; (2) provide administrative support to the BCWTF and facilitate the transition of the Task Force into a long-term self-sustainable organization for oversight and coordination of watershed restoration activities; (3) support education and outreach to broaden the base of stakeholders and build up community support and participation in watershed restoration activities; (4) develop and facilitate implementation of projects/ measures that optimize water resources to reduce dependence on imported water; and (5) coordinate implementation of a community-based watershed monitoring program and enhance the citizen/volunteer monitoring efforts in the watershed.

