

# **COMMON GROUND**

*from the Mountains to the Sea*

## **NORTH FACING SLOPE ADDENDUM**

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With the assistance of:

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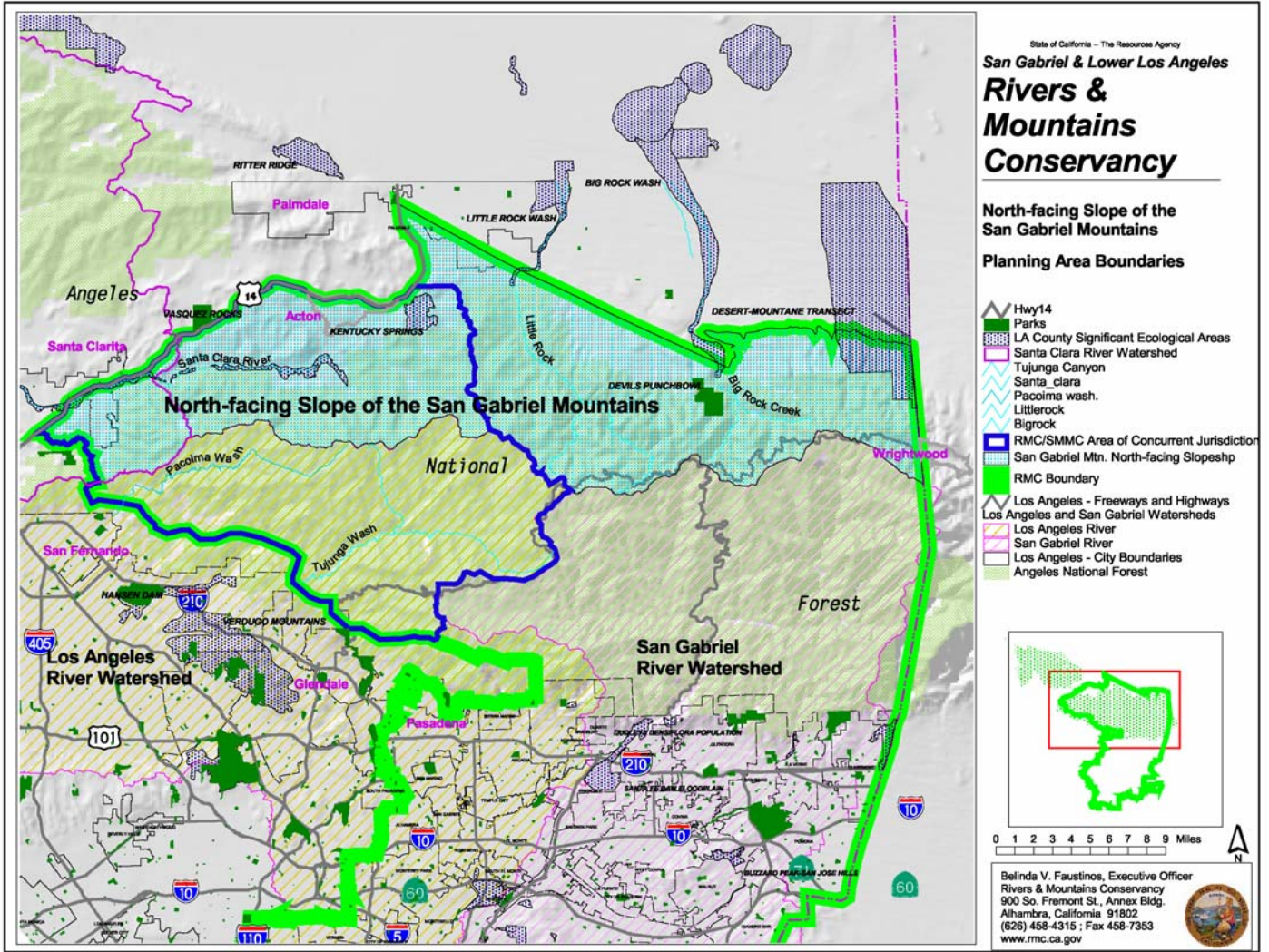
## PREFACE

With assistance from the California Resources Agency, the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy, or Rivers and Mountains Conservancy (RMC), in conjunction with the Santa Monica Mountains Conservancy (SMMC), jointly developed a Watershed and Open Space Plan for the San Gabriel and Los Angeles Rivers entitled *Common Ground, from the Mountains to the Sea*. The RMC and SMMC adopted the Watershed and Open Space Plan at a joint meeting on October 17, 2001.

As part of Phase II of the Open Space Plan process, the RMC has been engaged in outreach to cities, agencies, non-profit groups and community-based organizations to secure approval of Common Ground, and working with those entities to expand upon or amplify the information included in the plan, and extend Common Ground beyond the watersheds of the San Gabriel and Los Angeles Rivers.

This Addendum addresses the north-facing slope of the San Gabriel Mountains as defined by the US Forest Service in their 1997 description of the Ecological Subregions of California, including 1) the easternmost portions of the upper Santa Clara River watershed, including a portion of the city of Santa Clarita and the town of Acton, 2) the land within the Angeles National Forest that drains toward the Antelope Valleys; and 3) the northern foothills of the San Gabriel Mountains, which form the southern boundary of the Antelope Valley, including a portion of the City of Palmdale, and the eastern portion of the community of Wrightwood. The term “North-facing Slope” is used throughout this document to indicate the areas described above and is illustrated in Figure X. The Addendum is intended to extend the influence of the concepts described in *Common Ground* and sustain its aim to “extend the discussion of restoring balance between human and natural systems from beyond the rivers to the entire watershed.” As an addendum to Common Ground, this document advances a model for regional coordination in watershed planning. Groups such as the Los Angeles and San Gabriel Rivers Watershed Council are driving new efforts to address a diversity of issues relating to watershed management in a collaborative forum. Common Ground is meant to build on and support these efforts within the watersheds of the Los Angeles, San Gabriel, and Santa Clara Rivers and along the North-facing Slope of the San Gabriel Mountains.

FIGURE X: North-Facing Slope



The format of this Addendum follows that of *Common Ground*, with (1) an introduction that provides background and context, (2) a description of physical setting and conditions, and (3) a Vision for the Future, which describes relevant guiding principles, describes strategies and opportunities, and discusses next steps.

It is the intent to incorporate this Addendum as a supplement to *Common Ground*, and upon the next printing, to incorporate this information into the main body of the document. As additional relevant information is developed (e.g., from other Addenda, or from detailed planning related to specific issues, such as River Parkways or habitat), that information will also be incorporated into the Plan, so that the document continues to evolve and expand over time, to better inform the Conservancy's activities and projects.

# 1. BACKGROUND

## A. INTRODUCTION

The first and second paragraph on page 11 is modified as follows:

“This document is a Watershed and Open Space Plan for the San Gabriel and Los Angeles Rivers watersheds, and the north-facing slope of the San Gabriel Mountains (the North-facing Slope). A natural planning boundary, a watershed is the area drained by a single river and its tributaries. This plan addresses the linked watersheds of the San Gabriel and Los Angeles Rivers, which together drain 1,513 square miles from the San Gabriel Mountains to the Pacific Ocean, an area in which more than 7 million people currently live. In addition, this plan addresses portions of the upper Santa Clara River watershed, and those portions of the San Gabriel Mountains (within Los Angeles County) that drain to the Antelope Valley.

Transformation of the land along the San Gabriel, Los Angeles, and Santa Clara Rivers began with the arrival of settlers in the 18<sup>th</sup> Century.”

## B. HISTORICAL CONTEXT

The first paragraph under item B (on page 11) is modified as follows:

“Over millions of years, the San Gabriel, Los Angeles, and Santa Clara Rivers emerged from the San Gabriel Mountains and meandered towards the Pacific Ocean.”

The second paragraph on page 12 is modified as follows:

“The arrival of settlers in the 18<sup>th</sup> Century began the first human-induced transformation of the ~~double~~ watersheds.”

The first full paragraph on page 13 is modified as follows:

“The potential for a third transformation of the watersheds has emerged in the past decade, beginning with visions of “restoring” the Los Angeles River and implementing watershed management strategies. Individuals, groups, agencies, communities, and cities have developed plans to expand natural spaces along the river, establish riverfront walks or bike paths, and restore public access. These concepts have been expanded to include the San Gabriel and portions of the Santa Clara Rivers, as well as tributaries of ~~both~~ the rivers, and planning on these issues is ongoing. This plan is an outgrowth of those efforts, seeks to codify and extend upon those concepts, and provide a framework for future planning by ex-

panding the concepts of restoration and preservation from the rivers to the entire watersheds within each conservancy's respective territory."

## C. PLANNING CONTEXT

Augment the list of plans (on pages 15 and 16) to add the following:

### ■ Santa Clara River Park Project

The Santa Clara River Park Project, published in 1995, by the City of Santa Clarita Parks, Recreation and Community Services Department proposes a plan to develop open space parkland along the Santa Clara River. The plan identifies sites for park acquisition and describes design concepts and guidelines for open space "rooted in the understanding of the natural process and functions that shape the landscape."

### ■ Santa Clarita Valleywide General Plan Update

In 2001, the City of Santa Clarita and the County of Los Angeles commenced a multi-year planning effort to jointly plan for the Santa Clarita Valley (SCV) area, which includes the upper Santa Clara River Watershed. This process of creating a new comprehensive General Plan for the entire region is titled *One Valley, One Vision (OVOV)*. At the time of this writing, OVOV had completed its first phases of public outreach and visioning. The visioning phases culminated in the development of a Vision and Guiding Principles for the Santa Clarita Valley. The Vision and Guiding Principles, developed through an extensive public involvement process including a community-wide survey, stakeholder interviews, a series of neighborhood workshops, student activities and a Valley Congress, identify the desired future for the Santa Clarita Valley. The Guiding Principles provide a framework for policy direction for topics ranging from land use and growth management, environment and sustainability, economy, housing, public services, to recreation and open space, transportation and schools. The Principles reflect the community mandate for responsible planning in the Valley balancing the needs of residents with the management of natural resources. OVOV is currently in the data collection phase for preparation of the General Plan document, anticipated to be adopted in late 2003.

### ■ Santa Clara River Enhancement and Mitigation Plan (SCREMP)

Development of a management plan for the Santa Clara River and its many resources has been in development since 1991, with funding provided by the State of California Coastal Conservancy (Coastal Conservancy), the State Wildlife Conservation Board, the U. S. Fish and Wildlife Service, the cities of Santa Clarita and San Buenaventura, and the Ventura and Los Angeles County Flood Control Districts. The Plan preparation is directed by a 26-member Project Steering Committee consisting of representatives of the counties, communities, state and federal agencies, property owners, aggregate producers,

water agencies and Friends of the Santa Clara River. Subcommittees developed reports on biology, water resources, flood control, agriculture, aggregate mining, and recreation that provide background information, goals and recommendations. A series of Geographic Information Systems maps have also produced to identify conflicts and opportunities and to facilitate decisions regarding uses of the river floodplain. In 1999, the Steering Committee, approved a set of riverwide and reach-by-reach recommendations that have been incorporated into the Draft Plan which will now be the subject of an Environmental Impact Report to determine the potential environmental impact of Plan implementation.

#### ■ **Santa Clarita Open Space Acquisition Plan**

The City of Santa Clarita developed the Open Space Acquisition Plan to “systematically prioritize available open space for acquisition and preservation throughout the Santa Clarita Valley.” The plan will provide the City with an opportunity to acquire the most valuable open space properties, while maximizing available funding resources. The plan addresses four recognized needs of the Valley: 1) need for an open space plan; 2) recognized value of open space by community members; 3) current park deficit in the City; and 4) dynamic development environment in the Santa Clarita Valley.

#### ■ **Santa Clarita Sustainability Plan**

A Sustainability Plan is being developed by the City of Santa Clarita for incorporation into the City’s General Plan. The Sustainability Plan will focus on protection of the environment and conservation of natural resources, including land, air, water, and wildlife. In addition, the Plan will highlight methods by which sustainable communities provide equal opportunities for community members and exhibit value in the diversity of community members’ ages, perspectives and backgrounds.

#### ■ **Significant Ecological Area Update Study**

Los Angeles County has designated certain habitats as Significant Ecological Areas (SEAs) in the County’s General Plan. These include the habitat of rare, endangered and threatened plant and animal species, biotic communities that are restricted in distribution, biotic resources that are of scientific interest, are important to game species habitat or fisheries, or are relatively undisturbed. Five SEAs have been identified in the Santa Clarita Valley. The County is currently reviewing SEA boundaries and considering expansion of existing, or creation of new SEAs.



## 2. CURRENT CONDITIONS

### A. PHYSICAL SETTING

#### 1. Geology and Geomorphology

The San Gabriel Mountains are the predominant topographic feature, which includes a portion of the headwaters of the Santa Clara River, and is the source of many streams that drain into the Antelope Valley. The San Gabriel Mountains rise 7,000 ft. from the Antelope and Santa Clarita Valleys, and exert considerable influence on the climate, hydrology, and the ecology of the lands around them. The San Gabriel Mountains continue to grow at a rate of one millimeter/yr. or 1000 m/million years. The San Andreas and other numerous faults have fractured the San Gabriel Mountains so that they erode at a rapid rate, about 350m/million years. The dynamic geology of the region has created a hydrologic landscape characterized by steep headwaters transitioning into sloping alluvial beds on the adjacent flatlands.

#### 2. Climate

Because of the distance from the sea and the intervening mountains, the climate of the North-facing Slope is not tempered by the Pacific Ocean. As a result, temperatures are more extreme than in the southern portions of the San Gabriel Mountains. Temperatures range from highs in the 85° - 100° range in the summer in the Santa Clarita and Palmdale areas, to lows in the 25° - 35° range in the Palmdale area in the winter, with much colder temperatures at higher elevations. Annual precipitation ranges considerably, from 5 to 10 inches in the Antelope Valley, 15 to 18 inches in Santa Clarita, and upwards of 20 inches in the northern San Gabriel Mountains, with 80 percent of rainfall occurring primarily between November and March, often occurring in intense storms. Summer thunderstorms can also bring short bursts of rainfall and lightening to the area. A single winter storm can drop as much as 17 inches of rain contributing to severe flooding.

### B. WATERSHED HYDROLOGY

The North-facing Slope includes easternmost portions of the Santa Clara River watershed, the Antelope Valley watershed, and the Los Angeles County portion of the Mojave River watershed. The Santa Clara River is the largest river system in southern California that remains undammed and in a relatively natural state. The river originates in the north-facing slopes of the San Gabriel Mountains, traverses in a westerly direction into Ventura County, and discharges into the Pacific Ocean. The river runs approximately 100 miles from its headwaters near Acton, to its outlet south of the City of Ventura, and drains an area of approximately 1,200 square miles. The Antelope Valley watershed is a system of independent streams that drain approximately 1,200 square miles in North Los Angeles County from the San Gabriel Mountains and Kern County into the

valley floor. Due to the surrounding topography, these streams do not drain to the sea, but into dry lakebeds on the valley floor, with most surface flows infiltrating into groundwater basins or evaporating into the air. The Mojave River begins to flow out of the San Gabriels near Wrightwood through Swarthout, Buford, and Flume Canyons and toward the Victor Valley and into the groundwater basins along its stretch. The alluvial soils in the region contribute to a high rate of groundwater infiltration, but because of the area's arid climate, a large volume of water is lost to evaporation. The watersheds of the North-facing Slope are shown in Figure Y.

## 1. Surface Water

The Santa Clara River is fed by five major tributaries, including Sand Canyon, Mint Canyon, Bouquet Canyon, South Fork, and San Francisquito Canyon. Further toward the sea, Castaic, Piru, Sespe, and Santa Paula Creeks join the main trunk of the Santa Clara. For the Antelope Valley watershed, Little Rock, Big Rock, and other small streams all flow from the San Gabriels onto the valley floor.

Surface water in streams and the rivers along the North-facing Slope is generally only present during the winter and spring, in particular after storm events. Many storms do not generate sufficient runoff to sustain surface flow in all streams, although subsurface flow is often present. Particularly intense storms can result in flash floods or debris flows which carry large amounts of sediment, rocks and debris, which are deposited in the valleys below. Several reservoirs, such as Littlerock Reservoir catch and retain flows from these streams to provide drinking water to the area and recreation for local residents.

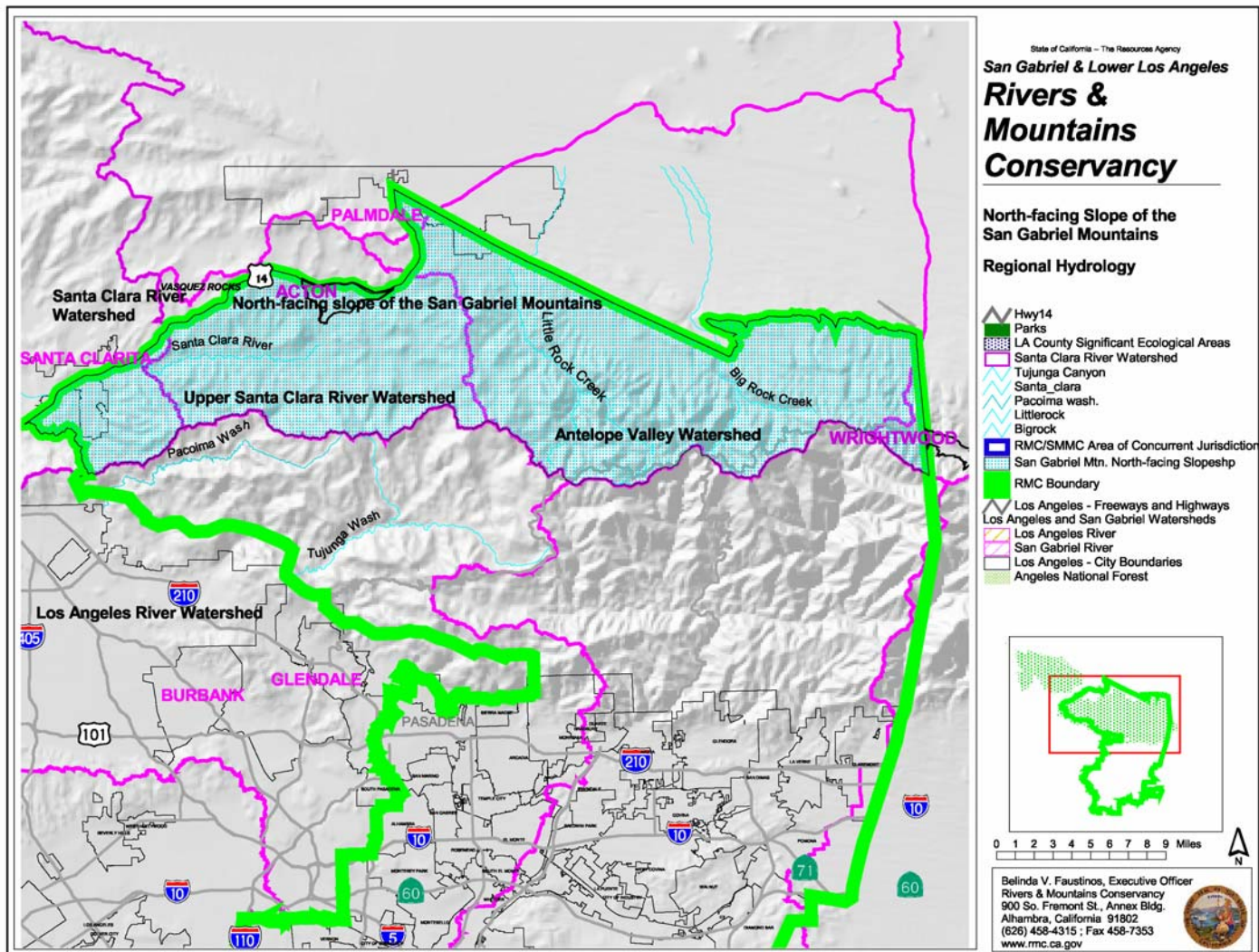
## 2. Channel and Flow Conditions on the Major River Reaches

Most of the rivers and streams along the North-facing Slope remain largely unchannelized and in their natural state. The Santa Clara River is largely allowed to flow through its flood plain, contained only by some publicly and privately maintained earth levees, rip-rap, and a few concrete levees. Historically, streams along the North-facing Slope have flowed freely across their alluvial floodplains, and only recently have urban and suburban development begun to constrain their free flow at some locations. Surface flows in the streams are ephemeral and diminish rapidly. The annual mean flow of the Santa Clara River in 1988 at the LA/Ventura County line was 35,360 acre-feet. In some areas on the Santa Clara River, flows have been supplemented with reclaimed water and agricultural and urban runoff.

## C. HABITAT

Because of its varied climate and topography, Southern California is biologically diverse, as are the Santa Clara River and Antelope Valley watersheds. The Santa Clara watershed serves as a transitional zone between the Angeles National Forest, the Santa Susanna Mountains, and the Los Padres National Forest. The

FIGURE Y: Regional Hydrology



NORTH FACING SLOPE

northern foothills of the San Gabriel Mountains serve as a transitional zone between the Angeles National Forest and the Antelope Valley.

Of 355 habitat communities listed in the California Department of Fish and Game's Natural Diversity Database, nine exist in the City of Santa Clarita alone. They represent the spectrum of mountain conifer forests, to coastal sage scrub, to willow and juniper woodlands. The species living on the North-facing Slope have adapted to the specific niches offered by the transitional habitats between coastal, mountain and desert areas.

The North-facing Slope supports a set of sensitive or endangered species that require a variety of habitat types. Three endangered species are known to inhabit the Santa Clara River watershed,

- Unarmored Threespine Stickleback (*Gasterosteus aculeatus williamsoni*): Needs weedy pools and backwaters with sandy bottoms and mud where the water stays below 23-24 degrees Centigrade.
- Least Bell's Vireo (*Vireo bellii*): Requires riparian habitat, usually with dense willow-dominated thickets.
- Arroyo Southwestern Toad (*Bufo microscaphus*): Restricted to rivers with shallow, gravelly pools adjacent to sandy terraces.

The North-facing Slope also supports a diversity of sensitive plant species, including Nevin's barberry, short-joint beavertail, Peirson's morning-glory, and the slender-horned spineflower. Altogether, eighteen Federal Species of Concern are found within the North-facing Slope.

The natural communities in the North-facing Slope are shaped by the actions of both water and fire. Wildfire burns thousands of acres each year and release nutrients for plants, and sediments to be washed into the streams and valleys below. In riparian ecosystems, habitat is shaped by the continual fluctuations in stream-bed, sandbars, and the flow of surface and sub-surface waters. The Southern Cottonwood-Willow Riparian Forest grows rapidly in areas repeatedly inundated by floods. The species colonize sandbars in the middle of channels and within the floodplain. Their health depends on a natural cycle of flood and drought.

The North-facing Slope is the western most boundary of Big Sagebrush Scrub, which occurs in well-drained slopes to fine valley soils with high water tables. Rabbitbrush (*Crysothamnus nauseosus*) and stipa grasses are common species in this habitat. Southern Coast Live Oak riparian forest also appears in the Santa Clarita Valley. It was once abundant in the region, but has since dwindled to small islands of habitat. The action of the San Andreas Fault has also created a series of fault-sag wetlands along the North-facing Slope. These ponds are enclosed depressions that trap water to provide wetland habitat in an otherwise arid climates. These ponds include, but are not limited to, Una Lake, Barrel Springs, and Lake Palmdale.

The diverse habitats of the North-facing Slope are connected via the region's riparian corridors. Tributaries and streams connect willow and cottonwood forest with upland chaparral communities. The Santa Clara River Enhancement and Mitigation Plan (SCREMP), a joint project of the State Coastal Conservancy, Ventura and Los Angeles Counties, and other partners, has identified the stream corridors connecting the Angeles National Forest directly with lowland valleys as high conservation priorities.

The SCREMP Study identifies three priorities for habitat conservation in the region. SCREMP calls for the preservation of a continuous riparian corridor, restoration of degraded resources, and management of the river to maintain existing and restored resource values. SCREMP will ultimately set criteria and priorities for habitat and species conservation in the Santa Clara River corridor.

## **D. OPEN SPACE AND RECREATION**

Most of the lands within the North-facing Slope remain largely undeveloped. The Angeles National Forest composes the largest share of open lands, but there are several major parks both within and immediately adjacent to the area. They include Devil's Punchbowl State Park, Tejon Park, and Pelona Vista Park. Many of the regions open space goals rely on the preservation of uninterrupted corridors of open space, river, and trail networks. For example, the corridor connecting the San Gabriel Mountains with the Sierra Pelona Mountains and other corridors provide unique opportunities for trail and open space connectivity. The City of Palmdale has developed 209.64 acres of parkland and 171.5 new park acres are currently in various stages of planning. Palmdale has adopted a multi-purpose trail plan within its General Plan to accommodate the needs of hikers, equestrians, and mountain bikers. The multi purpose trails within the City boundary connects open spaces with LA County and Angeles National Forest trails and open space. The City of Santa Clarita maintains 149 acres of developed park lands and recreation facilities and 19.3 miles of trails. The majority of Santa Clarita's trails follow directly along the Santa Clara River and its tributaries. The Santa Clara River Trail is a State-recognized trail. The City plans to add 15.9 miles of new trails and 150 acres of new open space as funds become available.

## **E. WATER SUPPLY**

### **1. Sources of Water**

Groundwater has been an important source of water since the Spaniards first settled in the region. Groundwater supplies 50-90 percent of the water in the Antelope Valley and together with imported water from the State Water Project supply 90 percent of the water in the Valley. The remaining 10 percent of drinking water supply comes from surface water flows from perennial stretches of creeks in the San Gabriel Mountains. The United States Geological Survey projects that water demand in the Antelope Valley will be larger than water

supplies by 2004, which could require the import of additional water. The Palmdale Water District maintains two interconnections to the Antelope Valley East-Kern Water Agency and Littlerock Creek Irrigation District, which can be used to transfer water from one system to another. In the Santa Clarita Valley, 57 percent of the water supply comes from local groundwater sources and the balance of 43 percent is supplied by the State Water Project. Total demand in the Santa Clarita Valley is expected to increase 3 percent from 2000 to 2010. Overall, growing demands on the water supply both locally and statewide have raised concerns about protecting existing local sources. In a region reliant on natural percolation into groundwater aquifers, comprehensive watershed management and implementation of water conservation measures becomes paramount. The cities of Santa Clarita and Palmdale, and the County of Los Angeles have implemented a range of water conservation measures to reduce water demand.

## 2. Groundwater

Groundwater has been the principle source of water in most of the North-facing Slope, except for those areas adjacent to streams with reliable surface flow. Surface flows percolate naturally into two levels of groundwater basins, an alluvial basin and an underlying terrace deposit. The alluvial aquifers are recharged by percolation of direct rainfall and infiltration of surface flows. These upper aquifers follow closely with the channels of tributaries and rivers. The underlying aquifers are much larger and generally recharged through percolation and overflow when the alluvial aquifers become saturated. When rain falls in the area, it is absorbed quickly into these groundwater basins. Any surface flow that makes it to the tight and clayey soils of the Antelope Valley floor is lost to evaporation. Unlike basins in the Los Angeles metropolitan area, LA County Department of Public Works does not operate any recharge facilities in the Santa Clarita or Antelope Valleys.

The Antelope Valley lies on top of 12 connected subbasins that can store water up to 5,000 feet down. These basins are recharged by creeks flowing out of the San Gabriel Mountains at a rate of 31,300 to 59,100 acre-feet each year. The Santa Clarita Valley draws groundwater primarily from the Eastern Groundwater Basin, which is composed of an alluvial aquifer and the underlying Saugus formation. The alluvial aquifer generates 90 percent of the total groundwater supply to the Santa Clarita Valley and is rapidly recharged during winter storms and can yield 31,600 to 32,600 acre-feet each year without an overall decrease in basin level. The Saugus formation has a capacity of 1.4 million acre-feet and can safely yield 7,500 to 15,000 acre-feet each year. The Acton area draws groundwater from the Acton Valley Groundwater Basin, which can hold as much as 45,000 acre-feet of water.

Up until the 1960s, agriculture was the largest user of groundwater. Between 1952 and 1968, groundwater overdraft caused land in the Antelope Valley to subside up to 6 feet. In 1970 groundwater levels in the Ante-

lope Valley were dropping at a rate of 5 feet/year. As the basins were drained, pumping costs increased and the number of irrigated acres began to drop. The Regional Water Quality Control Board estimates that agricultural use of groundwater in the region will continue to drop, but that rapidly growing urban centers in Santa Clarita, Palmdale, Lancaster, and Victor Valley will increase pressure on groundwater supplies. In 1991, ground-water pumping exceeded, by nearly two-fold, the estimated mean natural recharge to Antelope Valley.

Unlike the San Gabriel and other groundwater basins, the Antelope Valley and the Eastern groundwater basins are not adjudicated basins. Water rights have been voluntarily determined and managed by private landowners and other water purveyors. Several cooperative water management efforts have emerged in response to growing pressure on groundwater resources. The Antelope Valley Water Group (AVWG) formed as an ad hoc group of cities, water purveyors, and other stakeholders to address the future of the Antelope Valley's water resources. In 1995, the group recommended to improve use of existing supplies, decrease demand, implement groundwater management, protect groundwater quality, improve State Water Project reliability, and acquire new imported water supplies. The Palmdale Water District, the Castaic Lake Water Agency, LA County Waterworks District #36, Newhall County Water Districts, and Valencia Water Company have developed an Urban Water Management Plan for Santa Clarita Valley to reduce pressure on groundwater supplies through reclamation programs, conservation, groundwater storage, and short-term water transfers.

### **3. Imported Water**

In 1972, the State Water Project began delivering water from the Sacramento/Bay Delta to communities along the north-facing slope of the San Gabriel Mountains via the California Aqueduct. The Castaic Lake Water Agency, the Palmdale Water District and the Antelope Valley-East Kern Water Agency each receive State water for the region and supply it to customers. Existing entitlements are not guaranteed amount and can, and have been reduced in years of drought and limited supply. Further, increased urbanization in Northern and Central California and by ecological requirements of the Sacramento/Bay Delta may further constrain supplies.

### **4. Surface Water**

Creeks flowing from the San Gabriel Mountains supply only a small percentage of water to homes and purveyors in the North-facing Slope, with Littlerock Reservoir, which serves the Palmdale area, being the most significant source of surface water.

## 5. Recycled Water

The Regional Board, in its Lahontan Basin Plan, has identified recycled water as a potential source of irrigation water for the region, however use of recycled water remains limited. The Castaic Lake Water Agency is developing a reclaimed water system that would provide up to 17,000 acre-feet of water per year to the Santa Clarita Valley. The project currently reclaims 1,700 acre-feet per year.

## F. WATER QUALITY

### 1. Responsibility for Managing Water Quality

In the North-facing Slope the bulk of water quality management and enforcement is done by the Los Angeles Regional Water Quality Control Board (Region 4) for the Santa Clara River and the Lahontan Regional Water Quality Control Board (Region 6b) for the Antelope and Mojave River watersheds. The State Department of Health Services and local water purveyors also monitor and regulate drinking water quality.

### 2. Beneficial Uses

Beneficial uses have been designated for the Santa Clara and Antelope Valley watersheds by the respective Regional Boards, and include: municipal, agricultural, industrial, groundwater, water contact recreation, non-contact recreation, commercial and sport fishing, cold water habitat, warm water habitat, wildlife, spawning, water quality enhancement, freshwater replenishment, and floodwater storage

### 3. Water Quality Concerns

As of 1998, portions of the Santa Clara River had been listed as an impaired waterbody on the State's 303(d) list (for chloride, coliform, and nitrates). Until recently, agricultural runoff was the primary source of water quality impairments in the Antelope Valley. Irrigation runoff has increased the mineral and nitrate levels in groundwater. The area near Little Rock Creek is identified by the Regional Board as an example of where overapplication of fertilizer has impacted groundwater resources. In the last 15 years, urban development has grown rapidly in the region, increasing concerns that nonpoint source pollution and urban runoff will further impair water quality. The Lahontan Regional Board has prohibited discharge of any waste into streams above 3,500 ft to protect the upper reaches of streams and rivers.

In 1997, ammonium perchlorate was discovered in four groundwater wells in the Eastern Groundwater Basin below the Whittaker-Bermite facility. These wells were shut down and local providers are developing a plan to remediate the contamination and have filed suit against the Whittaker-Bermite Company. The implication of this contamination is that future groundwater supplies are potentially threatened, which would lead to greater reliance on imported water.



#### **4. Source Controls and Remediation Efforts Planned**

Although some former industrial sites and mines represent sources of potential contamination, large scale contamination of groundwater (as occurs in various locations in the urbanized portions of the territory) are not a major issue in the North-facing Slope.

### **G. FLOOD PROTECTION**

The Santa Clara River and portions of the Antelope Valley watersheds fall under the jurisdiction of the Los Angeles County Flood Control District. The District serves the entire North-facing Slope of the San Gabriel Mountains, but stakeholders in the Antelope Valley, North of Avenue S, elected to remain outside of the District. The areas outside of the District are subject to the Antelope Valley Comprehensive Drainage Plan. The northern foothills of the San Gabriel Mountains are subject to severe flooding, debris flows, and flash floods during periods of sustained rainfall. Flood hazard generally increases as the duration of rainfall increases, not necessarily as intensity increases. The streams along the North-facing Slope are unchannelized and hence floodwaters can traverse the landscape relatively unconstrained. The 100-yr floodplain of the Santa Clara River extends as wide as 2000 ft. in some areas and as narrow as 500ft in others. The Santa Clara River is the only major river flowing out of the San Gabriel Mountains that has not been extensively channelized. In order to fully protect the natural hydrologic and habitat functions of the River, many groups are looking at preserving lands within the 500-yr floodplain. The LA Flood Control District has constructed levees at some locations and along some channels adjacent to commercial and residential developments. It is estimated that urbanization in the region will result in a 10% increase in peak flood discharges within the next few years. Current plans are being developed to preserve the natural floodplain and account for increased runoff. The ongoing One Valley One Vision plan for the Santa Clarita Valley calls for new developments to plan for adequate drainage in a way that preserves the natural status of the Santa Clara River.

### **H. REGIONAL DEMOGRAPHICS**

#### **1. Political Boundaries and Entities**

Although the North-facing Slope area described in this Addendum lies within Los Angeles County, the rivers and streams that begin in the San Gabriel Mountains flow through Ventura County and San Bernardino County as well. Portions of the cities of Santa Clarita and Palmdale lie within the North-facing Slope, along with the unincorporated Town of Acton and several small communities off of Hwy. 138 in the northern foothills of the San Gabriel Mountains, including Wrightwood.

## 2. Land Use

Except for the areas within city or town boundaries, most of the land in the North-facing Slope is vacant open space. However, land uses are rapidly changing. Open spaces are being converted for residential and commercial uses, particularly in the areas around the cities of Santa Clarita and Palmdale. Other land uses include low-density residential, rural density residential, agriculture, extraction, transportation and utilities, and public facilities and institutions. Agricultural lands are divided mostly into small family-owned farms. Los Angeles County Regional Planning Commission has approved one in-river and two out-of-river mining permits for gravel extraction in the Santa Clara watershed and is currently processing four out-of-river permits. Currently, one out-of-river site is operating.

## 3. Population

The demographics of the North-facing Slope are changing rapidly. More affordable housing prices and growing commercial and industrial sectors are spurring rapid growth in the region. Palmdale and Santa Clarita are two of the four fastest growing cities in Los Angeles County with annual growth rates of 3.1 percent and 2.2 percent respectively. In comparison, the statewide average was 1.8 percent in 2001. The total population of the City of Santa Clarita, City of Palmdale, and the Town of Acton was 270,148 people in 2000. This represents an average population density of about 1 person per 1000 square feet. The population is growing quickly in response to land scarcity and rising home prices in the Los Angeles metro region. From 1990 to 2000, Santa Clarita, Palmdale, and Acton added an additional 19,749 housing units, an increase of 23 percent. The approximate median household income in the region ranges on average from \$63,011 in Palmdale to \$75,774 in Santa Clarita. The median age is approximately 33 years old for the area.

## 4. Economic Conditions

The North-facing Slope communities are the gateway between Northern California and Southern California and the desert and coastal communities. Cheaper land prices, an increasing workforce, and close proximity to Interstate 5 have made the North-facing Slope an attractive location for manufacturing and retail firms.

### 3. A VISION FOR THE FUTURE

#### A. VISION

To create a network of livable, sustainable communities, connected by trails and open spaces, the goal articulated in Common Ground remains relevant:

*Restore balance between natural and human systems in the watersheds.*

The Vision and Guiding Principles of Common Ground support and are applicable to the entire North-facing Slope and are consistent with many of the OVOV Vision and Guiding Principles. OVOV relates to the General Plan process and as such has a broader scope than Common Ground; not all OVOV principles correspond directly to watershed planning. Common Ground focuses on watershed planning and some principles are not directly supported by OVOV principles. Those OVOV principles that address topics outside of the scope of watershed planning, such as affordable housing are not discussed in the Watershed and Open Space Plan.

#### B. GUIDING PRINCIPLES

The following describes the consistency between the guiding principles in Common Ground and OVOV principles. OVOV principles are listed in italics below their corresponding Common Ground Principles. Common Ground guiding principles that do not have a corresponding OVOV principle are listed below as underlined text, however those principles may have applicability in the OVOV area.

##### ■ LAND: Grow a Greener Southern California

*Create, Expand, and Improve Public Open Space Throughout the Region*

- Establish priorities for land acquisition
- Coordinate targeted land acquisition with regional and local land use planning
- Establish a long-term land acquisition process, including protection for current uses

*The natural buffer area surrounding the entire Valley, which includes the Angeles National Forest, Santa Susana, San Gabriel, Sierra Pelona, and Del Sur mountains, shall be preserved as a regional, ecological and aesthetic resource. (P5)*

- Recycle brownfields with cooperation of EPA, DTSC, and other agencies
- Coordinate public lands management policies and procedures among jurisdictions

*The City and County shall recognize that trails are an important recreational asset...(P34)*

*A continuous and unified hiking and equestrian trail network for a variety of users and developed according to common standards shall connect and unify Santa Clarita Valley Communities and be interconnected with the regional and statewide system (e.g., Pacific Crest Trail). (P35)*

#### **Improve Access to Open Space and Recreation for All Communities**

- Accommodate active and passive recreational uses
- Incorporate passive and low-impact recreational facilities in habitat areas
- Accumulate and record the needs for active recreation facilities

*New parklands will be developed throughout the Santa Clarita Valley, with priority on locations not now adequately served. These shall encompass a diversity of park types and functions, including passive and active areas, in consideration of the recreational needs of the residents to be served. (P36)*

- Evaluate access by population density, distance and time for different types of open space
- Open school sites for after-hours recreational use

#### **Improve Habitat Quality, Quantity, and Connectivity**

- Protect existing high-quality habitat and ecologically significant areas

*Biological resources in the designated Significant Ecological Areas (SEAs) shall be protected through the siting and design of development to account for and be highly compatible with their resources... the principle shall be to minimize the intrusion and impacts of development in these areas with sufficient setbacks, or buffers to adequately protect the resources. (P10)*

- Restore and enhance aquatic and terrestrial riparian and upland habitat
- Coordinate regional efforts to remove invasive species
- Maintain and enhance wildlife corridors as continuous linkages

*The natural buffer surrounding the entire Valley, which includes the Angeles National Forest, Santa Susana, San Gabriel, Sierra Pelona, and Del Sur mountains, shall be preserved as a regional, ecological and aesthetic resource. (P5)*

- Identify habitat indicator species, develop standards and monitoring programs

#### **Connect Open Space with a Network of Trails**

- Develop continuous bike trail, equestrian, and public access systems along riverfronts and within the watershed
- Connect river trails to mountain trails, urban trails, local parks, open spaces, and beaches

*Development on properties adjacent to, but outside of the defined primary river corridor, shall be designed to maximize the full range of river amenities, including views and recreational access, while minimizing adverse impacts to the River. (P6b)*

*A unified and well-maintained network of highways, streets, truck routes, bikeways and pedestrian paths will provide access among Valley communities and to regional centers outside of the Valley. (P24)*

*A continuous bikeway network shall provide circulation within each community, connect the various Santa Clarita Valley communities, and provide access to surrounding open spaces. (P26)*

*A continuous and unified biking and equestrian trail network for a variety of users and developed according to common standards shall connect and unify Santa Clarita Valley Communities and be interconnected with the regional and statewide system (e.g., Pacific Crest Trail). (P35)*

- Connect open spaces to transit access points

*Housing developments located in the more urbanized communities of the Valley shall be designed to create a sense of neighborhood by including pedestrian linkages, landscaped parkways and green corridors, and separated trails (pedestrian, bicycle or equestrian) where appropriate and feasible. (P20e)*

*The City and County shall recognize that trails are an important recreation asset that, when integrated with transportation systems, contribute to mobility throughout the Santa Clarita Valley. (P34)*

- Provide for public safety and security along waterways and trails

#### **Promote Stewardship of the Landscape**

- Use drought-tolerant, native, and regionally-adapted plant materials

*New development shall be designed to improve energy efficiency, reducing energy and natural resource consumption by such techniques as the use of solar generators, recycling of treated wastewater, capture of storm runoff on-site, and use of recycled materials in building construction, native and drought-tolerant landscape, and energy and water efficient appliances and systems. (P11)*

- Identify, preserve, and restore historic sites and cultural landscapes

*...where appropriate, redeveloped uses and buildings shall reflect the area's important architectural and cultural history. (P23)*

#### **Encourage Sustainable Growth to Balance Environmental, Social, and Economic Benefits**

- Preserve major open spaces and limit urban sprawl

*Growth shall occur within and on the periphery of previously developed areas, rather than as "leapfrog" development or in areas of critical environmental habitat or natural hazards, and taking into consideration accessibility to infrastructure and public services. (P2)*

*The Santa Clara River Corridor and its major tributaries shall be preserved as open space to accommodate storm water flows and protect critical plant and animal species (riparian vegetation, fish, etc.) (P6)*

- Recycle urban riverfronts as frontage for new development

*Development on properties adjacent to, but outside of the defined primary river corridor, shall: designed to maximize the full range of river amenities, including views and recreational access, while minimizing adverse impacts to the River. (P6b)*

- Provide incentives and streamline regulations to promote watershed sustainability
- Encourage local government actions as examples of watershed sustainability
- Provide individuals and organizations with incentives to promote natural habitat

## ■ WATER: Enhance Waters and Waterways

### *Maintain and Improve Flood Protection*

- Maintain or enhance existing flood protection at all phases of implementation
- Utilize nonstructural methods for flood management where feasible
- Reduce the volume and velocity of stormwater runoff where feasible
- Consistent with water quality standards and water rights, develop regional and subregional networks of stormwater detention areas where feasible
- Consistent with water quality standards and water rights, encourage new developments to detain stormwater onsite to mitigate runoff where feasible

*New development shall be designed to improve energy efficiency, reducing energy and natural resource consumption by such techniques as the use of solar generators, recycling of treated wastewater, capture of storm runoff on-site, and use of recycled materials in building construction, native and drought-tolerant landscape, and energy and water efficient appliances and systems. (P11)*

### *Establish Riverfront Greenways to Cleanse Water, Hold Floodwaters, and Extend Open Space*

- Acquire land for flood management, wetlands, cleansing of water, and compatible uses
- Create a continuous network of parks along the waterways
- Develop recreational opportunities along waterways

*Uses and improvements within the corridor shall be limited to those that benefit the community's use of the river in its natural state. (P6a)*

*Development on properties adjacent to, but outside of the defined primary river corridor, shall be: designed to maximize the full range of river amenities, including views and recreational access, while minimizing adverse impacts to the River. (P6b)*

- Connect communities to the waterways by extended greenways

### *Improve Quality of Surface Water and Groundwater*

- Reduce dry weather urban runoff discharge into waterways and the ocean
- Coordinate local planning and opportunities for water quality improvements with the regional basin plan for water quality

*New development shall be designed to improve energy efficiency, reducing energy and natural resource consumption by such techniques as the use of solar generators, recycling of treated wastewater, capture of storm runoff on-site, and use of recycled materials in building construction, native and drought-tolerant landscape, and energy and water efficient appliances and systems. (P11)*

*Common standards for providing utility infrastructure (flood control channels, energy transmission, telecommunications, and so on) shall be developed and applied throughout the Valley, in consideration of the character of each community. (P30)*

- Support public/volunteer water quality monitoring programs
- Assist cities in implementing water quality regulatory requirements

#### ***Improve Flood Safety Through Restoration of River and Creek Ecosystems***

- Consistent with water quality standards and water rights, restore the natural hydrologic functioning of subwatershed areas where feasible
- Naturalize low-flow streambeds/develop floodways for storm events where feasible
- Restore local streams to replace storm drains where feasible
- Consistent with water quality standards and water rights, maintain sufficient flow conditions to support riparian/riverine habitats
- Develop sediment management strategy

#### ***Optimize Water Resources to Reduce Dependence on Imported Water***

- Expand groundwater recharge facilities to increase local water supplies
- Consistent with water quality standards and water rights, encourage onsite collection of stormwater for irrigation and percolation, where consistent with water quality goals and existing water rights
- Consistent with water quality standards, extend the distribution and range of uses for reclaimed water
- Expand water conservation programs

*New development shall be designed to improve energy efficiency, reducing energy and natural resource consumption by such techniques as the use of solar generators, recycling of treated wastewater, capture of storm runoff on-site, and use of recycled materials in building construction, native and drought-tolerant landscape, and energy and water efficient appliances and systems. (P11)*

- Publish a subwatershed-level water budget and periodically monitor performance

### **■ PLANNING: Plan Together to Make it Happen**

#### ***Coordinate Watershed Planning Across Jurisdictions and Boundaries***

- Partner with all relevant agency officials, staff, and elected officials throughout the process

*Development in the Santa Clarita Valley shall be consistent with these guiding principles as agreed upon by the City of Santa Clarita and the County of Los Angeles. The principles will be carried out with the application of common standards for land use development, infrastructure and resource management, as appropriate or applicable. (Intro)*

- Develop a coordinated regional approach to obtain federal, state, and local funding

- Plan at the subwatershed level; coordinate at the watershed level
- Encourage and facilitate public and private partnerships to implement projects

*The Valley upholds the importance of partnerships in working together to address community issues and needs. (Vision)*

- Involve the residential, business, and professional communities in all aspects of planning

*Premise of OVOV, a public process to develop a joint General Plan for the SCV.*

#### **Encourage Multi-Objective Planning and Projects**

- Integrate land use planning with flood management principles, water quality improvement objectives, and open space uses

*Growth in the Santa Clarita Valley shall account for the visions and objectives for each community and must be consistent with principles, as subsequently defined in this document, for the protection of the Valley's significant environmental resources. (P1)*

*The Santa Clara River corridor and its major tributaries shall be preserved as open space to accommodate storm water flows and protect critical plant and animal species (riparian vegetation, fish, etc.) Uses and improvements within the corridor shall be limited to those that benefit the community's use of the river in its natural state. (P6a)*

*Development on properties adjacent to, but outside of the defined primary river corridor, shall be: designed to maximize the full range of river amenities, including views and recreational access, while minimizing adverse impacts to the River. (P6b)*

*Multi-family housing developments shall contain adequate recreational and open space amenities on-site and be designed to ensure a high quality living environment. (P18)*

- Develop demonstration open space projects with multiple watershed objectives
- Provide incentives in funding and public approvals for multiple-objective projects
- Employ comprehensive cost-benefit analysis to evaluate multiple-objective projects
- Analyze interdependence of land, water, materials, energy, economics, and ecosystems

*Santa Clarita Valley balances environmental protection of its abundant open space, ridgelines, hillsides, rivers, and woodland resources with an expanding economic base that offers its residents a broad range of quality employment opportunities. (Vision)*

#### **Use Science as a Basis for Planning**

- Base plans and projects on scientifically derived principles, practices, and priorities
- Incorporate review of key issues by an interdisciplinary science panel
- Develop benchmarks to assess watershed status by a regular monitoring process
- Utilize applied scientific research to guide public policy

#### **Involve the Public Through Education and Outreach Programs**

- Conduct public educational and outreach programs to promote watershed restoration
- Establish a process for project participation by stakeholder representatives and the public



- Present plans and programs in reader-friendly print and electronic versions
- Involve stakeholders and the public in project implementation and maintenance

*Premise of OVOV, a public process to develop a joint General Plan for the SCV.*

- Recognize the significance and uniqueness of individual properties for watershed planning

***Utilize the Plan in an On-going Management Process***

- Secure approval of the plan by partner jurisdictions

*Premise of OVOV, for City of Santa Clarita and County of Los Angeles to partner in planning for the Valley's future.*

- Assure CEQA compliance in approval of proposed projects
- Establish and periodically assess measurable objectives for all plan elements
- Establish a procedure and schedule for periodic plan review and updates

## C. STRATEGIES

Strategies described in Common Ground are appropriate and applicable to the North-facing Slope.

On page 53, modify list of Cities to include:

Santa Clarita, and Palmdale

## D. OPPORTUNITIES

The first sentence on page 56, under River Parkways should be modified as follows:

“River parkways along the banks of the Los Angeles, San Gabriel, Santa Clara, and Rio Hondo Rivers will provide the most visible and accessible element of the proposed open space network.”

Add “Santa Clara River Park Project” to list of existing plans addressing the enhancement of the edges of the rivers on page 57.

Add Parks along Santa Clara River to list on page 57.

A new sentence to paragraph four on page 64 should be added as follows:

“In northern facing slope area there will be opportunities for new linkages to the Sierra Pelona Range through the City of Palmdale.”

Add a new sentence to paragraph two on page 69.

“Additional wetlands opportunities exist in the north facing slope area such as Una Lake, Barrel Springs, and Lake Palmdale.”

## E. NEXT STEPS

The last sentence under **Rivers Parkway Plan** on page 74 is modified as follows:

“This will include projects designated in the Los Angeles River, the Santa Clara River Park Plan, and the in-progress San Gabriel River Master Plan.”

## References

California Department of Finance. Demographic Research Unit.

Castaic Lake Water Agency *et. al.* Santa Clarita Valley Water Report 2000. March 2001.

Fugro-McClelland (West), Inc. Final Environmental Impact Report for the Santa Clara River Trail Project. Prepared for the City of Santa Clarita Community Development Department. State Clearinghouse Number 92061010, January 1994.

Galloway, Devin L., Steven P. Phillips, and Marti E. Ikehara. “Land Subsidence and its Relation to Past and Future Water Supplies in Antelope Valley, California.” Current Research and Case Studies of Land Subsidence: Proceedings of the Dr. Joseph F. Poland Symposium. Association of Engineering Geologists Special Publication No. 8, Published by Star Publishing Company, Belmont, CA 94002-0068.

Heimsath, Arjun M. Soil Depth, Topography and Climate Change.  
<http://www.rfl.psw.fs.fed.us/prefire/sdefhtml/sdefresheimsath.html>

Kasten, Peter F. *et. al.* Santa Clara River Park Project. Graduate Program, Department of Landscape Architecture, California State Polytechnic University, Pomona. June 1995.

LA County Engineer and LA County Flood Control District. Antelope Valley Flood Control and Water Conservation...A Plan of Improvement. October 1970.

Mayor’s Committee on Managed Growth for a Quality Community. Growth Management Strategies for the Santa Clarita Valley. February 2002.

Miles, Scott R. and Goudey Charles B. Ecological Subregions of California: Section and Subsection Descriptions. United States Forest Service, Pacific Southwest Region. R5-EM-TP-005. September 1997

Santa Clara River Project Steering Committee. Santa Clara River Enhancement and Management Plan Study: Biological Resources. Vol I. March 1996.

Santa Clara River Report. Santa Clara River Enhancement and Management Plan Study: Flood Protection Report: Final Draft. June 1996.

Santa Clara River Report. Santa Clara River Enhancement and Management Plan Study: Aggregate Resource Report: Los Angeles and Ventura Counties. June 1996.

Schwartzberg, Beverly J. and Patricia A. Moore. Santa Clara River Enhancement and Management Plan Study: A History of the Santa Clara River. April 1995.

United Water Conservation District and the Castaic Lake Water Agency. Water Resources Draft Report on the Santa Clara River. May 1995.