



Fairview Park natural habitat and open spaces

Chapter 6:

Conservation Element

Introduction

Costa Mesa residents benefit from the City’s favorable location, with cool ocean breezes and coastal bluffs that provide a diversity of natural habitats. Costa Mesa’s natural resources include the Santa Ana River, which provides flood control and open space connectivity, and Fairview Park and Talbert Regional Park, which support wildlife diversity.

Purpose

The purpose of the Conservation Element is to preserve, protect, and replenish the limited natural resources in the City, including water, open space, and sensitive habitats. In addition, this element addresses the management of energy resources and opportunities to integrate sustainability considerations into City policies. This element establishes a policy framework that:

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- Identifies areas in Costa Mesa with **substantial natural resources** that the City is committed to manage and prevent from waste, destruction, and neglect
- Provides for programs aimed at **resource conservation** for the benefit of future generations

The Conservation Element meets the requirements of State law, which declares that Conservation Elements must address the protection and maintenance of California’s natural resources. In Costa Mesa, natural resources of concern are:

- Air quality
- Biological resources
- Energy
- Water resources
- Wastewater
- Water quality
- Water management

Baseline Conditions-2015

The City has actively pursued improving natural conditions through conservation and protection programs since the early 2000s. Substantial progress has been made both to educate the community and achieve measurable results. To provide a baseline to gauge future progress, this section provides a snapshot of environmental conditions in 2015.

Coastal Wildlife Habitat Areas

Santa Ana River Parks and Riparian Areas

The Santa Ana River and riparian areas are important to local wildlife, not only for the habitat they provide but for the open space connectivity they create between isolated areas where animals live and forage, as well as for migration corridors. Riparian areas, such as the Fairview Park wetlands and riparian habitat area, play an important role in the ecosystem by sorting and filtering sediment, recharging groundwater aquifers, and reducing flood potential. For residents, these systems provide valuable connections to natural areas and create opportunities for recreation, education, and awareness. One such area is a portion of the Santa Ana River lowlands that has been preserved as a multi-use

regional park, Talbert Regional Park/Nature Preserve, which is owned and maintained by the County of Orange. Public recreation amenities at the park include hiking and running trails, and bird-watching areas. In addition, sensitive wetlands and paleontological resources within the park provide opportunities for education.

Fairview Park

The City’s Fairview Park lies immediately adjacent to Talbert Regional Park and is linked with the Santa Ana River system of trails and parks. Fairview Park includes open space consisting of bluffs, vernal pools, trails, native plant communities, and wildlife. Within the park, the City has pursued riparian habitat restoration through a system of wetland ponds and streams with riparian and coastal plants, native habitat plantings, and an irrigation system. The creation of wetlands and riparian habitat provides many benefits. Dry weather urban runoff and stormwater are diverted from flood control to the wetlands, where plants and ultraviolet rays naturally remove impurities, thus reducing the amount of pollutants from reaching the ocean or having to be otherwise treated. The restored wetlands create a wildlife recreational area in an urban setting, where local residents and visitors can observe wildlife and learn about the broader ecosystem. Fairview Park is part of the larger natural open space/habitat preservation system immediately adjacent to the Orange County Central/Coastal Subregional Natural Communities Conservation Plan and Habitat Conservation Plan (NCCP/HCP) lands.

Fairview Park Wetlands and Riparian Habitat Project includes nearly 23 acres of native riparian habitat and wetland ponds within the north section of Fairview Park. The project also educates the public on the benefits of wetlands and their contribution to the ecology of the coastal area.



Within the upper mesa of Fairview Park are several vernal pools, which are seasonal pools of water that provide habitat for distinctive plants and animals. Vernal pools are considered dynamic micro-ecosystems. They are considered to

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be a distinctive type of wetland usually devoid of fish, and thus allow the safe development of natal amphibian, such as the San Diego fairy shrimp (*Branchinecta sandiegonensis*) and insect species. Vernal pools are protected by State and federal laws.

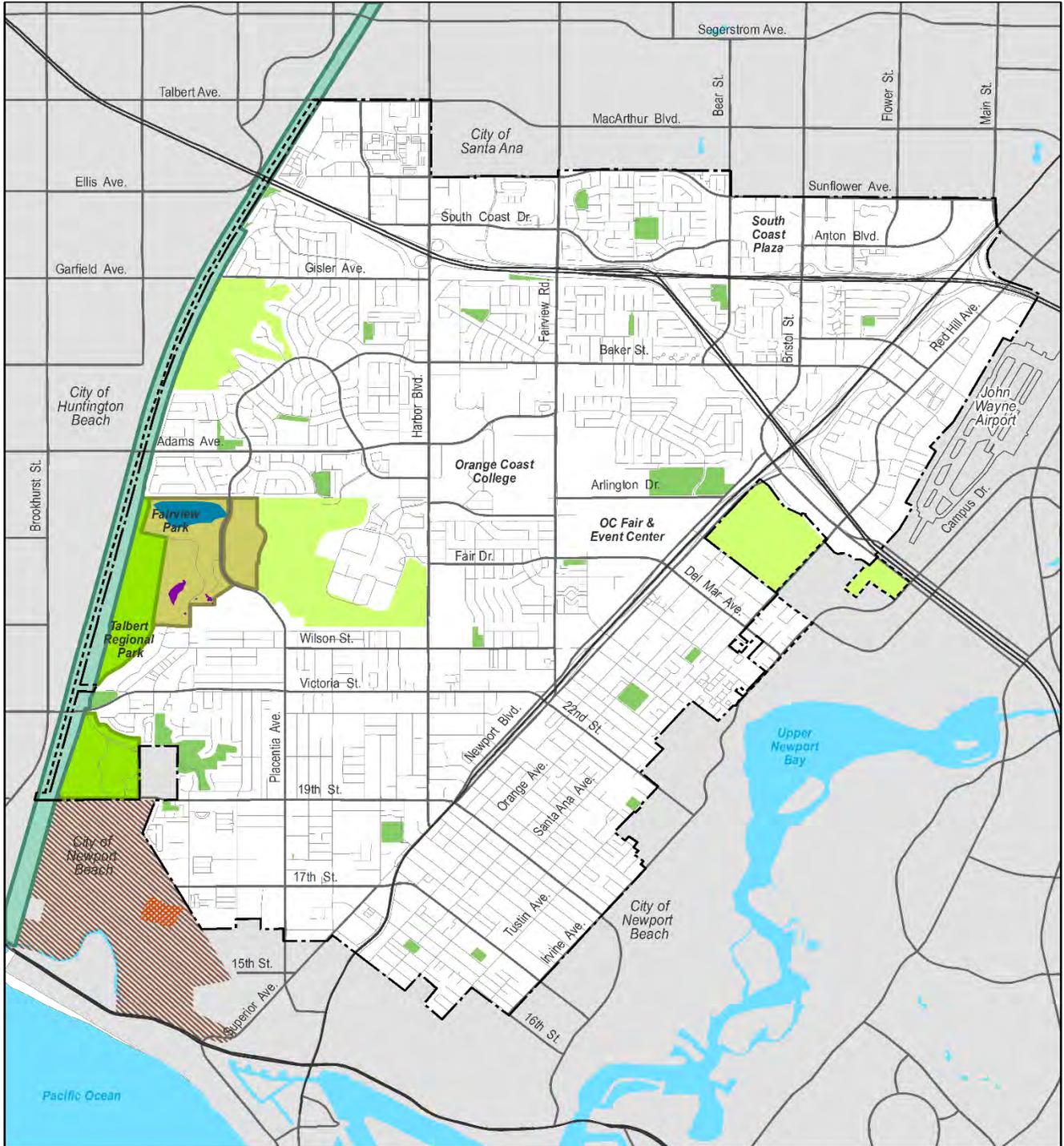
Talbert Regional Park/Nature Preserve

Talbert Regional Park encompasses approximately 180 acres on Victoria Street between Pacific Avenue and the Santa Ana River, see Figure CON-1: *Biological Resources*. Within this compact area, the park supports six distinct introduced and native plant zones that respond to changing conditions along the river. The introduced zones are intended to accommodate more active human use and provide a visual screen. Native zones include the "Coastal Strand," which consists of gentle slopes and dunes, a habitat now largely absent due to urbanization. The "Native Grassland" zone is the largest zone in the park and provides wildlife habitat. The "Alluvial Woodland" zone contains a wide variety of plant and animal life and is the most secluded area in the park. Finally, the "Wetland Zone" consists of the southern 14.8 acres of the park and contains elements of riparian woodland and mulefat scrub.

Talbert Regional Park/Nature Preserve has been identified as an area providing important biodiversity habitat and is part of the open space and natural habitat reserve system of the Orange County Central/Coastal NCCP/HCP. The 37,000-acre reserve system permanently protects a broad range of plant and animal populations that are within the Central and Coastal Subregion. The Nature Reserve of Orange County, a nonprofit corporation, manages the Orange County Central/Coastal NCCP/HCP and coordinates land management activities, conducts wildlife and habitat research and monitoring, and restores disturbed habitats within the reserve system.

Orange Coast River Park, Inc.

The Orange Coast River Park, Inc., a nonprofit committee founded by the Friends of Harbors, Beaches & Parks, manages projects across multiple boundaries to help coordinate a mosaic of more than 1,000 acres of open space along the Santa Ana River, including the Talbert Nature Preserve and Fairview Park. The organization's mission is to realize a master plan of parks and open space that meets the diverse needs of the urban population and provides seamless passageways from inland to the coast while also allowing for conservation and preservation of valuable habitats.



Parks and Open Spaces

- Fairview Park
- Talbert Regional Park
- Santa Ana River Greenbelt
- Park and Recreational Facilities
- Golf Courses

Biological Resources

- Wetlands and Riparian Habitat
- Vernal Pools

Critical Habitat

- San Diego Fairy Shrimp
- Coastal California Gnatcatcher

Sources: City of Costa Mesa, 2015; U.S. FWS Threatened & Endangered Species Active Critical Habitat Report, U.S. Fish & Wildlife Service, 2016.



Figure CON-1: Biological Resources

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Coastal Plants and Wildlife

Prior to development of Costa Mesa, the natural landscape consisted of native grasses, sage scrub, and riparian plant life. Examples of these habitats are extant in the City, primarily within Talbert and Fairview Parks (Figure CON-1, *Biological Resources*). The grasslands generally can be found at lower elevations that have a deep layer of clay-bearing soil. Sage scrub communities occur at elevations lower than 3,000 feet on foothills and coastal bluffs, and in canyons. Riparian vegetation is found around springs, streams, seeps, and ponds.

The remaining natural habitats support diverse plant species, including several sensitive species listed as threatened or endangered according to federal and State criteria. Whether or not specific species are present in particular habitats is determined through site-focused studies. However, sensitive or protected species of concern within the planning area may include:

- San Diego button-celery (*Eryngium aristulatum* var. *parishii*)
- Big-leaved crownbeard (*Verbesina dissita*)
- Gambel's water cress (*Nasturtium gambelii*)
- Ventura Marsh milk-vetch (*Astragalus pycnostachyus* var. *lanosissimus*)
- Salt marsh bird's-beak (*Chloropyron maritimum* ssp. *Maritimum*)
- California Orcutt grass (*Orcuttia californica*)
- Santa Ana River woollystar (*Eriastrum densifolium* ssp. *Sanctorum*)¹

Tables CON-1, CON-2, and CON-3, inventory plant species found in the grassland, sage scrub, and riparian communities in Costa Mesa.

¹ California Natural Diversity Database (CNDDDB), Biogeographic Information & Observation System (BIOS) Viewer, Department of Fish & Wildlife, April 2015.

Table CON-1: Plant Communities

Common Name	Scientific Name	Status (A)	Confirmed Observation	Possibly Present
Desert needlegrass	<i>Achnatherum speciosum</i>	-	X	
Red-skinned onion	<i>Allium haematochiton</i>	-	X	
Southwestern beardgrass	<i>Andropogon glomeratus</i>	-	X	
California sagebrush	<i>Artemisia californica</i>	-	X	
Coulter’s saltbush	<i>Atriplex coulteri</i>	CNPS 1B		X
Slender wild oat	<i>Avena barbota</i>	-	X	
Wild oat	<i>Avena fatua</i>	-	X	
Black mustard	<i>Brassica nigra</i>	-	X	
Red brome	<i>Bromus rubens</i>	-	X	
Poverty brome	<i>Bromus sterilis</i>	-	X	
Prostrate spineflower	<i>Chorizanthe procumbens</i>	CNPS 4		
Wild hyacinth	<i>Dichelostemma pulchellum</i>	-	X	
Shooting stars	<i>Dodecatheon clevelandii</i>	-	X	
California buckwheat	<i>Erigonum fasciculatum</i>	-	X	
White-stemmed filaree	<i>Erodium moschatum</i>	-	X	
California poppy	<i>Eschscholzia californica</i>	-	X	
California Chocolate lily	<i>Fritillaria biflora</i>	-	X	
Southern tarplant	<i>Hemixonia Parryi ssp. Australis</i>	CNPS 1B, FSC		X
Vernal barley	<i>Hordeum intercedens</i>	CNPS 3		X
Wild barley	<i>Hordeum murinum</i>	-	X	
Goldentop grass	<i>Lamarckia aurea</i>	-	X	
Coulter’s goldfields	<i>Lasthenia glabrata ssp. Coulteri</i>	CNPS 1B, FSC		X (Historic)
Hairy peppergrass	<i>Lepidium nitidum</i>	-	X	
Small-flowered microseris	<i>Microseris douglasii var, platycarpha</i>	CNPS 4		X
Costal prickly-pear	<i>Opuntia littoralis</i>	-	X	
California buttercup	<i>Ranunculus californicus</i>	-	X	
Johnson grass	<i>Sorghum halepense</i>	-	X	
Johnny jump-up	<i>Viola pendunculata</i>	-	X	

Note: A) CNPS 1B: California Native Plant Society List for Plants Rare or Endangered in California and Elsewhere; CNPS3: California Native Plant Society List for Plants About Which We Need More Information- A Review List; CNPS 4: California Native Plant Society List for Plants of Limited Distribution-A Watch List; FSC: Federal Species of Concern

Source: BonTerra Consulting, May 22, 2000

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Table CON-2: Plants of the Sage Scrub Community

Common Name	Scientific Name	Status (A)	Confirmed Observation	Possibly Present
Red-skinned wild onion	<i>Allium haematochiton</i>	-	X	
Aphanisma	<i>Aphanisma blitoides</i>	CNPS 1B, FSC		X
California sagebrush	<i>Artemisia californica</i>	-	X	
Coulter’s saltbush	<i>Atriplex coulteri</i>	CNPS 1B		
South coast saltscale	<i>Atriplex pacifica</i>	CNPS 1B, FSC		X
Parish’s brittlescale	<i>Atriplex parishii</i>	CNPS 1B, FSC		X
Davidson’s saltscale	<i>Atriplex serenana var. davidsonii</i>	CNPS 1B		X
Slender wild oat	<i>Avena barbata</i>	-	X	
Wild oat	<i>Avena fatua</i>	-	X	
Goldenstar	<i>Bloomeria crocea</i>	-	X	
Wavy-leaved soap plant	<i>Chlorogalum pomeridianum</i>	-	X	
Buckwheat	<i>Eriogonum fasciculatum</i>	-	X	
Decumbent goldenrush	<i>Isocoma menziesii var. decumbens</i>	CNPS 1B		X
Robinson’s pepper-grass	<i>Lepidium virginicum var. Robinsonii</i>	CNPS 1B		X
Deerweed	<i>Lotus scoparius</i>	-	X	
Laurel sumac	<i>Malosma laurina</i>	-	X	
Melic grass	<i>Melica frutescens</i>	-	X	
Lemonade berry	<i>Rhus integrifolia</i>	-	X	
California wild rose	<i>Rosa californica</i>	-	X	
White sage	<i>Salvia apiana</i>	-	X	
Purple sage	<i>Salvia leucophylla</i>	-	X	
Black sage	<i>Salvia melifera</i>	-	X	
Hedge mustard	<i>Sisymbrium officinale</i>	-	X	

Note: A) CNPS 1B: California Native Plant Society List for Plants Rare or Endangered in California and Elsewhere, FSC: Federal Species of Concern

Source: BonTerra Consulting, May 22, 2000

Table CON-3: Plants of the Riparian Community

Common Name	Scientific Name	Status (A)	Confirmed Observation	Possibly Present
Big-leaf maple	<i>Acer macrophyllum</i>	-	X	
White alder	<i>Alnus rhombifolia</i>	-	X	
Mule fat	<i>Baccharis salicifolia</i>	-	X	
Santa Barbara morning-glory	<i>Calystegia sepium ssp. Binghamiae</i>	CNPS 1B		X (Historic)
Salt marsh bird's beak	<i>Cordylanthus maritimus ssp. Maritimus</i>	FE, SE		X (Historic)
Los Angeles sunflower	<i>Helianthus nuttallii ssp. Parishii</i>	FSC		X (Historic)
Western sycamore	<i>Plantanus racemose</i>	-	X	
Sword fern	<i>Polystichum munitum</i>	-	X	
Fremont cottonwood	<i>Populus fremontii</i>	-	X	
Canyon oak	<i>Quercus chrysolepis</i>	-	X	
Castor bean	<i>Ricinus communis</i>	-	X	
Arroyo willow	<i>Salix lasiolepis</i>	-	X	
Mexican elderberry	<i>Sambucus mexicana</i>	-	X	
Coastal bulrush	<i>Scirpus robustus</i>	-	X	
Poison oak	<i>Toxicodendron diversilobum</i>	-	X	
Broad-leaved cattail	<i>Typha latifolia</i>	-	X	
California bay laurel	<i>Umbellularis californica</i>	-	X	
Desert wild grape	<i>Vitis giardiana</i>	-	X	

Note: A) FE: Federally-listed endangered FSC: Federal Species of Concern SE: State-listed endangered; CNPS 1B: California Native Plant Society List for Plants Rare or Endangered in California and Elsewhere;

Source: BonTerra Consulting, May 22, 2000.

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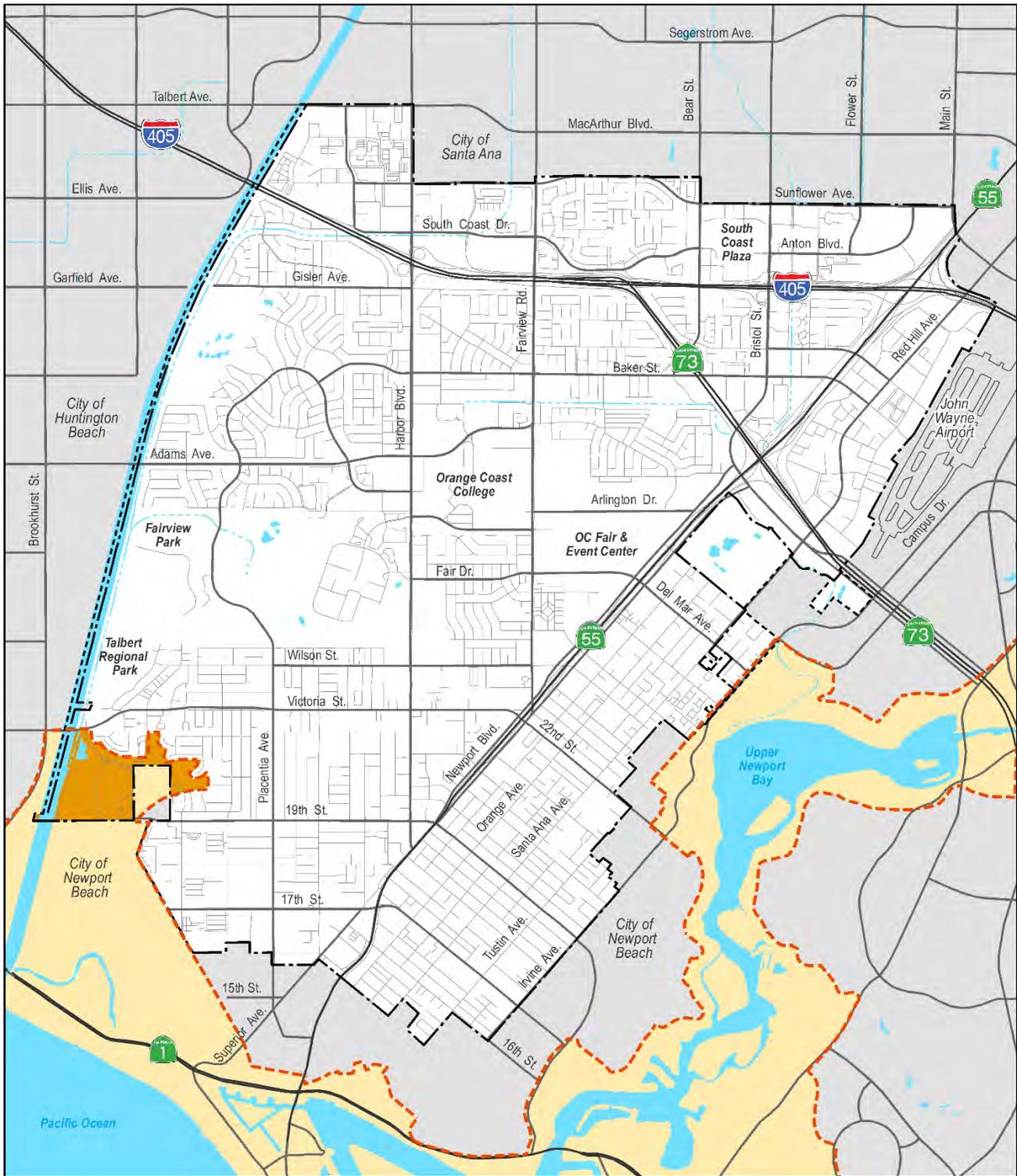
In prehistoric times, wildlife roaming Orange County included bison, jaguars, camels, wolves, ground sloths, bears, saber-tooth cats, and shrews. Today, wildlife is much smaller and less threatening, with species consisting of those that have adapted to close human contact, such as squirrels, voles, white-tail kites, red-tail hawks, and coyotes. Some species of special interest that inhabit open spaces within the City include the burrowing owl (*Speotyto cuniculara*), an indigenous species that uses abandoned rodent burrows for nests; the San Diego fairy shrimp (*Branchinecta sandiegonensis*) which occupies vernal pools in Fairview Park; the Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) which resides year-round in coastal salt marshes of Southern California, and the Least Bell's vireo (*Vireo bellii pusillus*) which inhabits riparian and terrestrial fields, shrubland, chaparral, and woodlands.

Coastal Zone Management

California's coastal zone generally extends 1,000 yards inland from the mean high tide line. In significant coastal estuarine habitat and recreational areas, the zone extends inland to the first major ridgeline or five miles from the mean high tide line, whichever is less. Subsequent to the City's 1979 request to remove 13 acres, the coastal zone in Costa Mesa encompasses the Santa Ana River lowlands and Talbert Regional Park south of Victoria Street, approximately 76 percent of Canyon Park, and 0.23 acres of Tract 12067 (see Figure CON-2: *Coastal Zones*).

Santa Ana River Lowlands

The coastal zone encompasses the central segment of the Santa Ana River lowlands, which extends inland from the coastline to the northern boundary of Fairview Park in Costa Mesa and includes the City of Newport Beach and the County of Orange. Costa Mesa's Local Coastal Plan (LCP) is coordinated with both jurisdictions for the lowland properties to the south and with the City of Huntington Beach due to the close proximity and the interrelationship of coastal issues. All of the river lowlands between Pacific Coast Highway and Fairview Regional Park are included in the Santa Ana River/Santiago Creek Greenbelt Corridor. The Greenbelt Implementation Plan designates this area as a Water-Related Recreation and Conservation Area. Although the implementation plan does not propose a specific use for these properties, it does require recreational use to be compatible with the overall greenbelt and provide access to the river trails network.



Coastal Zone

- - - California Coastal Commission Coastal Zone Boundary
- Coastal Zone Affecting Costa Mesa
- Coastal Zone Outside of Costa Mesa

Source: City of Costa Mesa, 2015.



Figure CON-2: Coastal Zones

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Parks and Open Space within the Coastal Zone

As described above, the County of Orange operates Talbert Regional Park; approximately 97 acres lie within the coastal zone. The land use designation for the park is Open Space Reserve (OSR). The OSR designation applies to lands of scenic and natural attraction and areas of ecological, cultural, historical, and recreational significance permanently preserved as and restricted to open space and compatible uses.

Canyon Park is City-owned and designated Public/Institutional. This designation applies to publicly and privately owned lands that provide recreation, open space, health and educational opportunities, and uses that provide a service to the public. Approximately 27 acres of the 36-acre Canyon Park are within the coastal zone.



Talbert Regional Park provides natural habitat and hiking trails adjacent to the Santa Ana River.



Coastal Zone Properties

- California Coastal Commission Coastal Zone Boundary
- Local and Regional Parks
- Santa Ana River (Greenbelt)

Source: California Coastal Commission, 2007.



Figure CON-3: Coastal Zone Properties in Costa Mesa

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Tract 12067

The coastal zone also encompasses the northerly 0.23 acres of a 2.3-acre privately owned residential condominium development built in 1986 (known as Tract 12067). The property is zoned PDR-LD and designated Low Density Residential.

Local Coastal Program (LCP)

The California Coastal Act of 1976 is the permanent enacting law approved by the State legislature. The Coastal Act establishes policies, boundary lines, and permitting procedures. Further, it provides for the transfer of permitting authority, with certain limitations reserved for the State, to local governments through adoption and certification of Local Coastal Programs (LCP) by the Coastal Commission. All local governments in the coastal zone must prepare LCPs. Development in the coastal zone must be evaluated through a permit review process for consistency with the LCPs where they are certified, or the Coastal Act where the Commission retains permitting jurisdiction. This portion of the General Plan fulfills the City's responsibilities to address and protect its coastal resources and integrates the necessary coastal policies and programs. Chapter 3 of the Coastal Act contains policies regarding future development in the coastal zone that must be addressed in the LCP process.

Key Coastal Wildlife Habitat Area Issues

Loss of Coastal Habitat to Support Wildlife

The City commits to preserving and protecting, to the greatest extent possible, open space areas devoted to the preservation of natural resources, sensitive habitat and wildlife species, managed production of resources, outdoor recreation, and open space buffer areas for public health and safety. There are no plans to convert any of the open spaces identified in the General Plan.

Protection of Sensitive Species

Sensitive habitat areas, such as the vernal pools and wetland areas at Fairview Park, are threatened by human impact, household pets, storm runoff, pollution and trash, and herbicides and pesticides. The limited natural habitat areas in Costa Mesa are critical, as they are home to sensitive plant and wildlife species.

Environmental Sustainability

Energy Resources

Southern California Edison is the primary supplier of electricity in Costa Mesa, and the Southern California Gas Company supplies natural gas.

Land Use and Transportation Planning

A reduction in automobile usage and vehicle miles traveled will lower energy consumption and greenhouse gas emissions, thus producing further public health benefits. Costa Mesa has adopted land use and transportation policies and practices that recognize the importance of coordinating land use, housing, economic development, and transportation planning. Refer to both Chapters 2 (Land Use Element) and 3 (Circulation Element).

Energy Efficiency

California residents and institutions have many years of experience practicing energy efficiency. While national per capita energy consumption has increased 50 percent over the past 30 years, per capita consumption in California has remained the same over this period. This is due to many factors, including efficiency and conservation campaigns conducted by private citizens, businesses, and utility companies, and regulations adopted by State and local governments. Because the City of Costa Mesa does not operate any local energy-related utility, it does not directly influence local energy use practices (other than leading by example). However, the City is a committed partner to energy providers, supports local small energy systems such as solar and wind, and promulgates sustainable practices through local regulations.

Renewable Energy Resources

Renewable energy sources capture energy from natural processes such as sunlight, wind, flowing water, biological processes, and geothermal heat flows. Renewable energy resources may be used directly or used to create other, more convenient forms of energy. Examples of direct use include passive solar design for heating. Examples of indirect use are electricity generation through photovoltaic cells (solar panels) and wind turbines, or the production of fuels such as ethanol from biomass. To encourage the use of renewable energy sources, the City initiated the “Go Green Program,” which waives the permit fees for residential solar installations and electric vehicle charging stations.

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Green and Sustainable Building Practices

In 2007, the City of Costa Mesa implemented a voluntary “green building” program that expedited the permitting process and waived certain fees for LEED² certification, and became the first city in California to require that all new municipal construction be LEED Gold certified. Additionally, green building standards are encouraged with project applications. “Green building” is a design approach that focuses on minimizing a building’s negative impacts on both the environment and building occupants. Green buildings provide many tangible benefits, including improved worker productivity, recruitment, and retention; minimized energy and water costs during both construction and operations; waste minimization; and pollution prevention. This integrated, interdisciplinary approach to design and construction promotes investments in resource-efficient materials, technology, and the use of low-emitting and recycled content materials. Green building practices include the following:

- **Healthy buildings and sustainable building design** aim to create buildings that are not harmful to occupants or the environment and help improve employee productivity. An important emphasis is on indoor environmental quality, especially indoor air quality.
- **Low-impact materials** are used, such as non-toxic, sustainably produced, and recycled building and construction materials that require little energy to process.
- **Quality and durability** are valued, leading to longer-lasting and better-functioning products that require less-frequent replacement, thus reducing the impacts of producing replacements.
- **A life-cycle assessment approach** is used by building operators when making design and purchasing decisions.
- **Local, regional, or sustainably managed renewable sources** are used and, whenever possible, composted at the end of their useful lives.

Green Building Strategy

In 1978, California established the Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6 of the California Code of Regulations) in response to a legislative mandate to reduce California's energy consumption. The

² LEED (Leadership in Energy and Environmental Design) is a building certification program run under the auspices of the U.S. Green Building Council (USGBC). LEED concentrates its efforts on improving performance across five key areas of environmental and human health: energy efficiency, indoor environmental quality, materials selection, sustainable site development and water savings.

State updates these standards approximately every three years to allow consideration and possible incorporation of new energy efficiency technologies and methods. For example, the 2013 energy standards were projected to save 25 percent more energy relative to the 2008 Building Energy Efficiency Standards. The standards apply to newly constructed buildings, as well as additions and alterations for existing buildings. All standards in Title 24, Part 6 must be followed as part of the City's building permit process. The City encourages applying green building standards beyond what is required in Title 24 for all new development projects.

Waste Management and Recycling

Residential trash and recycling collection services are designated functions of the Costa Mesa Sanitary District. The Costa Mesa Sanitary District has developed innovative programs and processes to reduce the waste stream heading to landfills. One example is the Organics Recycling Program, which allows residents to deposit yard and kitchen waste into the organics cart, where these materials will be transported to an anaerobic digestion facility and converted into fertilizers and natural gas. Other recycling programs include the Large Item Collection Program; Electronic and Universal Waste; Sharps Disposal Recycling Program; and Residential Fats, Oils, and Grease (FOG) Recycling Program. The Costa Mesa Sanitary District continues to pursue innovative reduction, reuse, and recycling strategies that allow Costa Mesa residents to make responsible choices in disposal of waste products, but to also protect the environment. The Costa Mesa Sanitary District and the City of Costa Mesa also continue to collaborate in providing quality services to their customers and residents.

Key Environmental Sustainability Issues

Energy Consumption

In addition to promoting sustainable practices, reduced energy consumption and associated lower costs benefit local residents and businesses. As energy demand grows over time and nonrenewable energy resources become more limited, more aggressive conservation measures and increased use of innovative new technologies will be of greater necessity.

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Encouraging More Green Building Practices

Builders are sometimes reluctant to integrate green building strategies within their project, mostly due to upfront costs associated with the design and technologies. “Green” is often viewed as an add-on to current building practices. However, what builders do not often consider is what can be changed, modified, improved, or eliminated from the typical building practices and replaced with better, proven technologies and practices, typically resulting in lower overall cost of construction, as well as savings in long-term operation and maintenance costs.

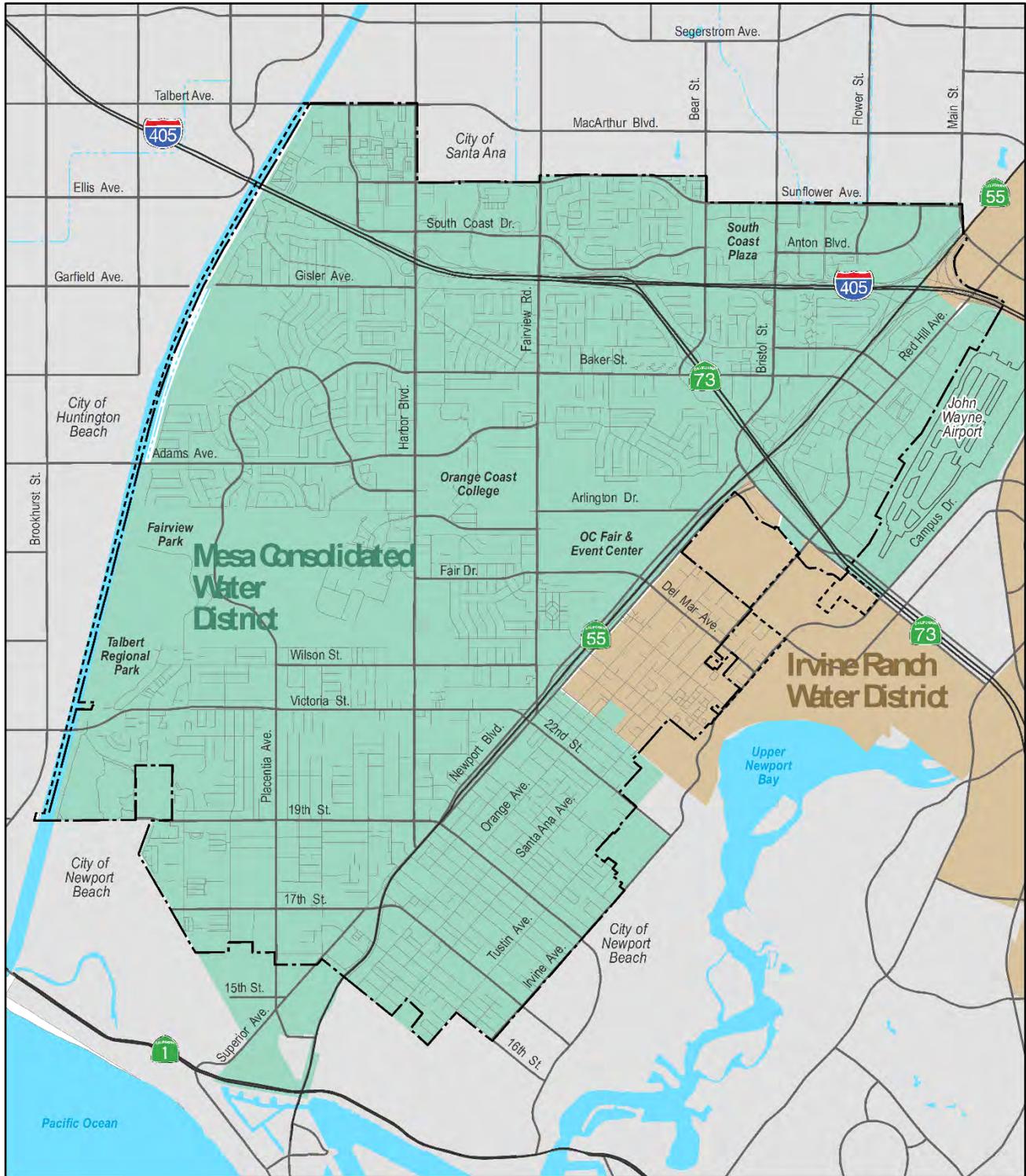
Recycling and Waste Management

Convenient landfill space will diminish in Southern California, and costs to haul waste greater distances for disposal will drive efforts for increased waste reduction, reuse, recycling, and composting. The City should continue efforts to expand recycling and source reduction programs to minimize the volume of trash entering landfills, conserve resources, and protect the environment from the negative impacts associated with landfills such as contaminating the groundwater and aquifers, contaminating the soil, and producing methane.

Water Resources

Water Supply

Domestic water service to Costa Mesa residents and businesses is provided by two agencies: Mesa Water District (MWD) and Irvine Ranch Water District (IRWD). MWD service area encompasses approximately 18 square miles, covering most of Costa Mesa, part of Newport Beach, and John Wayne Airport, (see Figure CON-4, *Water Districts*). IRWD has an approximate 181-square-mile service area and includes a portion of properties in Costa Mesa located southeast of Newport Boulevard (between 23rd Street and Bristol Street), as well as all of the city of Irvine and portions of Tustin, Santa Ana, Orange, Lake Forest, Newport Beach, and unincorporated areas in Orange County.



Water Districts
 Mesa Consolidated Water District
 Irvine Ranch Water District

Source: City of Costa Mesa, 2015.



Figure CON-4: Water Districts

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Natural water supplies in Orange County are limited to groundwater, surface flows in the Santa Ana River (which originate in the San Bernardino Mountains), and local precipitation. Since the demand for water generally exceeds the rate of replenishment of these natural water sources, the majority of communities in Orange County are dependent upon water imported from sources outside Orange County. The two primary sources for imported water are the Colorado River Aqueduct and the State Water Project. The Colorado River Aqueduct transports water from Lake Havasu (in Nevada) to Lake Mathews (in Riverside County), and then to points in Orange County. The State Water Project carries water from the Upper Feather River in Northern California to Lake Castaic (in Los Angeles County). From Lake Castaic, water is transported and distributed to customers in Orange County.

In Costa Mesa, groundwater collects in underground aquifers that are approximately 2,500 feet beneath the ground surface. MWD owns and operates eight groundwater production wells that pump water from the Orange County Groundwater Basin, which underlies north-central Orange County from Irvine to the Los Angeles County border and from Yorba Linda to the Pacific Ocean (see Figure CON-5, *Groundwater Basins*). This groundwater basin is managed by the Orange County Water District (OCWD) and is replenished in three ways: 1) by water from the Santa Ana River, 2) from imported water from Metropolitan Water District of Southern California (Metropolitan) through the Municipal Water District of Orange County (MWDOC), and 3) via a groundwater replenishment program that injects purified sewer water into two of OCWD's recharge basins in the City of Anaheim. The eight wells have a total design capacity of approximately 14,000 gallons per minute (as of 2015). However, since Costa Mesa depends upon imported water for a portion of its water supply, the potential impacts of water supply and demand extend beyond the boundaries of the City and its two serving agencies. The availability of imported water is directly related to the water supply conditions in the source watersheds, as well as demand for water throughout the State. Recurring dry years can also significantly affect Southern California's water allotment.

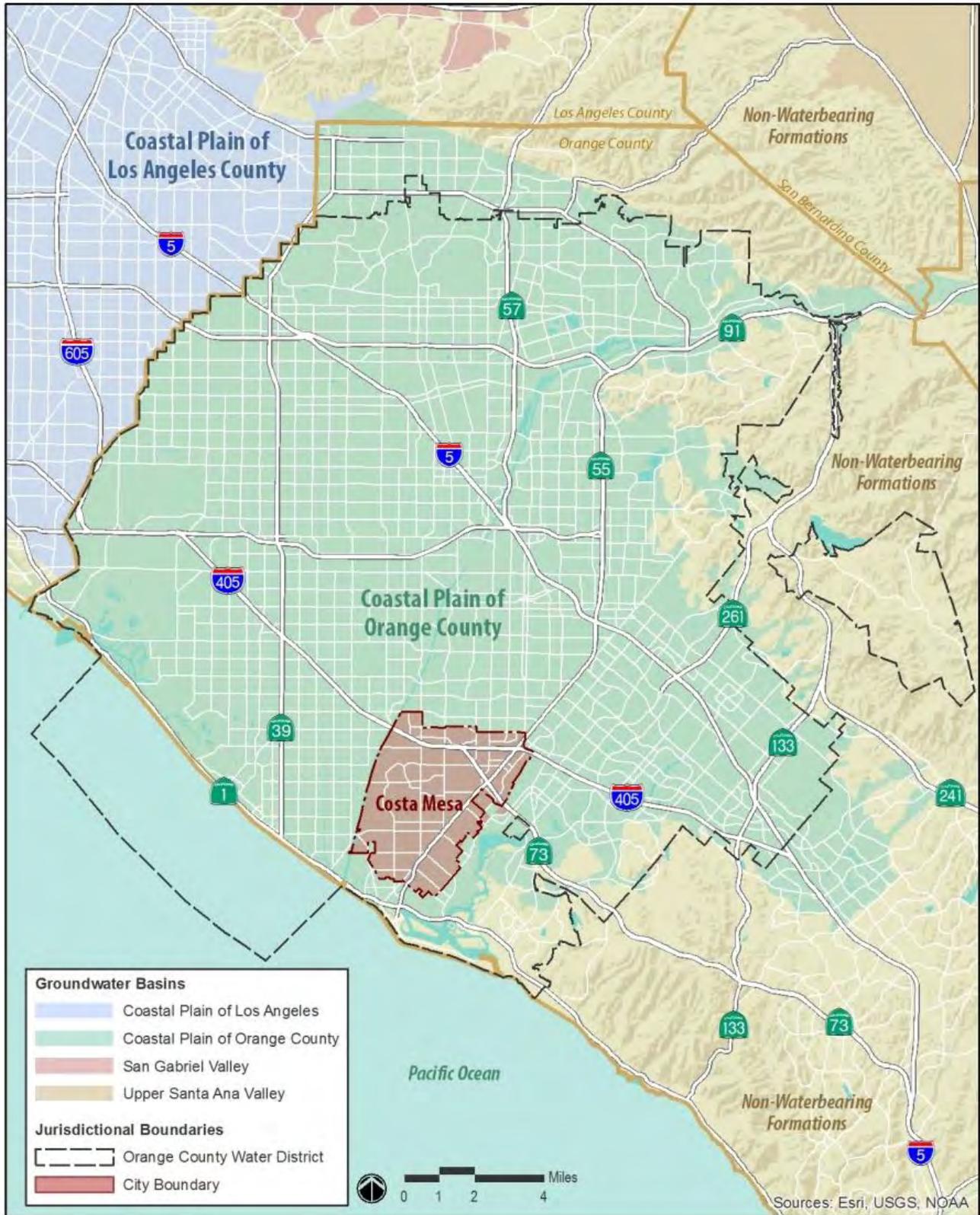


Figure CON-5: Groundwater Basins

Conservation Element

Mesa Water District

In 1986, MWD introduced a Master Plan designed to meet the long-term growing needs of its customers. The plan defined ways to improve water delivery systems, create additional local storage facilities, drought-proof the service area, and develop new sources of water. One of MWD's primary focuses is to decrease dependence on high cost imported water by upgrading the Mesa Water Reliability water treatment facility's filtration treatment technology and expand the water filtration capacity. Subsequent to completion of the Mesa Water Reliability Facility Improvement Project, MWD's water supply mix is comprised of 94 percent groundwater and six percent recycled water, with no imported water needed.

Irvine Ranch Water District

IRWD prepares two planning documents to guide water supply decision-making: The Water Resources Master Plan (WRMP) and the Urban Water Management Plan (UWMP). The WRMP is a comprehensive document that IRWD uses for its planning needs. The UWMP is based on the WRMP; it examines historic and current water use projections and compares water supplies with demands over the next 20 years. These plans identify the imported and local water supplies that will meet future demand—including groundwater recovery and water recycling—as well as IRWD's planned conservation measures to ensure a reliable supply of high-quality water.

For many years, IRWD received almost all of its water from imported sources. To alleviate the dependency on costly imported water, in the late 1970s IRWD began building a network of groundwater wells. Today, approximately 50 percent of IRWD water supply comes from groundwater wells located within the Orange County Groundwater Basin. IRWD meets approximately 23 percent of its total demands with recycled water and the remaining 27 percent with potable water imported through MWD.

To further reduce reliance upon imported water and ultimately increase supply reliability and water quality, IRWD has creatively partnered with the Rosedale-Rio Bravo Water Storage District to construct 502 acres of groundwater recharge ponds in Kern County. This arrangement allows available surface water to percolate into distant groundwater basins for later use during dry periods to offset potential reductions in supply from its normal sources. IRWD's partnership

with Rosedale provides long-term equity ownership of water banking capacity of up to 50,000 acre-feet of water.

Water Resources Master Plan

Per the California Urban Water Management Planning Act of 1983, all urban water suppliers must prepare an updated UWMP every five years for review by the California Department of Water Resources. The purpose of UWMPs is to ensure that urban water suppliers have adequate water supplies for existing and future demands. Plans must identify and discuss various factors affecting current and projected water supplies and demand, and must identify steps to ensure the availability and reliability of future supplies. Furthermore, effective 2010, UWMPs were required to incorporate the Water Conservation Act of 2009 (SBx7-7), which established even stricter reduction targets. With the continued drought years during the 2000s, additional reduction targets were mandated by Executive Order B-29-15 in 2015.

As retail water suppliers, MWD and IRWD have the option of complying with SBx7-7 individually or through participation in a Regional Alliance. Both districts have chosen to participate in a Regional Alliance with the Metropolitan Water District of Orange County (MWDOC). In the event that the region does not comply with the regional target, an agency may still be in compliance if it meets its own individual target.

Water Conservation

The importance of water conservation has been highlighted during several periods of extended drought in California. In response, MWD and IRWD have adopted water conservation policies, as has the City of Costa Mesa, which require new development projects to incorporate water conservation measures. The water agencies and the City continually evaluate policies and programs to maximize water savings and integrate the latest water efficient technologies and practices in their policies. The City, in cooperation with MWD and IRWD, educates homeowners and business owners of the importance of installing water-conserving fixtures and appliances, repairing leaking fixtures, planting drought-tolerant landscaping, and avoiding unnecessary water use. In addition, the City enforces its Water Efficient Landscape Ordinance consistent with the State requirements to maximize use of drought tolerant plants, improve irrigation efficiency, and minimize use of turf.

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Water Quality and Urban and Stormwater Runoff

The quality of water in our natural and domestic water systems affects the health of wildlife, habitat, and people. Most water pollution comes from untreated storm flows and urban runoff that runs across streets, yards, and parking lots before draining into creeks, marshes, and the ocean. This untreated water can contain a variety of pollutants harmful to the environment, including heavy metals, excessive sediment, petroleum hydrocarbons, domestic sewage, pesticides, and trash. Urban runoff is the result of human-caused activities, such as the overwatering of lawns or the washing of vehicles in driveways. Stormwater runoff refers to water generated during storm events, particularly with an initial rain event as water pollution entering storm drains in areas with high proportions of impervious surfaces is typically more concentrated of toxic materials compared to the remainder of the storm.

Federal, State, and local regulations set standards to protect water quality. In particular, the State Regional Water Quality Control Board mandates control of urban runoff to reduce the percolation of pollutants from surface runoff into groundwater supplies. At the local level, Costa Mesa implements regulations consistent with federal and State requirements, most notably through the National Pollution Discharge Elimination System (NPDES) program.



Bioswales were included in the parking lot in the redevelopment of Davis Magnet School. Stormwater runoff can enter the swale and filter out pollutants and toxins that would have otherwise entered local streams and eventually the Pacific Ocean. Collected water can also infiltrate into the ground below, recharging underground water basins.

Wastewater/Recycled Water

Recycled water has become an important resource for Costa Mesa and will become increasingly important as other sources of water become less reliable and more costly. Recycled water is wastewater (sewage) that has been treated to remove solids and certain impurities, and is available for non-potable water uses. The use of recycled water extends potable water supplies, reduces the need for

additional potable water facilities, reduces the amount of treated wastewater discharged into the ocean, reduces reliance on costly imported water supplies, and increases Costa Mesa’s water supply reliability. The Orange County Sanitation District (OCSD) processes over 200 million gallons of collected wastewater daily at treatment plants in Fountain Valley and Huntington Beach. As described above, millions of gallons of treated effluent are injected into the groundwater basins or are used for irrigation, and actually results in improved basin water quality due to the high treatment standards required of the recycled water.

Key Water Resources Issues

Water Supply and Reoccurring Droughts

Water is an essential resource. A stable and reliable water supply must be identified if the community desires growth. With drought conditions ever present in California, even during relatively wet periods, the City recognizes that conservation measures and education put in place today will have long-lasting effects. In 2010, the City adopted the State-mandated Model Water Efficient Landscaping Ordinance. As a response to the ongoing drought, the State revised the Model Water Efficient Landscaping Ordinance with Costa Mesa adopting the revised ordinance in 2016. Working with MWD and IRWD, the City must continually advance programs and measures that promote wise water use and ensure continued recharge of local groundwater basins.

Water Quality and Storm Runoff

Urban runoff from streets, sidewalks, parking lots, and roofs washes urban-based pollutants into the watershed system and into the Santa Ana River, Upper Newport Bay, and ultimately to the Pacific Ocean. Consistent with federal and State law, Costa Mesa must take local actions to protect the quality of the regional water supply.

Atmosphere and Climate

Air Quality

Costa Mesa is located in the South Coast Air Basin, which is an approximately 6,600-square mile area bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east; and

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the San Diego County line to the south. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. Basin air quality is influenced by stationary (point source), area-wide, and mobile sources that generate pollutants which contribute to the formation of smog and other poor air quality conditions. Point sources are emission sources located at a single location, while area-wide sources are many smaller point sources that are widely distributed. Examples of point and area-wide sources include manufacturing plants, lawnmowers, fireplaces, and painting operations. Mobile sources, as their name implies, are not stationary: they are motor vehicles, trains, and aircrafts.

The climate within the Basin varies considerably from the coastal zone to the inland valleys, mountain areas, and deserts. Most of the Basin is relatively arid, with very little rainfall and abundant sunshine during the summer months. Factors such as wind, sunlight, and temperature all affect the accumulation and/or dispersion of pollutants throughout the Basin. The extent and severity of the air pollution problem is a function of the area's natural physical characteristics and as well as human-caused influences, e.g., development patterns and lifestyle.

Wind

One of the most important factors affecting climate in the Basin is the direction and intensity of the prevailing winds. The Basin has a limited capability to disperse air contaminants due to light average wind speeds. Winds generally blow from the coast inland, where temperature inversions (and the mountains) trap pollutants. As a result, the movement or stagnation of air during the morning and evening hours determines the pollution level on any given day. Costa Mesa's coastal location provides for relatively good air quality due to wind patterns. However, the highest pollution levels in Costa Mesa are often associated with Santa Ana wind conditions that reverse the dominant wind patterns.



Clear skies over Costa Mesa with the OC Fair & Event Center in the center and the Pacific Ocean in the background.

Sunlight

The presence and intensity of sunlight is another important factor that results in the formation of smog in the Basin. Due to ultraviolet radiation from sunlight, primary pollutants (mainly reactive hydrocarbons and oxides of nitrogen) react to form secondary pollutants (e.g., oxidants). Since this process is time-dependent, secondary pollutants can be formed many miles downwind from the emission sources. As a result of the prevailing daytime winds and time-delayed nature of smog, oxidant concentrations are highest in the inland areas of Southern California. However, smog can settle in the City on days with early morning easterly winds.

Temperature Inversions

Temperature inversion is a reversal in the decrease of temperature as altitude increases. In most parts of the United States, air near ground level is warmer than the air above it. However, Southern California's daily summertime sunshine and high barometric pressure reverse that pattern, creating warmer air at higher elevations. As a result, temperature inversion traps pollutants by preventing cooler air from rising to the upper atmosphere. Although temperature inversion can occur throughout the year, the summer months of July, August, and September generally account for higher occurrences of this phenomenon.

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Ambient Air Quality Standards

Ambient air quality standards are the levels of air pollutant concentration considered “safe” with regard to public health and welfare. The federal Clean Air Act (CAA) establishes the framework for regulating national air quality standards and the means to achieve them. The United States Environmental Protection Agency (U.S. EPA) is responsible for enforcing the Federal CAA and for establishing the National Ambient Air Quality Standards (NAAQS). California has adopted more stringent regulations under the California CAA, which are administered by the California Air Resources Board (CARB).

The CARB, which is part of the California Environmental Protection Agency, is responsible for meeting the State requirements of the federal CAA, administering the California CAA, and establishing the California Ambient Air Quality Standards (CAAQS). Both State and federal ambient air quality standards have been established for the following six pollutants: ozone (O₃), particulate matter (PM₁₀ and PM_{2.5}), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and lead (Pb). The CAAQS generally are more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles.

Ozone (O₃), a key ingredient of smog, is a highly reactive and unstable gas capable of damaging the linings of the respiratory tract. This pollutant forms in the atmosphere through complex reactions between chemicals directly emitted from vehicles, industrial plants, and many other sources.

PM_{2.5} and PM₁₀ are particles that easily penetrate into the airways and lungs where they may produce harmful health effects such as the worsening of heart and lung diseases. The risk of these health effects is greatest in the elderly and the very young. Exposure to elevated concentrations of PM is also associated with increased hospital and doctor visits and increased numbers of premature deaths.

Carbon monoxide (CO) is a colorless, odorless gas. It results from the incomplete combustion of carbon-containing fuels such as gasoline or wood, and is emitted by a wide variety of combustion sources.

Nitrogen dioxide (NO₂) is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract. This pollutant is also an essential ingredient in the formation of ground-level ozone pollution. NO₂ is one of the nitrogen oxides

emitted from high-temperature combustion processes, such as those occurring in trucks, cars, and power plants. In the presence of sunlight, complex reactions of nitrogen oxides with ozone and other air pollutants produce the majority of NO₂ in the atmosphere. Indoors, home heaters and gas stoves also produce substantial amounts of NO₂.

Sulfur dioxide (SO₂) is a gaseous compound of sulfur and oxygen. SO₂ is formed when sulfur-containing fuel is burned by mobile sources, such as locomotives, ships, and off-road diesel equipment.

Lead (Pb) is a relatively soft and chemically resistant metal. Lead forms compounds with both organic and inorganic substances. As an air pollutant, lead is present in small particles. Sources of lead emissions in California include a variety of industrial activities. Because it was emitted in large amounts from vehicles when leaded gasoline was used, lead is present in many soils (especially urban soils) and can be reintroduced into the air by grading activities.

Sulfates (SO₄) are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to sulfur dioxide (SO₂) during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO₂ to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features.

Hydrogen sulfide (H₂S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, hydrogen sulfide can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.

Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Vinyl chloride largely is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites due to microbial breakdown of chlorinated solvents.

Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores

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with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.

Areas that do not violate ambient air quality standards are considered to have attained the standards. Violations of ambient air quality standards are based on air pollutant monitoring data and are judged for each air pollutant.

The clean air effort still has a long way to go. In 2005, the federal one-hour ozone standard was replaced by a stricter eight-hour standard that was further strengthened in 2008. Even though air quality continues to improve in South Coast Air Basin, pollutant levels in the Basin persistently exceed the federal eight-hour standard for ozone almost one-third of the year. Due to tougher federal air quality standards for particulates and ozone issued in 2006 and 2008, the South Coast Air Quality Management District (SCAQMD) estimates it will take until at least 2020 to meet the 24-hour average particulate standard and until 2030 to meet the eight-hour ozone standard. The status of attainment for the criteria pollutants discussed above for the Basin in year 2014 is presented in Table CON-4. *Air Basin Attainment Status.*

Table CON-4: Air Basin Attainment Status

Pollutant	Federal	State
O ₃ (1-hr)	--	Nonattainment
O ₃ (8-hr)	Nonattainment	Nonattainment
PM ₁₀	Attainment	Nonattainment
PM _{2.5}	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO ₂	Attainment	Nonattainment
SO ₂	Attainment	Attainment
Pb	Nonattainment	Nonattainment
VRP	--	Unclassified
SO ₄	--	Attainment
H ₂ S	--	Unclassified

Source: California Air Resources Board 2014

Regional air quality is regulated by the SCAQMD. SCAQMD tests and regulates stationary sources such as refineries and heavy industry, monitors regional air pollutant levels, develops air quality control strategies, and conducts public awareness programs. SCAQMD continuously monitors air quality at numerous locations throughout the four-county area. Costa Mesa is located within Source Receptor Area 18.

Climate Change

Global climate change is an increasingly acknowledged environmental problem caused as greenhouse gases (GHGs) are released into the atmosphere faster than the Earth's natural systems can reabsorb them. The primary GHGs emitted into the atmosphere are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃). Collectively, these gases trap heat in the atmosphere and intensify the natural greenhouse effect, thus causing the global average surface temperature to rise, which in turn affects global climate patterns. Other compounds—including some aerosols—can also have a strong heat-forcing effect on the atmosphere. This includes black carbon, which consists of microscopic particles emitted from the incomplete combustion of biomass and fossil fuels.

In response to these concerns, California enacted AB 32, the California Global Warming Solutions Act of 2006. The law seeks to reverse climate change through a comprehensive program reducing GHG emissions for virtually all sources statewide. AB 32 requires CARB to develop regulations and market mechanisms to achieve technologically feasible and cost-effective measures that will reduce emissions to 1990 levels by 2020—a 25 percent reduction statewide. In 2008, CARB approved a comprehensive “Scoping Plan” which is to be updated every five years. The first update was approved in 2014.

Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act of 2008, provides key support to achieve the goals of AB 32. SB 375 is intended to encourage regional planning that integrates land use and transportation policy in a way that reduces GHG emissions from passenger vehicles. This legislation endeavors to control the emissions by curbing sprawl (the unplanned, uncontrolled spread of urban development). The legislation encourages compact development patterns that reduce the need to drive, thereby reducing air pollution from car exhaust, conserving water, and protecting habitat, among

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other benefits. To achieve these goals, this law is designed to align regional land use, housing, and transportation plans with greenhouse gas reduction targets for 2020 and 2035.

The City recognizes the importance of reducing greenhouse gas emissions, enhancing our environment and economic sustainability, and preserving a high quality of life and safety for generations to come. Many actions undertaken by the City directly or indirectly improve air quality. These include implementing the Build Green Incentive Program, pursuing mixed-use development and live-work housing that will reduce vehicle miles traveled, implementing energy efficiency programs, supporting transit use, developing bicycle routes and trails, minimizing landfill waste, and supporting the use of alternative fuel vehicles in the City's fleet and in the community. Considering air quality issues in the decision-making process will ensure that new development minimizes new emissions.

Key Atmosphere and Climate Condition Issues

Air Pollution

Breathing polluted air can cause eye irritation and nose burn, and long-term effects including chronic respiratory ailments. Air pollution can irritate throats and make breathing difficult. In fact, pollutants like tiny airborne particles and ground level ozone can trigger respiratory problems, especially for people with asthma. Air pollution can also be damaging to the natural environment by impacting trees, plants, water bodies, and wildlife.

Greenhouse Gases

Within Costa Mesa, as in most urban areas, fossil fuels are the number one source of energy consumed by residents, government, industry, and commercial activities, thus leading to increases in greenhouse gases. Vehicles are the single largest consumer of fossil fuels, followed by buildings that use large amounts of energy for heating and cooling. These activities have contributed to the elevated concentration of greenhouse gases in the atmosphere, in turn, this is causing the Earth's temperature to rise. A warmer Earth may lead to changes in rainfall patterns, smaller polar ice caps, a rise in sea level, and a wide range of impacts on plants, wildlife, and humans.

Goals, Objectives, and Policies

The following goals, objectives, and policies mandate or encourage specific actions the City, residents, the business community, and local institutions will pursue to achieve objectives relative to resource conservation.

Goal CON-1: Preserved and Restored Natural Coastal Habitat and Landforms

It is the goal of the City of Costa Mesa to provide residents with a high-quality environment through the conservation of resources, including land, water, wildlife, and vegetation; and the protection of areas of unique natural beauty.

Objective CON-1.A: Evaluate existing biotic resources and preserve them in ecologically viable and natural conditions, where possible; and/or restore and integrate these resources into the urban environment, where feasible.

Habitat and Biological Resources Protection and Restoration

- Policy CON-1.A.1:** Natural habitat is essential to ensuring biodiversity and protecting sensitive biological resources. Protect these areas and consult with the California Department of Fish and Wildlife, Orange County Water District, Orange County Parks, and other regional agencies to identify areas for special protection, and establish appropriate protection measures for these areas.
- Policy CON-1.A.2:** Contribute to regional biodiversity and the preservation of rare, unique, and sensitive biological resources by maintaining functional wildlife corridors and habitat linkages.
- Policy CON-1.A.3:** Coordinate with the United States Fish and Wildlife service, the California Department of Fish and Wildlife, and other regulatory agencies to mitigate project impacts affecting open and natural spaces.
- Policy CON-1.A.4:** Promote and protect native plant species within Fairview Park, and remove and control the spread of invasive species, including plants, animals, and fungi.

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Policy CON-1.A.5: Ensure that all future development is reviewed with regard to protecting natural topography and bluffs to preserve and enhance Costa Mesa’s natural beauty.

Policy CON-1.A.6: Minimize soil depletion and erosion in development projects. Prevent erosion caused by construction activities, and encourage preservation of natural vegetation and topography.

Access to Large-Scale Natural Areas

Policy CON-1.A.7: Improve access to large-scale natural areas in the City. These areas should be open for controlled access to improve public enjoyment. Access should be limited where natural habitat is extremely sensitive. Work with transit agencies to improve connections and access to open space and recreation facilities from all Costa Mesa neighborhoods.

Policy CON-1.A.8: Require the provision of adequate visitor-serving on-site parking facilities that do no impact sensitive resources within the Coastal Zone.

Policy CON-1.A.9: Coordinate the development of plans, policies, and design standards for projects within the Coastal Zone with appropriate local, regional, and federal agencies.

Goal CON-2: Conserved Natural Resources through Environmental Sustainability

Reduce the City’s carbon footprints and manage resources wisely to meet the needs of a growing population and economy. Base community planning decisions on sustainable practices that reduce environmental pollutants, conserve resources, and minimize waste. Encourage the design of energy-efficient buildings, use renewable energy, and promote alternative methods of transportation.

Objective CON-2.A: *Work to conserve energy resources in existing and new buildings, utilities, and infrastructure.*

Energy Efficiency and Conservation

Policy CON-2.A.1: Promote efficient use of energy and conservation of available resources in the design, construction, maintenance,

and operation of public and private facilities, infrastructure, and equipment.

Policy CON-2.A.2: Consult with regional agencies and utility companies to pursue energy efficiency goals. Expand renewable energy strategies to reach zero net energy for both residential and commercial new construction.

Policy CON-2.A.3: Continue to develop partnerships with participating jurisdictions to promote energy efficiency, energy conservation, and renewable energy resource development by leveraging the abilities of local governments to strengthen and reinforce the capacity of energy efficiency efforts.

Policy CON-2.A.4: Encourage new development to take advantage of Costa Mesa’s optimal climate in the warming and cooling of buildings, including use of heating, ventilation and air conditioning (HVAC) systems.

Green Building Sustainable Development Practices

Policy CON-2.A.5: Promote environmentally sustainable development principles for buildings, master planned communities, neighborhoods, and infrastructure.

Policy CON-2.A.6: Encourage construction and building development practices that reduce resource expenditures throughout the lifecycle of a structure.

Policy CON-2.A.7: Continue to require all City facilities and services to incorporate energy and resource conservation standards and practices and require that new municipal facilities be built within the LEED Gold standards or equivalent.

Policy CON-2.A.8: Continue City green initiatives in purchases of equipment, and agreements that favor sustainable products and practices.

Solid Waste Reduction and Recycling

Policy CON-2.A.9: Encourage waste management programs that promote waste reduction and recycling to minimize materials sent to landfills. Maintain robust programs encourage residents and businesses to reduce, reuse, recycle, and compost.

Policy CON-2.A.10: Support waste management practices that provide recycling programs. Promote organic recycling, landfill diversion, zero

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waste goals, proper hazardous waste collections, composting, and the continuance of recycling centers.

Policy CON-2.A.11: Continue construction and demolition programs that require recycling and minimize waste in haul trips.

Goal CON-3: Improved Water Supply and Quality

Pursue a multijurisdictional approach to protecting, maintaining, and improving water quality and the overall health of the watershed. A comprehensive, integrated approach will ensure compliance with federal and State standards, and will address a range of interconnected priorities, including water quality and runoff; stormwater capture, storage, and flood management techniques that focus on natural drainage; natural filtration and groundwater recharge through green infrastructure and habitat restoration; and water recycling and conservation.

Objective CON-3.A: *Work towards the protection and conservation of existing and future water resources by recognizing water as a limited resource that requires conservation.*

Water Supply

Policy CON-3.A.1: Continue to consult with local water districts and the Orange County Water District to ensure reliable, adequate, and high-quality sources of water supply at a reasonable cost.

Water Conservation

Policy CON-3.A.2: Encourage residents, public facilities, businesses, and industry to minimize water consumption, especially during drought years.

Policy CON-3.A.3: Restrict use of turf in new construction and landscape reinstallation that requires high irrigation demands, except for area parks and schools, and encourage the use of drought-tolerant landscaping.

Water Recycling

Policy CON-3.A.4: Consult with local water districts and the Orange County Water District to advance water recycling program for new and existing developments, including the use of treated

wastewater to irrigate parks, golf courses, roadway landscaping, and other intensive irrigation consumers.

Water Quality and Urban Runoff

- Policy CON-3.A.5:** Work with public and private property owners to reduce stormwater runoff in urban areas to protect water quality in storm drainage channels, the Santa Ana River, and other local water courses that lead to the Pacific Ocean.
- Policy CON-3.A.6:** Continue to develop strategies to promote stormwater management techniques and storm drain diversion programs that collectively and naturally filter urban runoff.
- Policy CON-3.A.7:** Continue to comply with the National Pollutant Discharge Elimination System Program (NPDES) by participating in the Countywide Drainage Area Management Plan (DAMP), which stipulates water quality requirements for minimizing urban runoff and discharge from new development and requires the provisions of applicable Best Management Practices (BMP).
- Policy CON-3.A.8:** Require that all applicable development projects be reviewed with regards to requirements of both the on-site Water Quality Management Plan and State requirements for runoff and obtaining a Storm Water Pollution Prevention Plan (SWPPP) permit.

Municipal Sewer System

- Policy CON-3.A.9:** Continue to consult with the Costa Mesa Sanitation District and the Orange County Sanitation District to modernize wastewater treatment facilities to avoid overflows of untreated sewage.

Goal CON-4: Improved Air Quality

Take steps to improve and maintain air quality for the benefit of the health and vitality of residents and the local economy. In alignment with State emissions reduction goals and in cooperation with the South Coast Air Quality Management District, pursue regional collaboration to reduce emissions from all sources.

Objective CON-4.A: Pursue the prevention of the significant deterioration of local and regional air quality.

Air Quality

- Policy CON-4.A.1:** Support regional policies and efforts that improve air quality to protect human and environmental health, and minimize disproportionate impacts on sensitive population groups.
- Policy CON-4.A.2:** Encourage businesses, industries and residents to reduce the impact of direct, indirect, and cumulative impacts of stationary and non-stationary pollution sources.
- Policy CON-4.A.3:** Require that sensitive uses such as schools, childcare centers, parks and playgrounds, housing, and community gathering places are protected from adverse impacts of emissions.
- Policy CON-4.A.4:** Continue to participate in regional planning efforts with the Southern California Association of Governments, nearby jurisdictions, and the South Coast Air Quality Management District to meet or exceed air quality standards.

Climate Change

- Policy CON-4.A.5:** Encourage compact development, infill development, and a mix of uses that are in proximity to transit, pedestrian, and bicycling infrastructures.
- Policy CON-4.A.6:** Enhance bicycling and walking infrastructure, and support public bus service, pursuant to the Circulation Element's goals, objectives, and policies.
- Policy CON-4.A.7:** Encourage installation of renewable energy devices for businesses and facilities and strive to reduce community-wide energy consumption.
- Policy CON-4.A.8:** Develop long-term, community-wide strategies and programs that work at the local level to reduce greenhouse gases and Costa Mesa's "carbon footprint".