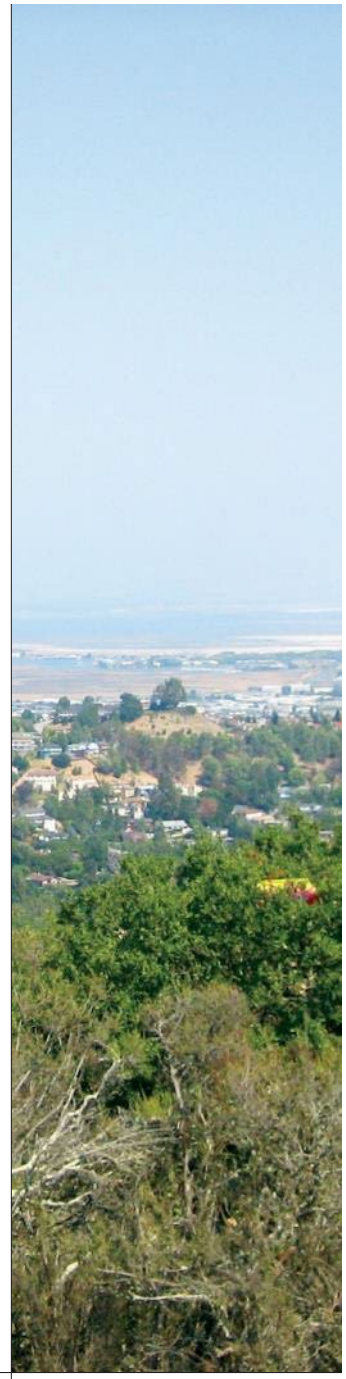
Environmental Management Element

6



SAN CARLOS
GENERAL PLAN

6 Environmental Management Element

The Environmental Management Element aims to protect, preserve and enhance natural resources in San Carlos. The Element identifies San Carlos' important open space lands and ensures that future development will respect the natural and scenic qualities of those places, helping to shape the desired physical form of the community by safeguarding open space for future generations. The Environmental Management Element also provides direction on the conservation of biological resources in and near San Carlos, including plants and wildlife, as well as water and air quality. Additionally, the Element identifies ways to reduce greenhouse gas emissions and solid waste and suggests strategies for adaptation to climate change.

Contents

Introduction

State law requires that a General Plan include both a Conservation Element and an Open Space Element. This General Plan combines these two elements into a single Environmental Management Element that addresses each element's similar and overlapping concerns, and satisfies the legal requirements for both.

State law identifies a series of topics which must be addressed in the Conservation and Open Space Elements. The Conservation Element is required to address the conservation, development and utilization of natural resources, including forests, rivers and other waters, fisheries, plants and wildlife, minerals and

soils. The Open Space Element must address a range of open space types, including six major categories of open space. Most of these types of open space are covered in this Environmental Management Element while a few are covered elsewhere in this General Plan. Table 6-1 lists all six types of open space and identifies where they are addressed in this General Plan.

Not all required topics are discussed in this Element, because they are included elsewhere in the General Plan or such resources do not exist in San Carlos. For example, areas important for the preservation of historic and cultural resources are addressed in the Land Use Element, and open space for public health and safety is primarily discussed in the Safety Element. San Carlos does not have forest, fishery, agricultural, or mineral resources. Other federal and State laws require communities to address air quality and the community production of greenhouse gas (GHG) emissions and solid waste and to develop impact reduction strategies. To this end, the Environmental Management Element includes the topics of air quality, GHG emissions and solid waste.

TABLE 6-1 GOVERNMENT CODE OPEN SPACE CLASSIFICATIONS

Category	Element Addressed In:
Open Space for the Preservation of Natural Resources	
Plant and animal habitat areas	Environmental Management
Rivers, streams, lakes and their banks	Environmental Management
Watershed lands	Environmental Management
Areas required for ecological and other scientific study purposes	Environmental Management
Open Space Used for the Managed Production of Resources	
Agricultural lands and rangelands	Not applicable to San Carlos
Forest and timber lands	Not applicable to San Carlos
Mineral resource production areas	Not applicable to San Carlos
Open Space for Outdoor Recreation and Scenic Resources	
Areas of outstanding historic or cultural value	Land Use
Parks and other areas used for recreation	Parks and Recreation
Areas of outstanding scenic value	Land Use
Scenic corridors, trails and links between different open space areas	Land Use
Open Space for Public Health and Safety	
Areas requiring special management or regulation because of risks presented by natural hazards such as steep slopes or flooding	Safety Element
Open Space in Support of the Mission of Military Installations	
Areas associated with military bases	Not applicable to San Carlos
Open Space for the Protection of Native American Sacred Sites	
Local tribal lands Any Native American cultural sites	Land Use Element

The Environmental Management Element is divided into three sections:

- **Background Information:** Provides information on the existing conditions of biological resources, hydrology, air quality, greenhouse gas emissions and solid waste.
- **Guiding Principles:** Provides a framework and establishes the basic intent of the element and are a broad statement of overall community value relating to environmental management in San Carlos.
- **Goals, Policies and Actions:** Provides policy guidance for protecting and preserving important resources covered in this Element, mentioned above.

Biological Resources

The following section provides background information pertaining to biological resources in San Carlos. The background information supports the goals and policies related to biological resources, which are also included in this section.

Background Information

This section includes background information on natural vegetative communities, special status plants and wildlife, wetlands, riparian habitat and soil types in and near San Carlos.

Natural Communities in San Carlos

Although native vegetation within San Carlos has been substantially altered, the presence of large areas of undeveloped lands to the west and the remaining riparian corridors along creeks contributes to a diverse assemblage of resident and migrant wildlife species. In general, each habitat differs in its relative value to specific species and can be characterized by both vegetation and dependent animal species, although some wildlife species may utilize more than one habitat type. Figure 6-1 shows a general map of the vegetation and

habitat types based on CalVeg mapping by the U.S. Forest Service.

The habitat types found within and around San Carlos all provide different ecological functions and value. The more common habitat types are outlined below:

- *Non-vegetated and sparsely vegetated habitat*. Most of the non-vegetated and sparsely vegetated habitat areas are located east of Alameda de las Pulgas as shown on Figure 6-1.
- *Aquatic habitat*. Aquatic habitat includes streams, ponds, lakes and bay shoreline that provide habitat to a variety of birds, amphibians, fish and mammals.
- *Wetlands*. Wetlands are areas that are periodically or permanently inundated by surface or ground water and support vegetation adapted to life in saturated soil. Wetlands provide habitat to fish and wildlife and provide stormwater, flood and water recharge, filtration and purification functions. Seasonal wetlands are areas of prolonged saturation that are dry during the summer months. Wetlands tend to be present near aquatic features such as creeks, lakes, or ponds and along the bayshore, but also may be found within seasonal swales or isolated depressions such as a low spot in the ground. Wetlands and major waterbodies in and near San Carlos are shown in Figure 6-2. Although there are only documented areas of wetlands near the eastern city border, it is likely that these features exist in other areas of the city and its SOI.
- *Riparian habitats*. Riparian habitat is a distinct plant community found along the margins of creeks and rivers. It has a very high value to wildlife and generally exhibits a rich and diverse animal community. Although mostly urbanized, Pulgas, Brittan, Belmont and Cordilleras Creeks support areas of riparian habitat. However, the scale of the riparian habitat area is too small to be shown in Figure 6-1.
- *Oak woodland*. Oak woodland habitat consists of patches of several or more mature trees frequently dominated by California coast live oak and valley oak. Some areas of oak woodland habitat also support a dense understory shrub layer of vegetation that includes coyote brush, poison oak, California coffeeberry, Himalayan blackberry and California rose. Several types of

FIGURE 6-1

Vegetation and Habitat Types

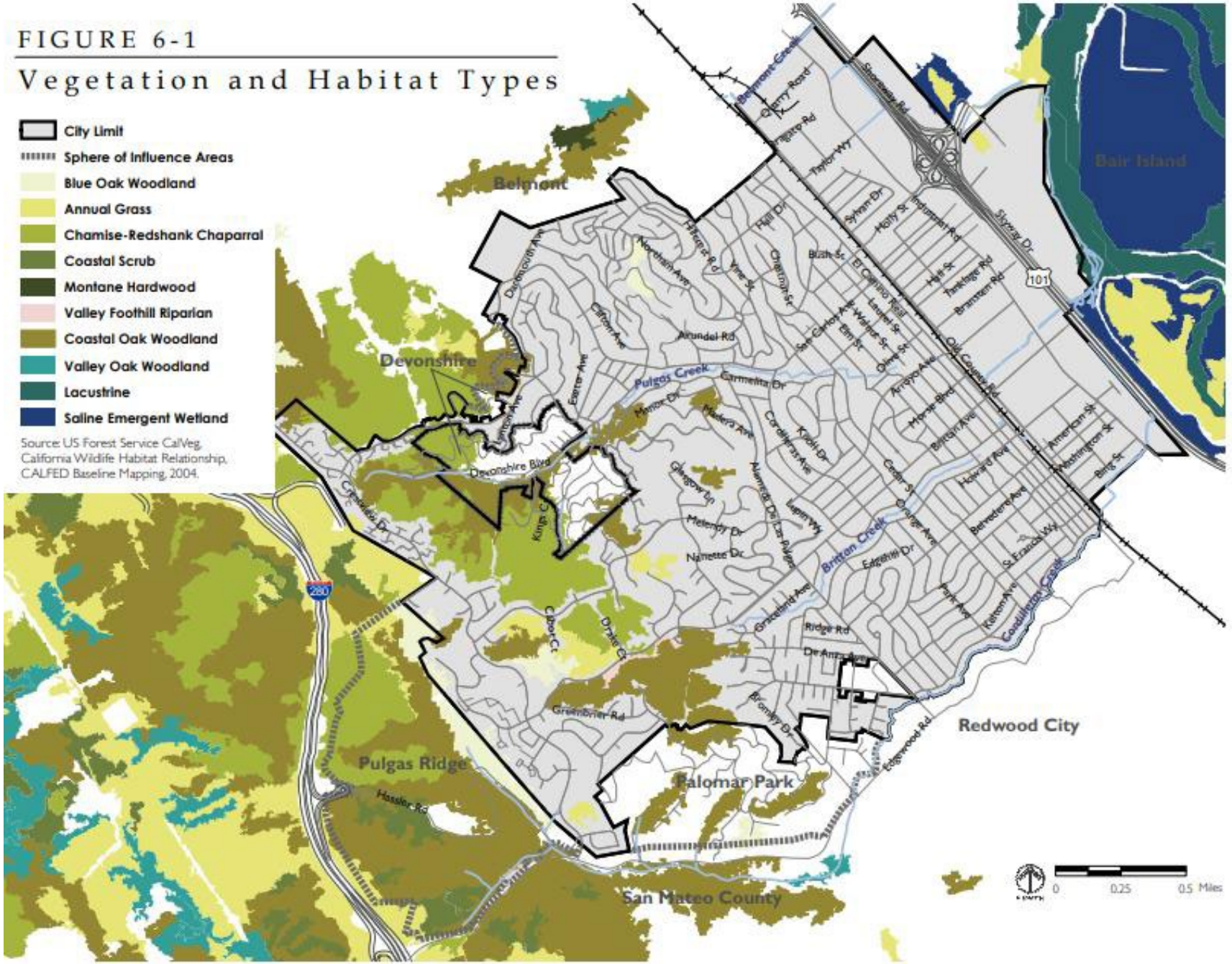
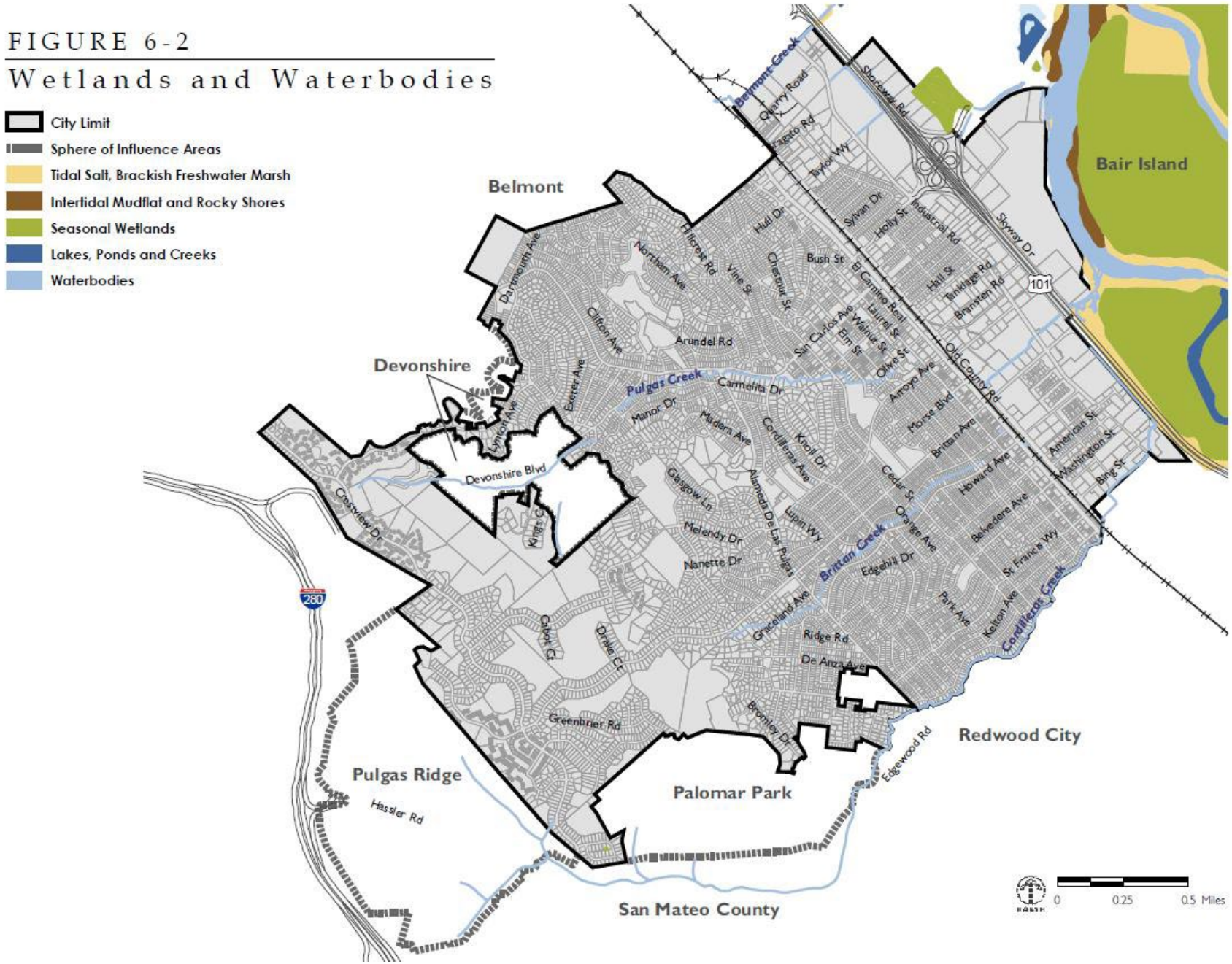


FIGURE 6-2

Wetlands and Waterbodies



oak woodland are shown on Figure 6-1. This habitat is found in small patches in single-family neighborhoods and concentrated in open space and park areas.

- *Annual grassland*. The majority of grassland habitat in San Carlos is rather low-quality grassland dominated by annual, non-native upland grasses and forbs.
- *Scrub*. Scrub habitat in the San Carlos area is characterized by Chamise-Redshank Chapparal. Scrub is found in some of the upland open space and park areas.

Sensitive Plant and Wildlife Species in San Carlos

San Carlos' hilly, densely vegetated open space areas and proximity to the San Francisco Bay provide potential habitat for a variety of sensitive plant or wildlife species. As of February 2009, the California Natural Diversity Database (CNDDB), an inventory of rare plants and animals in California, identified no occurrences of sensitive species or habitats in the urban areas of San Carlos. However, known occurrences of sensitive species are documented nearby. Specifically, the dusky footed woodrat is known to be located on, or in the immediate vicinity of an area at the western end of Devonshire Boulevard, and the highest concentrations of nests occurring in riparian, coast live oak woodland and chaparral dominated by chamise and toyon. Circles around these point locations, using radii given in the CNDDB, are drawn on Figure 6-3. Sensitive habitat, plants and wildlife found within the city limit and SOI are summarized in Table 6-2.

Coastal salt marsh and wetland habitat near the San Carlos Airport, but outside the city limit and SOI, are known to support sensitive species. Water birds such as the endangered California clapper rail and threatened western snowy plover could potentially be present in areas adjacent to the San Carlos Airport. There is also potential for the federal endangered salt marsh harvest mouse to occur in these areas, particularly in places with cordgrass or alkali brush.

The San Francisco garter snake, California red-legged frog, California tiger salamander and dusky footed wood rat all have potential to occur in open space areas in and around San Carlos. The San Francisco garter snake, a federal endangered species, typically resides in densely vegetated ponds near exposed hillsides where they can sun themselves, feed and find cover in

FIGURE 6-3

Known Occurrences of Sensitive Species and Habitat

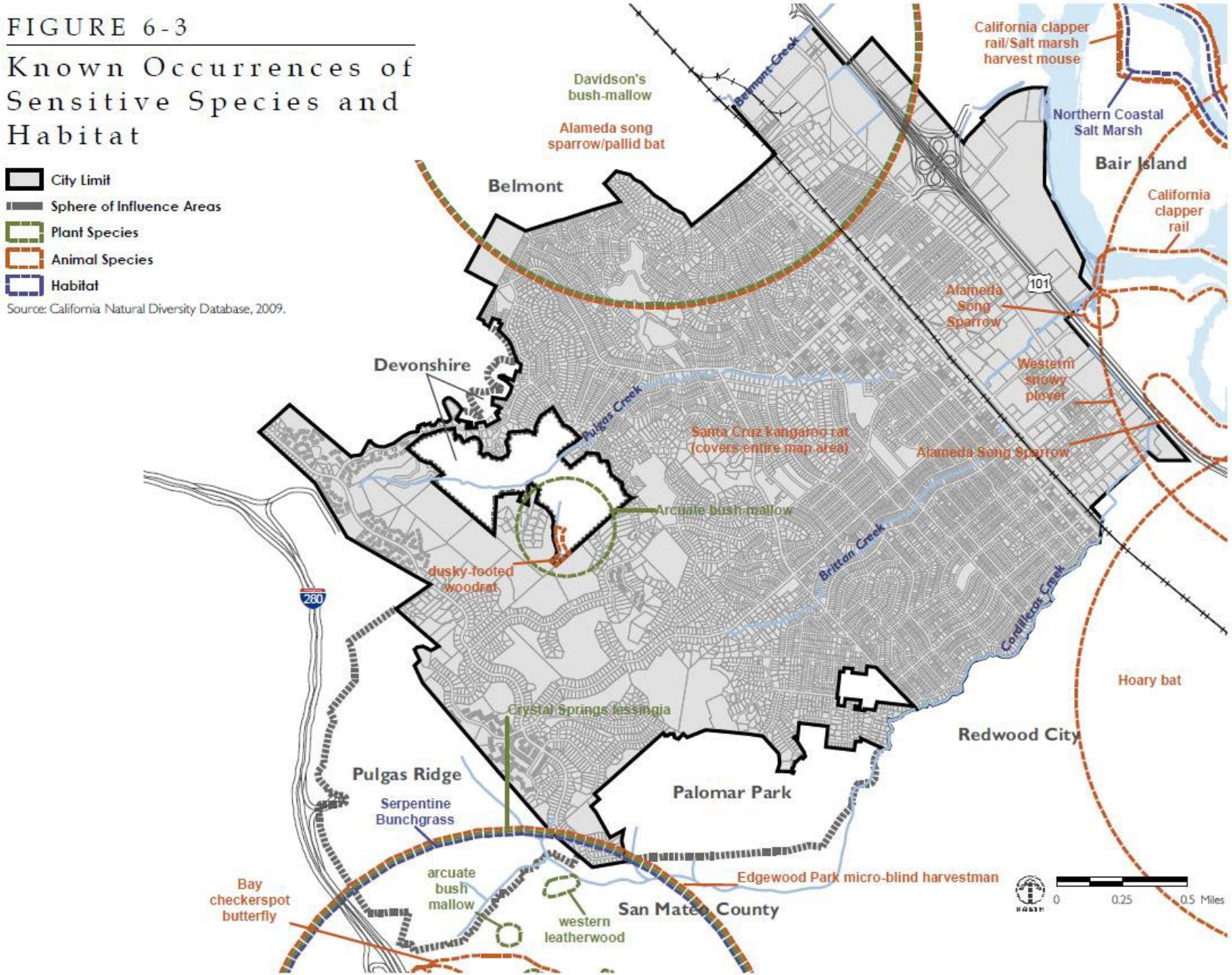


TABLE 6-2 SENSITIVE SPECIES FOUND IN THE CITY LIMIT AND SPHERE OF INFLUENCE

Species	Habitat	Status
Habitat		
Serpentine Bunchgrass	n/a	Recognized as a sensitive community by CDFG
Plants		
Arcuate bush-mallow	Chaparral and coastal scrub on dry slopes	CNPS List 1B (rare, threatened or endangered in California)
Crystal Springs lessingia	Mixed woodlands, oak woodlands, valley and foothill grasslands, coastal scrub on serpentine soils	CNPS List 1B (rare, threatened or endangered in California)
Davidson's bush-mallow	Coastal scrub	CNPS 1B (rare, threatened or endangered in California)
Serpentine benchgrass	Serpentine soils	Recognized as a sensitive community by CDFG
Insects		
Bay checkerspot butterfly	Serpentine rock outcrops and serpentine soils	Federally threatened
Edgewood Park micro-blind harvestman	Serpentine rock outcrops and serpentine grasslands	Recognized as a species of special concern by CDFG
Birds		
Alameda song sparrow	Tidal marsh	Recognized as a species of special concern by CDFG
California clapper rail	Tidal marsh	State and federally endangered
western snowy plover	Tidal salt, brackish freshwater marsh	Federally threatened
Mammals		
Pallid bat	Desert scrub with rocky outcrops, forested oak and pine regions	Recognized as a species of special concern by CDFG
Santa Cruz kangaroo rat	Desert scrub and sandy hills	Recognized as a species of special concern by CDFG
San Francisco dusky footed wood rat	Chaparral and coastal scrub on dry slopes	Recognized as a species of special concern by CDFG

Notes: CDFG = California Department of Fish & Game; CNPS = California Native Plant Society
Source: California Natural Diversity Database (CNDDB), February 2009.

rodent burrows. Often the prey of the San Francisco garter snake, the California red-legged frog, a federal threatened species, occurs in areas of riparian vegetation with deep, still, or slow-moving water. The California tiger salamander, also a federal endangered species, is found in vernal pools and seasonal ponds in grassland and low foothills. The dusty footed wood rat, a California species of concern, typically is found in woodland areas with dense underbrush. Known populations occur in the Devonshire SOI. Additionally, native shrubs like the arcuate bush mallow, also known to occur in the Devonshire SOI, could potentially occur in open space areas west of Alameda de las Pulgas.

Invasive Plants

Invasive plants are a concern throughout the Bay Area. Detrimental effects from invasive plants particular to urban areas include the displacement of native plants and wildlife and increasing risk of exposure to wild-fires and floods. Plants and trees such as the eucalyptus, Scotch and French broom and pampas grass increase fire fuel loads and can also be highly flammable. Other invasive plants, such as the giant reed, can clog stormwater systems, which can increase the risk of flooding.

The California Invasive Plant Inventory or Invasive Plants of California's Wildlands can assist in determining if a plant is an invasive species. Cal-IPC ranks species as "High," "Moderate," or "Limited" impact, and any species from these can be evaluated for potential threat to local habitat. Even species ranked as "Limited" impact for California as a whole can have severe impacts in a particular county or property due to local history and site conditions.

Watersheds and Riparian Corridors

Natural drainage in San Carlos is divided into two main watersheds: Pulgas Creek and Cordilleras Creek. Within the watersheds are Pulgas, Brittan, Belmont and Cordilleras Creeks, which are the main drainage ways through San Carlos emptying into San Francisco Bay. Salt and brackish marshes are found near the terminus of each of the creeks east of Highway 101. The upper portions of these watersheds are generally undeveloped, the middle sections are primarily residential and the eastern portions are typically commercial

and industrial. The quality of the watersheds is discussed in Section D.1.c below.

The four creeks in San Carlos are identified in Figure 6-2. Belmont Creek is located at the northern San Carlos boundary in the East Side area. Belmont Creek flows into Belmont Slough and O'Neill Slough.

Pulgas and Brittan Creeks are the two main creeks within the City of San Carlos. The creeks have mostly unhardened channels in the upper reaches and hardened channels in the lower flatlands, where Brittan Creek joins Pulgas Creek via an underground conduit (paralleling El Camino Real). Following the confluence of Pulgas Creek and Brittan Creeks, the combined flow drains into Smith Slough south of Bair Island.

Cordilleras Creek, the longest of the four creeks, defines the southern boundary of San Carlos, which is shared with Redwood City. Cordilleras Creek, like the combined Pulgas/Brittan Creek, also flows into San Francisco Bay via Smith Slough. Similar to Pulgas and Brittan Creeks, the upper reaches of the creek are mostly unhardened with hardened channels in the lower flatlands.

The creeks discussed above are "losing creeks," meaning they are not recharged by groundwater. Consequently, they are intermittent and generally flow during the winter wet-weather season and from irrigation runoff during the dry months.

Protecting the habitat functions of San Carlos' streams and riparian corridors is a priority for the City. The riparian protection ordinance regulates construction or other work performed in or near creeks. Exceptions to this rule include placement of approved storm drainage outflows and removal of sedimentation.

Creek restoration and maintenance and tree and vegetation replacement standards should further the enhancement and protection of creeks.

Guiding Principles

The Guiding Principles are a set of key objectives that articulate San Carlos' core values relating to the environment. The Guiding Principles of the Environmental Management Element are:

- Ensure natural resources are preserved, sustained and managed through environmental stewardship.
- Support community health and wellness through sound environmental practice.
- Empower the community to help protect the environment through public awareness and involvement.
- Ensure that there is a Climate Action Plan (CAP) in place at all times to address reduction of greenhouse gas emissions and manage the impacts of climate change.
- Endeavor to be a model city of good conservation and resource management practices.

Goals, Policies and Actions

GOAL EM-1 Protect natural habitat and other biological resources.

POLICIES

POLICY EM-1.1 Ensure that potential impacts to biological resources and sensitive habitat are carefully evaluated when considering development project applications through the preparation of a biological resources assessment by a qualified biologist. Require such biological resource assessments as part of project approval for proposed development on sites that may support special-status plant and animal species, sensitive natural communities, important wildlife corridors, riparian habitat, or regulated wetlands and waters.

POLICY EM-1.2 Ensure that development is consistent with all federal, State and regional regulations for habitat and species protection.

POLICY EM-1.3 Work to manage or eliminate non-native invasive species from City-owned property and open space.

POLICY EM-1.4 Protect and preserve the circadian cycle (the cycle of night and day) by limiting sources of light during nighttime hours.

POLICY EM-1.5 Promote the preservation of native species, habitat and vegetation types and overall natural diversity.

Denotes synergy with Climate Action Plan

Note: The Climate Action Plan adopted in 2009 was replaced by a new Climate Mitigation and Adaptation Plan (CMAP) adopted on September 27, 2021 (Resolution No. 2021 – 094). The CMAP calls for reducing emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.

ACTIONS

ACTION EM-1.1 Continue to cooperate with local, regional and State agencies involved in protecting critical habitat.

ACTION EM-1.2 Seek grant funding for the removal of invasive plants and installation of native trees and shrubs.

ACTION EM-1.3 Use native plants wherever possible on City-owned and controlled property.

ACTION EM-1.4 Enforce rules and regulations in public open space areas to minimize the impacts of destructive activities.

ACTION EM-1.5 Require that new buildings and taller structures that extend above the existing surrounding urban fabric and height of the tree canopy be designed to minimize the potential risk of bird collisions using input from the latest bird-safe design guidelines and best management practice strategies to reduce bird strikes.

GOAL EM-2

Promote healthy streams and riparian corridors.

POLICIES

POLICY EM-2.1 Preserve and enhance riparian areas.

POLICY EM-2.2 Continue to enforce the City's Riparian Ordinance for all four of the City's creeks (Pulgas, Brittan, Cordilleras and Belmont) and their tributaries.

POLICY EM-2.3 Carefully evaluate the cumulative and compounding impacts of incremental creek encroachments.

POLICY EM-2.4 Restore culverted or buried channels to their natural state wherever feasible.

POLICY EM-2.5 Promote the establishment of native vegetation and the removal of non-native invasive plants in riparian areas.

POLICY EM-2.6 Encourage property owners to replace fallen trees along waterways to maintain an upper canopy of vegetation. The species shall be as approved by the City arborist. Encourage use of trees native to the area.

POLICY EM-2.7 Retain Pulgas, Brittan, Cordilleras and Belmont Creek channels and their 100-year floodplains wherever possible as natural open space areas. These areas are to function as storm drainage facilities and as open space greenbelts to support natural habitat.

POLICY EM-2.8 Participate and help coordinate with neighboring jurisdictions' watershed management efforts.

ACTIONS

ACTION EM-2.1 Consider amending the Riparian Ordinance to strengthen stream protection requirements and reduce potential for flooding. Potential amendments may include evaluation of increased setbacks, limited walls and fences, requiring Best Management Practices (BMPs) for biotechnical bank stabilization and erosion control and vegetation management requirements.

ACTION EM-2.2 Consider establishing incentives to stabilize creek banks utilizing natural methods.

ACTION EM-2.3 Provide information to the public on City regulations and best practices for riparian corridor management.

ACTION EM-2.4 Develop a citywide policy that applies to all City properties and operations and establishes protocols to work with water service providers to determine appropriate location(s) for and implementation of a reclaimed (recycled) water distribution system (purple pipe) for landscaping and other non-potable water uses for residential, commercial and industrial consumers.

ACTION EM-2.5 Explore availability of grant funding for removal of invasive plants from riparian areas and planting of native and appropriate trees and shrubs.

ACTION EM-2.6 Consider preparation of Watershed Management Plans for all watersheds, addressing flooding causes, improvement of creek functionality and water quality and creek channel restoration.

GOAL EM-3

Enhance the urban forest.

POLICIES

POLICY EM-3.1 Maintain and expand the urban canopy with special emphasis on protection of heritage trees.

POLICY EM-3.2 Review and amend the Zoning Ordinance as needed to identify barriers to the effective enhancement of the urban forest and the protection of heritage trees.

POLICY EM-3.3 Assist community groups with tree planning efforts.

ACTIONS

ACTION EM-3.1 Implement Climate Action Plan measures to require tree planting.

ACTION EM-3.2 Review and amend the Zoning Ordinance as needed to identify barriers to the effective enhancement of the urban forest and the protection of heritage trees.

ACTION EM-3.3 Establish and implement a program to protect existing and plant new trees at city facilities, public parks and in public planting strips and parking lots, working with non-profit volunteer groups if possible.

Open Space

This section contains background information on open space areas in San Carlos. Also in this section are goals and policies related to open space.

Background Information

Open space is defined as undeveloped areas that are set aside for outdoor recreation, natural resource preservation and the protection of public safety. Within San Carlos there are approximately 73 acres of open space designated as a city park and an additional 86 acres of land designated as open space in the Land Use Element. This acreage includes Chilton Park and undeveloped portions of Big Canyon Park and Eaton Park, but does not include other city parks that are developed for active use.

Open space near San Carlos but outside the city boundary includes Peninsula Watershed lands, Pulgas Ridge Open Space Preserve and Edgewood Park. Bair Island is a significant open space area near the San Carlos airport located within Redwood City, and is part of the Don Edwards San Francisco Bay National Wildlife Refuge. Bair Island consists of 2,600 acres of open space. Including Bair Island, there are approximately 3,370 acres of open space in areas near San Carlos. Both Figures 7-1 and 7-3 in the Parks and Recreation Element depict open space lands within and surrounding the city.

Goals, Policies and Actions

GOAL EM-4

Acquire, preserve, protect and restore open space and enhance the public's ability to enter and enjoy open space.

POLICIES

POLICY EM-4.1 Retain existing public open space as open space.

POLICY EM-4.2 Support an open space system that is diverse in uses and opportunities and includes natural function/wildlife habitat as well as passive and appropriate active recreation.

POLICY EM-4.3 Focus open space acquisition efforts on the most environmentally sensitive areas.

POLICY EM-4.4 Coordinate with Midpeninsula Regional Open Space District and other agencies on planning and managing public open space, including management of the Pulgas Ridge Open Space Preserve for public open space use.

POLICY EM-4.5 Support the efforts of non-profit organizations to expand and manage protected open space.

POLICY EM-4.6 Establish public access to public open space lands appropriate to the character and conservation value of the open space.

POLICY EM-4.7 Prohibit the sale of City-owned open space properties.

ACTIONS

ACTION EM-4.1 Seek additional funding sources, including State and federal programs, to finance open space acquisition, restoration and management.

ACTION EM-4.2 Review new development proposals for opportunities to create open space.

ACTION EM-4.3 Establish and work to achieve City standards for open space based on population.

ACTION EM-4.4 Study the need for an Open Space Ordinance.

ACTION EM-4.5 Encourage the development of riparian open space areas for publicly-accessible, low-impact recreation.

ACTION EM-4.6 Implement the approved Trails Connection Plan.

Hydrology

This section contains background information and goals, policies and actions related to water supply, water quality and wastewater and stormwater services in San Carlos.

Background Information

Water Supply

California Water Service Company (Cal Water), the main water provider in the city, purchases water from the San Francisco Public Utilities Commission. Water consumed in San Carlos is from Cal Water's Bayshore district, the source of which is predominantly the Hetch Hetchy reservoir, located in the Sierra Nevada mountains. While State law calls for water to come from other lower elevation reservoirs, Hetch Hetchy continues to be the source for most of San Carlos' water due to its higher water quality. The San Carlos water infrastructure system includes 21 storage tanks and 29 booster pumps. Although Cal Water is the primary water service provider in San Carlos, the Mid- Peninsula Water District also serves approximately 100 residential and commercial accounts in the city. Additionally, some properties rely on wells for the provision of water.

Cal Water encourages water conservation through rebate programs, providing low flow shower heads at no cost, distributing literature on conservation practices and giving talks at local schools. Cal Water does not currently have a recycled water system in San Carlos,

but it does offer water recycling in other parts of the State and estimates that water recycling will likely be offered in San Carlos within the next few years.

Groundwater

The city is located within the San Mateo Subbasin of the Santa Clara Valley Groundwater Basin. The San Mateo Subbasin is bounded by the Westside Basin to the north, San Francisco Bay to the east, San Francisquito Creek to the south and the Santa Cruz Mountains to the west. The Subbasin has two main water-bearing units: the Holocene and Pleistocene alluvium and the Santa Clara Formation. The alluvium is the most important water-bearing unit in the Subbasin, and most of the wells in the Subbasin draw water from the deeper aquifers of this unit. A relatively shallow water table aquifer overlies the aquifers in the lowland areas. Groundwater is commonly found at less than 5 feet below grade in flatland areas.

Water Quality

Residents in San Carlos drink water from the Bayshore District of Cal Water. Supply from this district exceeded water quality standards in 2007. Testing includes primary and secondary standards. Primary standards limit levels of contaminants in drinking water. Secondary standards limit substances that affect the taste, odor, or appearance of water; five inorganic chemicals are identified: calcium, chloride, magnesium, sodium and sulfate. The 2007 Water Quality Report for primary standards identified fluoride, halo acetic acids, trihalomethanes, chloramine, copper and lead. None of the identified substances in either category exceed public health standards.

The health of the watersheds in San Carlos, described in the Biological Resources section of this Element, is typical of urbanized areas. Upland sections of the creeks tend to have less pollution while urbanized portions of the waterways contain contaminants. Various contaminants have been identified in San Carlos creeks including polychlorinated biphenyls (PCBs), which can persist in the tissues of animals found in the creeks, as well as ultimately pollute the Bay. The City considers the habitat functions of streams and riparian corridors a priority and, therefore, developed watershed protection mechanisms such as creek setbacks, regulations for construction adjacent to creeks and pesticide application in watershed areas. However, water from local watersheds is not used for drinking in San Carlos.

Wastewater

The Public Works Department operates and maintains the wastewater collection system in the city. The Public Works wastewater system also serves several outside sewer districts including Devonshire Canyon, Scenic Heights, Emerald Lake and the unincorporated portion of the Harbor Industrial Area. Properties in these areas are subject to an Outside Sewer Service Agreement with the City of San Carlos. These proper- ties must be located in the SOI and must demonstrate consistency with applicable General Plan policies. In assigning sewer service to these properties, the City will give priority to single-family residences with failing septic tanks. Collected wastewater is delivered to a pump station operated by the Silicon Valley Clean Water (SVCW). This wastewater is then pumped to the SVCW treatment plant, located in Redwood Shores, east of the city. There are 106 miles of sewer lines in San Carlos ranging in size from 5 to 27 inches. The average annual wastewater flow for the City of San Carlos is about 2.6 million gallons per day (MGD). Wastewater flows in San Carlos have generally stayed constant despite increased development due to water conservation efforts and sewer main replacement.

The SVCW plant is a regional wastewater treatment facility that serves San Carlos and the nearby municipalities of Belmont, Redwood City, Menlo Park, Portola Valley and portions of Atherton, Woodside, East Palo Alto and San Mateo County. Altogether, the SVCW plant serves over 200,000 customers. The current capacity of the plant is 29 million gallons per day (MGD). The wastewater system has sufficient treatment capacity to meet Regional Water Quality Control Board (RWQCB) Standards.

Stormwater

As mentioned above, there are two watersheds in San Carlos: the Pulgas Creek Watershed and the Cordilleras Creek Watershed. The creeks within the watersheds and the city's SOI that receive stormwater drainage include Belmont, Pulgas Brittan and Cordilleras Creeks. These creeks are unlined channels that eventually empty into the San Francisco Bay. The creeks do not have sufficient capacity to carry stormwater during high tides. In addition, flooding results from limited capacity for stormwater.

The City of San Carlos maintains all stormwater facilities within the city. There are approximately 27

miles of closed conduits in the city that receive stormwater drainage through 680 inlets. Stormwater capacity within San Carlos varies based on calculated need. The City of San Carlos operates approximately 6,500 linear feet of flood control channel with a capacity of over 500 cubic feet. The drainage system dates to the early twentieth century and, as such, does not meet today's design standards. Repairs are completed as-needed. Developers or property owners are responsible for adding extensions to the stormwater system when new development occurs.

San Carlos participates in San Mateo County's Stormwater Management Plan, which outlines maintenance activities to be undertaken by cities; targets industrial and illicit discharge; describes public information about stormwater; provides guidelines to cities for construction permits; and establishes monitoring programs to measure the success of the other portions of the plan.

Goals, Policies and Actions

GOAL EM-5

Assure a high level of domestic water quality, promote water conservation and reduce toxics in run-off, including storm-water and the sanitary sewer system.

POLICIES

POLICY EM-5.1 Reduce the discharge of toxic materials into the city's sanitary sewer and stormwater collection system by promoting the use of Best Management Practices (BMPs).

POLICY EM-5.2 Promote the use of less toxic household and commercial cleaning materials.

POLICY EM-5.3 Promote the conservation and efficient use of water in new and existing residences and by commercial and industrial consumers.

POLICY EM-5.4 Encourage the use of drought-tolerant plants and efficient watering techniques for all City landscaping.

POLICY EM-5.5 Recycled water distribution system (purple pipe) should be used for landscaping and other non-potable water uses for residential, commercial and industrial customers, where technically and financially feasible.

POLICY EM-5.6 Continue public education programs on water issues working with water service providers, local non-profits and other environmental organizations, including conservation measures and BMPs for residents, businesses, contractors and City employees.

POLICY EM-5.7 Encourage site designs that manage the quantity and quality of storm water run-off.

POLICY EM-5.8 Work with water service providers to provide high quality domestic water.

POLICY EM-5.9 Sewer service may be extended outside the city limit only as required to protect public health due to failing septic systems in accordance with the following policies:

- Extension of sewer service would be denied if there is insufficient capacity in the wastewater collection system.
- No change to the land use would occur.
- The extension of sewer service could not be used to enable further subdivision.
- The property owner would be required to annex as such time as a complete consolidation of properties could be annexed.

- The property owner would be required to complete all improvements necessary to meet City building and engineering standards.
- Applicant to assure payment of all sewer connection, plan checking and inspection fees.

POLICY EM-5.10 Require the evaluation of potential groundwater depletion that could occur from new development through dewatering.

ACTIONS

ACTION EM-5.1 Evaluate amending the Zoning Code to maximize permeable surfaces or other water catchment methods for new development as applicable.

ACTION EM-5.2 Utilize bioswales and other bio-filtration systems as applicable to cleanse run-off before it enters creeks and the San Francisco Bay.

ACTION EM-5.3 Minimize road surface pollutant runoff by utilizing appropriate methods such as regular street sweeping.

ACTION EM-5.4 Implement Climate Action Plan measures to provide for water-efficient landscaping.

ACTION EM-5.5 Establish water conservation goals for City buildings and operations.

ACTION EM-5.6 Evaluate potential incentives for the use of drought-tolerant landscaping and recycled water for landscape irrigation.

ACTION EM-5.7 Amend the Municipal Code to codify the Outside Sewer Service policies for residential uses.

ACTION EM-5.8 Develop a recycled water implementation plan, which would identify potential sources and uses of recycled water, environmental benefits, capital and operating costs and potential utility providers.

ACTION EM-5.9 Monitor outside agencies responsible for cleaning up known toxic sites.

ACTION EM-5.10 Implement the NPDES Stormwater Permit and for those properties exempt from the Permit, require a stormwater pollution prevention plan, including use of best management practices, to control erosion and sedimentation during construction.

Air Quality

Air is a critical component of the natural environment and the availability of clean, non-polluted air is an important factor for human health and quality of life for San Carlos residents. The primary factors that determine air quality are the locations of air pollutant sources and the amount of pollutants emitted from those sources. Meteorological and topographical conditions are also important factors. Atmospheric conditions, such as wind speed, wind direction and air temperature gradients, interact with the physical features of the landscape to determine the movement and dispersal of air pollutants.

Regulatory Framework

The federal Clean Air Act (CAA) governs air quality in the United States. In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the California CAA. At the federal level, the United States Environmental Protection Agency (U.S. EPA) administers the CAA. The California CAA is administered by the California Air Resources Board (CARB) at the State level and by the Air Quality Management Districts at the regional and local levels. The Bay Area Air Quality Management District (BAAQMD) regulates air quality at the regional level, which includes the nine-county Bay Area.

United States Environmental Protection Agency

The EPA is responsible for enforcing the federal CAA. The EPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS). The NAAQS are required under the 1977 federal CAA and subsequent amendments. The EPA regulates emission sources that are under the exclusive authority of the federal government, such as vehicles, aircraft, ships and locomotives. The agency has jurisdiction over emission sources outside State waters (e.g. beyond the

outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet the strict emission standards established by the CARB.

California Air Resources Board

In California, 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). The California CAA, as amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the CAAQS. The CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. The agency is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. The CARB established passenger vehicle fuel specifications, which became effective in 1996.

Bay Area Air Quality Management District

Regional air quality is regulated by the BAAQMD. The BAAQMD regulates stationary sources (with respect to federal, State and local regulations), monitors regional air pollutant levels (including measurement of toxic air contaminants (TACs)), develops air quality control strategies and conducts public awareness programs. The BAAQMD has also developed CEQA Guidelines that establish significance thresholds for evaluating new projects and plans and provide guidance to lead agencies for evaluating air quality impacts of projects and plans.

The BAAQMD is in the process of preparing the *2009 Bay Area Clean Air Plan* which will update the *Bay Area 2005 Ozone Strategy* in accordance with California CAA requirements to implement "all feasible measures" to reduce ozone. The 2009 Plan will also consider the impacts of ozone control measures on particulate matter, air toxics and GHGs. Additionally, the 2009 Bay Area Clean Air Plan will review progress in improving air quality in recent years and will establish emission control measures to be adopted or implemented from 2009 through 2012. The Plan will also address PM_{10} and $PM_{2.5,}$ defined below, as well as climate change.

Criteria Air Pollutants and Effect

The CARB and the EPA currently focus on five "criteria pollutants" as indicators of air quality and as such air quality studies generally focus on those five pollutants: CO, O_3, NO_2, SO_2 and suspended particulates (i.e. PM_{10} and $PM_{2.5}$).

- **Carbon Monoxide**. CO, a colorless and odorless gas, interferes with the transfer of oxygen to the brain. It can cause dizziness and fatigue, and can impair central nervous system functions. CO is emitted almost exclusively from the incomplete combustion of fossil fuels. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. The highest CO concentrations measured in the Bay Area are typically recorded during the winter.
- **Ozone**. O_3, a colorless toxic gas, is the chief component of urban smog. Short-term O_3 exposure can reduce lung function in children, make persons susceptible to respiratory infection and produce symptoms that cause people to seek medical treatment for respiratory distress. Long-term exposure can impair lung defense mechanisms and lead to emphysema and chronic bronchitis. Al- though O_3 is not directly emitted, it forms in the atmosphere through a chemical reaction between reactive organic gas (ROG) and nitrogen oxides (NOx) under sunlight. ROG and NOx are primarily emitted from automobiles and industrial sources. Highest O_3 concentrations occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures and cloudless skies.
- **Nitrogen Dioxide**. NO_2, a reddish-brown gas, irritates the lungs. It can cause breathing difficulties at high concentrations. Like O_3, NO_2 is not directly emitted, but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as nitrogen oxides (NOx) and are major contributors to O_3 formation. NO_2 also contributes to the formation of PM_{10} (see discussion of PM_{10} below).
- **Sulfur Oxides**. Sulfur oxides, primarily SO_2, are a product of high-sulfur fuel combustion. The main sources of SO_2 are coal and oil used in power stations, in industries and for domestic heating. SO_2 is an irritant gas that attacks the

throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 concentrations have been reduced to levels well below the State and national standards, but further reductions in emissions are needed to attain compliance with standards for PM_{10}, of which SO_2 is a contributor.

- **Suspended Particulate Matter**. Particulate matter pollution consists of very small liquid and solid particles suspended in the air, which can include smoke, soot, dust, salts, acids and metals. Particulate matter also forms when industry and gaseous pollutant undergo chemical reactions in the atmosphere. Respirable particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$) represent fractions of particulate matter. PM_{10} refers to particulate matter less than 10 microns in diameter and $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter. Major sources of PM_{10} include motor vehicles; wood burning stoves and fireplaces; dust from construction, landfills and agriculture; wildfires and brush/ waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. $PM_{2.5}$ results primarily from diesel fuel combustion (from motor vehicles, power generation and industrial facilities), residential fireplaces and wood stoves.
- PM_{10} and $PM_{2.5}$ pose a greater health risk than larger-size particles, because these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract increasing the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases and reduce the body's ability to fight infections.

Toxic Air Contaminant Levels

TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants listed above. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion and commercial operations (e.g. dry cleaners). Diesel exhaust is the most common source of TACs. TACs are typically found in low concentrations, even near their source (e.g. benzene near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State and federal level.

Background

This section describes the San Carlos climate and existing air quality conditions.

Climate

San Carlos is located in the western portion of the San Francisco Bay Area Air Basin. The basin includes the counties of San Francisco, Santa Clara, San Mateo, Marin, Napa, Contra Costa and Alameda, along with the southeast portion of Sonoma County and the southwest portion of Solano County. San Carlos is located in the Peninsula climate subregion of the Bay Area and the climate is characterized by warm dry summers and cool moist winters.

Temperatures in San Carlos tend to be less extreme compared to inland locations due to the moderating effect of the Pacific Ocean and the Bay. In summer, high temperatures are generally in the high 70's and in the 50's during winter. Low temperatures range from the 50's in summer to the 30's in winter.

Existing Air Quality Conditions

Air quality is affected by the rate of pollutant emissions and by meteorological conditions such as wind speed, atmospheric stability and mixing height, all of which affect the atmosphere's ability to mix and disperse pollutants. Long-term variations in air quality typically result from changes in air pollutant emissions, while short-term variations result from changes in atmospheric conditions.

For the most part, San Carlos enjoys good air quality due to the almost persistent northwesterly flow of air. Episodes of high particulate levels can occur in late fall and winter when high pressure systems produce extended periods of light winds and low-level temperature inversions. Although less common, this pattern in summer can produce fair weather and very warm temperatures throughout the Bay Area. This condition frequently produces poor atmospheric mixing that results in degraded regional air quality. Ozone standards traditionally are exceeded in downwind portions of the Bay Area when this condition occurs during the warmer months of the year.

In 2007, the BAAQMD operated a network of 27 permanent monitoring stations in the Bay Area. In addition, CARB operated one station. These stations monitored air pollutant levels continuously. The closest station is located in Redwood City at 897 Barren Avenue.

Attainment Status

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

For the five criteria pollutants, attainment status is as follows:

- **Carbon Monoxide**. Maintaining CO standards for over a decade and is classified attainment maintenance by the EPA.
- **Ozone**. The Bay Area as a whole does not meet State or federal ambient air quality standards for ground level O_3. This is non-attainment and is considered serious by the State.
- **Nitrogen Dioxide**. The region is in attainment for this pollutant.
- **Sulfur Oxides**. The region is in attainment for this pollutant.
- **Suspended Particulate Matter**. The region does not meet State standards for particulate matter (both PM_{10} and $PM_{2.5}$) and does not meet federal standards for $PM_{2.5}$.

Goals, Policies and Actions

GOAL EM-6

Support atmospheric conditions that are clean, healthful, provides maximum visibility and meets air quality standards.

POLICIES

POLICY EM-6.1 Support and comply with the Bay Area Air Quality Management District, State and federal standards and policies that improve air quality in the Bay Area.

POLICY EM-6.2 Support and encourage commercial uses to adopt environmentally friendly technologies and reduce the release of pollutants.

POLICY EM-6.3 Support the reduction of emissions of particulates from wood burning appliances, construction activity, automobiles, trucks and other sources.

POLICY EM-6.4 Implement Bay Area Air Quality Management District (BAAQMD) guide- lines that establish minimum screening or buffer distances between emissions sources and sensitive receptors. Exceptions may be made for projects that do not meet the distance requirements but can be determined compatible with adjacent uses through a project-specific study that determines potential health risk. Mitigation measures shall be required to reduce these risks to acceptable levels.

POLICY EM-6.5 Consider potential impacts from land uses that may emit pollution and/or odors when locating air pollution sources near sensitive receptors. Air pollution sources could include freeways, industrial uses, hazardous materials storage, waste disposal/transfer stations and other similar uses.

POLICY EM-6.6 BAAQMD recommended measures to reduce PM_{10} and exhaust emissions associated with construction shall be applied to new development in San Carlos.

ACTIONS

ACTION EM-6.1 Require review by appropriate agencies of development applications that may create potential air quality impacts to assure compliance with relevant regulations.

ACTION EM-6.2 Provide information to the public on Best Management Practices including low emission alternatives to wood burning appliances.

ACTION EM-6.3 For use on City-operated properties, explore options for landscaping equipment which will reduce contribution of air pollution. Encourage the same options by residents and businesses.

Greenhouse Gas Emissions

Background

This section contains background information and goals, policies and actions related to GHG emissions.

Climate Action Plan

The City is taking a proactive approach in addressing GHG emission reduction by developing a Climate Action Plan (CAP) in concert with this General Plan. Ad- dressing climate change in this manner defines San Carlos as an innovative member of the local government community. Key components of the CAP are integrated into the General Plan. The General Plan goals, policies and actions reinforce the CAP. The CAP is intended to be updated on a more regular basis than the General Plan, ensuring that implementation of the City efforts to assure GHG emissions are in compliance with current regulation. This approach is especially important given the constant flux of new research findings, technological improvements and policy updates dealing with climate change.

Baseline Greenhouse Gas Emissions

The community GHG emission inventory found that an estimated 267,237 metric tons of carbon dioxide equivalent (CO_2e) were released in 2005, the baseline year. The largest source of emissions was the transportation sector, with approximately 56 percent of all emissions. The commercial/industrial/municipal sec- tor produced approximately 20 percent, the residential sector amounted to approximately 18 percent, and the waste sector released nearly 5 percent of the community's GHG emissions. City operations account for approximately 0.6 percent of the GHG emissions.

Projected Greenhouse Gas Emissions

The Inventory found that if San Carlos continues to release GHGs at its 2005 rate, the community's

emissions will increase to 365,787 metric tons per year by 2030. That would be an increase of nearly 37 percent over a span of 25 years. The increase can be attributed to estimated increases in population, consumption, households and commercial activity.

Climate Change Strategies and Adaptations

To achieve a 15 percent reduction of the baseline by 2020 and 35 percent reduction by 2035, the CAP pro- vides a strategic policy focus on five areas: Building Efficiency/Site Design; Auto Emission Reduction; Low Carbon Energy Use; Alternative, Non-Automotive Travel Modes; and a Waste Reduction program. In total, the Plan includes 23 broad-based goals and 42 reduction measures. Each reduction measure is tied to a target whereby a specific number of metric tons CO_2e would be reduced per year.

The climate action goals and measures in the CAP are separated into three chapters for analysis in the CAP: Energy, Transportation and Land Use and Solid waste. In the General Plan, these goals and measures for transportation and land use are also reflected in the Housing and Land Use Elements. For instance, in- creased housing density near transit not only reduces emissions through reduced energy consumption through the sharing of walls, air conditioning/heating units and infrastructure, but it also reduces residents' vehicle miles traveled, achieving emission reduction in the transportation sector.

Also included in the CAP and carried forward into the General Plan are adaptation strategies that may be necessary as the climate changes and sea levels rise. Adaptation measures are important in order to allow the community to proactively prepare for potential effects. The challenge will be reducing the effects to the lowest level possible and ensure that the community is prepared. Adaptation strategies are also included in the Community Safety and Services Element of the General Plan.

Open Space in San Carlos

Goals, Policies and Actions

GOAL EM-7

Develop a Greenhouse Gas Emissions Inventory and develop and implement a Climate Action Plan to address San Carlos' contribution to Global Climate Change.

POLICIES

POLICY EM-7.1 Take appropriate action to address climate change and reduce greenhouse gas emissions.

POLICY EM-7.2 Monitor and participate in federal, State and regional policies and directives relating to climate change, and make adjustments to City policies and programs as appropriate.

POLICY EM-7.3 Participate in regional, State and federal efforts to reduce greenhouse gas emissions and mitigate the impacts resulting from climate change.

POLICY EM-7.4 Utilize the expertise of regional, State and federal agencies when developing, revising and implementing greenhouse gas reduction strategies.

POLICY EM-7.5 Ensure consistency with the San Carlos Climate Action Plan through adjustment of City policies, programs, and actions as appropriate.

POLICY EM-7.6 Support greenhouse gas (GHG) emission reduction measures and climate change resiliency strategies that are cost effective and help create an environmentally sustainable, livable and equitable community. The cost of implementation to the City and the private sector shall be considered prior to the adoption of any GHG reduction strategy.

POLICY EM-7.7 Collaborate with stakeholders and volunteers in the formulation and implementation of greenhouse gas reduction strategies.

ACTIONS

ACTION EM-7.1 Implement strategies in the Climate Action Plan to achieve the greenhouse gas reduction target.

ACTION EM-7.2 Develop criteria for reviewing all proposed projects within the city to determine consistency with the Climate Action Plan (CAP) and review projects meeting the identified criteria to ensure consistency with the CAP.

ACTION EM-7.3 Update the Climate Action Plan (CAP) every five years, including but not limited to:

a. A revised greenhouse gas (GHG) emissions inventory;

b. An overview of new knowledge on the causes and anticipated impacts of climate change;

c. Collaborate with stakeholders and volunteers to assist in the preparation and implementation of the effective CAP.

d. An assessment of the appropriate- ness and adequacy of San Carlos' GHG reduction target;

e. A summary of the quantified cost per metric ton of carbon dioxide equivalent reduced per emission re- duction measure;

f. An evaluation of the effectiveness of existing programs;

g. Considerations for the use of low-carbon and sustainable materials to reduce embodied carbon in construction and to meet GHG reduction target(s); and

h. Modifications to goals, policies and strategies as needed to achieve the GHG reduction target.

ACTION EM-7.4 Develop and implement a comprehensive outreach program that works with locally-based organizations and volunteers to educate the public about the Climate Action Plan and greenhouse gas reduction strategies and programs.

GOAL EM-8

Prepare for the potential impacts of climate change through the adoption of adaptation and resiliency strategies.

POLICIES

POLICY EM-8.1 Adjust the Climate Action Plan as necessary to comply with current law and new threats to the community that may develop as a result of climate change.

POLICY EM-8.2 Partner with neighboring communities and regional agencies to develop and implement regional adaptation programs.

ACTIONS

ACTION EM-8.1 Update the Climate Action Plan every five years to re-evaluate projections for climate change threats and the appropriateness of adaptation and resiliency strategies.

ACTION EM-8.2 Incorporate climate change threats into the City's Emergency Incident Plan and Emergency Operations Center training.

ACTION EM-8.3 Cooperate with regional agencies and partner with neighboring communities to prepare for and mitigate coastal inundation as a result of sea level rise.

View of San Francisco Bay from San Carlos hills

GOAL EM-9

Reduce energy consumed citywide.

POLICIES

POLICY EM-9.1 Provide assistance and support efforts for increased energy efficiency for businesses and residences through a combination of incentives and regulations.

POLICY EM-9.2 Support on-site generation of energy through alternative forms of energy production such as solar panels, wind turbines and biomass facilities.

POLICY EM-9.3 Emphasize energy conservation in local government housing assistance programs.

POLICY EM-9.4 Provide outreach to residents, businesses and property owners on incentives, regulations and programs to increase energy efficiency.

POLICY EM-9.5 Design all new construction and major remodels of government agency buildings to relevant green building standards.

POLICY EM-9.6 Encourage new private construction and major remodels to be designed to meet or exceed Green Uniform Building Code requirements.

POLICY EM-9.7 Implement energy efficiency in City owned and operated facilities to reduce municipal energy costs and serve as a model for the community.

ACTIONS

ACTION EM-9.1 Implement measures in the Climate Action Plan intended to reduce energy consumption.

ACTION EM-9.2 Adopt a Green Building Code as called for in the Climate Action Plan.

ACTION EM-9.3 Review and amend the Zoning Ordinance to identify and reduce barriers to the establishment of on-site energy generators.

ACTION EM-9.4 Integrate energy cost reduction measures into City's facilities where feasible.

ACTION EM-9.5 Encourage energy efficiency audits and upgrades of facilities to which the City provides funding, including the fire department and sewage service.

ACTION EM-9.6 Periodically investigate funding resources available to assist the City in energy conservation or on-site energy production at City facilities.

GOAL EM-10

Promote local food production and distribution systems

POLICIES

POLICY EM-10.1 Promote consumption of food grown in the local region.

POLICY EM-10.2 Support the establishment of community gardens, especially within established residential neighborhoods, encouraging organic, edible plants.

POLICY EM-10.3 Encourage neighborhood grocery stores, farmers markets and food assistance programs to increase their use of locally grown/prepared goods.

POLICY EM-10.4 Encourage institutions, such as schools, hospitals, colleges, government agencies and businesses to provide foods produced locally and in the region. Encourage and support active school garden programs.

POLICY EM-10.5 Encourage residents to grow produce.

ACTIONS

ACTION EM-10.1 Support the establishment of organic, edible food gardens on commercial, public and quasi-public properties.

ACTION EM-10.2 Consider utilizing undeveloped City property for urban agricultural uses where appropriate.

GOAL EM-11

Promote and expand public and alternative modes of transportation.

POLICIES

POLICY EM-11.1 Encourage and support maximum allowable density Transit Oriented Development projects within Planning Areas 1, 2 and 3.

POLICY EM-11.2 Work with transit service providers to increase the frequency, reliability and quality of transit service.

POLICY EM-11.3 Support the addition of amenities, such as bus shelters and directional signage, to promote increased transit ridership.

POLICY EM-11.4 Provide an integrated network of bicycle and pedestrian thoroughfares that connects jobs and housing to other city destinations, as recommended in the San Carlos Bicycle and Pedestrian Master Plan.

POLICY EM-11.5 Evaluate and encourage a shuttle system in San Carlos to connect residential neighborhoods to commercial areas, transit and other destinations in San Carlos.

POLICY EM-11.6 Encourage employers to incentivize employee use of mass transit and alternative modes of transportation.

POLICY EM-11.7 Support programs to reduce vehicle trips associated with transporting students to and from schools.

POLICY EM-11.8 Promote a car sharing program.

POLICY EM-11.9 Coordinate with major employers, neighboring municipalities, transit agencies and providers to enhance regional transit and shuttle service.

POLICY EM-11.10 Evaluate and encourage new forms of mass transit.

POLICY.EM-11.11 Amend the Zoning Ordinance to create a Transportation Demand Management (TDM) Ordinance that contains strategies to reduce vehicle trips.

POLICY EM-11.12 Include in the Transportation Demand Management Ordinance a requirement that new office development over a certain size include showers and safe and secure bike racks to encourage employees to bicycle to work.

ACTIONS

ACTION EM-11.1 Implement measures in the Climate Action Plan to reduce transportation emissions.

ACTION EM-11.2 Implement traffic calming devices to increase roadway safety for bicycles and pedestrians.

ACTION EM-11.3 Design streets to accommodate all modes of transportation, including emergency vehicles, and provide for a safe and attractive pedestrian experience.

ACTION EM-11.4 Coordinate with neighboring jurisdictions, the County and regional agencies to expand bicycle connections to regional destinations.

ACTION EM-11.5 Encourage transit providers to utilize vehicles with low polluting technologies and to reduce or eliminate idling.

Solid Waste

This section provides background information about solid waste providers in San Carlos and goals, policies and actions related to solid waste.

Background

Waste Haulers

Solid waste and recyclables are collected within the city by a provider contracted through the South Bay Waste Management Authority (SBWMA). This is a joint powers agreement with 12 member agencies. San Carlos solid waste and recyclables are initially taken to the Shoreway Recycling and Disposal Center (SRDC) which receives about 150 tons per day (five-day average) of solid waste and 62 tons per day of recyclables from the city.

SBWMA is currently in the selection process for a new contract to begin on January 1, 2011. The selected provider will be a recycling and solid waste services management company that provides residential and commercial collection, transfer, recycling and composting. In addition, the provider will be responsible for household hazardous waste disposal. In March 2009, the City began a food scraps program that works in concert with the yard waste recycling program. It is an innovative program in that it encourages the recycling of household food scraps including paper products contaminated with food waste that have previously been omitted from the recycling chain. The Feed the Pail, Feed the Planet food waste program is an integral part of the Waste Management Authority's goal of reducing the amount of household waste that is sent to the landfill.

Waste Generation and Diversion Rates

In 1989, California passed the Waste Management Act which requires municipalities to divert 50 percent of their waste from landfills. Between 1999 and 2004, San Carlos was unable to reach the 50 percent diversion goal. According to the San Mateo Recycle Works program, however, San Carlos improved the diversion rate by 42 percent in 2005 and by 47 percent in 2006. The City's enhanced efforts to enforce a construction and demolition Ordinance are expected to improve the division rate in 2009 by 60 percent.

Shoreway Recycling and Disposal Center

The SBWMA runs the Shoreway Recycling and Disposal Center (SRDC), located on the border of San Carlos and Redwood City. The SRDC is a solid waste transfer station and material recovery facility with a permitted operating capacity of 3,000 tons per day.

There are plans to reconfigure the transfer station and build a new recycling facility capable of handling a single stream recycling program for San Carlos and the 11 partner agencies that use this facility. This reconfiguration will increase the level of recycling in San Carlos and help the City meet its 50 percent recycling goal under AB 939.

Landfills

The majority of the solid waste collected in San Carlos is transported to the Ox Mountain Landfill in Half Moon Bay. The landfill, owned and operated by Allied Waste, is expected to reach capacity in 2023. In 2007, a total of 603,160 tons of solid waste was disposed at the Ox Mountain Landfill, of which 34,670 tons (or 5.74 percent) came from San Carlos.

Recycling

Acceptable residential recyclable material includes plant materials, mixed paper, plastic (#1-7), aluminum and bi-metal cans, glass, used motor oil, batteries and cell phones. Commercial recycling includes plastic, glass, cardboard, mixed office paper, food scraps and plant materials.

In 2006, the City of San Carlos collected 2,732 tons of recyclable material. San Carlos recently participated in a pilot program to collect household batteries and cell phones. This program is now being expanded to other cities within the jurisdiction of the South Bayside

Waste Management Authority (SBWMA), of which San Carlos is a member.

Composting

In March 2009, San Carlos instituted a food scrap and yard trimming program. Single-family home residents are able to compost food scraps and yard trimmings.

Future Expansion of Services

SBWMA is conducting a procurement process to implement a comprehensive array of new solid waste and recycling collection services beginning January 1, 2011. The new services will convert the residential collection services to a cart-based program with weekly collection for solid waste, recyclables and organics (plant materials and food scraps). Residents will also be able to fully commingle all recyclables (paper, glass, plastics and metals) in the cart along with recycling a wider variety of materials including used oil, oil filters and household batteries and cell phones.

The SRDC facility will also undergo substantial renovation and environmental enhancements in preparation for the rollout of new collection services to be completed Fall 2010. New features include a new material recovery facility, expanded transfer stations and a new environmental education center. These facility improvements will result in a new material recovery facility that will handle a 20,000 ton per year increase from residential and commercial customers.

Goals, Policies and Actions

GOAL EM-12 Reduce solid waste disposal and increase recycling.

POLICIES

POLICY EM-12.1 Work with the local waste management authority to increase community diversion of solid waste that meets or exceeds the targeted rate in the Climate Action Plan.

POLICY EM-12.2 Minimize City government waste by expanding reduction, recycling and composting programs and practicing reuse.

POLICY EM-12.3 Encourage the public and private sectors to utilize reusable, returnable, recyclable, environmentally friendly products and repairable goods through incentives, educational displays and activities, as well as City purchasing policies and practices.

ACTIONS

ACTION EM-12.1 Implement measures in the Climate Action Plan to reduce solid waste and increase recycling and reuse.

ACTION EM-12.2 Consider incentives to households and businesses to reduce the volume of solid waste sent to the landfill.

ACTION EM-12.3 Require adequate facilitation of recycling in all new development and new commercial tenancies.

ACTION EM-12.4 Encourage recycling programs in existing multi-family buildings.

ACTION.EM-12.5 Encourage building deconstruction in lieu of demolition. Require a construction and demolition debris waste plan to maximize recycling rates.

ACTION.EM-12.6 Encourage the use of recycled pavement and/or permeable products for public and private parking lots and driveways.

ACTION EM-12.7 Support the commercial food scraps and organics recycling program.

ACTION EM-12.8 Evaluate options for increasing ease of properly disposing household hazardous waste, including but not limited to electronics, fluorescent bulbs, thermometers, spent fire extinguishers and pharmaceuticals.

Community Involvement in Environmental Management

This section includes background information on community involvement in environmental management and goals, policies and actions related to public awareness and public participation in environmental issues.

Background Information

The City of San Carlos is committed to working with residents to address environmental issues. Part of the public process includes outreach efforts to engage the public on the issues at hand, and public participation opportunities including workshops, study sessions and Planning Commission and City Council meetings. The City values the expertise its residents possess on the environmental issues affecting the city. Citizens are encouraged to participate in committees and other forums to make sure that local knowledge and expertise informs environmental policies and programs. Examples of past opportunities to address environmental issues in San Carlos include the Natural Resources Task Force and the Flooding, Land Use and Creeks Ad Hoc Committee. More recently, San Carlos Green has been an active collaborator in the area of promoting the urban forest, recycling and the CAP.

Goal, Policies and Actions

GOAL EM-13

Increase public awareness of environmental issues and promote public participation in environmental policymaking and programs.

POLICIES

POLICY EM-13.1 Encourage the active participation of residents, businesses, and other stakeholders in the City's environmental programs.

POLICY EM-13.2 Support the efforts of local non-profit organizations involved in protecting the natural environment.

POLICY EM-13.3 Support the expansion of environmental education programs and curriculum.

ACTIONS

ACTION EM-13.1 Provide information about the City's environmental issues, goals and programs to the public on a regular basis.

ACTION EM-13.2 Provide the community with information on City policies and practices that support good conservation and re- source management.

ACTION EM-13.3 Evaluate the development of an environmental sustainability implementation plan.

ACTION EM-13.4 Continue to encourage local businesses to utilize sustainable practices.

ACTION EM-13.5 Encourage the development of a committee or commission to serve as a permanent citizen's advisory committee to aid the City with developing and implementing environmental management policies, researching best practices, researching available support and funding options and presenting program and code proposals to the City.

ACTION EM-13.6 Actively seek outside grants, donations, tax relief, or other sources of funding to minimize City costs associated with achieving natural resource goals.

Open space near San Carlos