



## OPEN SPACE AND CONSERVATION ELEMENT

### Introduction and Purpose

The open space element has a broad scope that overlaps with other related elements. This General Plan combines the Open-Space element with Conservation element as permitted by the California State General Plan Guidelines. The purpose of the open space element is to describe comprehensive goal and policies for the long-range management and preservation of the open-space land. Issues considered in the Open-space element include agriculture, natural resources, recreation, and enjoyment of publicly owned natural areas, while the Conservation element focuses on natural resources issues such as management, conservation, development, and utilization of natural resources (CA 2003).

### Issues of Local Significance

The following issues were identified as relevant to the City of Carmel-by-the-Sea and will be discussed in the Goals, Policies and Implementations and Supporting Information sections.

#### Open Space

- The amount and location of publicly owned open-space;
- Parks- their size and location;
- Unimproved Right of Way as part of open space (linear greenbelts);
- Management and maintenance of the open space areas;
- Areas required for the preservation of wildlife;
- Future needs for open space areas and recreational facilities;
- Beach as an outdoor recreation area; and
- Scenic walkway.

#### Conservation

- Water supply;
- Policies for guiding water allocations for new development;
- Conservation measures;
- Water quality;
- Conservation of habitats;
- Beach conservation;
- Maintenance;



- Special status species/ habitat conservation;
- Urban forest management and conservation;
- Management issues and long-term reforestation; and
- Sustainable practices.

This element also includes some of the findings gathered through the Community Survey (Survey). The Survey was prepared as part of the public outreach process to gain a broader response from the community, property owners, and businesses on issues facing Carmel. The complete Survey report can be found in Appendix A.

### Goals, Objectives and Policies

**G7-1** To protect, conserve and enhance the unique natural beauty and irreplaceable natural resources of Carmel and its Sphere of Influence.

**O7-1** Use, maintain and enhance publicly owned land for the benefit of Carmel residents.

**P7-1** Investigate potential acquisitions as opportunities arise to obtain land and/or facilities within the Carmel city limits and/or surrounding environs.

**O7-2** Develop, preserve and enhance areas of scenic interest and determine methods to protect key scenic corridors and routes.

**P7-2** Encourage the full utilization and opportunities within permanent open space areas for such uses as pedestrian paths and scenic viewpoints that would provide for public enjoyment of these areas.

**P7-3** Support the policies of the State and County designated Scenic Highways.

**P7-4** Preserve the significant coastal view from the intersection of Torres Street and Third Avenue and across the City owned land near this intersection for public benefit and enjoyment.



**G7-2** To provide accessible, safe, and well-maintained parks, open space, and active recreation facilities.

**O7-2** Provide and manage a system of parks and recreation facilities that serve the needs of residents and visitors.

**P7-5** Ensure that park and recreation facilities are adequately maintained to ensure safe access and use.

**P7-6** Investigate and evaluate opportunities and incentives for other agencies, non-profits, private businesses, and user groups to participate in the provision, development and maintenance of parks, open space, and recreational facilities.

**P7-7** Enhance and improve park facilities to accommodate a broad range of users including children and seniors.

**P7-8** Maintain the City's beach, park and open space in a manner that encourages use and enjoyment by residents and visitors while protecting the aesthetic and environmental quality of these areas.

**G7-3** To reduce release of airborne pollutants and contribution to green house gases.

**O7-3** Promote planning and programs that result in the reduction of airborne pollutants

**P7-9** Coordinate air quality planning efforts with local, regional, and State agencies, and evaluate the air quality impacts of proposed plans and development projects.

**P7-10** Consider an ordinance that phases out the use of older, polluting wood-burning appliances and limits the installation of wood-burning devices in new or renovated homes to pellet stoves, EPA-certified woodstoves and fireplace inserts, or natural gas or propane appliances.

**O7-4** Reduce vehicle trips and emissions, and improve vehicle efficiency, as a means of limiting the volume of pollutants generated by traffic.

**P7-11** Work with local businesses and tour bus operators to ensure that delivery trucks and buses turn off their engines when the vehicles are stationary.



- P7-12** Investigate the possibility of installing electric vehicle recharging stations within the downtown and at public parking lots.
- P7-13** Work with local hospitality businesses (hotels, motels, restaurants, etc.) to identify opportunities for visitors to use alternative forms of transportation.
- P7-14** Support and promote bus shuttle systems that provide transportation within the City.
- O7-5** Minimize contributions to Greenhouse Gases
  - P7-15** Continue to implement the City's Green Building Program requiring green building construction practices for both residential and non-residential construction.
  - P7-16** Continue to support tree planting and revegetation programs that foster the adsorption of greenhouse gases.
  - P7-17** Identify and encourage opportunities to shift to low-carbon and renewable fuels and zero emission technologies.
  - P7-18** Adopt and encourage sustainable practices that promote energy efficiency, improve air quality and preserve natural resources when consistent with the City's diverse design traditions.
- O7-6** Improve water conservation and promote water management techniques.
  - P7-19** Reduce per capita and total demand for water and wastewater treatment, and enhance storm water management through integrated and cost-effective design, technology, and demand reduction standards for new development and redevelopment.
  - P7-20** Encourage and implement of water-saving techniques to reduce storm water volumes and increase percolation. Increase permeable surfaces and encourage on-site percolation to reduce storm water volume.
  - P7-21** Manage water resources to ensure equitable amounts of clean water for all users, to support wildlife habitat, and to preserve natural resources within the sustainable limits of water supplies.



- P7-22** Work with the Monterey Peninsula Water Management District and Cal-Am, and other organizations to ensure adequate water supply, particularly during periods of prolonged drought and warm weather conditions.
- P7-23** Support retrofitting of public buildings with water conservation features.
- P7-24** Regularly update guidelines and standards for new landscaping that emphasizes drought tolerant, climate-appropriate landscape design, and other water-conserving practices.
- P7-25** Encourage and assist hospitality related business to actively pursue and promote water conservation programs.



## Supporting Information

### Open Space

#### Parks and Open Space

The city of Carmel has nine formally designated park, open space, and recreational areas as well as the Rio Park, which is located outside of the City limits, but is owned by the City. The parks and open space amount to over 68 acres of land. In addition, the City has approximately 67 acres of other areas that can be considered an important open space resource, but are not available for the traditional park and recreation use. Unimproved Right of Way, otherwise known as a linear greenbelt, as well as miniature parks are examples of such resources.

The majority of Carmel's parks are designed for passive use that consists of enjoyment of natural resources and do not provide any recreational facilities. Parks in that category include downtown parks (Devendorf Park, Piccadilly Park, First Murphy Park, Vista Lobos, Mission Trails) and parks preserving natural areas (Pescadero Park, Rio Park). Parks that provide active uses or both passive and active uses include Carmel Beach Park, Forest Hill Park, and Forest Theater. As of 2008 smoking is prohibited in all of the City's parks. The parks and open space are described in more detail below. [Table 7.1: City of Carmel-by-the-Sea Open Space and Parks](#), provides a summary list of the city's open spaces and parks. [Figure 7.1: Parks, Open Space, Recreation and Community Facilities](#) illustrates the location of the parks and open areas listed in the table.

#### *Mission Trails Nature Preserve*

The Mission Trails Nature Preserve (MTNP) is located along southeastern boundary of the City (see [Figure 7.1: Parks, Open Space, Recreation and Community Facilities](#)). The MTNP encompasses 35 acres of unspoiled native vegetation and includes Flanders Mansion, which is listed on the National Register of Historic Places, the Lester Rowntree Native Plant Garden, and the meadow off Martin Road. Majority of the park's area is designated as an Environmentally Sensitive Habitat Area (ESHA). The Mission Trails ESHA supports a variety of environmentally sensitive habitats including Monterey pine forest, wetland drainage, central coast arroyo willow riparian forest, coastal terrace prairie, and wet meadow. Hickman's onion population (a special-status plant species) and the Monterey dusky-footed woodrat (special-status wildlife species) are found in the park's habitat.

The MTNP offers passive recreational use to the public. Primary uses include hiking, jogging, bird watching, and relaxation in a quiet setting. Bicycling is allowed on maintenance roads.

The MTNP facilities include the Flanders Mansion and the Lester Rowntree Native Plant Garden. The Flanders Mansion is currently vacant and not used by the City for any public services. There are no public restrooms. There is no private vehicle access to the MTNP proper.



There is limited parking space near the Flanders Mansion and the majority of park's users use on-street parking.

Management of the MTNP is described in the Mission Trail Nature Preserve Master Plan. The MTNP Master Plan establishes goals, objectives and policies for the current and long-term preservation and use of the MTNP.

The management of the MTNP includes roads, trails, and drainage maintenance, removal of invasive species, and mowing of meadow grasses to reduce the risk of fire. Mowing is performed in June, after the Hickman's onion flowering and seeding period. The Flanders Mansion maintenance is performed on as needed basis and includes pest and vegetation control.

### *Carmel Beach Park*

The Carmel Beach Park is located along western boundary and Scenic Road and San Antonio Avenue (see [Figure 7.1: Parks, Open Space, Recreation and Community Facilities](#)). The North Dunes and portion of the park located between Ocean and Eighth Avenues are also designated as an ESHA. The Carmel Beach Park ESHA supports environmentally sensitive habitat of un-vegetated dunes and dune scrub (see Coastal Resource Management element of the General Plan for a detailed discussion of ESHAs).

This second largest park in the City combines active and passive uses. In addition to beach activities such as swimming, picnicking, and fires (with specific restrictions), this park includes three volleyball courts, located near the Del Mar Avenue parking lot.

The park facilities include permanent bathrooms located near the parking lot and temporary bathrooms located at Scenic Road and Santa Lucia Avenue intersection. The City has plans to convert the temporary restroom facilities to permanent fixture. The City has contracted with a firm to prepare the permanent bathroom designs; however, no funding has been allocated for construction. Three 911 call boxes are located at the Del Mar restrooms at Ocean Avenue and Del Mar, Scenic Road/ Eighth Avenue, and Scenic Road/Thirteenth Avenue intersections.

The main parking for the Carmel Beach Park is located at Ocean Avenue/Del Mar Avenue parking lot, which consists of 122 parking spaces. Additional parking is located along Scenic Road, which includes approximately 127 curbside parking spaces.

The management of the Carmel Beach Park is described in detail in the Shoreline Management Plan and the Del Mar Master Plan. The Shoreline Management Plan is a comprehensive document guiding management of the City's shoreline area including its beaches, dunes, bluffs, landscape, and associated infrastructure. The Del Mar Master Plan focuses on improvements and restoration efforts in the Del Mar and North Dunes and the Del Mar parking area.



The management of the Carmel Beach Park consists of general maintenance and conservation. The general maintenance includes litter removal from the beach, landscaping along the scenic walkway, and road sweeping. In addition, the City regularly redistributes sand on the beach to cover any exposed rocks and to correct the man-made erosion at the main entrance to the Beach Park (at the bottom of Ocean Avenue). The main entrance experiences heavy pedestrian traffic, which results in shifting of the sand towards the ocean. This correctional measure assures that the sand is not carried away by the ocean.

The conservation measures, described in detail in the Shoreline Management Plan, include replanting and invasive species removal in the North Dunes area.

### *Rio Park*

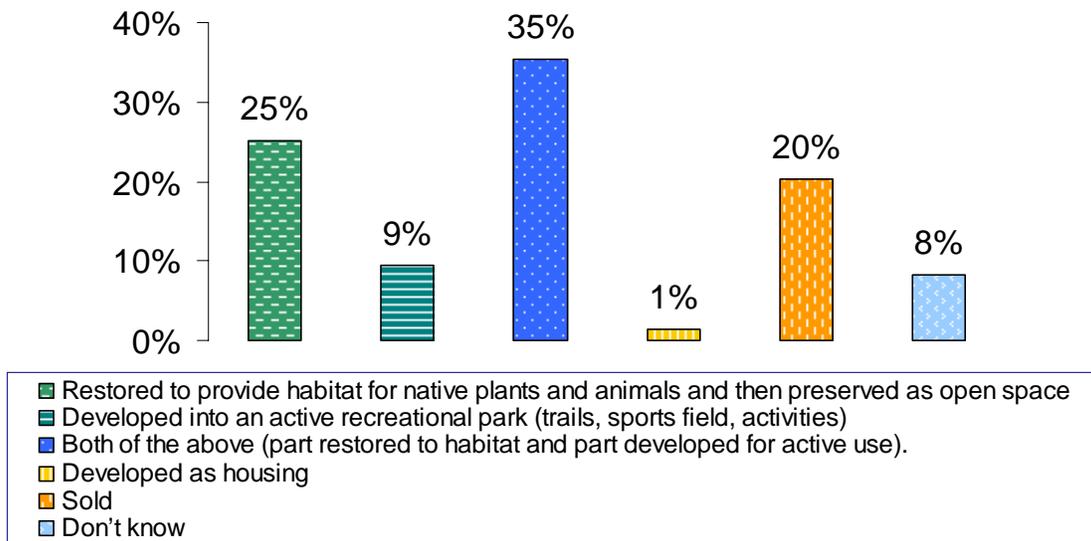
Rio Park is not within the City limits, however, it is City property. The park borders the City's southern boundary, west of Larson Field (see [Figure 7.1: Parks, Open Space, Recreation and Community Facilities](#)).

The Rio Park is an open area providing opportunities for passive use, however, the park is not open to the public at this time. A portion of the park is currently used as a storage/staging area for project development, street projects, and contractor parking.

The Survey asked Carmel residents about their preferred option for the future of the Rio Park. As shown in [Graph 7.1: Options for Rio Park Development](#), most respondents would like the Rio Park property to be both restored to provide habitat for native plants and animals as well as partially developed into an active recreational park. The second most favored option was restoring the habitat, followed by 20 percent of respondents who would like this property to be sold.



Graph 7.1: Options for Rio Park Development



*Forest Hill Park*

The Forest Hill Park is located in the northern portion of the City. The park is divided into two distinctive lower and upper areas (see Figure 7.1: Parks, Open Space, Recreation and Community Facilities).

This park provides opportunities for active types of uses. The Forest Hill Park includes two tennis courts, basketball hoops, horseshoe pits, BBQ and picnic area, and the only City-owned children’s playground. The Forest Hill Park facilities also include two restrooms, one in the upper and one in the lower area.

In addition to on-street parking, the Forest Hill Park has four on-site parking spaces located by the tennis courts.

Management of the park includes maintenance of landscaping and playground, litter removal, and occasional vandalism removal.



### *Vista Lobos*

The Vista Lobos Park is located in the north-central area of the City (see [Figure 7.1: Parks, Open Space, Recreation and Community Facilities](#)). This park provides benches for passive recreation. The Park also includes a community center. The community room is used on weekly basis for various programs. These include an Alcoholics Anonymous class, various art classes sponsored by the City and other organizations, meetings for the Carmel Residents Association, and others. The community room is also used for various City sponsored workshops and public meetings throughout the year.

In addition to the on-street parking spaces, the Vista Lobos Park contains a large number of public parking spaces. Management of the park consists of landscape and irrigation maintenance.

### *Pescadero Park*

The Pescadero Park is located along the northwestern boundary of the City (see [Figure 7.1: Parks, Open Space, Recreation and Community Facilities](#)). The Pescadero Park is designated as an ESHA and supports Monterey Pine Forest on its slopes and riparian and wetland habitat along the Pescadero Creek.

Pescadero Park is a passive use open space. The Pescadero canyon is not easily accessible to the public and is mostly used by wildlife. As such, there are no facilities located in or near the park.

The management of the Pescadero Park includes drainage maintenance, invasive species removal, and fire prevention.

### *Devendorf Park*

The Devendorf Park, located along Ocean and Junipero Avenues intersection, is one of the better-known City parks in the commercial district (see [Figure 7.1: Parks, Open Space, Recreation and Community Facilities](#)). Devendorf Park offers passive types of uses such as picnics and relaxation in natural setting. In addition, the park is used for events such as celebration of public holidays, City's birthday, art festivals, an Easter breakfast, and the fourth of July picnic.

The Devendorf Park facilities include a public restroom and sitting benches. Parking for this park is available on adjacent streets. Management of the park consists of landscape and irrigation maintenance.



### *First Murphy Park*

The First Murphy Park is located in the central area of the City (see [Figure 7.1: Parks, Open Space, Recreation and Community Facilities](#)). The First Murphy Park is a passive use park.

The park's facilities include public restrooms, and a historic resource (the first building built in Carmel by Michael Murphy). There is only on-street parking available on the adjacent streets. Management of the park consists of landscape and irrigation maintenance.

### *Forest Theater*

The Forest Theater is located in east central portion of the City, north of the Mission Trails Nature Preserve (see [Figure 7.1: Parks, Open Space, Recreation and Community Facilities](#)).

Additional information about this facility is included in the Public Services and Facilities element.

### *Piccadilly Park*

Piccadilly Park is a small landscaped area located in the center of the City, on the west side of Dolores Street between Ocean and Seventh Avenues (see [Figure 7.1: Parks, Open Space, Recreation and Community Facilities](#)). This small park offers passive types of uses such as relaxation in natural landscaped setting.

The facilities for this park include a public restroom and benches. There is only on-street parking available on the adjacent streets. Management of the park consists of landscape and irrigation maintenance.

### *Mini Park and Linear Greenbelts*

In addition to formally designated parks and open space, the City of Carmel-by-the-Sea has cumulatively large area of open spaces that are not formal parks. These areas include mini parks, landscaping, and linear greenbelts.

Mini parks and landscaping can be defined as small, unutilized areas, which were improved by introducing various levels of landscaping. Landscaping might include decorative plants and rocks, and benches. Two examples of a mini park are Mary Austin Park and Carmelita Park. Mary Austin Park is a 2,000 square foot park located at the intersection of Monte Verde Street and Fourth Avenue. Carmelita Park is approximately 500 square feet and is located in the corner of Dolores Street and Fifth Avenue.

Linear greenbelts are defined as unimproved right-of-way (ROW), where roadway width is reduced and a certain percentage of the ROW is dedicated to self-sufficient landscaping. Linear



greenbelt landscaping might include shrubbery, decorative rocks, occasional benches, and trees that may also act as traffic calming features.

Management of these areas is limited. Majority of miniature parks are planted with self-sufficient plants that do not need to be maintained after the establishment period.



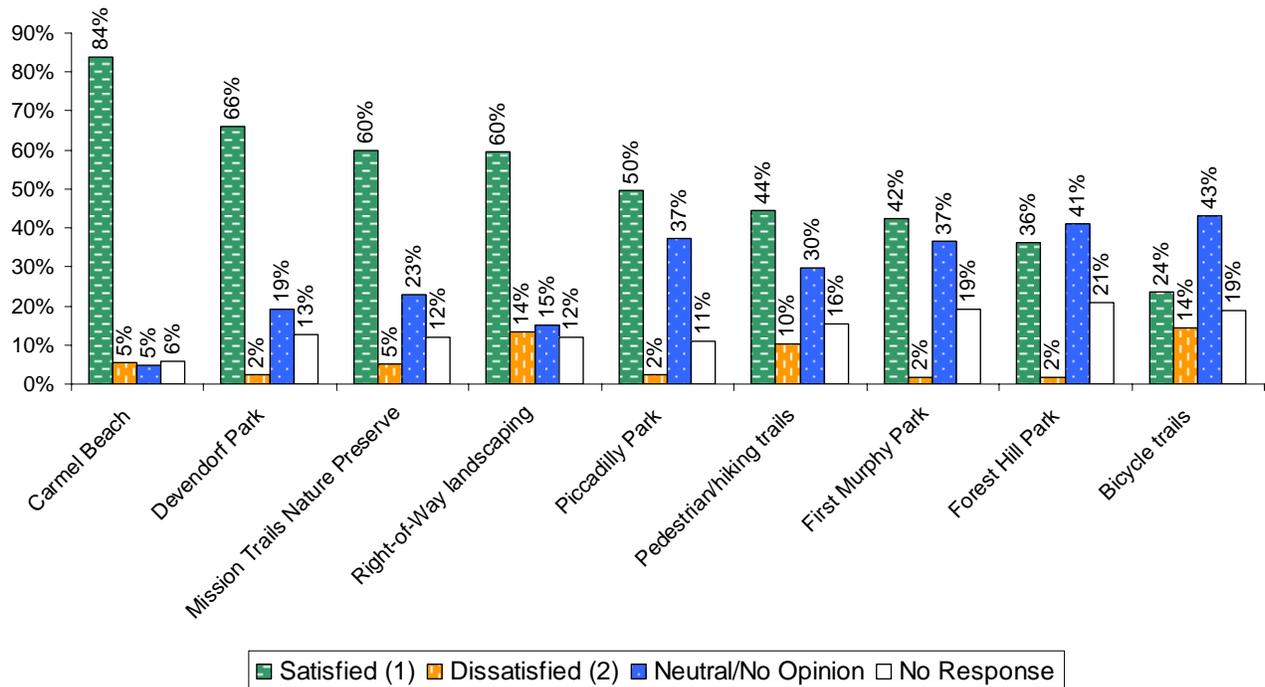
**Table 7.1: City of Carmel-by-the-Sea Open Space and Parks**

	Name	Size (acres)	Location	Between	Zoning	Type of Use
<b>Parks</b>						
1	Mission Trails Nature Preserve (Flanders Mansion and Lester Rowntree Native Plant Garden)	35.00	Hatton Road		P-1/P-2	Active
2	Carmel Beach Park	21.50	Scenic/San Antonio	Pebble Beach Gate/ Frank Lloyd Wright House	P-1	Active and Passive
3	Rio Park <sup>1</sup>	6.24	Lasuen/Dolores	Carmel Mission/ Carmel River	MDR (County Zoning)	Passive
4	Forest Hill Park	1.84	Junipero Avenue	Camino Del Monte/ First Avenue	P-2	Active and Passive
5	Vista Lobos	1.24	Third Avenue	Junipero/ Torres	R-4/ P-2	Passive
6	Pescadero Park	1.10	Second Avenue	North Camino Real/ Casanova Street	P-1	Passive
7	Devendorf Park	0.60	Ocean Avenue	Junipero/ Mission	P-2	Passive
8	First Murphy Park	0.28	Lincoln Avenue	Fifth Avenue/ Sixth Avenue	P-2	Passive
9	Forest Theater	0.20	Mountain View Avenue	Santa Rita Street/ Guadalupe Street	P-2	Active and Passive
10	Piccadilly Park	0.09	Dolores Street	Ocean/ 7th Avenue	P-2	Passive
<b>Parks Total</b>		<b>68.09</b>				
<b>Other Open Spaces (informal)</b>						
	Mini Parks and Linear Greenbelts	67.2 <sup>2</sup>				Passive
<b>Other Open Spaces Total</b>		<b>67.2</b>				
<b>TOTAL PARKS AND OPEN SPACE</b>						<b>138.09 <sup>3</sup></b>
<p>Notes:</p> <p>P-1 Natural Parklands and Preserves- Purpose: To preserve publicly owned park and beach lands for the benefit and enjoyment of present and future generations, and to prevent the destruction of natural open space.</p> <p>P-2 Improved Parklands- Purpose: To provide appropriately located areas for recreation and recreational facilities</p> <p>R-4 Multifamily Residential District- Purpose: To provide an appropriate location for a mix of multifamily residential dwelling units convenient to the commercial area and to serve as a buffer or transitional zone between the commercial area and the single-family residential district.</p> <p>MDR Medium Density Residential- Purpose: To provide a district to accommodate Medium Density Residential uses in those areas of the County of Monterey where adequate public services and facilities exist or may be developed to support medium density development.</p> <p><sup>1</sup> Rio Park is located outside of the City limits, but is owned by the City.</p> <p><sup>2</sup> The surface area for mini parks, landscaping, and linear greenbelts in an estimate.</p> <p><sup>3</sup> The total includes all formally designated parks and an estimate of all other informal open space areas.</p>						
Source: City of Carmel-by-the-Sea Forest, Parks and Beach Department, April 2007.						



As shown in Graph 7.2: Parks and Open Space Level of Satisfaction, the Survey found that most residents expressed satisfaction with the City’s parks, open space and other amenities in Carmel. A large percentage of residents identified themselves as being neutral, and a very small percentage of residents being dissatisfied with parks in Carmel. The Carmel Beach, Devendorf Park, and the Mission Trails Nature Preserve were ranked as the top three parks that residents were satisfied with the most.

**Graph 7.2: Parks and Open Space Level of Satisfaction**



- Parking.
- Open space, parks and habitat conservation (Carmel 2004).

(1) Satisfied category for this graph combines the results of the very satisfied and somewhat satisfied categories. For a detailed breakdown of these categories, please refer to Appendix A.

(2) Dissatisfied category for this graph combines the results of the very dissatisfied and somewhat dissatisfied categories. For a detailed breakdown of these categories, please refer to Appendix A.



In addition to the priority list, the City has identified two desirable properties to be added to publicly owned land, which include the last piece of privately owned beach frontage and the private, undeveloped properties in Pescadero Canyon (Carmel 2004).

### Beach

The management of Carmel's beaches is the responsibility of the Public Services Department. This department is responsible for the regular maintenance along the Beach Bluff Pathway, litter and trash pick-up from the Pathway and beach areas, beach fire cleanup, maintenance of trees and landscape plants, pathway irrigation system, beach access stairways, and restroom facilities. The department is also responsible for the maintenance and repairs of shoreline walls and revetments, beach access stairways and ramps, the Pathway, storm drains, Scenic Road, and other structures (Carmel 2003).

The City's Forest and Beach Commission also deals with issues affecting the coastline and is an advisory group to the FPB department.

Additional information related to the beach maintenance and shoreline protection is included in the Coastal Resource Management Element.

### Urbanized Forest

The term "urbanized forest" refers to forests that were present prior to urban development, as opposed to "urban forest," which describes forests planted after the urban development. Urbanized forest is characterized by a variety and diversity of species, age, and random tree spacing and location (Carmel 2001). These characteristics of urbanized forests give Carmel its character of a village among the trees.

### *Tree Survey*

The City's Forest, Parks, and Beach Department performs a yearly tree survey. Each year, as part of the survey a quarter of the City's public land area is surveyed for the type and quantity of trees. Formally designated parks and open space are not included in the survey. This cyclic system provides the Public Services department with citywide data every four years. The surveys are available from the year 1971 to 2008 with some interruptions in the year 1975 and 1980. Up to year 2006, the data included counts for both public and private trees. Starting with the 2006 tree survey, the counts will be provided only for the public trees. The Commercial Business District trees are surveyed every other year (even years) and are included in the overall counts.

There are several factors that affect the tree survey data. Each year a different team of volunteers performs the survey on a quarter of the City's land area. Due to personal perception, different



trees may or may not be included in the survey. The four-year cycle provides a snapshot of the state of the forest in the surveyed quarter. While the resulting data is not a perfect representation of the state of the entire urbanized forest, it provides basis for documenting trends in tree composition and quantity.

Starting in 2006, the tree survey only included public trees. To account for this change in methodology the below discussion includes the information based on six full survey cycles, starting in 1981 and ending in 2004 for both private and public trees and information based on seven survey cycles (1981 through 2008) for only public trees.

Forest Composition and Trends

Table 7.2: Number of Public and Private Trees in Carmel’s Urbanized Forest, provides detailed findings of the City tree survey for public and private trees between 1981 and 2004. As mentioned above, the data may vary slightly between survey cycles due to many factors. As a result the slight variation in the total number of trees shown in Table 7.2: Number of Public and Private Trees in Carmel’s Urbanized Forest, could be a result of the survey methodology imperfections and not actual changes in tree numbers.

**Table 7.2: Number of Public and Private Trees in Carmel’s Urbanized Forest**

Tree Type	1981-1984	1985-1988	1989-1992	1993-1996	1997-2000	2001-2004	Percent Change 1981-1984 to 2001-2004
Pine	7,221	7,177	7,139	7,446	6,804	5,748	-20.4%
Oak	10,255	11,145	12,021	13,729	12,715	11,292	10.1%
Acacia	2,795	2,983	2,421	2,412	2,675	1,679	-40.0%
Cypress	1,257	1,252	1,371	1,464	1,447	1,432	14.0%
Redwood	352	384	389	562	553	537	53.0%
Other	7,526	7,691	7,370	10,962	7,207	6,622	-12.0%
<b>TOTAL</b>	<b>29,406</b>	<b>30,632</b>	<b>30,711</b>	<b>36,575</b>	<b>31,401</b>	<b>27,760</b>	<b>-5.6%</b>

Source: City of Carmel-by-the-Sea Tree Survey, 2009.

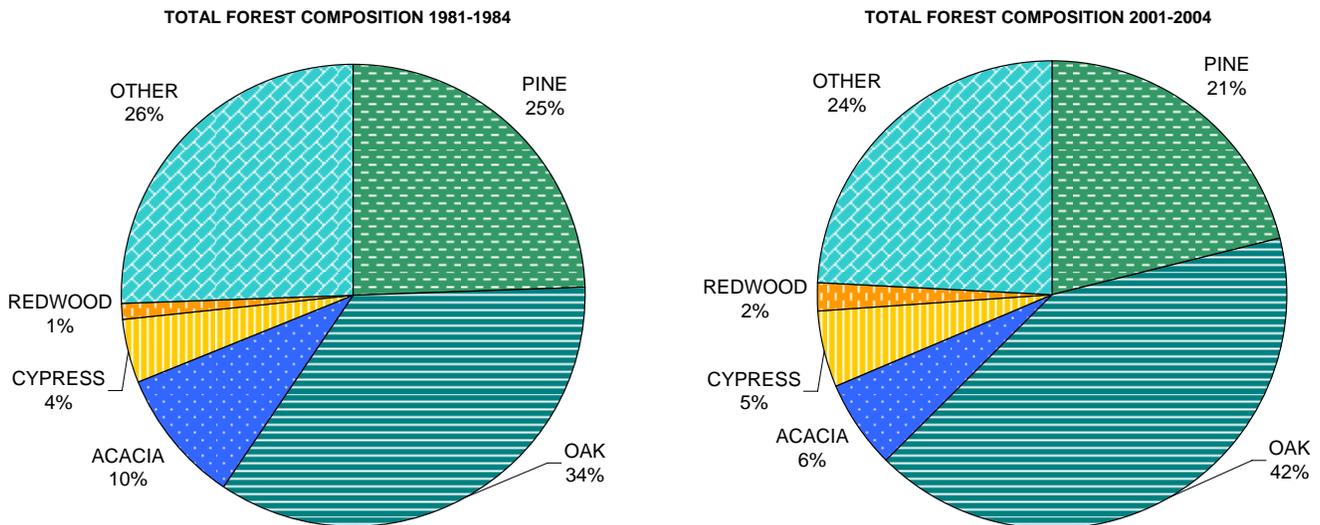
Taking methodology shortcomings into account, the Carmel urbanized forest total numbers have remained relatively steady over the last twenty years. Acacia trees experienced the highest decrease in numbers at approximately 40 percent. Both pine and “other” trees experienced slightly more than 20 and 12 percent reduction in numbers, respectively. Redwoods experienced the highest amount of growth (53 percent). However, redwoods still remain as the least



represented tree species in Carmel. Cypress and oaks experienced a 14 and 10 percent growth, respectively.

Carmel’s urbanized forest consists of Pine, Oak, Acacia, Cypress, and Redwood trees with a mix of other types of trees. Oak is the most common species for trees on private and public properties, followed by pine, acacia, cypress, and redwood. A mix of other tree species represents approximately 24 percent of the City’s urbanized forest. Graph 7.3: Total Forest Composition for Years 1981-1984 and 2001-2004, provides a graphic representation of the urbanized forest composition for the private and public trees.

Graph 7.3: Total Forest Composition for Years 1981-1984 and 2001-2004.



Source: City of Carmel-by-the-Sea Tree Survey, 2009.

Table 7.3: Number of Public Trees in Carmel’s Urbanized Forest, provides detailed findings of the City tree survey for public trees between 1981 and 2008. The total number of trees in the public forest vary slightly over the years, however, this variation may be due to survey methodology imperfections discussed above. The public forest numbers have remained relatively steady over the 28 year period from 1981 and 2008. Acacia trees experienced the highest reduction in numbers (approximately 47 percent) followed by pine trees (32 percent). Redwoods experienced the highest amount of growth (138 percent). However, redwoods still remain as the least represented public forest tree species in Carmel. Public trees in the “other”



category experienced a growth of 45 percent, while Cypress and Oak increased in numbers by 35 and 20 percent, respectively.

**Table 7.3: Number of Public Trees in Carmel’s Urbanized Forest**

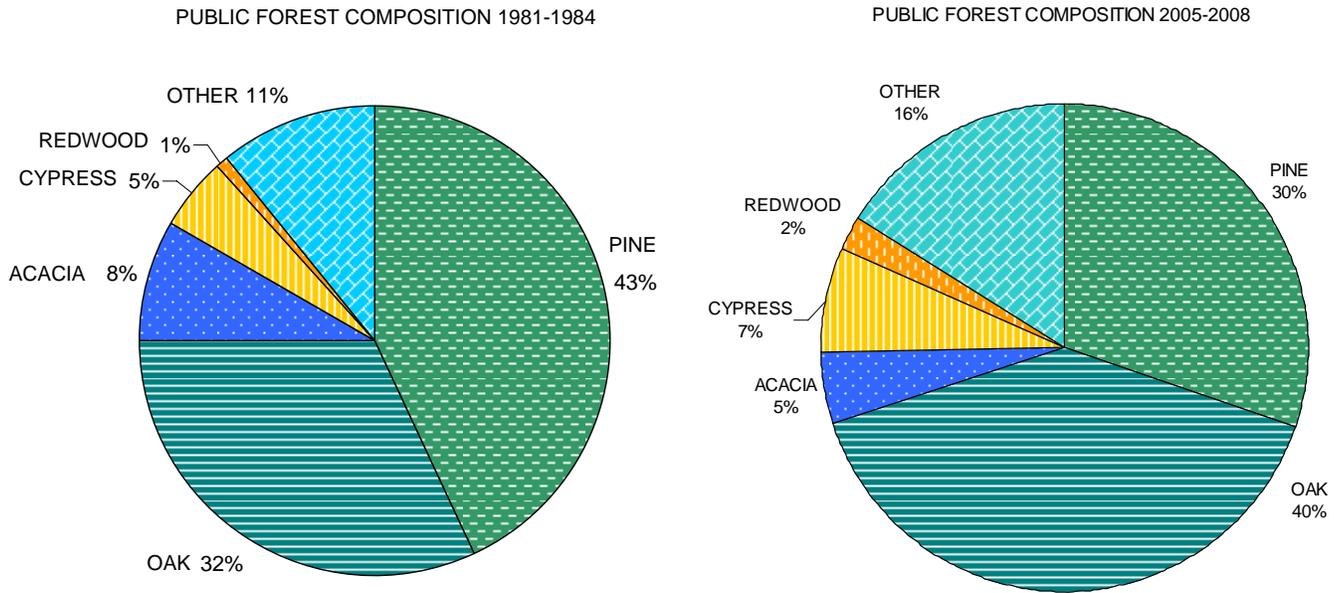
Tree Type	1981-1984	1985-1988	1989-1992	1993-1996	1997-2000	2001-2004	2005-2008	Percent Change 1981-1984 to 2005-2008
Pine	3,958	4,026	4,043	4,230	3,872	3,096	2,692	-32.0%
Oak	2,944	3,456	3,866	4,727	4,136	3,342	3,531	19.9%
Acacia	758	885	725	971	877	579	403	-46.8%
Cypress	463	441	508	526	606	621	625	35.0%
Redwood	84	94	86	128	173	171	200	138.1%
Other	983	1,412	1,135	1,709	1,433	1,344	1,430	45.5%
<b>TOTAL</b>	<b>9,190</b>	<b>10,314</b>	<b>10,363</b>	<b>12,291</b>	<b>11,097</b>	<b>9,153</b>	<b>8,881</b>	<b>-3.4%</b>

Source: City of Carmel-by-the-Sea Tree Survey, 2009.

Carmel’s urbanized public forest consists of Pine, Oak, Acacia, Cypress, and Redwood trees with a mix of other types of trees. In the 2005-2008 period oak was the most common species public forest, followed by pine, trees in the “other” category, cypress, acacia, and redwood. [Graph 7.4: Public Forest Composition for Years 1981-1984 and 2005-2008](#), provides a graphic representation of the urbanized forest composition for the public forest.



**Graph 7.4: Public Forest Composition for Years 1981-1984 and 2005-2008.**



Source: City of Carmel-by-the-Sea Tree Survey, 2009.

### Forest Management

The urbanized forest is managed by the Forest, Parks, and Beach FPB department. The two main goals of forest management are to keep the forest viable and safe.

As part of the management for forest viability, the FPB department manages forest disease (such as pitch canker) and implements pruning for structure, strength, and healthy canopy as well as removal of dead trees. The City cooperates with Pebble Beach and Monterey City to manage the spread of pitch canker, a disease that causes die-back of individual pine branches, leading to a general decline in tree health, and, in some cases, premature death. The City also follows the recommendations of the State Pitch Canker Task force, which develops short and long-term management guidelines for managing pitch canker in Monterey pine forest, defines research and management priorities for pitch canker, and allocates resources to implement guidelines and recommendations.

The safety concerns include limb and tree failures and fire hazards. The Public Services department has an active pruning and removal of trees program that addresses both of these



issues. Trees are evaluated during yearly tree surveys, city drives, and reports from the City staff and the public. Once a tree is deemed a safety concern, it is pruned or removed completely. Preventative pruning minimizes damage from trees during storm events. The FPB also responds to reports of rocking trees during storms, and intervenes when possible. The Public Works department assists the FPB department with heavy equipment and staff.

The preventative pruning and dead tree removal as well as disease control also reduce fire potential. Healthy, green trees are not as susceptible to fire as dead or unmanaged trees, and in case of fire healthy trees limit the speed of fire spreading.

## Conservation

### Water Supply

The lack of an available water supply has limited growth in Carmel and throughout the Monterey Peninsula region over the last ten years. Carmel is under the jurisdiction of the Monterey Peninsula Water Management District (MPWMD) and receives its water from the California-American Water Company (Cal-Am).

In 1980 the residential per capita water use was 171 gallons per day, which was the lowest per capita use for the Cal-Am system. As shown in [Table 7.4: Residential and Commercial Water Use per Connection](#), Carmel-by-the-Sea residential water use between the years of 2002 and 2006 was the fourth lowest per capita use within the Cal-Am system, following the cities of Pacific Grove, Sand City, and Monterey. Carmel's residential per capita water use ranged between 143 and 158 gallons per day from 2002 to 2006.

The commercial uses represent the largest water consumers in the Cal-Am's service area. The City of Carmel was the second lowest per connection water user in the commercial uses category ([Table 7.4: Residential and Commercial Water Use per Connection](#)). Carmel's commercial per connection water use ranged from 529 to 579 gallons per day from 2002 to 2006.



**Table 7.4: Residential and Commercial Water Use per Connection**

Jurisdiction	Year 2002		Year 2003		Year 2004		Year 2005		Year 2006	
	Acre Feet	Gallons per Day								
<b>Residential</b>										
Carmel-by-the-Sea	0.172	153	0.177	158	0.161	143	0.164	147	0.163	146
Monterey	0.165	147	0.167	149	0.152	135	0.155	138	0.155	138
Pacific Grove	0.153	137	0.155	139	0.141	126	0.145	130	0.145	130
Seaside	0.202	180	0.208	186	0.189	168	0.197	176	0.199	178
Del Ray Oaks	0.190	170	0.195	174	0.177	157	0.180	161	0.182	163
Sand City	0.162	145	0.154	138	0.130	116	0.151	134	0.156	140
Monterey County	0.293	262	0.291	260	0.284	253	0.269	240	0.270	241
System Average	0.191	171	0.193	172	0.176	157	0.180	161	0.181	162
<b>Commercial</b>										
Carmel-by-the-Sea	0.620	553	0.629	561	0.594	529	0.645	576	0.626	559
Monterey	1.144	1021	1.152	1028	1.057	941	1.081	965	1.061	948
Pacific Grove	0.778	695	0.792	707	0.710	632	0.716	639	0.723	646
Seaside	0.645	576	0.690	616	0.640	569	0.683	609	0.694	620
Del Ray Oaks	0.820	732	0.695	620	0.676	602	0.695	620	0.553	494
Sand City	0.474	424	0.463	414	0.409	364	0.402	359	0.414	369
Monterey County	1.519	1356	1.607	1435	1.599	1424	1.490	1330	1.452	1296
System Average	0.857	765	0.861	769	0.812	723	0.816	728	0.789	704
Notes: The values represent per customer connection amounts.										
Source: California American Water, 2007.										

**Water Conservation**

The MPWMD developed a seven stage *Expanded Water Conservation and Standby Rationing Plan*, which responds to water shortages, whether caused by the weather or the limits imposed by the State Water Resources Control Board. As of March 1999, all users within the MPWMD service area are subject to Stage 1 of the Conservation Plan. Stage 1 is a water conservation partnership between Cal-AM and the MPWMD, where both entities work together to promote water conservation in the community and to educate the public. The water conservation is



encouraged by block water rates, where customers that use more water pay higher water rates than those who use less water.

In addition, the City's Municipal Code includes specific requirements for water conservation in existing and new developments such as landscaping, plumbing fixtures, irrigation, and the use of free-flowing water conveyances, such as hoses. New development projects and existing structures needing a building permit for substantial proposed construction must meet the City's water conservation requirements.

### Urbanized Forest

Both the survey and the workshops indicated Carmel's urbanized forest as an important topic for Carmel residents. While a clear division exists between those who would support the planting of additional trees and those who would support the removal of some trees, there is consensus regarding providing adequate care of the forest as a whole.

The City of Carmel-by-the-Sea Forest Management Plan (2001) (FMP), provides specific direction and guidelines for the maintenance and enhancement of Carmel's urbanized forest. The FMP provides management guidance by presenting the City's goals and objectives relating to trees and the policies by which they can be implemented. In addition to collecting all the General Plan's goals, objectives, and policies related to trees, the FMP provides information, standards, and City requirements related to proper tree pruning and removal, planting of landscape trees, tree density policies, requirements for protecting trees from construction impacts, guidelines for handling diseased trees, and a list and description of allowed tree species as well as a list of compatible plants allowed under and around native trees.

Additional information related to the urbanized forest conservation is included in the Coastal Resource Management Element.

### Natural Habitat

#### *Environmentally Sensitive Habitat Areas (ESHAs)*

The Central Coast of California supports a wide range of climatic, topographic, and soil conditions that promote a diverse and rich wildlife community. While mostly developed, the City of Carmel contains approximately 68 acres of public parks/open space and 10 acres of privately owned undeveloped land that sustain the City's natural resources. These areas include Pescadero Canyon, Rio Park, Mission Trails Park, and Carmel Beach (see [Figure 7.2: Environmentally Sensitive Habitat Areas \[ESHAs\]](#)) (Carmel 1995).

Additional information related to the ESHAs is included in the Coastal Resource Management Element.



### *Areas of Special Biological Significance*

Carmel Bay is designated as an Area of Special Biological Significance (ASBS) by the State Water Resources Control Board (SWRCB). Areas of special biological significance are those areas designated by the State Water Control Board as requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable.

The Carmel Bay ASBS has 6.7 miles in coastline length and 1,584 acres of marine waters (see [Figure 7.3: Carmel Bay Area of Special Biological Significance](#)). The ASBS is adjacent to the City of Carmel and Pebble Beach Golf Course, and is contiguous with the Point Lobos ASBS.

The climate of the Carmel Bay ASBS is characterized by the mild air temperatures and the cool ocean breezes. Fog persists (until early afternoon) in late spring and summer. Typically 90 percent of the rainfall occurs between November and April, and summers are dry.

The ASBS coastline is characterized by alternating rocky points and extensive granitic sand beaches. A high rocky cliff extends northeastward from Pescadero Point, forming partial protection for Stillwater Cove and Pebble Beach. Arrowhead Point, just south of Stillwater Cove, is oriented in a southwesterly direction and partially protects both the cove and Carmel City Beach to the south from wave action.

The Carmel River drains into ASBS just south of Carmel Point. The coastline just north of the river and a few miles south consists of the steep Carmel River Beach, interspersed with a few granite outcroppings. There are several watersheds adjacent to the Carmel Bay ASBS; however, all freshwater discharges are seasonal. Pescadero Canyon drains into the ASBS at the north end of Carmel City Beach and San Jose Creek drains into Monastery Beach. The principle drainage is the Carmel River Basin, which covers a total of about 225 square miles in a northwest-southwest direction.

The submarine topography of the ASBS is dominated by the Carmel canyon, a major tributary of the Monterey submarine canyon. The Carmel canyon originates about ¼ mile offshore from the mouth of the San Jose Creek in the ASBS.

The ASBS contains a highly diverse marine animal and plant life within a relatively short length of coastline. The ASBS provides habitat for approximately 30 flora species, 125 invertebrate species, and 78 fish species.

Additional information related to water quality issues associated with the ASBS is included in the Coastal Resource Management Element.



### Soils

Soils within the city limits and along Carmel Valley are generally in Soil Class I, II, or III, indicating that they are suitable for cultivation, pasture, range, woodland, wildlife, or urban uses. Soils south of Carmel River floodplain are generally in Soil Class VII or VIII, so they are unsuitable for most cultivation, but are broadly suited for grazing, woodland, and wildlife uses, and may be used for recreation or water supply.

As shown on [Figure 7.4: Carmel-by-the-Sea and Vicinity Soils](#), majority of soils within the City limits consist of a variety of sandy soils, and silt, sandy, and clay loams. There are no agricultural lands within the city limits of Carmel.

### Air Quality

Carmel is located within the North Central Coast Air Basin (Basin). The Basin, which is just south of the San Francisco Bay Area Air Basin, covers an area of 5,159 square miles and consists of the counties of Santa Cruz, San Benito, and Monterey. Marine breezes from Monterey Bay dominate the climate of this portion of the Basin. Westerly winds predominate in all seasons, but are strongest and most persistent during the spring and summer months.

The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as human created influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall and topography all affect the accumulation and/or dispersion of pollutants throughout the Basin area.

In general, the air pollution potential of the coastal areas is relatively low due to persistent winds. However, the Basin is subject to temperature inversions that restrict vertical mixing of pollutants and the warmer inland valleys of the Basin have a high pollution potential.

### Global Climate Change

Global climate change is a subject that is gaining increasing statewide, national and international attention. Recent reports released by the State of California indicate that climate change could have profound impacts on California's water supply and usage. In the recent report prepared by the California Climate Change Center, "Our Changing Climate: Assessing the Risks to California" (2006), the state's top scientists consider global warming to be a very serious issue requiring changes in resource, water supply, and public health management. Natural processes and human activities such as fossil fuel combustion, deforestation and other changes in land use are resulting in the accumulation of greenhouse gases (GHGs) such as carbon dioxide (CO<sub>2</sub>) into the atmosphere. An increase in GHG emissions is said to result in an increase in the earth's average surface temperature, commonly referred to as global warming, which is expected to affect weather patterns, average sea level, ocean acidification, and precipitation rates.



California is a substantial contributor of global greenhouse gases, emitting over 400 million tons of carbon dioxide (CO<sub>2</sub>) a year.<sup>2</sup> Greenhouse gases are global in their effect. Because primary greenhouse gases have a long lifetime in the atmosphere, accumulate over time, and are generally well mixed, their impact on the atmosphere is mostly independent of the point of emission. Although GHG emissions are not currently addressed in federal regulations, the State of California recently passed the Global Warming Solutions Act of 2006 (AB 32), which seeks to reduce GHG emission generated by California. AB 32 (which is further described below) states:

*Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.*

#### Global Climate Change Gases

The natural process through which heat is retained in the troposphere<sup>3</sup> is called the “greenhouse effect.” The greenhouse effect traps heat in the troposphere through a three fold process as follows: shortwave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of longwave radiation; and greenhouse gases in the upper atmosphere absorb this longwave radiation and emit this longwave radiation both into space and back toward Earth. This “trapping” of the longwave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

The most abundant greenhouse gases are water vapor and carbon dioxide. While many other trace gases have greater ability to absorb and re-radiate longwave radiation, these gases are not as plentiful in the atmosphere. For this reason, and to gauge the potency of greenhouse gases, scientists have established a Global Warming Potential for each greenhouse gas based on its

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<sup>2</sup> Air Resources Board 1990 to 2004 State Inventory (November 2007).

<sup>3</sup> The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth’s surface to 10 to 12 kilometers.



ability to absorb and re-radiate longwave radiation. The Global Warming Potential of a gas is determined using carbon dioxide as the reference gas with a Global Warming Potential of 1.

Table 7.5: [Global Climate Change Gases and Compounds](#), includes a summary of the most common GHG, main sources, and Global Warming Potential.



**Table 7.5: Global Climate Change Gases and Compounds**

Type of Gas	Main Source	Global Warming Potential <sup>1</sup>
Gases		
Water Vapor (H <sub>2</sub> O)	Natural processes, such as evaporation from oceans and rivers and transpiration from plants. The primary human related source of water vapor comes from fuel combustion in motor vehicles (less than 1 percent).	N/A
Carbon Dioxide (CO <sub>2</sub> )	CO <sub>2</sub> is primarily generated by fossil fuel combustion in stationary and mobile sources (2004, 83.8 percent of California's greenhouse gas emissions were carbon dioxide <sup>2</sup> ).	1
Methane (CH <sub>4</sub> )	In the United States, the top three sources of methane come from landfills, natural gas systems, and enteric fermentation.	21
Nitrous Oxide (N <sub>2</sub> O)	Primary human related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production	310
Hydrofluorocarbons (HFCs)	HFCs is used for cooling and foam blowing as phase out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) continues.	140 for HFC-152a 6,300 for HFC-236fa
Perfluorocarbons (PFCs)	PFCs are primarily created as a byproduct of aluminum production and semi conductor manufacturing.	5,700 to 11,900
Sulfur hexafluoride (SF <sub>6</sub> )	SF <sub>6</sub> is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity	23,900 <sup>3</sup>
Compounds		
Hydrochlorofluorocarbons (HCFCs)	The main uses of HCFCs are for refrigerant products and air conditioning systems.	93 for HCFC-123 2,000 for HCFC-142b <sup>4</sup>
1,1,1 trichloroethane	1,1,1 trichloroethane or methyl chloroform is a solvent and degreasing agent commonly used by manufacturers.	110 <sup>5</sup>
Chlorofluorocarbons (CFCs)	CFCs are used as refrigerants, cleaning solvents, and aerosols spray propellants.	4,600 for CFC 11 14,000 for CFC 13 <sup>6</sup>
Ozone (O <sub>3</sub> )	Ozone occurs naturally in the stratosphere where it is largely responsible for filtering harmful ultraviolet (UV) radiation. In the troposphere, ozone acts as a greenhouse gas by absorbing and re-radiating the infrared energy emitted by the Earth.	25 <sup>7</sup>
<p>Note:</p> <p><sup>1</sup> All Global Warming Potentials are given as 100 year GWP. Unless noted otherwise, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change. Climate Change (Intergovernmental Panel on Climate Change, <i>Climate Change, The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the IPCC</i>, 1996).</p> <p><sup>2</sup> California Energy Commission, <i>Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004</i>, December 2006, <a href="http://www.energy.ca.gov/2006publications/CEC_600_2006_013/CEC_600_2006_013_SF.PDF">http://www.energy.ca.gov/2006publications/CEC_600_2006_013/CEC_600_2006_013_SF.PDF</a>.</p> <p><sup>3</sup> SF<sub>6</sub> global warming contribution is not as high as the Global Warming Potential would indicate due to its low mixing ratio compared to carbon dioxide (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm]) (United States Environmental Protection Agency, <i>High GWP Gases and Climate Change</i>, October 19, 2006, <a href="http://www.epa.gov/highgwp/scientific.html#sf6">http://www.epa.gov/highgwp/scientific.html#sf6</a>).</p> <p><sup>4</sup> United States Environmental Protection Agency, <i>Protection of Stratospheric Ozone: Listing of Global Warming Potential for Ozone Depleting Substances</i>, November 7, 2006, <a href="http://www.epa.gov/fedrgstr/EPA_AIR/1996/January/Day_19/pr_372.html">http://www.epa.gov/fedrgstr/EPA_AIR/1996/January/Day_19/pr_372.html</a>.</p> <p><sup>5</sup> United States Environmental Protection Agency, <i>Protection of Stratospheric Ozone: Listing of Global Warming Potential for Ozone Depleting Substances</i>, November 7, 2006, <a href="http://www.epa.gov/fedrgstr/EPA_AIR/1996/January/Day_19/pr_372.html">http://www.epa.gov/fedrgstr/EPA_AIR/1996/January/Day_19/pr_372.html</a>.</p> <p><sup>6</sup> United States Environmental Protection Agency, <i>Class I Ozone Depleting Substances</i>, March 7, 2006, <a href="http://www.epa.gov/ozone/ods.html">http://www.epa.gov/ozone/ods.html</a>.</p> <p><sup>7</sup> Intergovernmental Panel on Climate Change, <i>Climate Change 2007: The Physical Science Basis, Summary for Policymakers</i>, February 2007</p>		



### Global Climate Change Regulatory Programs

#### *Senate Bill 375*

Senate Bill 375 would require metropolitan planning organizations to include sustainable communities' strategies in their regional transportation plans. The purpose of Senate Bill 375 would be to reduce greenhouse gas emissions from automobiles and light trucks, require the CARB to provide greenhouse gas emission reduction targets from the automobile and light truck sector for 2020 and 2035 by January 1, 2010 and update the regional targets until 2050. Senate Bill 375 would require certain transportation planning and programming activities to be consistent with the sustainable communities strategies contained in the regional transportation plan. The bill would also require affected regional agencies to prepare an alternative planning strategy to the sustainable communities' strategies if the sustainable communities' strategy is unable to achieve the greenhouse gas emissions reduction targets. Senate Bill 375 was approved by the California State Assembly and the California Senate in August 2008. Governor Schwarzenegger signed and approved Senate Bill 375 on September 30, 2008.

#### *Assembly Bill 32*

The Legislature enacted Assembly Bill 32 (Assembly Bill 32, Nuñez), the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006 to further the goals of Executive Order S-3-05. Assembly Bill 32 represents the first enforceable statewide program to limit greenhouse gas emissions from all major industries, with penalties for noncompliance. The CARB has been assigned to carry out and develop the programs and requirements necessary to achieve the goals of Assembly Bill 32. The foremost objective of the CARB is to adopt regulations that require the reporting and verification of statewide greenhouse gas emissions. This program would be used to monitor and enforce compliance with the established standards. The first greenhouse gas emissions limit is equivalent to the 1990 levels, which are to be achieved by 2020. The CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost effective greenhouse gas emission reductions. Assembly Bill 32 allows the CARB to adopt market based compliance mechanisms to meet the specified requirements. Finally, the CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market based compliance mechanism adopted. In order to advise the CARB, it must convene an Environmental Justice Advisory Committee and an Economic and Technology Advancement Advisory Committee. By January 2009, the CARB must adopt mandatory reporting rules for significant sources of greenhouse gases and also a plan indicating how reductions in significant greenhouse gas sources would be achieved through regulations, market mechanisms, and other actions.



### *Executive Order S-3-05*

In June 2005, Governor Schwarzenegger established California's greenhouse gas emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals: Greenhouse gas emissions should be reduced to 2000 levels by 2010; greenhouse gas emissions should be reduced to 1990 levels by 2020; and greenhouse gas emissions should be reduced to 80 percent below 1990 levels by 2050. The Secretary of the California EPA (the Secretary) is required to coordinate efforts of various agencies in order to collectively and efficiently reduce greenhouse gases. Some of the agencies involved in the greenhouse gas reduction plan include Secretary of Business, Transportation, and Housing Agency, Secretary of Department of Food and Agriculture, Secretary of Resources Agency, Chairperson of CARB, Chairperson of the Energy Commission, and the President of the Public Utilities Commission. The Secretary is required to submit a biannual progress report to the Governor and State Legislature disclosing the progress made toward greenhouse gas emission reduction targets. In addition, another biannual report must be submitted illustrating the impacts of global warming on California's water supply, public health, agriculture, and the coastline and forestry, and reporting possible mitigation and adaptation plans to combat these impacts.

### Sustainable Practices

In 1987, the United Nations' World Commission on Environment and Development released a report, *Our Common Future*, which brought the term sustainability into widespread use. In defining sustainability, the United Nations' World Commission offered these five key concepts:

- The needs of the future must not be sacrificed to the demands of the present.
- Humanity's economic future is linked to the integrity of natural systems.
- The present world system is not sustainable because it is not meeting the needs of many, especially the poor.
- Protecting the environment is impossible unless we improve the economic prospects of the earth's poorest peoples.
- We must act to preserve as many options as possible for future generations, since they have the right to determine their own needs for themselves.

The American Planning Association identified the following four objectives in planning for sustainability:

- Reduce dependence upon fossil fuels, extracted underground metals, and minerals.
- Reduce dependence on chemicals and other manufactured substances that can accumulate in nature.
- Reduce dependence on activities that harm life sustaining ecosystems.



- Meet the hierarchy of present and future human needs fairly and efficiently.

Sustainability is often defined in many ways and its principles can be applied to various aspects of a community. For the purpose of a general plan, sustainability can be defined as aligning community's built environment and socioeconomic activities with the natural systems that support life.

Sustainable practices on a community level often align with the core values a community is already embracing. Carmel's community has a long standing history of ensuring that the built environment is respectful of the natural environment.

Policies encouraging sustainable practices were embedded into all of the revised elements of this General Plan. The majority of these policies clarified and solidified already existing community core values. Spreading these policies throughout the various elements reflects the point of view, which understands that sustainability works best when it is seamlessly intertwined with all other aspects of a community, rather than acting separately, or alongside of it.

### *Green Building Program*

In an attempt to promote energy efficiency, improve air quality, preserve natural resources and encourage sustainable construction practices the City adopted a Green Building Ordinance on 4 August 2009.

The Survey found that 57 percent of respondents either strongly agreed or somewhat agreed with the City developing green building standards for new construction in the City. Respondents indicated support for the City's adoption of a variety of environmental sustainability programs for municipal operations, businesses, and residents. Specifically, the respondents would support the adoption of local standards for municipal buildings construction and remodeling, new building construction, and remodeling of existing structures.

### *Scenic Highways*

#### State Scenic Highway System

Many state highways are located in areas of outstanding natural beauty. California's Scenic Highway Program was created by the Legislature in 1963 with a purpose to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment (Streets and Highways Code, Sections 260 through 263). A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.



Official designation requires a local governing body to enact a Corridor Protection Program that protects and enhances scenic resources along the highway. A properly enforced program can:

- Protect the scenic corridor from encroachment of incompatible land uses such as junkyards, dumps, concrete plants, and gravel pits, etc.
- Mitigate activities within the corridor that detract from its scenic quality by proper siting, landscaping or screening.
- Prohibit billboards and regulate on-site signs so that they do not detract from scenic views.
- Make development more compatible with the environment and in harmony with the surroundings.
- Regulate grading to prevent erosion and cause minimal alteration of existing contours and to preserve important vegetative features along the highway.
- Preserve views of hillsides by minimizing development on steep slopes and along ridgelines.
- Prevent the need for noise barriers (sound walls) by requiring a minimum setback for residential development adjacent to a scenic highway.

The three officially designated (adopted) scenic highways in Monterey County are: Highway 1 from the San Luis Obispo county line to the Highway 68 interchange near the Naval Post Graduate School in Monterey, a distance of 78 miles; Highway 68 from Highway 1 to the Salinas River; and Highway 156 from 1 mile east of Castroville to Highway 101 near Prunedale.

Monterey County also has three roadways, which are eligible for listing as a State Scenic Highway. These roadways include Highway 25 – between Highway 198 and San Benito County line; Highway 68 – between Highway 1 at the City of Monterey and Salinas River – Highway 101; and Highway 198 – between Highway 101 and Fresno County line.

#### [Monterey County Scenic Highway System](#)

Monterey County has two officially designated County scenic highways: Los Laureles Grade Road between Highway 68 and Carmel Valley Road, and Interlake Road, a county road crossing the Nacimiento-San Antonio Reservoir Recreation Area.

#### [Local Scenic Corridors in Carmel](#)

There are two scenic corridors in Carmel, Junipero Avenue and Scenic Road.



*Junipero Avenue (From 1st Avenue to Rio Road)*

Junipero Avenue has been paved to the natural contours of the land and lacks visual distracting street signals and directional signs. From north to south, Junipero Avenue provides access to and/or scenic views of the City tennis courts, Forest Hill Park, the commercial district, Devendorf Park, Sunset Community and Cultural Center (via Eighth or Tenth Avenues), Mission Trail Park and the Carmel Mission (via Rio Road).

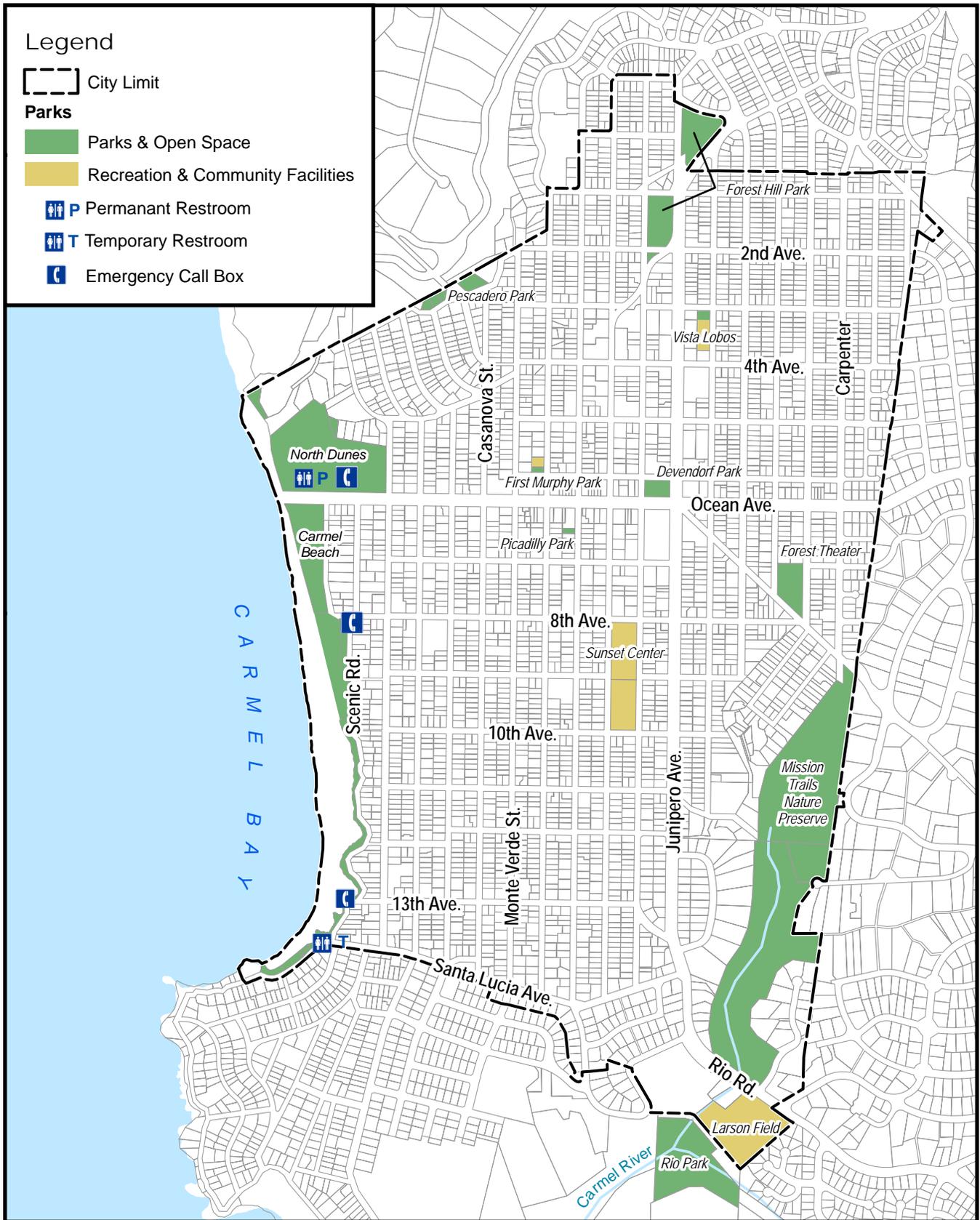
*Scenic Road (From Eighth Avenue to Southern City Limits)*

Scenic Road is a one-way roadway which meanders south, along the Cypress trimmed beach bluffs, beyond the southern city limits, past the historic Robinson Jeffers Tor House, and ending along the Carmel River State Beach. The junction of Scenic Road and Santa Lucia Avenue, where Scenic Road becomes a two-way road, provides an uninterrupted view of the length of the city beach from Pebble Beach to Carmel Point.



## Open Space and Conservation Element References

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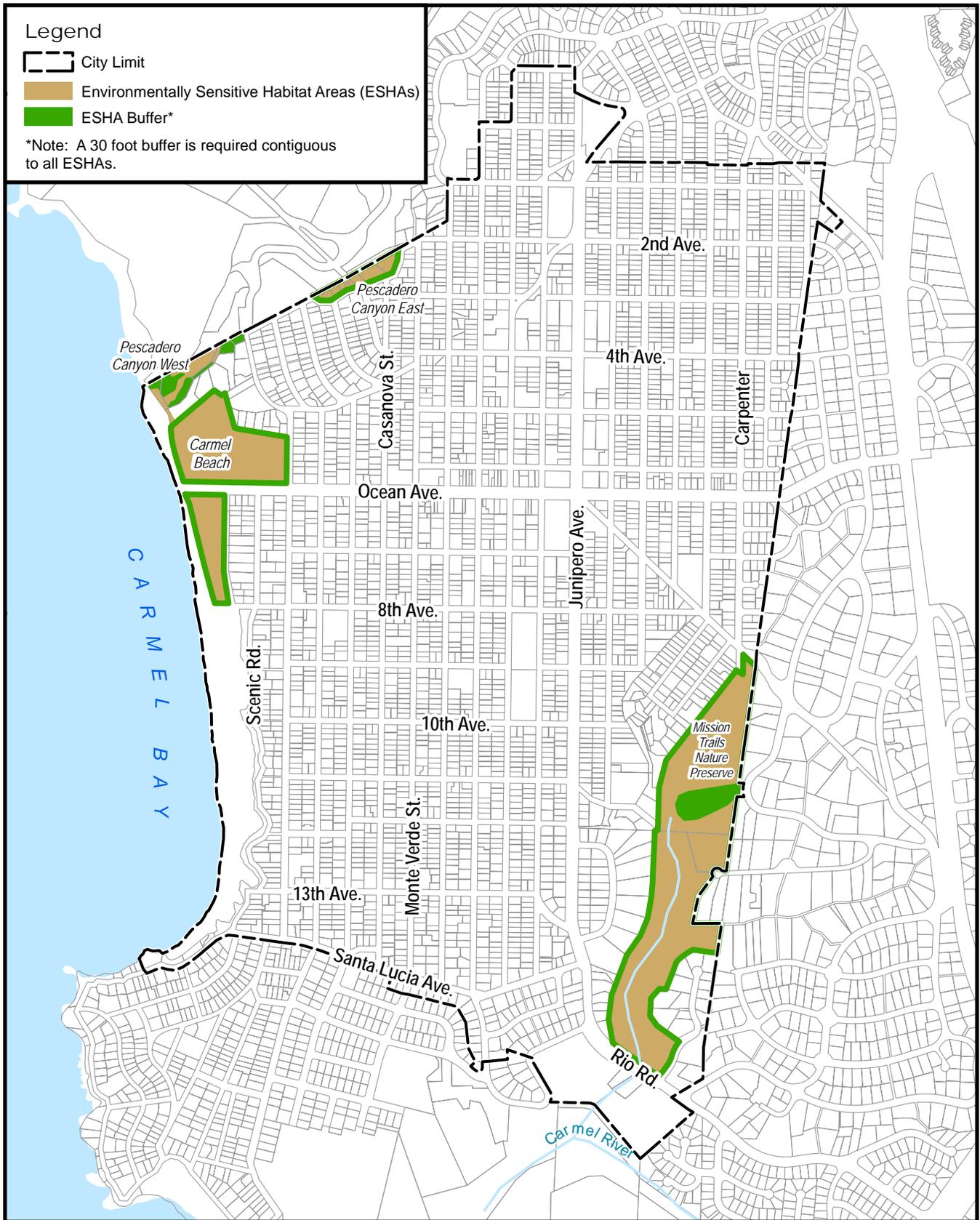
Source: City Carmel-by-the-Sea (2009)



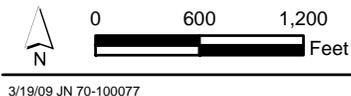
3/19/09 JN 70-100077

CARMEL-BY-THE-SEA GENERAL PLAN UPDATE  
**Parks, Open Space, Recreation  
 and Community Facilities**

Figure 7.1



Source: City Carmel-by-the-Sea (2009)

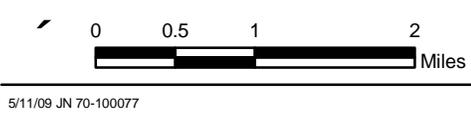


CARMEL-BY-THE-SEA GENERAL PLAN UPDATE  
**Environmentally Sensitive  
 Habitat Areas (ESHAs)**

Figure 7.2

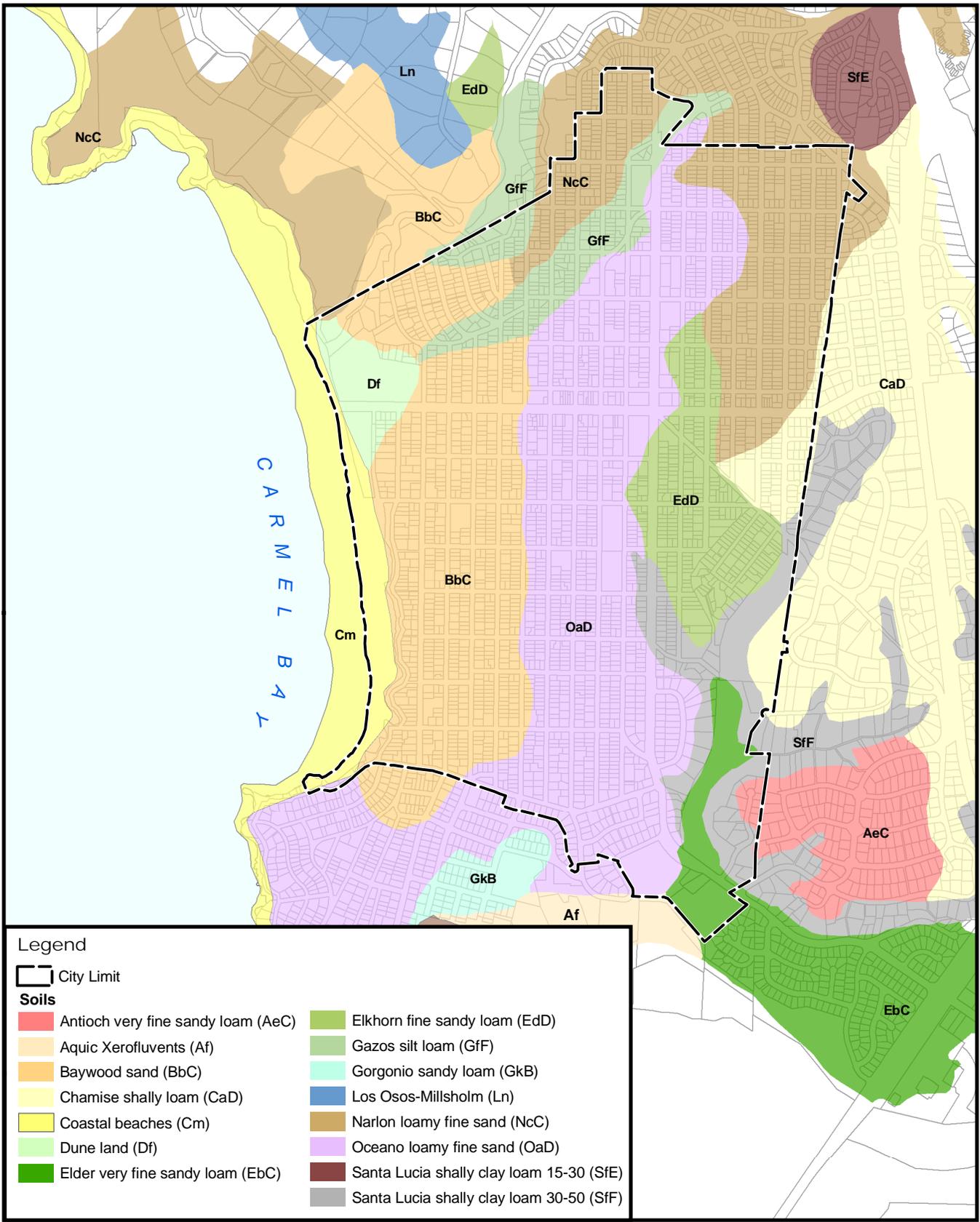


Source: California State Water Resources Control Board (2006)

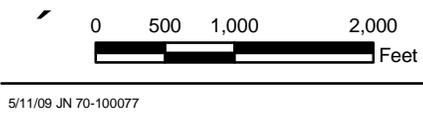


CARMEL-BY-THE-SEA GENERAL PLAN UPDATE  
**Carmel Bay Area of Special Biological Significance**

**Figure 7.3**



Source: City Carmel-by-the-Sea (2003)



CARMEL-BY-THE-SEA GENERAL PLAN UPDATE  
**Carmel-by-the-Sea & Vicinity Soils**

**Figure 7.4**

5/11/09 JN 70-100077