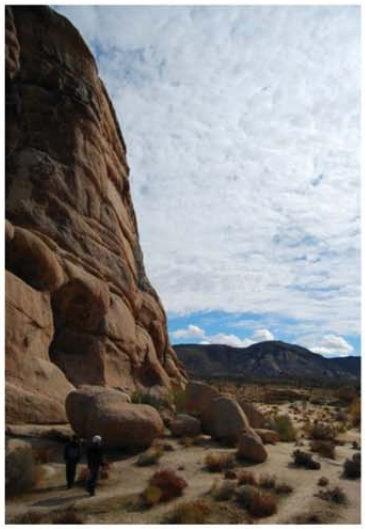
5. OPEN SPACE AND CONSERVATION



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5 OPEN SPACE AND CONSERVATION ELEMENT

The Town of Yucca Valley is committed to preserving the desert environment and its natural resources, which are important to the heritage, character, economy, and overall quality of life of the community. This element of the General Plan addresses resource protection and preservation issues related to open space, water resources, air quality, biological resources, cultural and paleontological resources, soils, and scenic resources within the Town limits.

Clear sky above Yucca Valley.

Purpose of the Open Space and Conservation Element

The Open Space and Conservation Element is a combination of two state-mandated General Plan elements that provide direction regarding the preservation and conservation of natural resources and open space, including plants and animal wildlife, water bodies and watersheds, forests, soils, minerals, and energy conservation.

The Town lies outside of areas that have been mapped by the California Geologic Survey for mineral resource classification, and the United States Geologic Survey does not identify any mines, processing plants, or locations of potential mining resources within Town). The Town of Yucca Valley likely does not contain mineral resources of statewide or regional importance, and, therefore these resources are not addressed further in this Element.

The purpose of the Open Space and Conservation Element is to ensure the comprehensive and long-range preservation and management of open space lands in and around the Town for the protection of natural, scenic, and recreational resources. The Open Space and Conservation Element also addresses the protection of cultural resources, including paleontological resources, archaeological resources, historic resources, and Native American cultural resources. Air quality and water resources are also discussed because they are important resources and vital components of a healthy environment and thriving community. This Element establishes a framework that balances private property interests, population growth, and development with the long-term conservation, enhancement, and utilization of the Town of Yucca Valley's natural resources and desert character. Correlation between the goals and policies in this element are closely tied to the Land Use and Safety Elements.

Open Space: Any parcel or area of public or private land or water that is essentially unimproved and undeveloped.

Conservation: The protection, preservation, development, and utilization of natural resources.

Relationship to Other Documents

Several plans and ordinances exist that specify the standards and regulations by which future development in the Town may occur and that also provide a conservation framework for the General Plan Update area. In addition, several areas within or adjacent to the Town

have been designated conservation reserves or preserves and work in concert with the following plans and ordinances to manage the area's open space resources:

Parks and Recreation Master Plan

The Parks and Recreation Master Plan is based on the vision that recreation facilities and open space are important resources within the Town of Yucca Valley, enhancing community health, enriching the lives of residents, and contributing to a unique community identity and quality of life. The plan provides a road map for planning current and future community park facilities and is an implementation tool of the General Plan, providing strategies for addressing the General Plan's goals and policies.

Plant Protection and Management Ordinance and California Desert Native Plants Act

The Town established the Plant Protection and Management Ordinance to guide the removal of regulated native plants within the Town. This ordinance provides regulations and guidelines for the management of the plant resources in the Town.

The California Desert Native Plants Act was passed in 1981 and is administered by the California Department of Fish and Wildlife (CDFW). This act provides protection for nonlisted California desert native plants from unlawful harvesting on both public and private lands within Imperial Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego counties. The California Desert Native Plants Act prohibits a person from harvesting, transporting, selling, or possessing specific native desert plants unless that person has a valid permit or wood receipt and the required tags and seals.

This act does not apply to the clearing or removal of native plants from a canal, lateral ditch, survey line, building site, or road or other right-of-way by the landowner or his or her agent, if the native plants are not to be transported from the land or offered for sale. Additionally, this act does not apply to a public agency or to a publicly or privately owned public utility when acting in the performance of its obligation to provide service to the public.

West Mojave Plan

There are two habitat conservation plans (HCPs) proposed in the vicinity of the Town—the West Mojave Plan and the Desert Renewable Energy Conservation Plan.[1] However, they provide regional context for natural resources preservation efforts and open space amenities, and should be monitored by the Town.

The West Mojave Plan (WMP) is an HCP prepared by the Bureau of Land Management (BLM) that includes BLM-owned lands and covers approximately 9.3 million acres of the western portion of the Mojave Desert that is in California, including parts of Inyo, Los Angeles, Kern,

[1] At the time of adoption of this General Plan, neither of these HCPs has been adopted.

and San Bernardino counties. The purpose of the WMP is to conserve and protect the desert tortoise and nearly 100 other sensitive plant and wildlife species as well as the habitats on which these species depend. Once adopted, the WMP would allow incidental take of covered species on approximately 3.2 million acres of public lands and approximately 2.9 million acres of private lands within the WMP area, and would be consistent with the resource management plans adopted by each of the region's five military bases as well as with the Desert Tortoise Recovery Plan.

Desert Renewable Energy Conservation Plan

The Desert Renewable Energy Conservation Plan (DRECP) covers approximately 22.5 million acres of federal and nonfederal land in the California deserts and lands in Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego counties; it is not applicable to privately held lands within the Town. The Plan is based on is a collaboration between state (e.g., California Energy Commission, CDFW) and federal (e.g., BLM, United States Fish and Wildlife Service) agencies, with input from local governments, environmental organizations, industry, and other interested parties to provide effective protection, conservation, and management of desert ecosystems while allowing for the appropriate development and timely permitting of renewable energy projects.

5.1 Natural Open Space and Parks

The open space opportunities in Yucca Valley generally fall into two categories: natural open space and conservation areas and parks. The primary difference between the two relates to the level of activity that occurs there and the amount of improvements that are made to the area. For example, parks typically include improvements such as turf areas, playground equipment, or other active recreational amenities that require improvements to properties to serve a specific function. Natural open space areas are typically geared toward more passive recreational opportunities such as hiking, where the majority of the terrain remains undisturbed, but minor improvements are made (such as the addition of trails) that allow the community to maintain a diverse range of recreational opportunities within the Town.

Natural Open Space: The Town's Parks and Recreation Master Plan defines natural open space as undeveloped land primarily left in its natural state with recreation uses as a secondary objective. It is usually owned or managed by a governmental agency and may or may not have public access. This type of land may include wetlands, steep hillsides, or other similar spaces. In some cases, environmentally sensitive areas are considered open space and can include wildlife habitats, stream and creek corridors, or unique and/or endangered plant species.

Natural Open Space and Conservation Areas

Several large open space areas, typically designated as reserves or preserves, are close to the Town. The relatively short distance between the Town and these areas provides residents with access to significant open space resources, which complements and enhances the desert lifestyle and recreational opportunities available to the Town while also preserving, protecting, and enhancing natural resources of regional importance. Figure OSC-1, *Conservation Areas,* illustrates the locations of these areas as they relate to Yucca Valley. There are no agricultural, range, or forest lands within the Town

planning area or immediate vicinity not otherwise discussed above, and therefore these are not addressed further in this element.

Joshua trees along the Onaga Trail.

Joshua Tree National Park

Joshua Tree National Park, which abuts the southern Town boundary, is in San Bernardino and Riverside counties and covers approximately 791,000 acres south and southeast of the Town. Joshua Tree National Park protects portions of three ecosystems: the Colorado Desert, the Mojave Desert, and the pinyon and juniper woodlands in the Little San Bernardino Mountains. A large part of Joshua Tree National Park (approximately 430,000 acres) has been designated a wilderness area and is managed by the National Park Service in accordance with the Wilderness Act.

San Bernardino National Forest

The San Bernardino National Forest is a federally managed forest encompassing 823,816 acres, of which 677,982 acres are federal lands. The forest is made up of two main divisions, the San Bernardino Mountains on the easternmost of the Transverse Ranges, and the San Jacinto and Santa Rosa Mountains on the northernmost of the Peninsular Ranges. Elevations range from 2,000 to 11,499 feet. There are eight official wilderness areas lying within San Bernardino National Forest, including San Gorgonio and Bighorn Mountain, which are in close proximity to the Town.

Nature Reserves: Protected areas of importance for wildlife, flora, fauna, or features of geological or other special interest, that is reserved and managed for conservation. These areas may be designated by government institutions or by private landowners (i.e., conservation charities and research institutions).

Nature Preserves: Large areas of land preserved in its natural state as public property.

Permanently Preserved Land: Permanently protected from development with a perpetual conservation or open space easement or fee ownership, held by a federal, state, or local government or nonprofit organization for natural resource, forestry, agriculture, wildlife, recreation, historic, cultural, or open space use, or to sustain water quality and living resource values.

Big Morongo Canyon Preserve

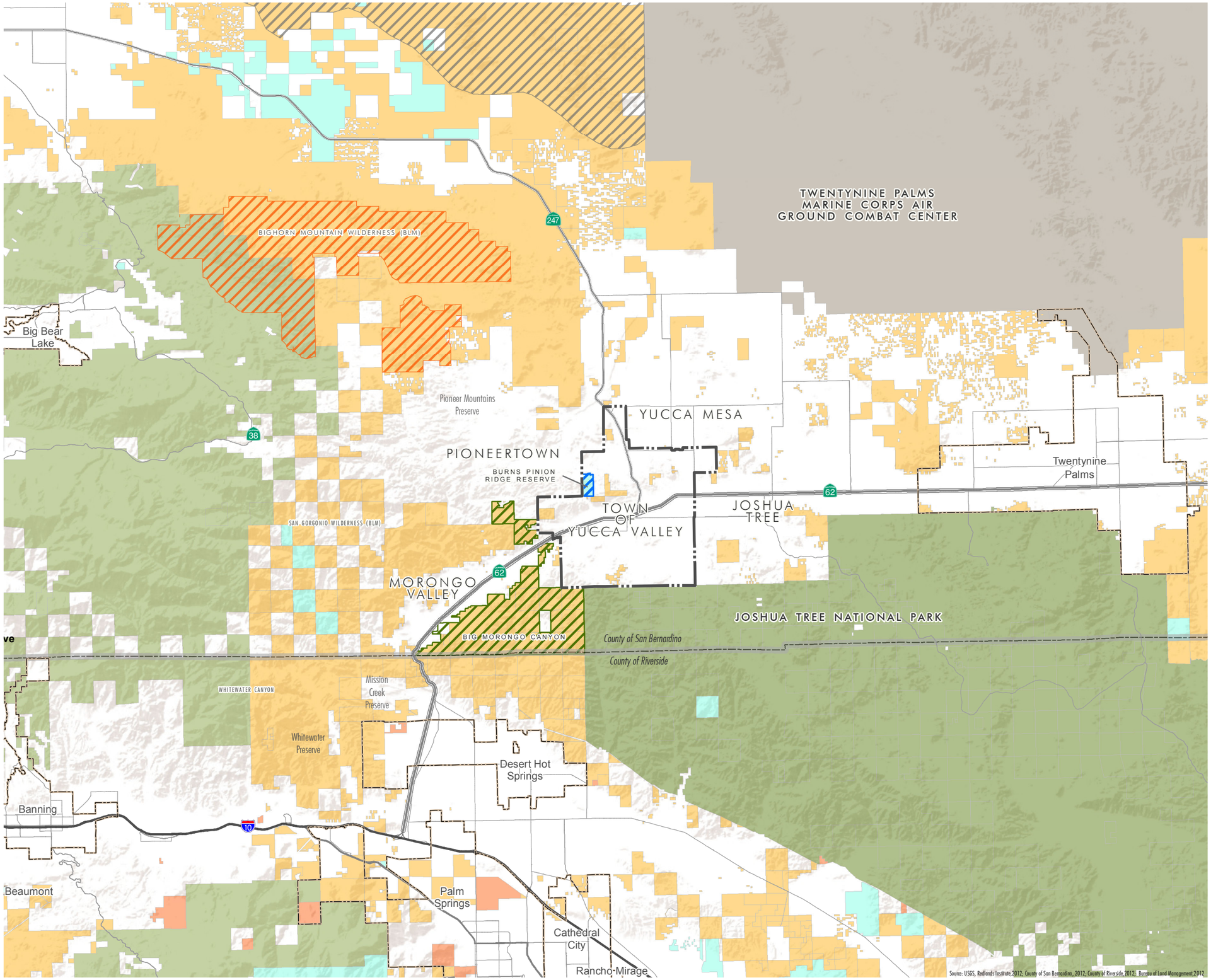
Big Morongo Canyon Preserve, which abuts the west end and southwest corner of the Town, is in the Little San Bernardino Mountains and covers approximately 31,000 acres, with elevations ranging from approximately 600 feet above mean sea level on the canyon bottoms to approximately 3,000 feet above mean sea level on the ridgelines. Because of its ecological importance to the region, the Big Morongo Canyon Preserve was designated an Area of Critical Environment Concern by the BLM in 1982. This preserve protects one of the 10 largest cottonwood and willow riparian habitats in California as well as a variety of other ecosystems. Big Morongo Canyon Preserve is managed by the BLM, and a small portion—approximately 147 acres—is managed under a cooperative agreement with San Bernardino County to protect rare and endangered wildlife, enhance sensitive riparian zones, promote the growth and restoration of a wide variety of plants, and offer educational opportunities.

Burns Piñon Ridge Reserve

The 306-acre Burns Piñon Ridge Reserve is located within the northwestern limits of the Town. It is characterized by a rugged, boulder-strewn landscape composed of a series of shallow canyons and steep, rocky ridges of sculptured granite. The reserve, which shows little evidence of disturbance from human activities or

Figure OSC-1

CONSERVATION AREAS



Source: USGS, Redlands Institute, 2012; County of San Bernardino, 2012; County of Riverside, 2012; Bureau of Land Management 2012

Land Ownership

- Bureau of Land Management
- Local Government
- State
- US Forest Service
- National Park Service
- Military

Conservation Areas

- Burns Pinion Ridge Reserve
- Big Morongo Canyon
- Bighorn Mountain Wilderness
- Johnson Valley Off Highway

- City Boundary
- County Boundary
- Town Limits

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grazing, has a diverse mixture of flora and fauna that is characteristic of its unique location as a transition between the lower desert, the upper desert, and the mountains as well as transition area between three floristic regions—the Transverse Range, Sonoran Desert, and Mojave Desert. Habitats protected on the reserve include pinyon and juniper woodland with elements of Joshua tree woodland and montane chaparral, desert wash, and freshwater seep. The Burns Piñon Ridge Reserve is a part of the University of California Natural Land and Water Reserves System.

Yucca Valley's desert climate and open spaces attract residents and visitors alike.

Pioneertown Mountains Preserve

The Pioneertown Mountains Preserve is northwest of the Town and covers approximately 25,500 acres from the San Bernardino Mountains down into the Pioneertown Valley in the Mojave Desert. Elevations within the Pioneertown Mountains Preserve range from approximately 4,000 feet in the Pioneertown Valley to approximately 7,800 feet in the San Bernardino Mountains. The Pioneertown Mountains Preserve supports year-round riparian corridors through Pipes Canyon and Little Morongo Canyon and provides important wildlife corridors between Joshua Tree National Park to the south of the Town and the Bighorn Mountains Wilderness to the north of the Town. The Pioneertown Mountains Preserve is owned and operated by the Wildlands Conservancy.

San Gorgonio Wilderness

The San Gorgonio Wilderness is west of the Town boundary and covers approximately 95,000 acres in Riverside and San Bernardino counties. The topography within the San Gorgonio Wilderness changes rapidly from canyons and low, rolling foothills to steep rugged mountain. Elevations range from approximately 2,300 feet above mean sea level to approximately 11,500 feet above mean sea level. With its diverse landscape and large elevation range, the San Gorgonio Wilderness is a unique transition zone between the desert, mountain, and coastal ecosystems. The San Gorgonio Wilderness is managed jointly by the BLM and the United States Forest Service (USFS).

Proposed Sand to Snow National Monument

The California Desert Protection Act of 2011 proposed the convergence of the Mojave and Colorado Desert and the San Bernardino Mountains as the Sand to Snow National Monument. The area would be located west of the Town and would include approximately 134,000 acres of federal land between Joshua Tree National Park and the San Bernardino National Forest, including the San Gorgonio Wilderness and the Big Morongo Canyon Preserve. The proposed Sand to Snow National Monument would rise from approximately 1,400 feet above mean sea level at the Mojave Desert floor up to 11,503 feet above mean sea level at San Gorgonio Mountain. The proposed monument would include one of California's most diverse landscapes and would also protect wildlife corridors between the San Bernardino Mountains, San Jacinto Mountains, and Joshua Tree National Park. This monument would be

managed jointly by the BLM and the USFS. The Town will continue to monitor monument planning efforts.

GOAL OSC 1

Conservation, management, and designation of open space areas to protect environmental resources, guard against environmental hazards, and provide enhanced recreational opportunities and aesthetic character for the Town.

Policies

Policy OSC 1-1 Use flood control and utility easement areas to develop a multiuse trail system that links parks and recreational areas, commercial areas, residential areas, and other open space areas.

Policy OSC 1-2 Support regional, state, and federal efforts to evaluate, acquire, and conserve open space areas in and around Yucca Valley.

Policy OSC 1-3 Support the Mojave Desert Land Trust in its efforts to preserve open space resources within the Morongo Basin.

Policy OSC 1-4 Offer flexible development standards in exchange for providing open space and trail easements or right-of-ways.

Policy OSC 1-5 Encourage new development to retain natural open space areas as part of project design to the greatest extent practicable.

Policy OSC 1-6 Encourage the preservation, integrity, function, productivity, and long-term viability of environmentally sensitive habitats, wildlife corridors, and significant geological features within the Town.

Parks

The provision of plentiful, well-designed, and well-maintained parks and recreation facilities contributes to the quality of life in a community. Parks fulfill a number of important functions—they provide green “breathing” spaces that promote healthy lifestyles; give children and families a place to play and explore; provide areas for active sport uses and civic functions; and provide areas for passive recreation and relaxation. Parks may also incorporate natural features and visual assets of the landscape, in addition to preserving habitat areas that are vital to the Town's identity, history, and environmental health. Other recreational facilities, such as special-purpose facilities,

accessible open spaces, and trails, fulfill specific community needs that formal developed parks typically cannot provide.

This section contains goals and policies intended to continue the Town's efforts to provide a high level of parks and recreation facilities to Yucca Valley residents and visitors, and provide guidance for new development to incorporate additional recreational facilities.

This section focuses primarily on the Town's provision of public park and recreation facilities, but acknowledges that the abundant regional amenities and open space in the surrounding areas provides residents and visitors access to recreational opportunities in addition to the Town's facilities.

Park Classifications and Inventory

The locations of the Town's neighborhood, community, and regional parks are illustrated in Figure OSC-2, *Parks and Recreational Trails,* and an inventory of existing parks is listed in Table OSC-1. The Town's current park and recreational facilities are classified into six categories:

A youth soccer match at the Community Center.

Community Parks

A community park (15 to 40 acres) primarily provides opportunities for organized activities and sports, although individual and family activities are also encouraged. Community parks can also provide indoor facilities to meet a wider range of recreation interests. Community parks serve a larger area and offer more facilities. As a result, they require more support facilities, such as parking, restrooms, and covered play areas. Community parks usually have sport fields or similar facilities as the central focus of the park. Their service area has roughly a 2 to 3 mile radius.

Neighborhood Parks

Neighborhood parks are designed primarily for nonsupervised, nonorganized recreation activities. They are generally small in size (3 to 15 acres) and serve people living within approximately one-half mile of the park. Since these parks are within walking and bicycling distance of most users, the activities they offer serve the entire neighborhood, including children. Typical facilities in a neighborhood park include: playgrounds, picnic areas, trails, open grass areas for passive use, outdoor basketball courts, and multiuse open grass areas for practice field sports.

The playground at Machris Park.

Natural Open Space Parkland

Two parks—North Park and South Park—totaling approximately 120 acres are preserved as natural open space on land owned by BLM and leased to the Town. North Park is in the foothills of the San Bernardino Mountains near the west end of the Town, and South Park is in the Little San Bernardino Mountains near the south Town boundary. This open space provides opportunities for hiking, bird

watching, and enjoying panoramic views of the high desert and surrounding mountains.

Special Use Areas

Special use areas are sites often occupied by a specialized recreation facility. Some uses that fall into this category include community gardens, single purpose sites used for a particular field sport, or sites occupied by recreation buildings.

Regional Parks

Regional parks are large recreation areas designed to serve an entire region beyond the Town limits. Often they are acquired to provide a specific and sometimes unique recreation opportunity. Most frequently they are owned and maintained by a county agency and are complementary to but not included as part of the Town's parkland inventory.

Table OSC-1
Existing Yucca Valley Parks

Park Site & Type	Acres
Community	
Community Center Park	20.0
Essig Park	7.0
Neighborhood	
Machris Park	12.0
Jacobs Park	5.0
Paradise Valley Park	5.0
Natural Land/Open Space	
South Park	40.0
North Park	80.0
Special Use	
Sunnyslope Park BMX Track	11.0
Remembrance Park	0.2
TOTAL	**182.4**

Note: Sunnyslope Park has 8 undeveloped acres.

Quimby Act: Authorizes cities and counties to pass ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. Revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities (California Government Code § 66477).

Subdivision Map Act: Requires that local governments establish regulations to guide subdivisions, and grants powers to local governments to ensure that the subdivision occurs in an orderly and responsible manner (California Government Code § 66410).

Park Acreage per Population

Park standards provide a means to measure how much park land should be set aside for recreational use as the Town develops. The Quimby Act, established by state law, requires that every county and town meet the minimum standard of 3 acres of parkland per 1,000 residents. A jurisdiction may also adopt higher standards if it is able to achieve the minimum standard, the highest of which allowed is 5 acres of parkland per 1,000 residents if a town or county adopts a general plan with the seven required elements (Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety).

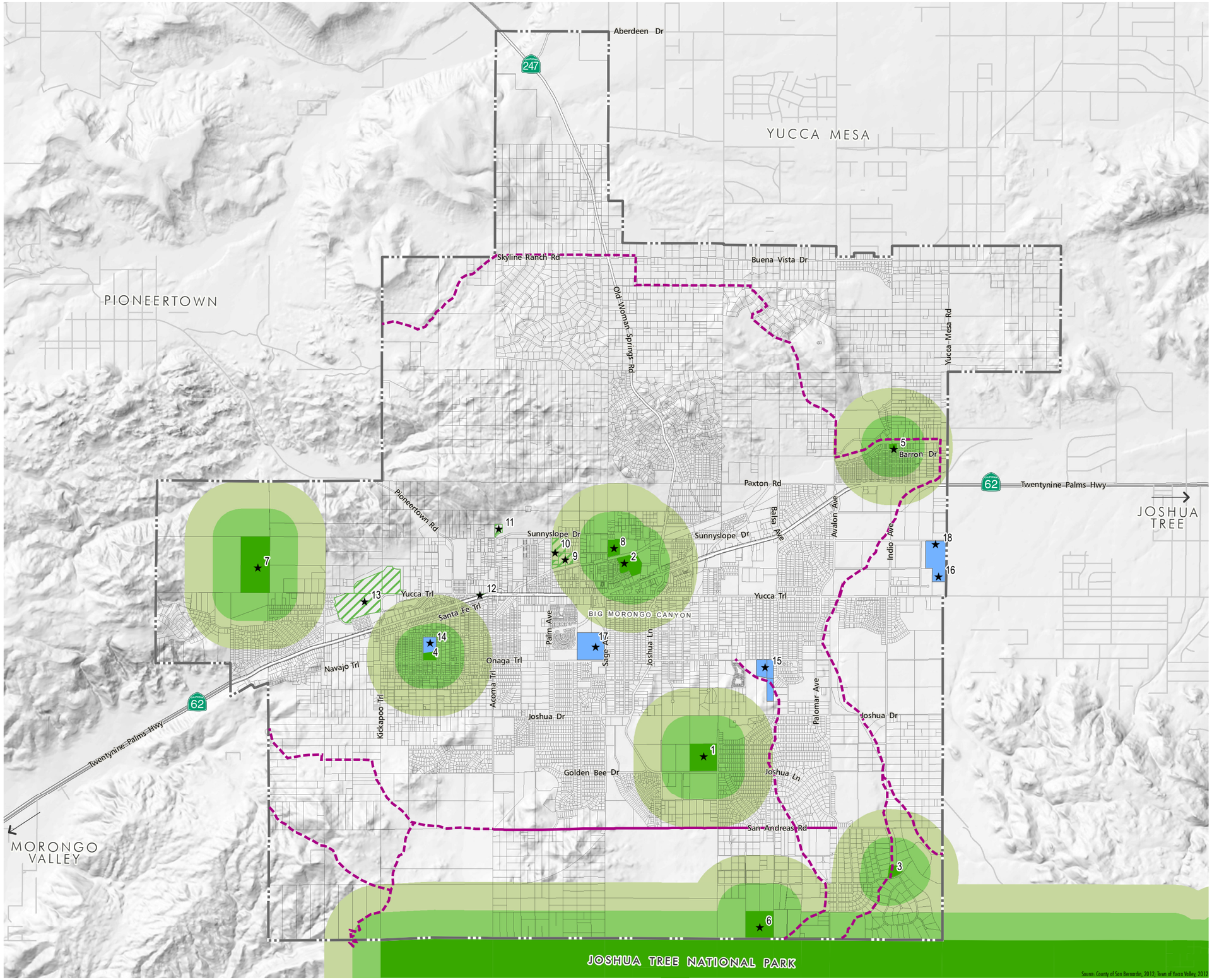

Figure OSC-2

PARKS AND RECREATIONAL TRAILS

PARKS

Walking Distance

- 1/4 Mile
- 1/2 Mile

Community Parks

- ★ 1. Essig Park
- ★ 2. Community Center Park

Neighborhood Parks

- ★ 3. Machris Park
- ★ 4. Jacobs Park
- ★ 5. Paradise Park

Natural Land/Open Space

- ★ 6. South Park
- ★ 7. North Park

Special Use Parks

- ★ 8. Sunnyslope Park BMX Track

OTHER OPEN SPACE AREAS

- ★ 9. Pop Rauch Park (Tri Valley Little League)
- ★ 10. Brehm Youth Park/ Boys and Girls Club
- ★ 11. Desert Christ Park (Desert Christ Park Foundation)
- ★ 12. Remembrance Park
- ★ 13. Blue Skies Country Club (Semiprivate)

PUBLIC SCHOOLS

- ★ 14. Yucca Valley Elementary School
- ★ 15. Onaga Elementary School
- ★ 16. La Contenta Middle School
- ★ 17. Yucca Valley High School
- ★ 18. Black Rock High School

TRAILS

- Multiuse Trails (Proposed)
- Riding Trails (Proposed)

NOTE: Park locations identified on this map are generalized to show intended park locations based on need and land availability. Specific locations and acreage amounts shall be determined as part of future development proposals.

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The Yucca Valley Park Dedication and In-Lieu Fee Ordinance adopted in 2005 under the authority of the Subdivision Map Act and the Quimby Act are specifically designed to provide the Town with sufficient parkland to meet its park standard as the Town's population grows. Parkland that contributes towards the Town's park standard includes community and neighborhood parks, special use recreational facilities, and open space used for active recreation. Currently the Town has 182.4 total acres of developed and undeveloped designated parkland. It is anticipated that the Town will have a population of approximately 64,565 upon buildout of the General Plan. As a result, the Town should plan for a total of 193.2 acres of parkland (an additional 10.8 acres) to meet the minimum Quimby Act standard of 3 acres of parkland per 1,000 residents. Since the majority of the Town's parkland consists of natural open space, over time the Town will need to assess the demand for active and passive parkland and adjust its park planning priorities accordingly.

The Hi-Desert Nature Museum teaches visitors about history, culture, and native flora and fauna among other subjects.

Park Accessibility

To ensure that park facilities are available equally to residents throughout the community, it is recommended that parks be placed throughout the Town in areas that are a 10-minute walking distance (half-mile) from nearby residences. Figure OSC-2, *Parks and Recreational Trails,* illustrates the locations of the Town's existing and proposed parks and delineates the quarter-mile and half-mile walking radius around each. Future park opportunities should be targeted for areas where walkable parks are absent, in particular the eastern and northern areas of Town.

Other Recreational Facilities

Local Facilities

In addition to the facilities offered by the Town of Yucca Valley, federal and county agencies, Morongo Unified School District (MUSD) and nonprofit groups provide recreation facilities, activities, and programs to local residents. Although not counted toward the Town's required Quimby Act park acreage, Figure OSC-2 also identifies locations of public schools because they provide recreational opportunities (play equipment, playfields, etc.) that are utilized by some residents for recreation activities in addition to the Town's facilities.

A biker gets air at the Skate Park.

Morongo Unified School District

MUSD owns and operates five schools in the Town of Yucca Valley, including a number of fields and specialized facilities that, in some cases, are made available for public use through policies set by the school district. The Town recognizes the public ownership of these schools. The Town could actively pursue joint-use agreements with the District to make more school facilities available for public use.

Local Nonprofit Organizations

Three local nonprofit entities have developed recreational facilities within the Town: Boys & Girls Club of the Hi Desert; Brehm Youth Sports Park; and Pop Rauch Park. Additionally, a number of churches within the Town offer recreational facilities for public events and programs. The facilities vary in purpose, but all contribute to meeting the public's recreational needs.

Regional Facilities

Joshua Tree National Park in bloom.

Open space in and around the Town of Yucca Valley includes natural landscapes that are essentially undeveloped, but suitable for passive or active recreational activities that do not require substantial facilities or improvements. This includes lands that are owned, leased, or otherwise controlled by the Town of Yucca Valley or by some other public or nonprofit entity and are made accessible to the public for recreation, nature preservation, education, viewshed, and other open space purposes. These other open spaces, particularly Joshua Tree National Park, afford important recreational opportunities to Town residents and visitors and are significant to the Town as a tourist attraction.

Joshua Tree National Park

Running along the southern boundary of the Town of Yucca Valley is the 794,000-acre Joshua Tree National Park which boasts approximately 1.4 million visitors per year. Cared for and maintained by the National Park Service, the park offers year-round interest for hikers, rock climbers, equestrians, campers, birders, photographers, biologists, naturalists, and fun seekers from around the world.

Johnson Valley OHV

Johnson Valley Off Highway Vehicle area is a tract of BLM-managed land set aside for recreational use by residents and off-highway enthusiasts. The OHV area is bordered by Interstate 40 at its northernmost point, at State Route 247's (SR-247) northern leg to Barstow at its western border, and at Emerson Dry Lake/US Marine Corps Air Ground Combat Center at its easternmost border. The Marine Corps Air Ground Combat Center base plans to annex parts of the OHV area, which threatens to permanently close access to the track.

GOALS OSC 2

A comprehensive multiuse, quality system of parks and recreational areas that support a broad range of activities, as well as cultural and passive open space opportunities for current and future residents.

Policies

Policy OSC 2-1 Plan, develop, and maintain quality and adequate outdoor recreational and open space areas that utilize and enhance the unique aspects of the

desert environment and provide amenities that are responsive to the needs of residents and visitors.

Policy OSC 2-2 Ensure that pedestrian facilities comply with Americans with Disabilities Act (ADA) requirements.

Policy OSC 2-3 Develop parklands in a manner that preserves the Town's natural resources to the greatest degree practicable.

Policy OSC 2-4 Locate new parks in or near residential areas relatively isolated from existing natural open space areas or community and neighborhood park facilities.

Policy OSC 2-5 Strengthen partnerships with the Morongo Unified School District for the joint use, maintenance, and development of school facilities for parks and recreational use.

Policy OSC 2-6 Site and maintain recreational facilities to meet the needs of all segments of the community, including use for activities, relaxation, and social interaction.

5.2 Recreational Trails

Hiking, biking, and walking are popular recreational activities for Yucca Valley residents and visitors. Trails provide an important recreational resource in and of themselves, but many trails also serve as a support facility in providing access between neighborhoods and important destinations, and in the case of paved trails and improved sidewalks, can also serve as part of the Town's transportation network. Trail use is most often a self-directed recreational activity, but there is also a recognized trend toward increased use of trails by organized groups for special events.

Unlined drainage channels are part of the Town's stormwater runoff management system and provide opportunities for new trail linkages.

As part of the effort to serve the needs of Yucca Valley residents who choose to hike, bike, and walk for recreation, the Town seeks to link the neighborhoods to recreational resources in a comprehensive network of pedestrian facilities, bikeways, hiking trails, and multiuse trails, and to accommodate both bicycle and equestrian users wherever appropriate. Although it is a community-wide system, each section of the trails system should relate to its immediate surroundings in design and function. Trails within the open spaces and hillsides are typically rustic and particularly conducive to hiking, mountain biking, and horseback riding; by their nature (rugged, steep, and unpaved), most cannot be made to accommodate Americans with Disability Act (ADA) access. By contrast, most of the multiuse trails, trails that provide linkages to neighborhood facilities, sidewalks, and those within developed parks are hard surfaced and designed for easy access for all. The Town's recreational trail system

and illustrations of the various types of trails are defined in more detail in the Parks and Recreation Master Plan.

It should also be noted that bike trails are also discussed in the Circulation Element. Circulation Element bike trails (Classes I through III) are intended to be used as an alternate means of transportation through the Town versus the recreational trails identified in this element, which are primarily viewed as a complementary recreational amenity within the Town's open space areas (hiking, riding, mountain biking). The Circulation Element identifies one multiuse trails, which serve a combination of biking, riding and pedestrian options. Future trails planning should coordinate linkages identified in both elements to create a comprehensive trails network within the Town.

GOAL OSC 3

An interconnected community system of recreational trails that link existing and proposed open space and recreational areas within the Town of Yucca Valley.

Policies

Policy OSC 3-1 Develop a recreational trail network for hiking, mountain biking, and riding that links the Town's parkland, community facilities, open space areas, and other amenities.

Policy OSC 3-2 Ensure new development provides adequate pedestrian, equestrian, and bicycle trail facilities to connect to the Town-wide recreational system.

Policy OSC 3-3 Design major drainage facilities, including debris basins and flood control washes and channels, to maximize their enhancement as multiuse community open space amenities, such as hiking and equestrian trails, consistent with the functional requirements of these facilities.

Policy OSC 3-4 Evaluate the location of existing and proposed trails and trailheads with proposed development and establish the appropriate easements to preserve those facilities.

5.3 Biological Resources

The Town of Yucca Valley is in a biologically rich environment and is bordered to the south by Joshua Tree National Park, to the west by the San Bernardino Mountains, and to the north and east by relatively open desert habitats. The Town's location between the Mojave and Sonoran Deserts makes it a biological transition area. Flora and fauna in Yucca Valley are characteristic of those found in both deserts. The rich diversity of plant and animal species and habitats are illustrated in Figure OSC-3, *Biological Resources*.

Habitats: The physical locations or types of environments in which an organism or biological population lives or occurs.

Vegetation Communities

Ten vegetation communities and land cover types occur within the Town—blackbush scrub, creosote bush scrub, desert wash scrub, Joshua tree woodland, Mojave mixed woody scrub, Mojavean pinyon and juniper woodland, semi-desert chaparral, and non-native grassland, and the two additional land cover types are disturbed lands and urban/developed lands. In addition to the vegetation communities and landcover types, there are several wetland and riparian habitats that have been identified within Yucca Valley in the United States Fish and Wildlife Service National Wetlands Inventory.

A cluster of blooming Mojave yucca plants.

Flora

In addition to the vegetation described above, the Town's proximity to the Mojave Desert gives it a diversity of desert plant species that have adapted to survive the extreme seasonal temperatures and to endure extreme drought conditions. Annual desert plant species survive as seeds that lie dormant in the soil, sometimes for many years, until a sufficient amount of rain and favorable temperatures trigger germination.

The plant species found in the vicinity of the Town include species that are widespread throughout the Mojave Desert as well as endemic species known only from a few occurrences in a few locations. Some of the most common plant species include creosote bush, teddy bear cholla, palo verde, Joshua tree, brittlebush, alkali saltbush, Mojave aster, desert fan palm, and triangle-leaf bursage.

Nelson's bighorn sheep in Joshua Tree National Park.

Fauna

A variety of resident and migratory wildlife species occupy the Town and the adjacent open space, parks, and preserves in the Mojave Desert and nearby mountain ranges. Many of the resident desert species have special adaptations that allow them to tolerate the high desert temperatures and limited availability of water. Many desert animals are physiologically adapted to require little or no water in addition to the water they get from the foods that they eat. However, the springs and seeps in the desert and nearby mountains are

necessary for the survival of many of the wildlife species found in the area, such as Nelson's bighorn sheep, mule deer, and coyote.

While some desert species, such as birds, lizards, and ground squirrels, are diurnal, many other species—such as insects, frogs, toads, snakes, bats, bighorn sheep, kangaroo rats, coyotes, and black-tailed jackrabbits—are active at dawn and dusk or nocturnal to avoid the excessive daytime temperatures. Reptiles and small mammals tend to take refuge from the heat by retreating into underground burrows during extreme temperatures, and these species often hibernate during the winter. The winter, however, has the greatest concentrations of bird species, because many of the bird species that are found in the vicinity are migratory species. A variety of common insects, amphibians, reptiles, birds, and mammals, can all be found in Yucca Valley such as the yucca moth, which is responsible for pollinating the Joshua tree; the tarantula; green darner; giant desert scorpion, which can grow to be more than 4 inches long; California tree frog; spotted toad golden eagle, greater roadrunner, Gambel's quail, and a variety of bat species.

Threatened Species: Those whose numbers have dropped to such low levels and/or whose populations are so isolated that the continuation of the species could be jeopardized.

Endangered Species: Those with such limited numbers or subject to such extreme circumstances that they are considered in imminent danger of extinction.

Sensitive Species: Naturally rare, have been locally depleted, or are put at risk by human activities and may eventually be listed as threatened or endangered.

Sensitive Biological Resources

The Federal and California Endangered Species Acts are designed to protect and conserve any species of plant or animal that is endangered or threatened with extinction, as well as the habitats in which these species are found. The State of California and the federal government have documented plant and animal species that are considered "sensitive," "threatened," or "endangered" as defined here. Sensitive biological resources include sensitive vegetation communities, special status plant species, special status wildlife species, wildlife movement corridors and nursery sites, and wetland resources. Wildlife movement corridors or linkages are considered sensitive by local, state, and federal resource and conservation agencies because these corridors allow wildlife to move between adjoining open space areas that are becoming increasingly isolated as open space becomes more fragmented from urbanization, rugged terrain, or changes in vegetation. In addition, wetland resources are considered sensitive because of their limited distribution and high wildlife value.

A blooming beavertail cactus plant.

Many sensitive biological resources are known to occur or have the potential to occur within or adjacent to the Town based on historical data for the region identified through a query of the California Natural Diversity Database (CNDDB). As a result of these diverse communities, varied and abundant wildlife occurs within and around the town. Since this diversity of natural communities and fauna includes many endangered, threatened, rare, special status, or otherwise sensitive species and habitats, the Town of Yucca Valley has implemented policies and actions to protect and conserve key areas and the overall natural environment.

Sensitive Vegetation Communities

Sensitive vegetation communities are vegetation assemblages, associations, or subassociations that have cumulative losses throughout the region, have relatively limited distribution, support or potentially support sensitive plant or wildlife species, or have particular value to other wildlife. Typically, sensitive vegetation communities are considered sensitive whether or not they have been disturbed. Sensitive vegetation communities are regulated by various local, state, and federal resource agencies.

Based on a CNDDB search, no sensitive vegetation communities were identified in the vicinity of the Town; however, vegetation communities that provide habitat for special status plant and/or wildlife species would be considered sensitive. In addition, vegetation communities that are important to the region—such as Joshua tree woodland and creosote bush scrub—may have special requirements in certain areas, pursuant to the Town's Plant Protection and Management Ordinance.

California Desert Native Plants Act (CDNPA): California hosts approximately 6,500 species, subspecies, and varieties of plants that occur naturally in the state, and many of these are found nowhere else in the world. Some are adapted to unique habitats or harsh conditions, and some occur in such low numbers or have been so impacted by human influence that they are at risk of permanent extinction from the wild plant species. The CDNPA was established to protect California desert native plants from unlawful harvesting on public and privately owned lands.

Special Status Plant Species

Special status plant species include those that are: listed or proposed for listing by federal or state agencies as threatened or endangered; considered endangered in California but more common elsewhere; considered rare, endangered, or threatened by the CDFW or other local conservation organizations or specialists. Eleven special status plant species are known to occur within the vicinity of the Town, such as the San Bernardino milk-vetch, pinyon rockcress, Robison's monardella, and Parish's club-cholla. A complete listing of the species found in Yucca Valley are summarized in the Biological Resources Technical Background report prepared in conjunction with the General Plan. No critical habitat for any of these or other special status plant species has been designated within or adjacent to the Town.

Endangered Species: According to the USFWS, a federally endangered species is defined as a species facing extinction throughout all or a significant portion of its geographic range, and a federally threatened species is defined as a species that is likely to become endangered within the foreseeable future throughout all or a significant part of its range. CDFW defines an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy, a threatened species as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management, and a rare species as one present in such small numbers throughout its range that it may become endangered if its present environment worsens.

Special Status Wildlife Species

Special status wildlife species include those that are listed or proposed for listing as threatened or endangered by the USFWS or the CDFW and/or designated as California Fully Protected by the CDFW. In addition, raptors (birds of prey) and active raptor nests are protected by the CDFW. Species that are federally or state-listed threatened or endangered are afforded a degree of protection that entails a permitting process, including specific mitigation measures to compensate for impacts to the species. As regulated by the CDFW, fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Twenty-one special status wildlife species are known to occur within the vicinity of the Town based on historical data for the region (. In addition, two other species, the California cuckoo bee and Nelson's

bighorn sheep, do not have a special status ranking but are of special interest and were identified within the region. These species are discussed in greater detail in the Biological Technical Background Report prepared in conjunction with the General Plan. No critical habitat for any of these or other special status wildlife species has been designated within or adjacent to the Town.

Wetland and Riparian Resources

Wetland Resources: Creeks, washes, underground water (aquifers), and other water courses as well as various riparian vegetation communities associated with these water courses.

The majority of the Town is within the Morongo Basin watershed, which generally drains from west to east primarily through Yucca Creek; however, the northern end of the Town drains northeastward into the Homestead Valley. No major water bodies are located within the Town. Many of the Town's existing drainage courses have insufficient hydraulic capacity and, therefore, intense storms often result in significant quantities of water and sediment being conveyed from the mountains through the developed areas in the Town, resulting in flooding and sediment deposits within properties and in the streets. See Figure OSC-4, *Potential Wetland and Riparian Resources.*

Wetland and riparian resources within the Town include creeks, washes, underground water (aquifers), and other water courses as well as various riparian vegetation communities that are associated with these water courses. Though no wetland habitats are identified within the CNDDB, the United States Fish and Wildlife Service National Wetlands Inventory identifies several wetlands and riparian resources within and adjacent to the Town General Plan Update area. These habitats include mesquite bosque, riverine, riparian forest, riparian scrub, fresh emergent wetland, freshwater pond, and other wetlands that are associated with Pinyon Creek, Yucca Creek, and numerous other washes. Wetland and riparian resources within the vicinity of the Town General Plan Update area are considered sensitive biological resources and are regulated by the US Army Corps of Engineers, California Department of Fish and Wildlife, and/or Regional Water Quality Control Board pursuant to several federal and state regulations.

Biological Resource Overlays

Within the vicinity of the Town, vast natural landscapes have been set aside as public and private conservation lands to protect their ecological values and the species that rely on them. These conserved lands have become important refuges for many native plant and wildlife species; however, the long-term conservation of the desert ecosystems will require maintaining connectivity across and between the diversity of desert habitats. The overall goals of the Wildlife Corridor Evaluation and Open Space Resource Areas are to:

- Preserve the natural scenic character of the Town

- Protect and preserve sensitive biological resources, while allowing land development in accordance with the General Plan Land Use Plan/Map
- Support less intense development in proximity to conservation areas
- Support wildlife movement through identified linkage areas
- Provide outdoor, trail-oriented recreational activities

Wildlife Corridor Evaluation Areas

Wildlife corridors are considered sensitive by local, state, and federal resource and conservation agencies because these corridors allow wildlife to move between adjoining open space areas that are becoming increasingly isolated as open space becomes fragmented from urbanization, rugged terrain, and/or changes in vegetation. In southern California, habitat fragmentation is one of the main concerns for the maintenance of healthy wildlife populations, because natural areas are often scarce and maintaining connectivity between these habitats is perhaps one of the best feasible options for preventing localized extinctions and enhancing biodiversity.

Several comprehensive wildlife corridor analyses have been conducted within the vicinity of the Town. Two of these wildlife connectivity studies, *A Linkage Design for the San Bernardino-Little San Bernardino Connection* and *A Linkage Design for the Joshua Tree-Twentynine Palms Connection*, focused on areas that are within and immediately adjacent to the Town.

The information from these two studies was used as the basis for the Wildlife Corridor Evaluation Area (WCEA) Overlay shown on Figure OSC-3, *Biological Resources and Overlays*. These areas warrant special consideration and are intended to be maintained so as to conserve habitat and travel corridors for rare and endangered species found in the region to the greatest degree practicable.

Open Space Resource Areas

The Town has identified three Open Space Resource Areas (OSRA)—Figure OSC-3 *Biological Resources and Overlays*—with the intent of protecting sensitive biological resources within and adjacent to the Town. These areas were identified based on several parameters, including presence of sensitive vegetation communities, presence of sensitive plant and animal species, limited development, low density zoning, presence of wildlife linkages, and adjacency to existing open space areas. The areas also generally correspond with other limitations to development, including federal land, steep hillside zones, and established parks and preserve areas.

Comprehensive biological resource studies and evaluations of these entire areas have not been conducted. The OSRA areas have been

identified based upon the findings from several individual site studies and general observations of the community generated by biologists and representatives of state and federal agencies. Further field analysis should be conducted to determine the sensitive resources held in these areas.

The OSRA on the western portion of the Town, north of State Route 62 (SR-62) provides added connectivity between the Sawtooth Mountains to the west and BLM and open space areas within the Town limits (e.g., North Park). This OSRA also enhances north–south connectivity between the San Bernardino-Little San Bernardino and Joshua Tree-Twentynine Palms linkages. Most of this OSRA is undeveloped with proposed low density land uses.

The OSRA south of SR-62 enhances the San Bernardino-Little San Bernardino linkage. This OSRA also provides additional connectivity between open space areas within the Town limits (e.g. BLM land and South Park), Joshua Tree National Park, and the Big Morongo Canyon preserve.

The third OSRA is on a hilltop at the eastern boundary of the Town. This OSRA provides added connectivity with the Joshua Tree-Twentynine Palms linkage and BLM land located east of the Town. The proposed land uses at this location are low density lots in a hillside area.

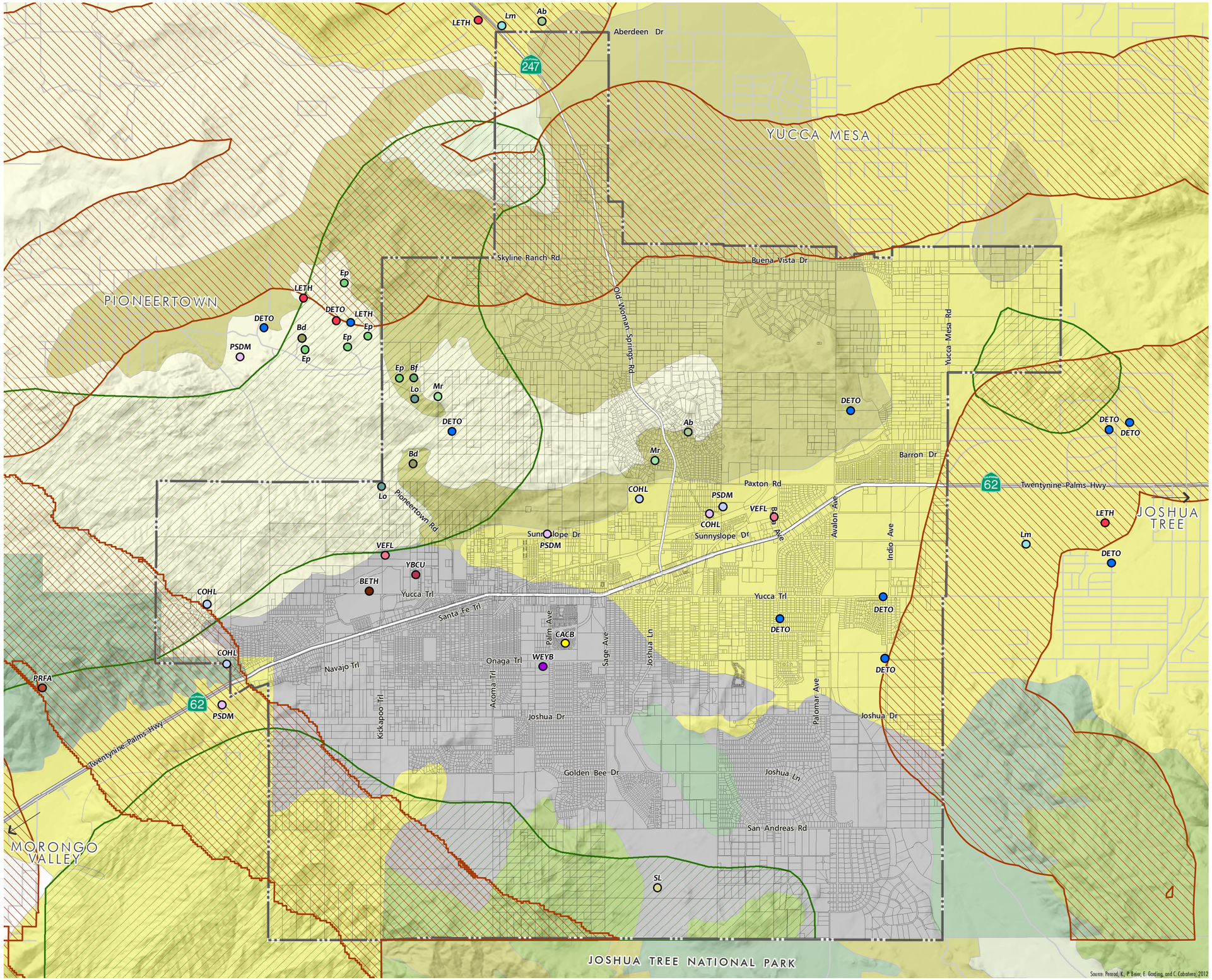
WCEAs and OSRAs do not preclude development from occurring; however, development in these areas should be carefully managed to protect and preserve habitat and migratory corridors. Development proposals inside WCEAs and OSRAs will include detailed biological studies and wildlife corridor studies as part of those land use applications, as more fully described in the policies and implementation actions for this Element.

Development within the WCEA or OSRA should:

- Implement development based upon the underlying land use designations and site-specific biological resource and wildlife corridor studies
- Encourage clustering of development
- Encourage new development to minimize building footprints to limit impacts to biological resources and wildlife corridors
- Avoid known sensitive biological resources
- Provide shielded lighting adjacent to sensitive habitat areas
- Encourage development plans that maximize wildlife movement
- Provide buffers between development and wetland/riparian areas

Figure OSC-3

BIOLOGICAL RESOURCES AND OVERLAYS



Known Sensitive Species Locations

Sensitive Plants

- Bf Fremont's barberry (Berberis fremontii)
- SL Latimer's woodland-gilia (Saltugilia latimeri)
- Lm Little San Bernardino Mountains linanthus (Linanthus maculatus)
- Lo Orcutt's linanthus (Linanthus orcuttii)
- Ep Parish's daisy (Erigeron parishii)
- Bd Pinyon rockcress (Boechera dispar)
- Mr Robison's monardella (Monardella robisonii)
- Ab San Bernardino milkvetch (Astragalus bernardinus)

Birds

- BETH Bendire's thrasher (Toxostoma bendirei)
- LETH LeConte's thrasher (Toxostoma lecontei)
- PRFA Prairie falcon (Falco mexicanus)
- VEFL Vermilion flycatcher (Pyrocephalus rubinus)
- YBCU Western yellow-billed cuckoo (Coccyzus americanus occidentalis)

Mammals

- PSDM Pallid San Diego pocket mouse (Chaetodipus fallax pallidus)
- WEYB Western yellow bat (Lasiurus xanthinus)

Reptiles

- COHL Coast horned lizard (Phrynosoma blainvillii)
- DETO Desert tortoise (Gopherus agassizii)

Insects

- CACB California cuckoo bee (Paranomada californica)

California Natural Diversity Database Land Cover

- Blackbush Scrub
- Mojave Creosote Bush Scrub
- Mojave Mixed Steppe
- Mojave Mixed Woody Scrub
- Mojavean Pinyon and Juniper Woodlands
- Non-Native Grassland
- Semi-Desert Chaparral
- Urban or Built-up Land

Other

- Wildlife Corridor Evaluation Area
- Open Space Resource Area
- Town Limits

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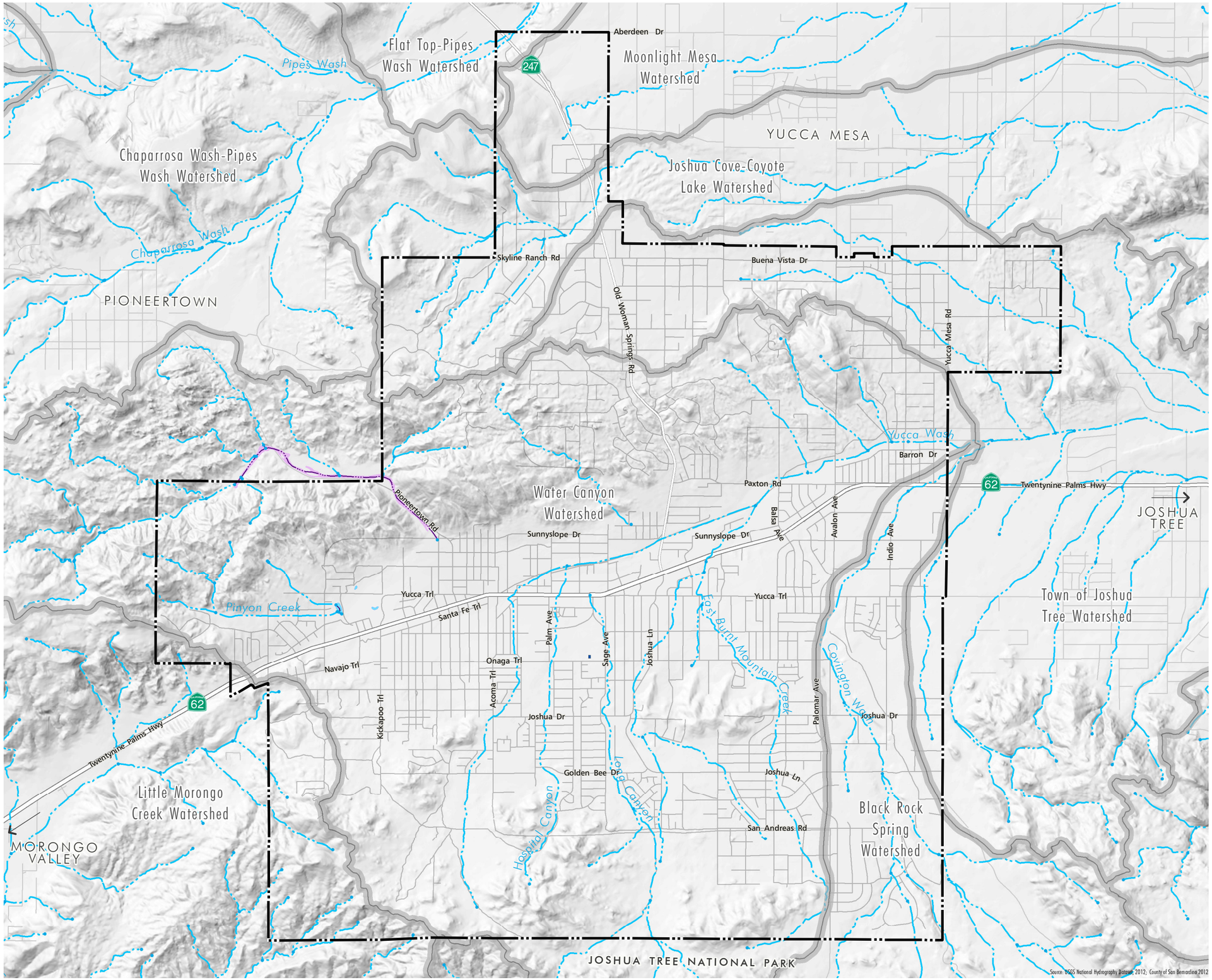
Figure OSC-4

POTENTIAL WETLAND AND RIPARIAN RESOURCES



Source: USGS National Hydrography Dataset, 2012; County of San Bernardino 2012

- Hydrographic Junction
- Stream / River
- Artificial Path
- Wash
- Lake / Pond
- Reservoir
- Watershed Boundary
- Town Limits

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- Protect wetland/riparian areas through regulatory agency permitting process
- Encourage wildlife-passable fence designs on property boundaries
- Encourage preservation of native habitat on the undeveloped remainder of developed parcels
- Minimize road/driveway development to help prevent loss of habitat due to species and habitat loss
- Use native, drought-resistant plant species in landscape design
- Require project applicants in all areas of the Town to fulfill required mitigation measures within an OSRA
- Encourage participation in local/regional recreational trail design efforts

GOAL OSC 4

Preservation and conservation of the Town's desert character, open space resources, and native desert wildlife communities.

Policies

Policy OSC 4-1 Protect, conserve, and preserve the Town's biological resources, especially sensitive, rare, threatened, or endangered species of plants and wildlife and their habitats.

Policy OSC 4-2 Support practical efforts to maintain a broad variety of habitats, with priority given to suitable habitat for rare and endangered species occurring in the Town and vicinity.

Policy OSC 4-3 Require new development proposals to minimize impacts to existing habitat and wildlife to the maximum extent practicable. Require revegetation of disturbed natural habitat areas with native or noninvasive naturalized species.

Policy OSC 4-4 Minimize and mitigate urban development impacts on sensitive habitat and wildlife areas.

Policy OSC 4-5 Encourage and participate in the planning and development of multiuse corridors along drainage channels and utility easements to provide wildlife corridors and public interconnection between open space areas in the community and vicinity.

Policy OSC 4-6 Require the use of native and approved, nonnative, drought-tolerant plant species in development projects to provide or enhance wildlife habitat and

extend the local desert environment into the urban design of the Town.

Policy OSC 4-7 Promote biodiversity by protecting natural communities with high habitat value, protecting habitat linkages to prevent further fragmentation, and encouraging an appreciation for the natural environment and biological resources.

Policy OSC 4-8 Require that development projects provide copies of required permits, or verifiable statements that permits are not required, from the California Department of Fish and Game (2081 Individual Take Permit) and US Fish and Wildlife Service (Section 7 Take Authorization) prior to receiving grading permits or other approvals that would permit land-disturbing activities and conversion of habitats or impacts to protected species.

Policy OSC 4-9 Require each future proposed development project to conduct an analysis to determine if sensitive biological resources and wildlife corridors would be impacted by the development application and adopt process and mitigation regulations for potential resource impacts.

Policy OSC 4-10 Encourage context-sensitive development within OSRAs and WCEAs while preserving biological resources and wildlife movement.

Policy OSC 4-11 Require biological resource surveys and assessments as part of the application process for new developments within or adjacent to OSRAs and WCEAS.

Policy OSC 4-12 Coordinate with CDFW and USFWS in the review of biological resource assessments and surveys for private land development applications when applicable.

Policy OSC 4-13 Coordinate with CDFW and USFWS to ensure that state and federal protections required by the Endangered Species Act and the Migratory Bird Treaty Act are addressed during the planning process.

5.4 Water Resources

Water

Yucca Valley's water comes from three groundwater sources. The Town lies within the Warren Valley Hydrologic Subarea. The primary source of groundwater is from Warren Valley Groundwater Basin. Groundwater from Reche/Ames/Means Valley Groundwater Basin is a secondary source, and State Water Project imports via Mojave Water Agency through the Morongo Basin Pipeline are also used to recharge the Warren Valley Basin. The District currently obtains its groundwater from 13 active wells with water storage facilities provided by 16 above-ground welded steel reservoirs with a total capacity of 12.41 million gallons.

A water recharge facility.

Faults separate the Warren Valley Groundwater Basin into five hydrogeologic units, the west, the midwest, the mideast, the east, and the northeast hydrogeologic units. The major sources of groundwater recharge in the Yucca Valley area are precipitation, infiltration from streets, subsurface inflow, and septic and irrigation return flows. Creeks, streams, flood corridors, riparian habitat, and wetlands may accommodate floodwater for groundwater recharge and stormwater management as described in the Safety Element.

Water service within the Town of Yucca Valley area is the responsibility of the Hi-Desert Water District (HDWD). HDWD regional plans include construction of a water reclamation facility (WRF) to serve portions of its service area, including the Town of Yucca Valley, and future water sources will also include water reclamation recharge projects and Reche/Ames/Means Valley Basin recharge.

State law (Water Conservation Act of 2009, Senate Bill X7-7), mandates the reduction of per capita water use and agricultural water use throughout the state by 20 percent by 2020. The current Urban Water Management Plan for the Hi-Desert Water District service area includes the Town of Yucca Valley and addresses the current and projected use and distribution plans for water.

Wastewater

All of the Town of Yucca Valley customers currently dispose of their wastewater using individual subsurface sewage disposal systems, septic systems, or on-site wastewater treatment package plants to treat and dispose of domestic wastewater. Although these septic system return flows have historically contributed to the overall groundwater resources within the Town, they have also been identified as a contributor to higher nitrate levels in the Warren Valley Groundwater Basin.

In 2011 the Colorado River Regional Water Quality Control Board adopted the Basin Plan Amendment, which prohibits septic tank discharge after 2016. A phased wastewater collection and treatment facility is proposed to respond to the amendment.

The wastewater collection and treatment system, as well as the regional board's plan amendment, establish a three-phase implementation plan for wastewater collection and treatment in the Town. As the system is implemented, HDWD is expected to use treated wastewater for basin recharge and landscape irrigation, thus reducing reliance on imported water sources.

Protection of the local water supply and ensuring the maximum long-term utilization of water resources serving the Town is an important component of a vibrant community's general health, safety, and welfare.

GOAL OSC 5

A dependable supply of domestic water to meet the needs of the community.

Policies

Policy OSC 5-1 Support Hi-Desert Water District efforts to promote water conservation and efficiency in existing and new development.

Policy OSC 5-2 Protect open spaces, natural habitat, floodplains, and wetland areas that serve as groundwater recharge areas, and participate in regional transportation/flood control planning to increase groundwater recharge concurrent with flood plain management practices.

Policy OSC 5-3 Protect groundwater recharge and groundwater quality when considering new development projects.

Policy OSC 5-4 Participate in regional water planning efforts to protect groundwater resources and to assist the HDWD in implementation of its wastewater collection and treatment system.

Policy OSC 5-5 Require the inclusion of erosion control measures as components of a grading plan to assure elimination of impacts to downstream property owners.

GOAL OSC 6

An informed public that respects the Town's limited water resources and maximizes conservation efforts for the benefit of the community.

Policies

Policy OSC 6-1 Coordinate with the Hi-Desert Water District to share information on potential groundwater contaminating sources.

Policy OSC 6-2 Coordinate with the Hi-Desert Water District to implement the wastewater collection and treatment system.

Policy OSC 6-3 Require low water use, drought resistant landscape planting to reduce water demand.

Policy OSC 6-4 Require new development to incorporate best management practices for water use and efficiency and demonstrate specific water conservation measures.

Policy OSC 6-5 Preserve and enhance all watercourses and washes necessary for regional flood control, groundwater recharge areas, and drainage for open space and appropriate recreational purposes.

Policy OSC 6-6 Require that development and maintenance of project-specific, onsite stormwater retention/detention basins implement and enhance groundwater recharge, complement regional flood control facilities, and address applicable community design policies.

5.5 Cultural Resources

Paleontological Resources

Paleontological resources are mapped based on the presence of known resources and the geologic sediments in the region. Based on the age of the sediment and rock types found in Yucca Valley, the Town's potential fossil yields range from very low to moderate in sensitivity. Figure OSC-5, *Paleontological Resource Sensitivity Map,* identifies areas where fossil resources are likely to be found.

Two vertebrate fossils, one of an extinct horse and the other a desert tortoise, are known within the west-central portion of Town. Additional fossils are known regionally and include extinct animals such as mammoth, ground sloths, camel, horse, llama, dwarf pronghorn, and saber-toothed cat. Other regional fossils produced by older sediment and bedrock include extinct animals such as a

zebra-like horse and Furlong's rabbit in addition to cotton rat, wood rat, and brown bat.

Archaeological Resources

The Town of Yucca Valley and vicinity have prehistoric resources ranging from about 10,000 years ago to 200 years ago. The California Historical Resources Information System identifies nine prehistoric resources, three historical archaeological resources, and five historic resources with the Town. The prehistoric archaeological sites recorded previously include five lithic artifact scatters, a camp site, a quarry site, a bedrock milling station site, and one isolated pottery shed. The historical archaeological sites include two historic refuse scatters and a dove blind associated with a refuse scatter.

Historic Resources

Warren's Well was once the center of local social activities and is now a California Historic Landmark.

During the 1870s leading up to the turn of the century, the region was used largely by ranchers and gold prospectors, especially after the discovery of gold east of what is now Twentynine Palms. Many individuals and families did not stay long due to harsh living conditions and the general difficulty in raising crops in a desert environment. The first school in Yucca Valley was established in 1915. A telephone was not available in Yucca Valley until 1935, and population did not dramatically increase until after World War II, when hundreds of land patents were filed. The highway from Morongo Valley through Yucca Valley was constructed in 1937 but not paved until 1951. Electricity did not appear until 1946, three years after the Town streets were laid out.

The Town of Yucca Valley contains five historic including: a historical school house; Warren's Well; Warren's Ranch/Tanks; Desert Christ Park (a local folk art site); and SR-62 (Twentynine Palms Highway).

Native American Cultural Resources

Aside from the prehistoric archaeological resources discussed above, no Native American cultural resources that may have traditional or cultural significance have been identified by records searches, literature reviews, and consultation with interested parties. Because the Town of Yucca Valley area was part of the ancestral territory of Native Americans, there are likely unrecorded prehistoric archaeological resources that may be valued by Native American tribes for reasons other than scientific significance.

GOAL OSC 7

Preservation, maintenance, continuity, and enhancement of cultural heritage and resources in the Town of Yucca Valley, including historic and prehistoric cultural artifacts, traditions, and resources throughout the community.

Policies

Policy OSC 7-1 Require development proposals to locate, identify, and evaluate archaeological, historical, Native American, and other cultural sites and ensure that appropriate action is taken to protect these resources.

Policy OSC 7-2 Protect sensitive archaeological and historic resources from vandalism and illegal collection to the greatest extent possible.

Policy OSC 7-3 Require that a paleontologist be "on call" to document and recover paleontological resources discovered during excavation.

Policy OSC 7-4 Require that a records search of the California Historical Resources Information System be conducted and reviewed by a cultural resources professional for proposed development areas to determine presence of known prehistoric or historic cultural resources and the potential for undiscovered cultural resources.

Policy OSC 7-5 Require that areas found to contain significant historic or prehistoric artifacts be examined by a qualified consulting archaeologist or historian for appropriate protection and preservation through an accredited museum such as the San Bernardino County Museum.

Policy OSC 7-6 Require that if cultural resources, including archaeological or paleontological resources, are uncovered during grading or other onsite excavation activities, construction shall stop until appropriate mitigation is implemented.

Policy OSC 7-7 Require that any archaeological or paleontological resources, as determined by a consulting archeologist, on a development project site be either preserved in their sites or adequately documented as a condition of removal.

5.6 Scenic Resources

A scenic view of Yucca Valley from a rocky hill.

The Town of Yucca Valley's scenic resources are a valued local asset. The natural setting of the Town is characterized by the ridges and hillsides north, west, and south of the Town and the desert valley lands to the east. The desert environment, natural resources, and active open space opportunities are a core aspect of Yucca Valley's character and are a significant attraction for visitors seeking recreation. Views from the Town situate the community in its local environment and landscape and are an important element of the Town's quality of life.

Many of the scenic resources that are valued by Yucca Valley residents and visitors are outside the Town limits and beyond the planning area boundary. Such areas include the views of the Little San Bernardino Mountains of the Peninsular Ranges, the San Bernardino Mountains on the easternmost of the Transverse ranges surrounding the Town, and Yucca Valley's hillside areas.

As the Town continues to grow, it is important to consider the impact development can have on open space areas and to consider how to best preserve and enhance their character and uses. Policies in the Land Use Element express the Town's vision for balanced growth and environmental stewardship. Views of the surrounding steep slopes, ridgelines, and hilltops are an important contributor to the identity of the Town. As a result, the General Plan also addresses development on ridgelines and hillsides in the Land Use Element, to ensure new development is integrated into the natural desert topography.

Night Sky Protection

Night Sky: A clear sky, with visible stars, despite necessary or desired illumination of private and public property.

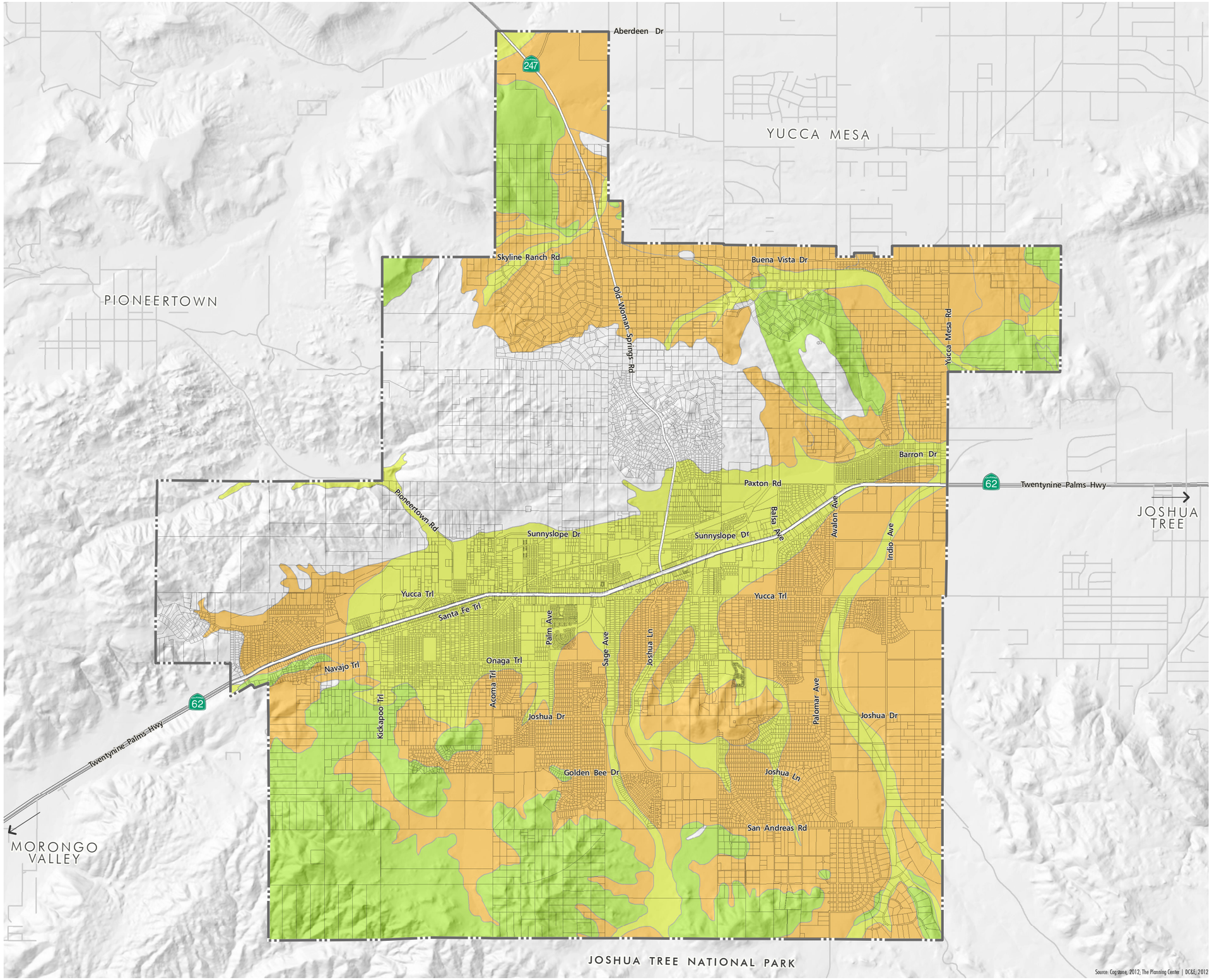
Yucca Valley benefits from its proximity to land uses that emit little or no light pollution. The limited lighting in the Morongo Basin and surrounding region preserves the natural night environment and allows for views of astronomical features. The glow of lights in urbanized areas brightens the night sky, and excessive light at night can interrupt natural cycles and behavior of both humans and wildlife. Focusing lights where they are needed for public safety and direction reduces light pollution and glare, allowing the sky to be observed and enjoyed in a more natural state. Preservation of dark skies continues to be a priority for the Town and will be a consideration in future project design as the community grows.

Hillsides and Ridgelines

The terrain in Yucca Valley is generally characterized by the low-lying plains of the valley floor at 3,000 feet above sea level, gradually leading to small hills, and framed by steep hillsides up to 4,000 feet above sea level to the north and south. This undulation provides spectacular views of the valley floor and dramatic desert landscapes, making the hillsides an asset to the community.

Figure OSC-5

PALEONTOLOGICAL RESOURCE SENSITIVITY MAP



Source: Cogstone, 2012; The Planning Center | DC&E, 2012

Potential Fossil Yield

- Very Low
- Low
- Moderate
- Town Limits

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This topography also influences development patterns. Over time, as infill development reduces the availability of land in relatively flat areas of the community, it will become important to establish guidance for the thoughtful development in the town's hillsides. The purpose of preparing for potential hillside development is to ensure that future projects will be carefully designed to respect sensitive biological resources, preserve views, and be adequately served by infrastructure.

Steep Slopes: Before the location and extent of steep slopes in a community can be identified, it is essential that a definition of a steep slope be determined. Many communities define steep slopes as having a grade of 30 percent or greater, meaning that the elevation increases by 30 feet over a horizontal distance of 100 feet.

Value of Hillsides and Ridgelines

When evaluating hillsides and ridgelines, view preservation and the overall aesthetics of the hillsides are often cited as being important to the Town and resources that contribute value to the community. Building siting, access to sites, and infrastructure can all impact the appearance of hillsides and ridgelines.

Hillsides and ridgelines may provide recreational opportunities, including hiking, climbing, and wildlife observation. When evaluating new development in hillside areas, consideration of area-wide needs and opportunities for outdoor recreation as well as identification of possible trail and viewpoint locations are important factors. Locating possible access points to existing and potential recreational opportunities is also important.

Challenges of Developing in Areas with Steep Slopes

Steeply sloped hillsides are inherently more difficult for development than lands without terrain for reasons of public safety, erosion, aesthetics, drainage and stormwater runoff, or general environmental protection. A method to address these issues is to manage the intensity of development as the grade of the slope increases. Pairing slope/density regulations with grading regulations helps to ensure that those steep terrain sites are developed as safely as possible. In most cases, large-scale commercial development is discouraged in areas with steep slopes because of the difficulties associated with trying to provide level building and parking areas as well as safe access to the site.

Providing access roads and driveways to development on steep slopes can be especially challenging. Roads and driveways in steep terrain areas tend to be longer and have more curves and switchbacks than roads and driveways on flatter terrain. This means that there are more impacts on the hillside, such as the potential for increased erosion and runoff, a higher potential for vehicular and pedestrian accidents, and potential difficulty for emergency vehicles to access the development.

Extending infrastructure to hilltop communities can be challenging to engineer and construct, especially for water and sewer systems. Individual septic systems are especially difficult to construct and maintain on steep slopes, both because of the slopes and because

the soils tend to be shallow and poorly drained. This makes septic systems on steep slopes prone to higher failure rates, which puts ground and surface water supplies at risk.

Several of the policies and implementation actions that apply to the Biological Resource Overlay areas (identified earlier in this element) also apply to hillsides and ridgelines because they support sensitive biological habitat and species.

Scenic Highways

Yucca Valley stands at the crossroads of two corridors that provide residents access to major cities, beaches, ski resorts and tourist destinations. SR-62 is the primary east–west thoroughfare, and SR-247 is the primary north–south thoroughfare. These two state highways play a critical role in Yucca Valley's position as the economic hub of the Morongo Basin.

State Route 62 (Twentynine Palms Highway) is eligible for designation as a state-designated scenic highway and is 152 miles long. It begins 17 miles west of Yucca Valley and connects the town with Morongo Valley, Joshua Tree, and Twentynine Palms. Its eastern terminus is in Earp at the Arizona state line. Its western terminus connects with I-10, which gives Yucca Valley residents highway access to Palm Springs in 30 minutes, Los Angeles in 2 hours, and San Diego in 2 ½ hours.

State Route 247 is a 78-mile route entirely within San Bernardino County. Its southern terminus begins at SR-62 in Yucca Valley. The portion of the highway that runs from Yucca Valley to Lucerne Valley is known as Old Woman Springs Road. From Lucerne Valley, SR-247 travels north to Barstow, connecting with I-15. It is also eligible for designation as part of the State Scenic Highway System.

California State Scenic Highway System: A list of highways, mainly state highways, that have been designated by the California Department of Transportation (Caltrans) as scenic highways. The California State Legislature (Section 263 of the Streets and Highways Code) makes highways eligible for designation as a scenic highway. For a highway to be declared scenic, the government with jurisdiction over abutting land must adopt a "scenic corridor protection program" that limits development, outdoor advertising, and earthmoving, and Caltrans must agree that it meets the criteria.

GOAL OSC 8

Preservation, conservation, and enhancement of Yucca Valley's scenic and visual resources.

Policies

Policy OSC 8-1 Minimize impacts to night skies by enforcing the Outdoor Lighting and Night Sky Ordinance (Ord. No. 90).

Policy OSC 8-2 Protect, preserve, and enhance the Town's hillsides, mountains, canyons, and natural desert terrain.

Policy OSC 8-3 Encourage development that provides public views of ridgelines and desert landscaping through building siting, design, and landscaping.

Policy OSC 8-4 Reduce the negative impacts of hillside development, including excessive cuts and fills, unattractive slope scars, and erosion and drainage problems.

Policy OSC 8-5 Preserve the steep slopes of the Sawtooth and Little San Bernardino Mountains and individual landmark peaks such as Burnt Mountain and Bartlett Mountain as permanent open space to protect their scenic value.

Policy OSC 8-6 Minimize the impact of hillside development by requiring conformance with the Town's Municipal Code and by utilizing the following principles:

a. Limit development of steep slopes through conformance with Town regulations that consider slope in the determination of appropriate minimum lot area for subdivisions and parcel maps, permitted floor area ratio (FAR), and density.

b. Encourage clustered development to preserve steep slopes as private or common open spaces to the greatest extent practicable.

c. Preserve the form of the existing topography by limiting cuts and fills, or through the requirement of natural landform grading.

d. Evaluate the height and visibility of new development to minimize the visual impacts new buildings create on natural landforms.

e. Promote hillside development that respects the natural landscape by designing grading and development patterns that follow natural topographic contours.

f. Encourage higher densities as a trade-off to support preservation of natural features and slopes that maintain the Town's desert character.

Policy OSC 8-7 Preserve scenic views along primary transportation corridors, particularly SR-62, recreational trails, and from public open spaces.

Policy OSC 8-8 Preserve and enhance natural scenic resources associated with major roadway viewsheds and open space corridors as essential assets reflecting the community's image and character.

5.7 Energy Resources

An example of ground-mounted solar panels in Yucca Valley.

Energy production, conservation, and patterns of energy consumption are of growing importance to individuals, agencies, and jurisdictions. Energy price fluctuations in the late 1990s and increases in early 2001, combined with rolling blackouts and climate change, have led to a renewed interest in energy conservation.

Typically, the most important factors influencing residential energy consumption are the size of the house, the type of house (detached single-family or multifamily structure), the number of major appliances, and the construction and siting of the structure. Residential energy needs are often fulfilled by electricity or a combination of gas and electricity. Space conditioning is the most energy-consuming activity in residential structures.

The State of California requires local governments to address energy conservation and efficiency in new construction. The State Building Standard Code, including Title 24, requires energy conservation and efficiency measures for any new structures, additions to existing structures, changes to the footprint of structures, or changes to water and heating systems

GOAL OSC 9

Conservation of energy and fuels of all types and promotion of a sustainable energy supply.

Policies

Policy OSC 9-1 Develop, promote, and implement long-term energy efficiency and demand management policies and standards for Town facilities, vehicles, and new development.

Policy OSC 9-2 Support the development of renewable energy generation within the Town, provided that significant adverse environmental impacts associated with such development can be successfully mitigated.

Policy OSC 9-3 Encourage the use of clean and/or renewable alternative energy sources for transportation, heating, cooling, and construction.

Policy OSC 9-4 Encourage the reduction and recycling of household and business waste.

Policy OSC 9-5 Ensure that any planned construction, demolition, addition, alteration, repair, remodel, landscaping, or grading projects divert all reusable, salvageable, and recyclable debris from landfill disposal.

Policy OSC 9-6 Promote use of ride-sharing and mass transit as means of reducing transportation-related energy demand.

Policy OSC 9-7 Encourage development proposals to participate in state, federal, and/or regional solar rebate and incentive programs.

Policy OSC 9-8 Encourage new construction provided for in whole or in part with Town funds to incorporate passive solar design features, such as daylighting and passive solar heating, where feasible.

Policy OSC 9-9 Promote building design and construction that integrates alternative energy systems, including but not limited to solar, thermal, photovoltaics, and other clean energy systems.

5.8 Air Quality

Due to its location and meteorology, Yucca Valley experiences a variety of air quality issues. The Town of Yucca Valley is within the Mojave Desert Air Basin (MDAB). The MDAB includes the desert portions of Los Angeles and San Bernardino Counties, the eastern desert portion of Kern County, and the northeastern desert portion of Riverside County. The Mojave Desert Air Quality Management District (MDAQMD) has jurisdiction over the desert portion of San Bernardino County and the far eastern end of Riverside County. This region includes the incorporated communities of Adelanto, Apple Valley, Barstow, Blythe, Hesperia, Needles, Twentynine Palms, Victorville, and Yucca Valley. This region also includes the National Training Center at Fort Irwin, the Marine Corps Air Ground Combat Center, and the Marine Corps Logistics Base in the eastern portion of Edwards Air Force Base.

Wind

Wind direction is primarily from the west, west-southwest and southwest. A significant portion of the prevailing winds in the Yucca Valley area is due to the phenomena known as the "orographic effect." The air is forced over the mountain range and loses moisture as it rises. When it descends, it also compresses and heats up. The speed of the wind is aided by the "desert heat lows," which routinely form over the eastern Mojave Desert area. Although a portion of Yucca Valley's winds come from the Los Angeles Basin via the canyons, the vast majority of the winds are a result of the orographic effect and the desert heat low-pressure systems. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada Mountains to the north; air masses pushed onshore in Southern California by differential

heating are channeled through the MDAB. The MDAB is separated from the southern California coastal and central California Valley regions by mountains (highest elevation approximately 10,000 feet) whose passes form the main channels for these air masses.

Temperature Effects

Temperature Inversion: A layer of warm, dry air overlaying cool, moist marine air that acts as a lid through which the marine layer cannot rise. When the inversion layer is approximately 2,500 feet above sea level, the sea breezes carry the pollutants inland to escape over mountain slopes or through passes. At a height of 1,200 feet, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer.

The southern California region frequently experiences temperature inversions. Smog in southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long period of time, allowing them to form secondary pollutants by reacting with sunlight. The inversion conditions in the MDAB are much less favorable for the buildup of high ozone concentrations than in the coastal areas of Southern California. As a result, meteorology in the MDAB is less conducive for the chemical mixing characteristic of typical ozone formation.

Pollutants

Sensitive Receptors: Segments of the population those are most susceptible to poor air quality, such as children, elderly people, and sick people, as well as sensitive land uses, such as schools, hospitals, parks, and residential communities. Air quality problems intensify when sources of air pollutants and sensitive receptors are near one another. Since residential areas are located throughout the Town, as are schools and parks, the consideration of sensitive receptors is an important aspect of the General Plan.

Air pollutants of concern in Yucca Valley include ozone (O_3), carbon monoxide (CO), nitrogen oxides (NO_2 and NO), sulfur dioxide (SO_2), and particulate matter (PM). These pollutants originate from sources both within and outside of Yucca Valley. Vehicle use is the primary source of air pollutants in Yucca Valley. Vehicles form pollutants both directly by combustion and indirectly by the interaction of combustion by-products with one another and with ultraviolet (UV) light. PM is produced by both vehicles and wood-burning fireplaces, among other sources. In addition, toxic air contaminants (TACs), such as benzene, butadiene, formaldehyde, and hydrogen sulfide, are of concern because they are harmful in small quantities.

Yucca Valley's local ambient air quality is managed and monitored by the MDAQMD and the California Air Resources Board (CARB). The MDAQMD is tasked with achieving and maintaining healthful air quality for its residents by establishing programs, plans, and regulations enforcing air pollution control rules in order to attain all state and federal ambient air quality standards and to minimize public exposure to airborne toxins and nuisance odors. The MDAQMD has adopted several attainment plans to achieve state and federal air quality standards. The MDAQMD continuously monitors its progress in implementing attainment plans and must periodically report to the California Air Resources Board and the US Environmental Protection Agency.

GOAL OSC 10

Preservation and enhancement of the Mojave Desert region's air quality, in order to assure long-term availability of clean and healthful air in the Town of Yucca Valley, for the protection of the health and welfare of the community.

Policies

Policy OSC 10-1 Participate in the monitoring of all air pollutants of regional concern on a continuous basis.

Policy OSC 10-2 Coordinate air quality planning efforts with other local, regional, and federal agencies.

Policy OSC 10-3 Promote the safe and efficient movement of people and materials into and through the Town as a means of reducing the impact of automobiles on local air quality.

Policy OSC 10-4 Coordinate land use planning efforts to assure that sensitive receptors are reasonably separated from polluting point sources.

Policy OSC 10-5 Provide consistent and effective code enforcement for construction and grading activities to assure ground disturbances do not contribute to blowing sand and fugitive dust emissions.

5.9 Greenhouse Gases

Sustainable communities are jurisdictions and regions that engage in practices that meet the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable communities strive to be economically, environmentally, and socially healthy and resilient. In 2006, the Governor of California signed Assembly Bill (AB) 32, codified under the Global Warming Solutions Act. The act requires that California cap its GHG emissions at 1990 levels by 2020. This legislation requires CARB to establish a program for statewide GHG emissions reporting, as well as monitor and enforce of that program. CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. As a result, many communities identify strategies to minimize the effects of climate change and reduce GHG emissions.

The main measures to reduce GHG emissions are in the AB 32 Scoping Plan, which was approved on December 12, 2008. This plan includes a range of GHG reduction actions including: requiring utilities produce a third of their energy from renewable sources such as wind, solar, and geothermal; reducing GHG emissions for passenger cars, pick-up trucks, and sport utility vehicles; and

Greenhouse Gases (GHG): A balance of naturally occurring gases in the atmosphere determines the earth's climate by trapping solar heat through a phenomenon known as the greenhouse effect. Greenhouse gases (GHGs), including carbon dioxide, methane, nitrous oxide, chlorofluorocarbons, and water vapor, keep solar radiation from exiting our atmosphere. In a process very similar to the windows on a greenhouse, GHGs trap so much heat that the temperature within the earth's atmosphere is rising.

GHGs are emitted through both natural processes and human activities. Emissions from human activities, such as electricity production, motor vehicle use, and agriculture, are contributing to the concentration of GHGs in the atmosphere and have led to a trend of unnatural warming of the earth's climate, which is known as global warming.

implementing of the Low Carbon Fuel Standard, which will require oil companies to make cleaner domestic-produced fuels.

The San Bernardino Associated Governments (SANBAG) has compiled an inventory of GHG emissions and developed reduction measures that could be adopted by the 21 Partnership cities of San Bernardino County; Yucca Valley is currently a participant in this effort. As a participant, Yucca Valley has elected a goal to reduce its community GHG emissions to a level that is 15 percent below its 2008 GHG emissions level by 2020. It is anticipated that the Town will meet and exceed this goal through a combination of state and local efforts. In addition, green building practices that promote energy and resource conservation can be effective in jurisdictions such as the Town of Yucca Valley, where energy use generates a significant portion of the town's GHG emissions.

Green Building: The practice of creating structures and using processes that are environmentally responsible and resource efficient throughout a building's life-cycle, from siting to design, construction, operation, maintenance, renovation, and deconstruction. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort. Green building is also known as sustainable or high performance building.

Source: US Environmental Protection Agency

GOAL OSC 11

Reduced greenhouse gas emissions from activities within the Town that support efforts under AB32 to mitigate the impact of climate change on the Town and state.

Policies

Policy OSC 11-1 Continue to participate in and support the provisions of the San Bernardino Regional Greenhouse Gas Reduction Plan.

Policy OSC 11-2 Encourage new development to be designed to take advantage of the desert climate through solar orientation, shading patterns, and other green building practices and technologies.

Policy OSC 11-3 Maintain General Plan Land Use, Housing, and Transportation goals and policies to be aligned with, support, and enhance SCAG's Regional Transportation Plan and Sustainable Communities Strategy to achieve reductions in GHG emissions.