Appendix D

Biological Resources Technical Report

Appendices

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Biological Technical Report for the Town of Yucca Valley General Plan Update

January 22, 2013

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Town of Yucca Valley General Plan Update
Biological Technical Report

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1.0 INTRODUCTION

This Biological Technical Report describes the existing biological conditions within and adjacent to the Town of Yucca Valley (Town) General Plan Update Area (Figures 1 and 2). The information contained in this report will be used to inform the General Plan Update and Environmental Impact Report (EIR) for the Town. Detailed information provided in this report includes regulatory context, existing biological conditions, sensitive biological resources, and future opportunities to protect the natural environment and constraints for development.

2.0 METHODS

A review of existing literature and databases were conducted to determine the existing biological conditions and general occurrence of sensitive biological resources within the Town General Plan Update area.

Background research to determine the existing biological conditions included a review of current federal, state, and local regulations, historical and current aerial photographs, U.S. Geological Survey (USGS) topographic maps, U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey maps, historical weather information for the Town, literature from peer review journals, and reputable online resources that provide data for the region.

A review of the California Natural Diversity Data Base (CNDDB) was performed to identify known sensitive biological resources in the vicinity of the Town General Plan Update area. The CNDDB, which is administered by the California Department of Fish and Wildlife (CDFW), provides an inventory of vegetation communities, plant species, and wildlife species that are considered sensitive by state and federal resource agencies, academic institutions, and other conservation groups. Historical occurrences of sensitive species from the Yucca Valley North and Yucca Valley South USGS quadrangles were used to determine species with a potential to occur within and adjacent to the Town General Plan Update area.

The information provided in this report is based solely on an analysis of existing literature and data for the region. No new surveys were conducted to prepare this report.

The presence of regional conservation plans that govern the management of lands for the protection of biological resources were also identified in the Town General Plan Update area to provide the regional regulatory framework for the Town General Plan Update and EIR.

3.0 EXISTING BIOLOGICAL RESOURCES SETTING

This section describes the regulatory context, existing biological conditions, and sensitive biological resources found within and adjacent to the Town.

3.1 REGULATORY CONTEXT

To establish the regulatory context for the Town General Plan Update, a variety of federal, state, and local regulations were evaluated to determine if they may be applicable to future proposed projects within the Town General Plan Update area. In addition, regional land use and management, including established and proposed parks and preserves, and multiple regional conservation plans were evaluated to provide the regional regulatory framework for the Town General Plan Update. This section describes the federal and state regulations that may apply to future projects as well as the regional and local regulatory framework for the Town.

3.1.1 Federal Regulations

Several federal regulations may apply to future projects that are proposed within the Town General Plan area. These include, but are not limited to:

- National Environmental Policy Act
- Federal Endangered Species Act of 1973 (16 United States Code [USC] 1531 *et seq.*)
- Clean Water Act of 1972 (33 USC 1251 *et seq.*)
- Migratory Bird Treaty Act of 1918 (16 USC 703 through 711)
- Bald and Golden Eagle Protection Act (16 USC 668)

These federal regulations are described in detail in this section.

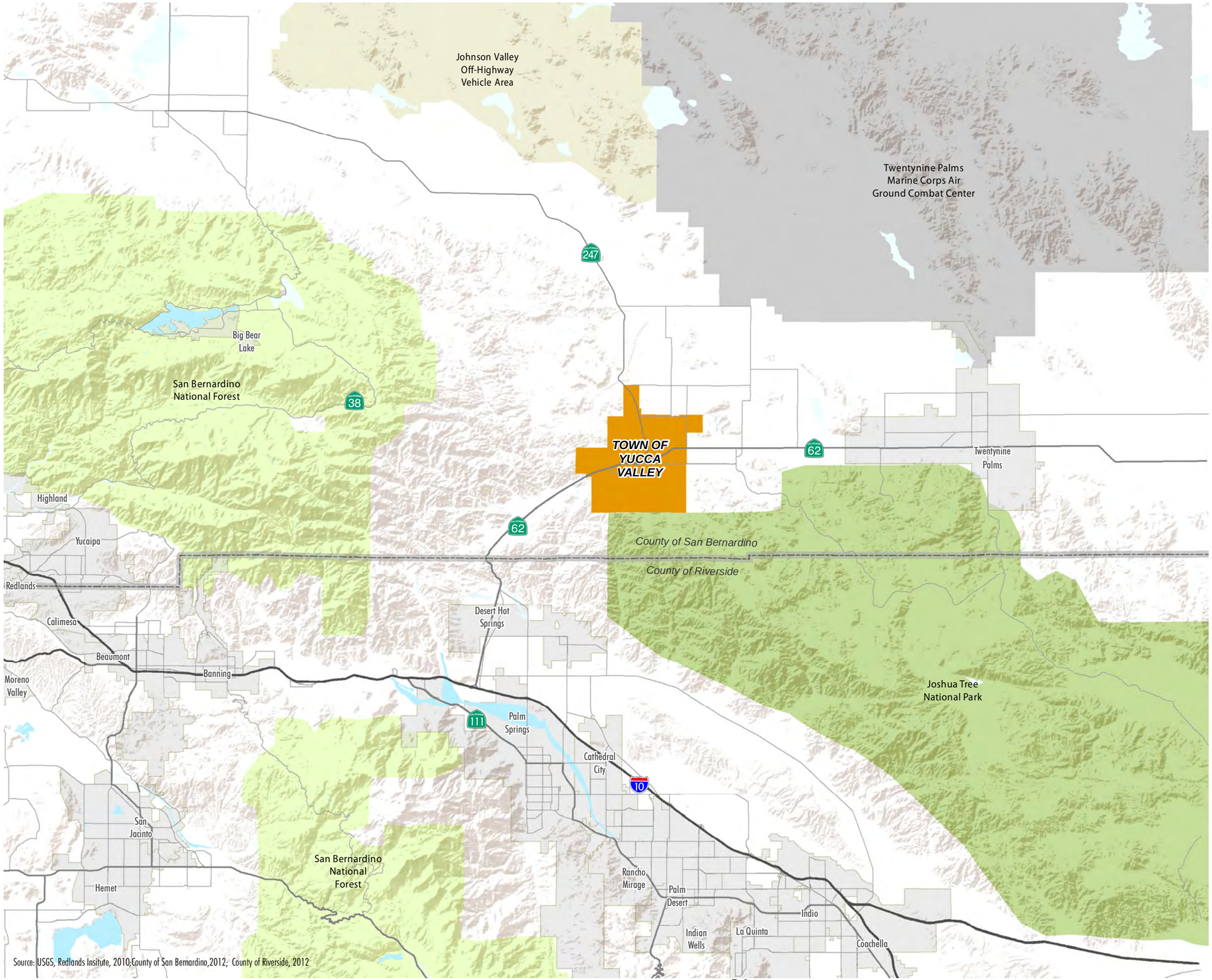
<u>National Environmental Policy Act</u>

The National Environmental Policy Act (NEPA) was passed in 1969 and established a broad national framework for protecting the environment by assuring that all branches of government give proper consideration to the environment prior to undertaking any major federal action that has the potential to significantly affect the environment. NEPA applies to projects undertaken, funded, or requiring the issuance of a permit by a federal agency, including projects associated with airports, buildings, military complexes, highways, parkland purchases, and other federal activities are proposed.

NEPA is administered by the President's Council on Environmental Quality (CEQ), which is supported by a staff of environmental professionals. CEQ's main responsibilities in the NEPA process are to gather information on the conditions and trends in environmental quality, to evaluate federal programs in light of the goals established by NEPA, to develop and promote

Figure 1

REGIONAL MAP



Source: USGS, Redlands Insitute, 2010;County of San Bernardino,2012; County of Riverside, 2012

- Johnson Valley Off Highway Vehicle Area
- Joshua Tree National Park
- San Bernardino National Forest
- Twenty Nine Palms Marine Corps Air Ground Combat Center
- Town of Yucca Valley Limits
- City Boundary
- County Boundary

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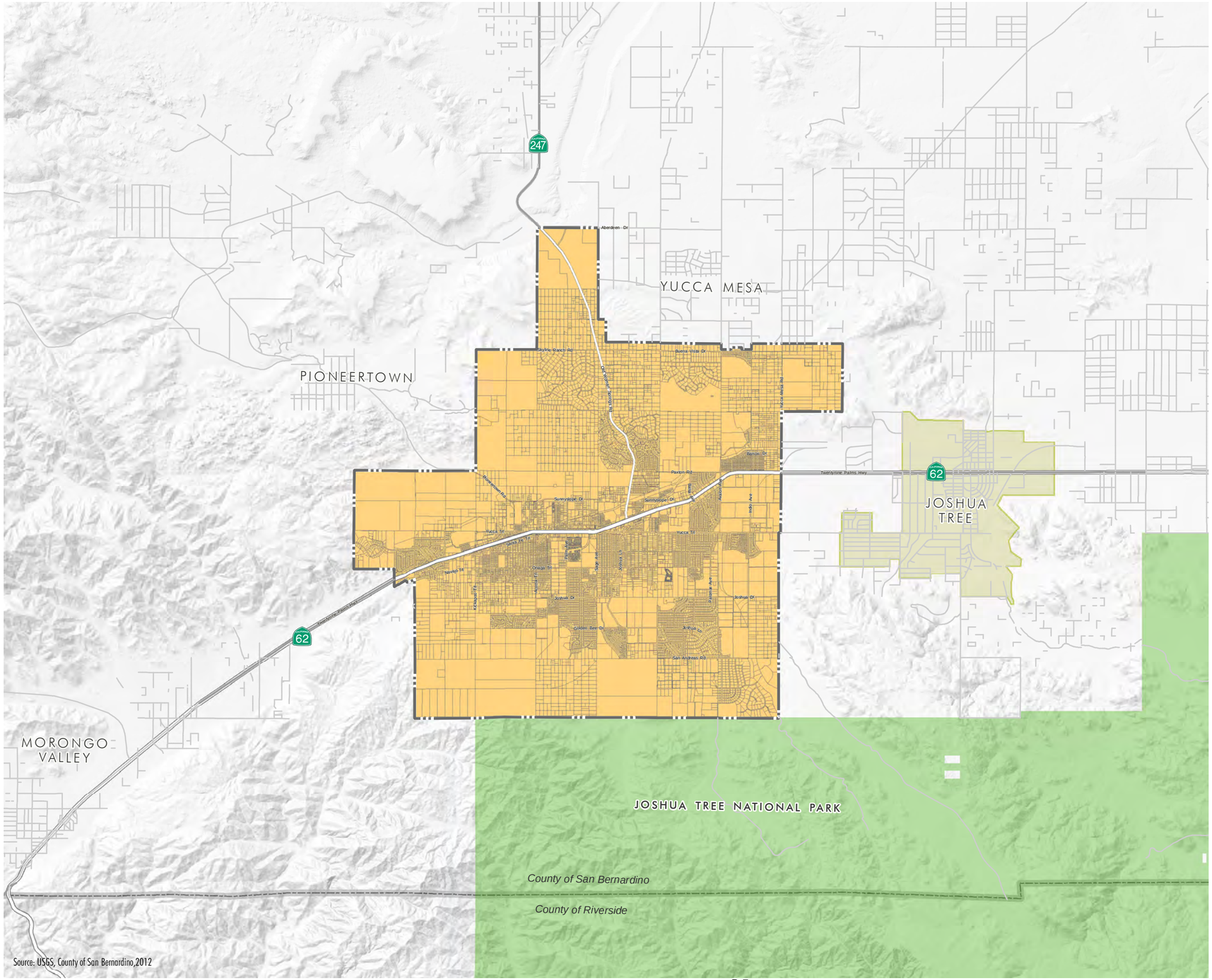
Figure 2

VICINITY MAP



- Town of Yucca Valley
- Joshua Tree
- Joshua Tree National Park
- County Boundary

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national policies to improve environmental quality, and to conduct studies, surveys, research, and analyses relating to ecosystems and environmental quality. In addition, federal agencies may involve CEQ in the NEPA process when there are disagreements concerning the environmental effects of a proposed action.

The federal agency responsible for complying with NEPA is the agency that is proposing to implement the federal action; however, several federal agencies may be involved with the NEPA process based on an agency's expertise and relationship to the proposed action. A federal agency may be a Lead Agency or a Cooperating Agency in the NEPA process.

A Lead Agency is designated when more than one federal agency is involved in a proposed action. The Lead Agency is responsible for supervising the environmental analysis and the preparation of the appropriate environmental document, such as a Categorical Exclusion (CE), Finding of No Significant Impact (FONSI), Environmental Assessment (EA), or Environmental Impact Statement (EIS).

A Cooperating Agency is a federal, state, local, or tribal agency that has jurisdiction over a proposed action or that has special expertise with an environmental issue associated with the proposed action. The Cooperating Agency assists the Lead Agency by participating in the entire NEPA process, including the scoping, environmental analysis, and document preparation.

Any federal lead agency may be a Lead Agency or a Cooperating Agency, depending upon the specifics of the proposed action. However, the Environmental Protection Agency (EPA) has a unique role in the NEPA review process because it is required to review and publicly comment on the environmental impacts of major proposed federal actions, specifically those for which an EIS is required. If the EPA determines that the environmental analysis is unsatisfactory or that the proposed action would have adverse environmental effects, it is required to involve CEQ in the NEPA process.

Federal Endangered Species Act of 1973 (16 United States Code [USC] 1531 *et seq.*)

The Federal Endangered Species Act of 1973 (FESA) was designed to protect critically imperiled plant and wildlife species from extinction by eliminating or reducing the threats to these species and by aiding in the recovery and/or maintenance of the species populations. FESA designates species that are endangered or threatened, as well as species that are candidates for listing and protects these species from unauthorized "take", which is defined as to "harass, harm, pursue, hunt, shoot, wound, kill trap, capture, or collect, or to attempt to engage in any such conduct." FESA also designates critical habitat for federally listed species and protects these species from interference with vital breeding and behavioral activities and from critical habitat degradation.

FESA is administered by the U.S. Fish and Wildlife Service (USFWS) for freshwater fish and terrestrial wildlife and the National Oceanic and Atmospheric Administration (NOAA) for

marine and anadromous species. A person, defined as an "individual, corporation, partnership, trust, association, or any other private entity; or any officer, employee, agent, department, or instrumentality of the Federal Government, of any State, municipality, or political subdivision of a State, or of any foreign government; any State, municipality, or political subdivision of a State; or any other entity subject to the jurisdiction of the United States", is prohibited from taking a listed species until an appropriate permit pursuant to Section 7, 9, and/or 10 of the ESA has been obtained from USFWS and/or NOAA.

Clean Water Act of 1972 (33 USC 1251 *et seq.*)

Sections 404 and 401 of the Clean Water Act of 1972 (CWA) apply to potential impacts to wetlands, Waters of the U.S., and Waters of the State. The U.S. Environmental Protection Agency (ESA) administers the CWA; however, some sections of the CWA are administered by other agencies.

Section 404 of the CWA regulates the discharge of dredged or fill material into navigable waters, including both wetlands and other Waters of the U.S. The discharge of dredged or fill material is typically associated with a variety of development projects, agricultural activities, and water resource projects. The U.S. Army Corps of Engineers (Corps) administers Section 404 of the CWA and is responsible for issuing general and individual permits and for making jurisdictional determinations.

Section 401 of the CWA requires a State Water Quality Certification or waiver for any activity requiring a Section 404 permit. The State Water Quality Certification ensures the activity will not violate any established State water quality standards. The State Water Resources Control Board (SWRCB), in conjunction with the nine California Regional Water Quality Control Boards (RWQCBs), administers Section 401 of the CWA and is responsible for issuing permits pursuant to the Section 401 Water Quality Certification Program.

Migratory Bird Treaty Act of 1918 (16 USC 703 through 711)

The Migratory Bird Treaty Act of 1918 (MBTA) implements various conventions and treaties between the United States and Canada, Mexico, Japan, and Russia for the protection of over 800 migratory bird species. Under the MBTA, it is unlawful to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird…or any part, nest, or egg of any such bird" (16 USC 703).

The MBTA is administered by USFWS. Take permits for MBTA species are rarely issued, except for specific actions to aid recovery of a species; however, USFWS establishes hunting seasons for species for which there is a long tradition of hunting, as long as hunting will not

adversely impact their population status or long-term conservation. While the MBTA includes approximately 170 species of game birds, hunting is typically authorized for fewer than 60 of these species each year.

Bald and Golden Eagle Protection Act (16 USC 668)

The Bald and Golden Eagle Protection Act (BGEPA) provides protection for both the bald eagle (*Haliaeetus leucocephalus*) and the golden eagle (*Aquila chrysaetos*) by prohibiting the "take" of either of these species, including their parts, nests, or eggs. The MBTA defines "take" as to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" any bald or golden eagle. The BGEPA is administered by the USFWS, and limited take authorizations are granted for qualifying activities. Persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle [or any golden eagle], alive or dead, or any part, nest, or egg thereof" without prior approval are subject to criminal penalties.

3.1.2 State Regulations

Several state regulations may apply to future projects that are proposed within the Town General Plan area. These include, but are not limited to the:

- California Environmental Quality Act
- California Endangered Species Act (Fish and Game Code 2050 *et seq.*)
- California Fish and Game Code
- California Porter-Cologne Water Quality Control Act
- California Native Desert Plants Act
- California Natural Community Conservation Planning Program

These state regulations are described in detail in this section.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) was passed in 1970 as the state counterpart to NEPA to institute a statewide policy of environmental protection. CEQA applies to projects undertaken, funded, or requiring the issuance of a permit by a state or local public agency and requires the project proponent to identify significant environmental impacts as well as avoidance, minimization, and/or mitigation measures to reduce these impacts to below a level of significance.

The CDFW has jurisdiction over the conservation, protection, and management of native habitats, plant species, and wildlife species found within California and is responsible for maintaining sustainable populations of these habitats and species. The CDFW provides

biological expertise to review and comment on CEQA documents, including the impacts resulting from proposed project activities and the proposed avoidance, minimization, and mitigation measures associated with these impacts. The CDFW may play various roles in the CEQA process; the CDFW is always a Trustee Agency and may also be a Lead Agency or a Responsible Agency.

The CDFW is one of four trustee agencies, which also include the State Lands Commission, the Department of Parks and Recreation, and the University of California. As a Trustee Agency, the CDFW has jurisdiction over certain resources held in trust for the people of California and is typically required to be notified of CEQA documents that are relevant to its jurisdiction, such as documents for projects involving fish and wildlife resources. As a Trustee Agency, the CDFW cannot approve or disapprove a project; however, the lead and responsible agencies must consult with the CDFW, and the CDFW reviews the CEQA document(s) and provides recommendations regarding the resources under their jurisdiction (Fish and Game Code Section 1802).

When the CDFW proposes to implement its own project, it is designated as the Lead Agency in the CEQA process and serves as the California government agency with principle responsibility for implementing or approving the proposed project. Such projects typically include projects in state wildlife areas and state fish hatcheries as well as habitat or stream restoration projects. Additionally, the CDFW is the Lead Agency when it is the only agency issuing a permit, as is sometimes the case with Streambed Alteration Agreements. As the Lead Agency for such projects, the CDFW is responsible for preparing the CEQA document and determines whether a Negative Declaration or an EIR is required by CEQA (CEQA Statutes, Sections 21080.3 and 21104.2; Guidelines, Sections 15050 and 15367).

The CDFW is also sometimes designated as a Responsible Agency, which is an agency, other than the Lead Agency, that has the legal responsibility for implementing and approving a proposed project. The CDFW is designated as the Responsible Agency when the Lead Agency requires a 1600 Streambed Alteration Agreement or a 2081(b) California Endangered Species Act Incidental Take Permit for a project. As a Responsible Agency, CDFW actively participates in the CEQA process by reviewing the Lead Agency's CEQA document and using that document to make decisions about the proposed project, to prepare and issue its own findings regarding the project (CEQA Guidelines, Sections 15096 and 15381), and to determine whether or not to issue an incidental take permit.

California Endangered Species Act (CESA; Fish and Game Code 2050 *et seq.*)

The CESA parallels FESA and protects and/or preserves native plant and wildlife species and their habitats, especially those that are threatened with extinction and those that are experiencing significant decline that may lead to a threatened or endangered designation, within the state of California. CESA designates special status species that are protected from unauthorized "take", which is defined as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

CESA is administered by the CDFW. A state lead agency is required to consult with the CDFW to ensure that a proposed project is not likely to jeopardize the continued existence of a special status species or result in the destruction or adverse modification of essential habitat for a species. CESA allows for the issuance of incidental take permits for lawful development projects and emphasizes the benefits of early consultation between the lead agency and CDFW to avoid potential impacts to special status species and to develop appropriate mitigation measures to reduce impacts to and avoid loss of a special status species.

California Fish and Game Code

Several sections of the California Fish and Game Code, which is administered by the CDFW, also may apply to future projects proposed in the Town. These include Section 2081; Sections 1600 through 1616; Sections 1900, et seq.; Sections 2511, 4700, 5050, and 5515; Sections 3503, 3503.5, and 3513; and Title 14, California Code of Regulations, Section 670.2 and 670.6. Each of these sections is discussed in detail below.

Section 2081

Section 2081 of the California Fish and Game Code allows for the issuance of an incidental take permit from CDFW for projects that have the potential to take a special status species, including a state-listed species, as long as the impacts are minimized and fully mitigated and will not jeopardize the continued existence of a state-listed species. The measures required to minimize and fully mitigate impacts must be roughly proportional to the extent of the proposed impact to the species and must be capable of successful implementation while maintaining the applicant's objectives to the greatest extent feasible. The applicant must show that adequate funding is available to implement the required avoidance and mitigation measures and monitor the effectiveness of the mitigation measures.

Sections 1600 through 1616

Sections 1600 through 1616 of the California Fish and Game Code apply to all projects that would (1) substantially divert or obstruct the natural flow of, (2) substantially change or use any material from, or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement into the bed, channel, or bank of any river, stream, or lake. Sections 1600 through 1616 require any person, business, public utility, or state or local government agency that proposes any activity within or adjacent to a lake, river, or stream that flows at least intermittently through a bank or channel, including watercourses with a subsurface flow (e.g., ephemeral streams, desert washes) and some flood plains, to notify the regional CDFW office of the proposed activity. CDFW will determine if the proposed activity may substantially adversely affect fish and wildlife resources and if a Streambed Alteration Agreement is necessary.

Other Sections

Additional sections of the California Fish and Game Code may apply to future projects proposed in the Town, including, but not limited to, Sections 1900 through 1913; Sections 2511, 4700, 5050, and 5515; Sections 3503, 3503.5, and 3513; and Title 14, California Code of Regulations, Section 670.2 and 670.6. Sections 1900 through 1913 provide guidelines to preserve, protect, and enhance endangered or rare native plants within California. Sections 2511, 4700, 5050, and 5515 provide guidelines to protect wildlife species that are designated as "fully protected" by the CDFW and as therefore cannot be harmed, taken, or possessed. Sections 3503, 3503.5, and 3513 state that it is unlawful to take, possess, or destroy the nest or eggs of any bird species except otherwise allowed by the or any regulation made pursuant to the California Fish and Game Code. Section 3503.5 provides protection specifically in the orders Falconiformes (hawks, eagles, and flacons) and Strigiformes (owls), and Section 3513 provides protection specifically for migratory, non-game birds designated by the MBTA. Title 14, California Code of Regulations, Section 670.2 and 670.6 list wildlife species that are designated as California Species of Concern or are state-listed as threatened or endangered species.

California Porter-Cologne Water Quality Control Act

The California Porter-Cologne Water Quality Control Act was enacted in 1969 and is administered by either the SWRCB and/or the RWQCB. This Act provides protection for Waters of the State, which are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." If a proposed project involves alteration to any Waters of the State, the project proponent must file a Report of Waste Discharge with the appropriate RWQCB to obtain "Waste Discharge Requirements" (WDRs), which serve as the project discharge permit.

California Desert Native Plants Act

The California Desert Native Plants Act was passed in 1981 and is administered by the CDFW. This Act provides protection for non-listed 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.

California Natural Community Conservation Planning Program

The California Natural Community Conservation Planning (NCCP) program was initiated in 1991 and is administered by CDFW. It is a cooperative effort by the CDFW and numerous public and private partners that takes a broad scale, ecosystem approach to planning for the protection and perpetuation of biological diversity throughout California by protecting both habitats and the species within these habitats while also accommodating compatible land use.

An NCCP plan identifies and provides for the regional protection of plants, wildlife, and their habitats, while allowing compatible and appropriate economic activity in the region. By including key interests in the process and by working with landowners, environmental organizations, and other interested parties, an NCCP plan provides the framework for a local agency to oversee the numerous activities that compose the development of a conservation plan. The CDFW and USFWS provide the necessary support, direction, and guidance to NCCP participants during the NCCP plan development and implementation. Within California, there are currently 23 active NCCP plans covering more than 11 million acres, and several draft NCCP plans--including the draft West Mojave Plan, which is discussed in detail in Section 3.1.3.1--are pending approval.

3.1.3 Regional Conservation Framework

Several management plans and preserves provide a regional conservation framework for the General Plan Update area (Figure 3). These include existing conservation plans and management areas as well as proposed conservation plans and management areas. Adopted conservation plans and management areas include, but are not limited to:

- Joshua Tree National Park
- Big Morongo Canyon Preserve
- Burns Piñon Ridge Reserve
- San Gorgonio Wilderness
- Pioneertown Mountains Preserve
- Bighorn Mountain Wilderness

Draft conservation plans and management areas include, but are not limited to:

- Draft West Mojave Plan
- Draft Desert Renewable Energy Conservation Plan
- Proposed Sand to Snow National Monument

Each of these is discussed in detail, below.

Joshua Tree National Park

Joshua Tree National Park, which abuts the southern Town boundary, is located 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 as a wilderness area and is managed by the National Park Service in accordance with the Wilderness Act.

Big Morongo Canyon Preserve

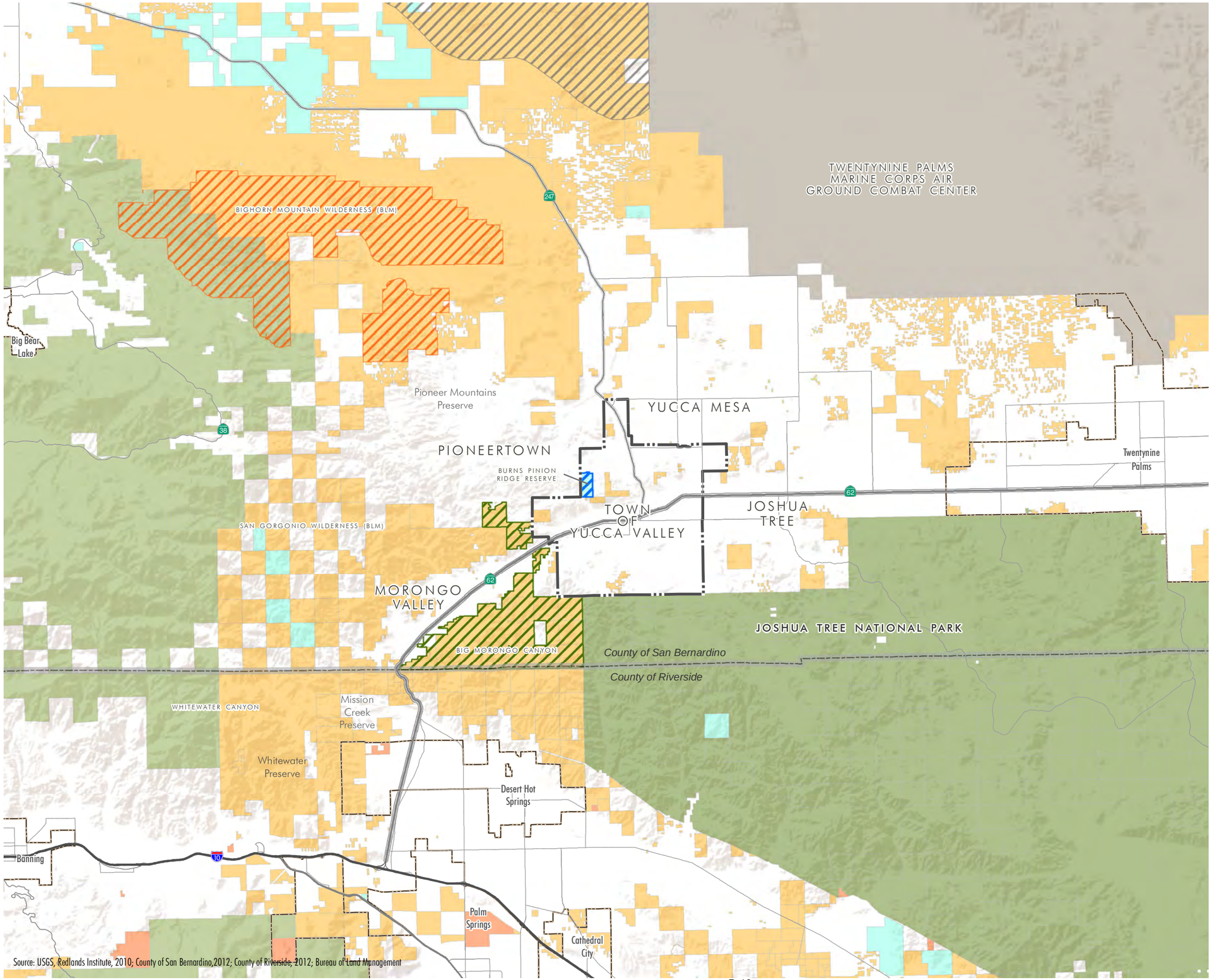
Big Morongo Canyon Preserve, which occurs approximately 3 miles southwest of the Town, is located in the Little San Bernardino Mountains and covers approximately 31,000 acres, with elevations ranging from approximately 600 feet above mean sea level on the canyon bottoms to approximately 3,000 feet above mean sea level on the ridgelines. Because of its ecological importance to the region, the Big Morongo Canyon Preserve was designated as an Area of Critical Environment Concern by 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 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 approximately 300-acre Burns Piñon Ridge Reserve is located just north of the Town. It is situated in the Big Morongo Basin and is characterized by a rugged, boulder-strewn landscape composed of a series of shallow canyons along with steep, rocky ridges of sculptured granite. The Reserve, which shows little evidence of disturbance from human activities or 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 an ecotone 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. This Burns Piñon Ridge Reserve is a part of the University of California Natural Land and Water Reserves System.

San Gorgonio Wilderness

The San Gorgonio Wilderness is located 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



Source: USGS, Redlands Institute, 2010; County of San Bernardino,2012; County of Riverside, 2012; Bureau of Land Management

Figure 3
CONSERVATION AREAS

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

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

- Town Yucca Valley Limits
- City Boundary
- County Boundary

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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).

Pioneertown Mountains Preserve

The Pioneertown Mountains Preserve is located 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 and the Bighorn Mountains Wilderness to the north. The Pioneertown Mountain Preserve is owned and operated by the Wildlands Conservancy.

Bighorn Mountain Wilderness

The Bighorn Mountain Wilderness is located northwest of the Town and protects 38,500 acres along the eastern slopes of the San Bernardino Mountains down into the Mojave Desert. The rugged Bighorn Mountains, which are foothills of the San Bernardino Mountains, occupy the north central portion of this wilderness. Elevations change dramatically, with distinct changes in vegetation from Joshua tree woodland on the desert floor to stands of Jeffrey Pine at higher elevations up to 7,500 feet above mean sea level. The Bighorn Mountain Wilderness is managed jointly by the BLM and the USFS.

Draft West Mojave Plan

The draft West Mojave Plan (WMP) covers approximately 9.3 million acres of the western portion of the Mojave Desert that is located in California, including parts of Inyo, Los Angeles, Kern, and San Bernardino counties. The draft WMP is an interagency Habitat Conservation Plan (HCP) that is being prepared by the Bureau of Land Management (BLM) in collaboration with federal and state agencies.. The Town is located in the draft WMP area but is not currently a participating agency.

The purpose of the draft WMP is to conserve and protect the desert tortoise (*Gopherus agassizii*) and nearly 100 other sensitive plant and wildlife species as well as the habitats on which these species depend while also providing developers of public and private projects with a streamlined program for compliance with FESA and CESA by reducing delays and expenses, eliminating uncertainty, and applying the costs of compensation and mitigation equitably to all agencies and parties. Once adopted, the WMP would allow incidental take of covered species 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. The term of the WMP would be 30 years.

Draft Desert Renewable Energy Conservation Plan

The draft Desert Renewable Energy Conservation Plan (DRECP) covers approximately 22.5 million acres of federal and non-federal lands located in the California deserts and adjacent lands located in Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego counties. It is a collaboration between state (e.g., California Energy Commission, CDFW) and federal (e.g., BLM, USFWS) 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 (CEC 2012).

Once approved, the DRECP would result in an efficient and effective biological mitigation and conservation program providing renewable energy project developers with binding, long-term endangered species permit assurances while facilitating the review and approval of solar thermal, utility-scale solar photovoltaic (PV), wind, and other forms of renewable energy and associated infrastructure such as electric transmission lines necessary for renewable energy development within the Mojave and Colorado desert regions of California (CEC 2012).

Proposed Sand to Snow National Monument

The proposed Sand to Snow National Monument 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, which were discussed earlier in this section. 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 approximately 11,503 feet above mean sea level at San Gorgonio Mountain. The proposed Sand to Snow National 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. The proposed Sand to Snow National Monument would be managed jointly by the BLM and the USFS.

3.1.4 Local Conservation Framework

The Town General Plan (Town 1995) identifies the importance of the biological resources that occur within and adjacent to the Town and outlines goals, policies, and programs to utilize and conserve these resources by guiding decision makers in regulating land use and development while protecting the biological resources. In addition to goals, policies, and programs established in the existing Town General Plan, the local conservation framework also includes the Plant Protection and Management Ordinance as well as existing natural open space in Yucca Valley, both of which are discussed, below.

Plant Protection and Management Ordinance

The Town established the Plant Protection and Management Ordinance (Ordinance No. 140; DCA-06-01) to protect its abundant and diverse plant resources. This Ordinance, which is still under review, provides regulations and guidelines for the management of the plant resources in the Town with the intent to preserve native plants that are unique to the Town. The Plant Protection and Management Ordinance regulates the removal and/or relocation of several native plant species, including Joshua trees (*Yucca brevefolia*), California juniper (*Juniperus californica*), desert willow (*Chilopsis linearis*), single-leaf pinyon pine (*Pinus monophylla*), all species of palo verde (*Cercidium* spp.), all species of manzanita (*Arctostaphylos* spp.), all species of mesquite (*Prosopis* spp.) with stems 2 inches or greater in diameter or 6 feet or greater in height, all species of yucca (e.g., Mohave yucca [*Yucca schidigera*] and our Lord's candle [*Yucca whipplei*]), all creosote (*Larrea tridentata*) rings measuring 10 feet or greater in diameter, and all plants protected or regulated by the California Desert Native Plants Act.

Existing Natural Open Space in Yucca Valley

Two parks – North Park and South Park – totaling approximately 120 acres, are preserved as natural open space on BLM land. North Park is located in the foothills of the San Bernardino Mountains near the west end of the Town, and South Park is located in the Little San Bernardino Mountains near the south Town boundary.

3.2 EXISTING BIOLOGICAL CONDITIONS

The Town is located in a biologically rich environment. This section describes the environmental setting, climate, vegetation communities and land cover types, and general flora and fauna within and adjacent to the Town General Plan Update area.

3.2.1 Environmental Setting

The Town of Yucca Valley is located in San Bernardino County in southern California (Figure 1). It 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 (Figure 2). Because the Town is located along the southern edge of the Mojave Desert and just north of the Sonoran Desert, it is a transition area between the two deserts and shows characteristics of both.

3.2.2 Topography and Soils

The topography within the approximately 40-square-mile Town varies greatly. While the northeastern portion of the Town is situated in the Morongo Basin, an east-west desert valley, the west end of the Town is in the southeastern foothills of the San Bernardino Mountains and the south end of the Town is in the Little San Bernardino Mountains. Because of this varied

topography, the elevations in the Town range from approximately 3,090 feet above mean seal level on the floor or the Morongo Basin in the eastern portion of the Town to approximately 4,603 feet above mean sea level in the Little San Bernardino Mountains in the southern portion of the Town.

Six soil types are mapped within the General Plan Update area, including Ramona-Hanford-Greenfield, Sheephead-Rock Outcrop-Bancas, Upspring-Sparkhule-Rock Outcrop, Cajon-Arizo, and Wasco-Helendale-Bryman (USDA 1973).

3.2.3 Climate

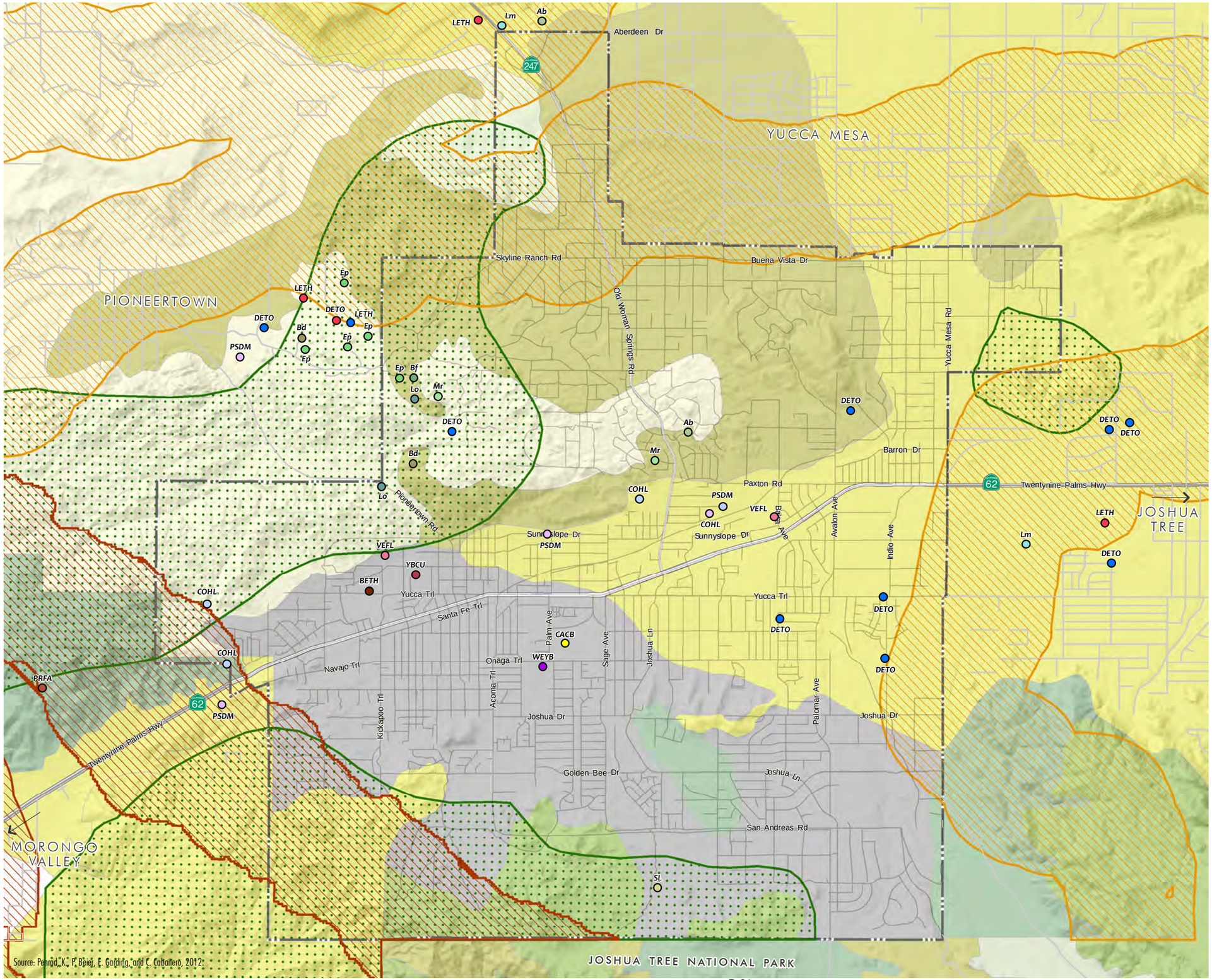
The Town is located in an arid, desert region in southern California. In general, these deserts experience hot summers, with temperatures over 100 degrees Fahrenheit, and low annual precipitation, typically getting fewer than 5 inches of precipitation each year. The Town, however, experiences a milder climate. Temperatures in the Town during the summer (June to August) average highs between 94 and 98 degrees Fahrenheit and lows between 61 and 75 degrees Fahrenheit, while temperatures during the winter (December to February) average highs between 57 and 62 degrees Fahrenheit and lows between 36 and 40 degrees Fahrenheit. The spring (March to May) and fall (September to November) typically have warm days and cool nights (Town 2012).

Total rainfall for the year averages just over 5 inches, with the majority of the rainfall occurring in September, November, and December. The Town also averages approximately 3 inches of snowfall each year, with all the snowfall occurring in January. In addition, the Town typically experiences windy conditions throughout each month of the year, with wind speeds ranging from 8 to 39 miles per hour (mph) and a monthly average of 20 mph (Town 2012).

3.2.4 Vegetation Communities and Land Cover Types

Land cover mapping for the provided by CNDDB provides generalized vegetation community mapping for the General Plan update area (Figure 4). The land cover categories include non-native grassland, blackbush scrub, Mojave creosote bush scrub, Mojave mixed woody scrub, Mojavean pinyon and juniper woodlands, semi-desert chaparral, and urban land. While these cover categories are useful in identifying overall vegetation, they are not specific enough to identify sensitive vegetation communities at a project level. Two additional vegetation communities, desert wash scrub and Joshua tree woodland, are known from the area but not shown on the CNDDB land cover map.

In total, 10 vegetation communities and land cover types have been identified as potentially present within the General Plan Update area (Tierra 2004). Each of the vegetation community is described in detail below, based on information provided in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). A detailed description of disturbed lands and urban/developed lands are also provided.



Source: Penrod, K., P. Beier, E. Gerding, and C. Cabanero, 2012.

Figure 4

BIOLOGICAL RESOURCES

Historic Sensitive Species Locations

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 rock-cress (Boechera dispar)
- Mr Robison's monardella (Monardella robisonii)
- Ab San Bernardino milk-vetch (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)

CNDDB 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

- San Bernardino-Little San Bernardino Linkage Design
- Joshua Tree 29 Palms Linkage Design
- Open Space Resource Area
- Town Limits

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In addition to these vegetation communities and land cover types, there are several wetland and riparian habitats that have been identified within the Town General Plan Update area in the USFWS National Wetlands Inventory (USFWS 2012). However, because a current wetland evaluation and/or wetland delineation of these areas is not available, these areas are discussed in general in Section 3.3.5 (Wetlands and Riparian Resources) later in this document.

Blackbush Scrub

Blackbush scrub is characterized by low growing, often intricately branched shrubs that measure approximately 1.5 to 3.5 feet tall. Within this vegetation community, the crowns of the shrubs typically do not touch, and there is often bare ground between plants. Dominant plants species typically include blackbrush (*Coleogyne ramosissima*) along with Joshua tree, singleleaf pinyon (*Pinus monophylla*), and Utah juniper (*Juniperus osteosperma*). Most of the growth and flowering occurs in late spring, and most of the species found within blackbush scrub are dormant in the winter from the cold temperatures and in the summer and fall from lack of rainfall.

Blackbush scrub is found on dry, well-drained slopes and flats with shallow, often calcareous soils, with low water holding capacity. This vegetation community is found at elevations between 4,000 and 7,000 feet above mean sea level from the Owens Valley region in Inyo and southern Mono counties to the Mojave Desert in Kern and San Bernardino counties.

Creosote Bush Scrub

Creosote bush scrub is characterized by shrubs that measure approximately 1.5 to 10 feet tall. Within this vegetation community, the shrubs are often widely spaced, and there is often bare ground between the plants. Dominant plant species typically include creosote bush (*Larrea tridentata*) and burrobush (*Ambrosia dumosa*). Most of the growth within this vegetation community occurs during spring if rainfall is sufficient, and many species of annuals may flower in late March and April or occasionally after thunderstorms in late summer or fall after sufficient rainfall. However, most of the species found within creosote bush scrub are dormant in the winter from the cold temperatures and in the summer and fall from lack of rainfall.

Creosote bush scrub is found on well-drained secondary soils with very low available water holding capacity on slopes and fans and within valleys. This vegetation community is found at elevations below 4,000 feet above mean sea level and is found extensively from the Death Valley region south into Baja California, Mexico.

Desert Wash Scrub

Desert wash scrub is a low growing, scrubby vegetation community with a diversity of species often including catclaw (*Acacia greggii*), desert willow, ephedra (*Ephedra californica*), desert

olive (*Forestiera neomexicana*), red-fruited mahonia (*Berberis haematocarpa*), and smoke tree (*Psorothamnus spinosus*). Desert wash scrub is found in sandy arroyos, washes, springs, and alluvial slopes throughout the Mojave Desert, usually below about 5,000 feet.

Joshua Tree Woodland

Joshua tree woodland is an open woodland community. The dominant species exhibit a diversity of life forms; the Joshua tree is usually the only arborescent species, growing up to approximately 40 feet high, while the numerous shrub species – sclerophyllous evergreen trees and shrubs (e.g., *Yucca* spp.), microphyllous evergreen shrubs (*Juniperus* spp.), semideciduous shrubs (*Eriogonum*, *Tetradymia*), semisucculents (*Lycium* spp.), and succulents (*Opuntia* spp.) – found in this community usually grow to between approximately 3 and 13 feet high. While there is typically little to no herbaceous understory, ephemeral herbs may germinate following sufficient late fall or winter rains and flower in mid-spring. Most of the growth within this vegetation community occurs during the spring; however, growth is limited in the winter from the cold temperatures and in the summer and fall from lack of rainfall.

Joshua tree woodland is found on sandy, loamy, or gravelly, well-drained gentle alluvial slopes at elevations between 2,500 and 5,000 feet above mean sea level. It is found on the desert slopes of the southern Sierra Nevada, Tehachapi, and Traverse ranges in Inyo, Kern, Los Angeles, Riverside, and San Bernardino counties and eastward, mainly on slopes and mesas, across the Mojave Desert to southwestern Utah.

Mojave Mixed Woody Scrub

Mojave mixed woody scrub is a complex scrub community that is open enough to be passable. Dominant plant species typically include by Joshua tree, Eastern Mojave buckwheat (*Eriogonum fasciculatum* var. *polifolium*), and bladderpod (*Isomeris arborea*).

Mojave mixed woody scrub is found on rolling to steeply sloping terrain with very shallow, overly-drained soils often formed from granitic parent material. These soils typically have extremely low water holding capacity and mild alkalinity and are not very saline. Mojave mixed woody scrub is found at elevations between 2,000 and 5,000 feet above mean sea level and is widely but erratically scattered from the Owens Valley south along the Tehachapi, San Gabriel, San Bernardino, San Jacinto, and Peninsular mountain ranges into northern Baja California, Mexico.

Mojavean Pinyon and Juniper Woodland

Mojavean pinyon and juniper woodland is an open woodland that either is dominated by singleleaf pinyon with an open shrubby understory of species commonly found in adjacent non-forested stands or is dominated by California juniper with understory of typical Mojave mixed scrub and steppe species. The understory is more diverse than in most pinyon-juniper vegetation communities, and many of the understory species exceed the tree cover. Additional dominant shrubs found within Mojavean pinyon and juniper woodland include big-basin sagebrush (*Artemisia tridentata*) and desert mountain mahogany (*Cercocarpus ledifolius*). This vegetation community often intergrades with Joshua tree woodland and/or creosote bush scrub.

Pinyon-dominated Mojavean pinyon and juniper woodland typically is found on steeper, very dry slopes, while the juniper-dominated Mojavean pinyon and juniper woodland typically is found on gentle slopes or alluvium and usually at slightly lower elevations than the pinyon-dominated Mojavean pinyon and juniper woodland. This vegetation community typically is found between 4,000 and 8,000 feet above mean sea level in the desert mountain ranges from the southern Sierra Nevada and Tehachapi mountains, along the desert regions of the Transverse and Peninsular ranges, and in most mountain ranges in the Mojave Desert.

Non-native Grassland

Non-native grassland is characterized by a dense to sparse cover of annual grasses that range from 8 to 20 inches high. While non-native grassland is usually dominated by non-native grass species, numerous native annual forbs may be associated with this vegetation community in years with sufficient rainfall. Germination within non-native grassland typically is associated with late fall rains, and most of the growth, flowering, and seed-set occur from winter through spring; most of the plant species within this vegetation community are dead through the summer and fall dry season, persisting only as seeds until the next germination cycle begins.

Non-native grassland is found on fine textured, often clay soils, that are moist or saturated during the rainy season but very dry during the summer and fall. This vegetation community typically is found below 3,000 feet above mean sea level, but occasionally reaches up to 4,000 feet in some southern California mountains.

Semi-desert Chaparral

Semi-desert chaparral is more open than other chaparral communities and is characterized by shrubs that typically are less than 10 feet tall with litter or no understory. Dominant species include a variety of broad-leaved sclerophyllous along with juniper (*Juniperus* spp.), buckwheat (*Eriogonum* spp.), and cactus (*Opuntia* spp.). Most of the growth and flowering occurs in late spring, and most of the species found within semi-desert chaparral are dormant in the winter from the cold temperatures and in the summer and fall from lack of rainfall.

Semi-desert chaparral typically is found on north-facing, dry, rocky slopes. In southern California, this vegetation community usually is found between 2,000 and 5,000 feet above mean sea level from Ventura and Santa Barbara counties south into the interior slopes of the Transverse and Peninsular ranges that border the Mojave and Colorado Deserts.

Disturbed Lands

Disturbed lands are those lands that have been modified from their natural conditions so that they provide little or no habitat value to wildlife. Disturbed lands typically consist of vegetation that has been graded or otherwise disturbed so that there is less than 50 percent cover, often dominated by weedy, non-native species.

Urban/Developed Lands

Urban/developed lands are lands include building, paved roads, parking lots, parks, and residential areas that are either unvegetated or are dominated by exotic, ornamental plant species.

3.2.5 Flora

In addition to the vegetation described above, the Town is located in the Mojave Desert, which has a diversity of desert plant species that have adapted to survive the extreme seasonal temperatures and to endure extreme drought condition. 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 General Plan Update area 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 (*Cylindropuntia bigelovii*), palo verde, Joshua tree, brittlebush (*Encelia farinosa*), alkali saltbush (*Atriplex polycarpa*), Mojave aster (*Xylorhiza tortifolia*), desert fan palm (*Washingtonia filifera*), and triangle-leaf bursage (*Ambrosia deltoidea*).

3.2.6 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 (*Ovis canadensis nelsoni*), mule deer (*Odocoileus hemionus*), and coyote (*Canis latrans*).

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 crepuscular 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. Species found within the vicinity of the Town General Plan area include a variety of common insects, amphibians, reptiles, birds, and mammals such as the yucca moth (*Tegeticula paradoxa*), which is responsible for pollinating the Joshua tree; the tarantula (*Aphonopelma chalcodes*); green darner (*Anax junius*); giant desert scorpion (*Hadrurus arizonensis*), which can grow to be more than 4 inches long; California tree frog (*Hyla cadaverina*); spotted toad (*Bufo punctatus*); golden eagle (*Aquila chrysaetos*), greater roadrunner (*Geococcyx californianus*), Gambel's quail (*Callipepla gambelii*), and a variety of bat species.

3.3 SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources include sensitive vegetation communities, special status plant species, special status wildlife species, wildlife movement corridors and nursery sites, and wetland resources. In general, the principal reason that a species, subspecies, or variety is considered sensitive is the documented or perceived decline or limitation of its population size or geographical extent and/or distribution resulting in most cases from habitat loss. Wildlife movement corridors or linkages also 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 increasingly fragmented from urbanization, rugged terrain, or changes in vegetation (Beier and Loe 1992). In addition, wetland resources are considered sensitive because of their limited distribution and high wildlife value.

Many sensitive biological resources are known to occur or have the potential to occur within or adjacent to the Town General Plan Update area based on historical data for the region identified through a query of the CNDDB (Figure 4), the presence of suitable habitat within the Town General Plan Update area, and/or presence of other requisite environmental components within the Town General Plan Update area. The following section describes the sensitive biological resources within and adjacent to the Town General Plan Update area and provides definitions for each of these sensitive biological resources.

3.3.1 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. The CNDDB provides an inventory of vegetation communities that are considered sensitive by state and federal resource agencies, academic institutions, and conservation groups such as the CNPS. Determination of the level of sensitivity is based on the Nature Conservancy Heritage Program Status Ranks that rank both species and plant communities on a global and statewide basis according to the number and size of remaining occurrences as well as recognized threats such as proposed development, habitat degradation, and invasion by non-native species.

Based on a CNDDB search, no sensitive vegetation communities were identified within the Town General Plan Update area; however, vegetation communities that provide habitat for special status plant and/or wildlife species would be considered sensitive. In addition, unavoidable impacts to vegetation communities that are important to the region – such as Joshua tree woodland– would require mitigation, as is discussed in Section 4 of this document.

Potential jurisdictional wetland and riparian resources may occur within the Town General Plan Update area based on the information provided in the USGS National Hydrography Dataset (NHD; USGS 2012). The USGS NHD provides data on surface water systems, such as lakes, ponds, streams, rivers, canals, dams, and stream gages. Several of these features have been identified within the Town General Plan Update area (Figure 5); however, a wetland evaluation or formal wetland delineation was not conducted to provide jurisdictional data for this document. Given the limited water availability within the region, all wetland and riparian habitats would be protected according to federal, state, and local regulations, as discussed in Section 3.3.5 of this document.

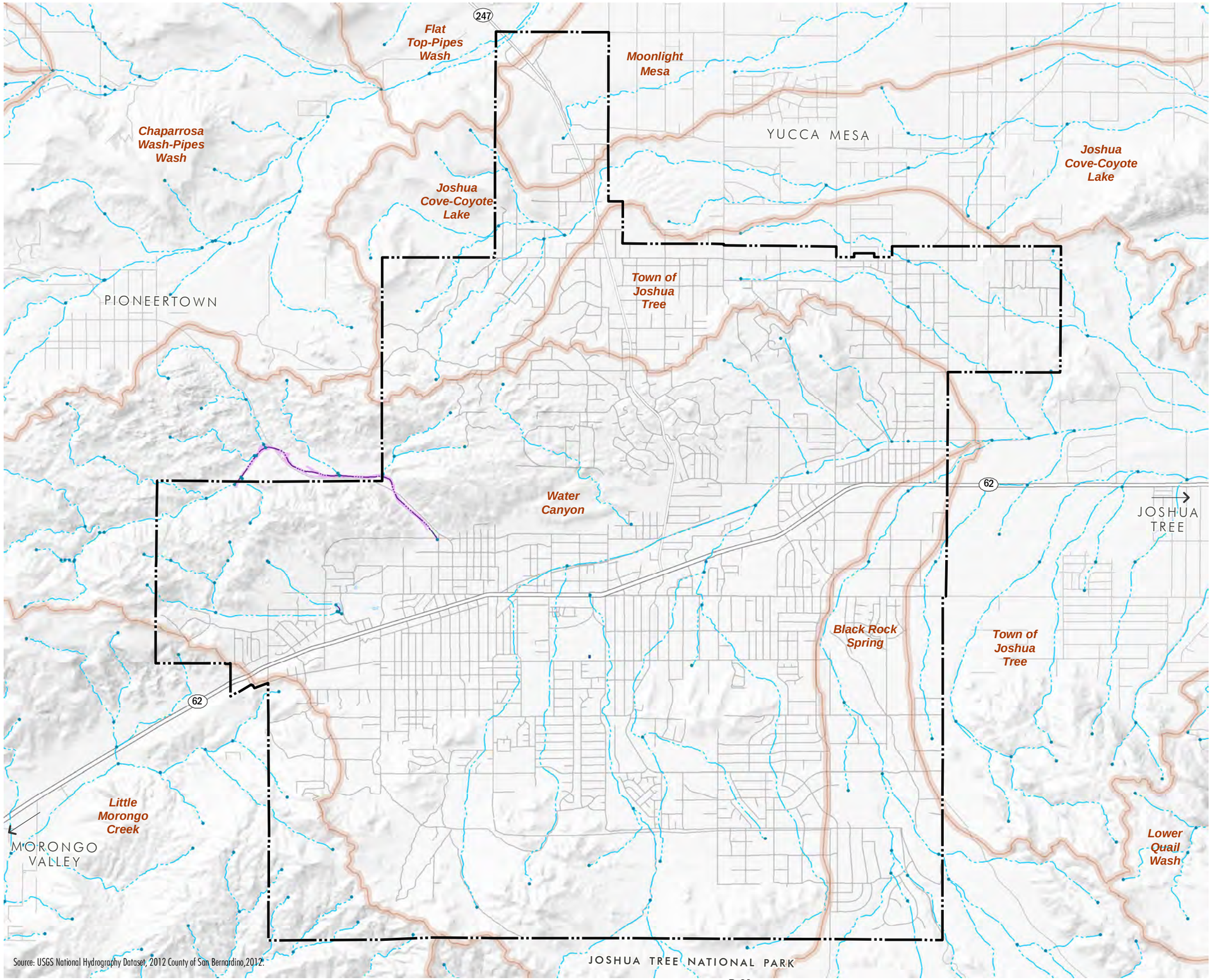
3.3.2 Special Status Plant Species

For purposes of this report, special status plant species include those that are (1) listed or proposed for listing by federal or state agencies as threatened or endangered; (2) on List 1B (considered endangered throughout its range) or List 2 (considered endangered in California but more common elsewhere) of the CNPS's *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2012); or (3) considered rare, endangered, or threatened by the CDFW (CDFW 2011a) or other local conservation organizations or specialists. Noteworthy plant species are considered to be those on List 3 (more information about the plant distribution and rarity needed) and List 4 (plants of limited distribution) of the CNPS *Inventory*. The CNPS is a statewide resource conservation organization that has developed an inventory of California's sensitive plant species. The CNPS listing is sanctioned by the CDFW and essentially serves as an early warning list of potential candidate species for threatened or endangered status.

According to 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

Figure 5

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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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.

Species that are federally or state-listed threatened or endangered species and/or are designated as CNPS List 1B or 2 species are afforded a degree of protection that entails a permitting process, including specific mitigation measures to compensate for impacts to the species. Species that are proposed to be listed by the USFWS are treated similarly to listed species by that agency. Recommendations of the USFWS, however, are advisory rather than mandatory in the case of proposed species. Although plant species that are classified as List 3 or 4 species by CNPS are not provided legal protection, this designation is used to identify declining plant species that are considered sensitive by the CNPS but not considered threatened or endangered.

Eleven special status plant species are known to occur within the vicinity of the Town (CDFW 2012a, Town 1995). These species are discussed in detail in this section and are summarized in Table 1, below. No critical habitat for any of these or other special status plant species has been designated within or adjacent to the Town.

San Bernardino Milk-vetch

San Bernardino milk-vetch (*Astragalus bernardinus*) is a CNPS List 1B.2 species, which means it is rare, threatened, or endangered in California and elsewhere. It is a perennial herb in the Fabaceae family that typically blooms from April to June. This species often is found on granitic or carbonate soils and is associated with Joshua tree woodland and pinyon-juniper woodland. San Bernardino milk-vetch is endemic to California and is known from Riverside and San Bernardino counties at elevations between 2,950 and 6,565 feet above mean sea level. The San Bernardino milk-vetch is threatened by mining, development, grazing, and recreational activities (CNPS 2012).

The San Bernardino milk-vetch is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Triple-ribbed Milk-vetch

The triple-ribbed milk-vetch (*Astragalus tricarinatus*) is a federally endangered species and a CNPS List 1B.2 species, which means it is rare, threatened, or endangered in California and elsewhere. It is a perennial herb in the Fabaceae family that typically blooms from February to May. This species is found on sandy or gravelly soils and is associated with Joshua tree woodland, creosote bush scrub, and Sonoran Desert scrub. Triple-ribbed milk-vetch is endemic to California and is known from fewer than 20 occurrences Riverside and San Bernardino

counties at elevations between 1,475 and 3,905 feet above mean sea level. This species is potentially threatened by pipeline maintenance and vehicles (CNPS 2012).

The triple-ribbed milk-vetch is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Fremont Barberry

The Fremont barberry (*Berberis fremontii*) is a CNPS List 3 species, which means it is on the review list. It is an evergreen shrub in the Berberidaceae family that typically blooms from April to June. This species is found on rocky soils and is associated with Joshua tree woodland, pinyon-juniper woodland, and chaparral. The Fremont barberry is known from California, Arizona, Colorado, New Mexico, and Utah as well as from Baja California and Sonora, Mexico. In southern California, it is known from San Bernardino and San Diego counties at elevations between 2,755 and 6,070 feet above mean sea level. The primary threats to this species are not known but probably include loss of habitat resulting from development.

The Fremont barberry is known to occur within and adjacent to the Town General Plan Update area (CDFW 2012a, Town 1995).

Pinyon Rockcress

The pinyon rockcress (*Boechera dispar*) is a CNPS List 2.3 species, which means it is rare, threatened, or endangered in California but common elsewhere. It is a perennial herb in the Brassicaceae family that typically blooms from March to June. This species is found in granitic or gravelly soils and is associated with Joshua tree woodland, Mojavean desert scrub, and pinyon-juniper woodland. Pinyon rockcress is known from Nevada as well as Inyo, Kern, Los Angeles, Mono, San Bernardino, and Tulare counties in California at elevations between 3,935 and 8,335 feet above mean sea level. Threats to this species include mining, non-native plants, recreational activities, road construction, and vehicles (CNPS 2012).

The pinyon rockcress is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Parish's Daisy

Parish's daisy (*Erigeron parishii*) is a federally threatened and CNPS List 1B.1 species, which means it is rare, threatened, or endangered in California and elsewhere. It is a perennial herb in the Asteraceae family that typically blooms from May to August. This species usually is found on carbonate soils and sometimes on granitic soils and is associated with pinyon-juniper woodland, creosote bush scrub, and Mojavean desert scrub. Parish's daisy is known from Riverside and San Bernardino counties at elevations between 2,625 and 6,565 feet above mean

sea level. Threats to this species include carbonate mining, vehicles, road construction, and residential development (CNPS 2012).

Parish's daisy is known to occur within and adjacent to the Town General Plan Update area (CDFW 2012a, Town 1995).

Parish's Club-cholla

Parish's club-cholla (*Grusonia parishii*) is a CNPS List 2.2 species, which means it is rare, threatened, or endangered in California but common elsewhere. It is a succulent shrub in the Cactaceae family that typically blooms from May to June and sometimes into July. This species is found in sandy and/or rocky soils and is associated with Joshua tree woodland, creosote bush scrub, Mojavean desert scrub, and Sonoran desert scrub. Parish's club-cholla is known to occur in Imperial, Riverside, and San Bernardino counties at elevations between 980 and 5,000 feet above mean sea level. The main threat to this species is solar energy development (CNPS 2012).

Parish's club-cholla is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Baldwin Lake Linanthus

The Baldwin Lake linanthus (*Linanthus killipii*) is a CNPS List 1B.2 species, which means it is rare, threatened, or endangered in California and elsewhere. It is an annual herb in the Plemoniaceae family that typically blooms from May to July. This species is found in meadows, seeps, and pebble-plain associated with Joshua tree woodland and pinyon-juniper woodland. The Baldwin Lake linanthus is known only from San Bernardino County at elevations between 5,575 and 7,875 feet above mean sea level. Threats to this species include urbanization, vegetation/fuel management, recreational activities, and vehicles (CNPS 2012).

The Baldwin Lake linanthus is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Little San Bernardino Mountains Linanthus

The Little San Bernardino Mountains linanthus (*Linanthus maculatus*) is a CNPS List 1B.2 species, which means it is rare, threatened, or endangered in California and elsewhere. It is an annual herb in the Polemoniaceae family that typically blooms from March to May. This species is found in sandy soils and is associated with desert dunes, Joshua tree woodland, Mojavean desert scrub, and Sonoran desert scrub. The Little San Bernardino Mountains linanthus is known to occur in Imperial, Riverside, San Bernardino, and San Diego counties at elevations between 640 and 6,810 feet above mean sea level. Threats to this species include development, vehicles, and dumping (CNPS 2012).

The Little San Bernardino Mountains linanthus is known to occur within and adjacent to the Town General Plan Update area (CDFW 2012a; Town 1995).

Orcutt's Linanthus

Orcutt's linanthus (*Linanthus orcuttii*) is a CNPS List 1B.3 species, which means it is rare, threatened, or endangered in California and elsewhere. It is an annual herb in the Plemoniaceae family that typically blooms from May to June. This species is found in openings in chaparral, lower montane coniferous forest, and pinyon-juniper woodland. Orcutt's linanthus is known to occur in Riverside, San Bernardino, and San Diego counties as well as in Baja California, Mexico, at elevations between 3,000 and 7,040 feet above mean sea level. Threats to this species include foot traffic and recreational activities (CNPS 2012).

Orcutt's linanthus is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Robison's Monardella

Robison's monardella (*Monardella robisonii*) is a CNPS List 1B.3 species, which means it is rare, threatened, or endangered in California and elsewhere. It is a rhizomatous, perennial herb in the Lamiaceae family that typically blooms from April to September but can bloom as early as February and as late as October depending on environmental conditions. This species is found in pinyon-juniper woodland. Robison's monardella is known to occur in Riverside and San Bernardino counties at elevations between 2,000 and 4,925 feet above mean sea level. The primary threats to this species include rock climbing and other recreational activities; invasive, non-native species; burning; and habitat loss resulting from development (NatureServe 2012).

Robison's monardella is known to occur within and adjacent to the Town General Plan Update area (CDFW 2012a, Town 1995).

Latimer's Woodland-gilia

Latimer's woodland-gilia (*Saltugilia latimeri*) is a CNPS List 1B.2 species, which means it is rare, threatened, or endangered in California and elsewhere. It is an annual herb in the Polemoniaceae family and typically blooms from March to June. This species is found on rocky or sandy, often granitic, soils and sometimes in washes. It is associated with chaparral, Mojavean desert scrub, and pinyon-juniper woodland. Latimer's woodland-gilia is known from fewer than 20 occurrence in Inyo, Kern, Riverside, and San Bernardino counties at elevations between 1,310 and 6,235 feet above mean sea level. The primary threats to this species are not known but probably include habitat loss from development (NatureServe 2012).

Latimer's woodland-gilia is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Table 1. Sensitive Plant Species within the Vicinity of the Town of Yucca Valley

Scientific Name	Common Name	Status	Habitat Description
Astragalus bernardinus	San Bernardino milk-vetch	List 1B.2	Blooms April to June. Granitic or carbonate soils. Joshua tree woodland and pinyon-juniper woodland. Elevations from 2,950 to 6,565 feet.
Astragalus tricarinatus	triple-ribbed milk-vetch	FE List 1B.2	Blooms February to May. Sandy or gravelly soils. Joshua tree woodland, creosote bush scrub, and Sonoran Desert scrub. Elevations from 1,475 to 3,905 feet.
Berberis fremontii	Fremont barberry	List 3	Blooms April to June. Rocky soils. Joshua tree woodland, pinyon-juniper woodland, and chaparral. Elevations from 2,755 to 6,070 feet.
Boechera dispar	pinyon rockcress	List 2.3	Blooms March to June. Granitic or gravelly soils. Joshua tree woodland, Mojavean desert scrub, and pinyon-juniper woodland. Elevations from 3,935 to 8,335 feet.
Erigeron parishii	Parish's daisy	FT List 1B.1	Blooms May to August. Carbonate soils and sometimes on granitic soils. Pinyon-juniper woodland, creosote bush scrub, and Mojavean desert scrub. Elevations from 2,625 to 6,565 feet.
Grusonia parishii	Parish's club-cholla	List 2.2	Blooms May to June and sometimes into July. Sandy and/or rocky soils. Joshua tree woodland, creosote bush scrub, Mojavean desert scrub, and Sonoran desert scrub. Elevations from 980 to 5,000 feet.
Linanthus killipii	Baldwin Lake linanthus	List 1B.2	Blooms May to July. Meadows, seeps, and pebble-plain. Joshua tree woodland and pinyon-juniper woodland. Elevations from 5,575to 7,875 feet.
Linanthus maculatus	Little San Bernardino Mountains linanthus	List 1B.2	Blooms March to May. Sandy soils. Desert dunes, Joshua tree woodland, Mojavean desert scrub, and Sonoran desert scrub. Elevations from 640 to 6,810 feet.
Linanthus orcuttii	Orcutt's linanthus	List1B.3	Blooms May to June. Openings in chaparral, lower montane coniferous forest, and pinyon-juniper woodland. Elevations from 3,000 to 7,040 feet.
Monardella robisonii	Robison's monardella	List 1B.3	Blooms April to September but can bloom as early as February and as late as October. Pinyon-juniper woodland. Elevations from 2,000 to 4,925 feet.
Saltugilia latimeri	Latimer's woodland-gilia	List 1B.2	Blooms March to June. Rocky or sandy, often granitic, soils and sometimes in washes. Chaparral, Mojavean desert scrub, and pinyon-juniper woodland. Elevations from 1,310 to 6,235 feet.

3.3.3 Special Status Wildlife Species

For purposes of this report, special status wildlife species include those that are (1) listed or proposed for listing as threatened or endangered by the USFWS or the CDFW (CDFW 2011b); and/or (2) designated as California Fully Protected by the CDFW. In addition, raptors (birds of prey) and active raptor nests are protected by the California Fish and Game Code 3503.5, which states that it is "unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird" unless authorized (CDFW 1991). The federal MBTA, which restricts the killing, taking, collecting, selling, or purchasing of native bird species or their parts, nests, or eggs, also provides legal protection for almost all breeding bird species occurring in the U.S. Noteworthy wildlife species are those given the informal designation of California Species of Concern by the CDFW. This designation applies to animals not listed under FESA or CESA but which nonetheless (1) are declining at a rate that could result in listing, or (2) historically occurred in low numbers and known threats to their persistence currently exist.

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. The 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, a fully protected species as one that is rare or faces possible extinction, and a California Species of Concern as one that is declining in numbers.

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. Species that are proposed to be listed by the USFWS are treated similarly to listed species by that agency. Recommendations of the USFWS, however, are advisory rather than mandatory in the case of proposed 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. Wildlife species classified as California Species of Concern by the CDFW are not typically provided legal protection; however, there are exceptions for some species such as the burrowing owl.

Twenty-one special status wildlife species are known to occur within the vicinity of the Town based on historical data for the region (CDFW 2012a, Town 1995). In addition, 2 other species, the California cuckoo bee and Nelson's bighorn sheep, do not have a special status ranking but are of special interest were identified within the region. All of these species are discussed in detail in this section and summarized in Table 2, below. No critical habitat for any of these or other special status wildlife species has been designated within or adjacent to the Town.

California Cuckoo Bee

The California cuckoo bee (*Paranomada californica*) currently has no special status ranking. This species is a cleptoparasitic bee that is a nest parasite of other solitary ground-nesting bees. While no cleptoparasitic behavior by this species has been observed directly, the females lack pollen-collecting structures, which is typical of other cleptoparasitic species (Linsley 1945). Other species within the same subfamily Nomadinae do not excavate their own nests or collect pollen for their larvae. Instead, the females enter the nests of pollen-collecting species and lay their eggs in the open, unfinished cells while the host females are absent (CDFW 2012). Based on the few observations of the California cuckoo bee, it is likely that *Exomalopsis verbesinae* (no common name), a pollen-collecting bee species, is a host, since the California cuckoo bee was observed flying in the same immediate vicinity of this species (Linsley 1945). However, not much is known about the habitat preferences, life history, or behavior of the California cuckoo bee, and it has only been documented in two locations, both in San Bernardino County--one near the Town and one approximately 9.5 miles northwest of Pioneertown.

The California cuckoo bee is known to occur adjacent to the Town General Plan Update area only based on historical data (CDFW 2012a).

Desert Tortoise

The desert tortoise is a federally and state-listed threatened species. It is found typically in desert scrub, washes, dunes, and rocky slopes with firm but not hard pan soils where it feeds on annual grasses, herbs, desert flowers, and cacti (Stebbins 2003). This species is active primarily in spring and fall but will remain inactive in its burrow during the warmest times of the year and will also hibernate in its burrow during the cooler fall and winter months. The desert tortoise is found in the Mojave Desert and the Colorado/Sonoran deserts of California, Arizona, southern Nevada, and southwestern Utah, as well as northern Mexico (NatureServe 2012) from sea level to approximately 5,200 feet above mean sea level (Stebbins 2003). The most significant threats to the desert tortoise include urbanization, disease, habitat destruction and fragmentation, illegal collection and vandalism by humans, and habitat conversion from native to invasive plant species.

The desert tortoise is known to occur within and adjacent to the Town General Plan Update area (CDFW 2012a, Town 1995).

Coast Horned Lizard

The coast horned lizard (*Phrynosoma blainvillii*) is a state species of special concern. This species is found in a variety of habitats, including scrubland, grassland, coniferous woods, and broadleaf woodlands, especially in areas with sandy soils, scattered shrubs, and ant colonies, such as along the edges of arroyo bottoms or dirt roads (Stebbins 2003). It retreats underground and is inactive during extreme heat and during cold weather. The coast horned lizard is found in

the Sierra Nevada foothills from Butte County south to Kern County as well as throughout the central and southern California coast, at elevations ranging from sea level to approximately 4,000 feet above mean sea level in the Sierra Nevada foothills and up to approximately 6000 feet above mean sea level in the mountains of southern California (CDFW 2012b). This species is absent from much of its former southern California range as a result of urbanization, agricultural development, over-collecting, and displacement of native ant species by non-native Argentine ants (Jennings 1987, Jennings 1988, and Stebbins 2003).

The coast horned lizard is known to occur within and adjacent to the Town General Plan Update area (CDFW 2012a, Town 1995).

Mojave Fringe-toed Lizard

The Mojave fringe-toed lizard (*Uma scoparia*) is a state species of special concern. This species is found in habitats with sparse vegetation and windblown sands, such as dune systems and washes where it feeds on insects, spiders, seeds, and flowers (Stebbins 2003). This species is active during the day but will burrow in the sand during extreme temperatures. In fall, it also will burrow in the sand and emerge in late winter (California Herps 2012). The Mojave fringe-toed lizard ranges from the Mojave Desert to the southern end of Death Valley National Park, and east to south of Parker in Yuma County, Arizona from elevations from below sea level to approximately 3,280 feet above mean sea level (Jennings and Hayes 1994, Stebbins 2003). Threats to this species are associated with off-road vehicle activity and the creation of windbreaks, which alter how the windblown sand is deposited (CA Herps 2012).

The Mojave fringe-toed lizard is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Red-diamond Rattlesnake

The red-diamond rattlesnake (*Crotalus ruber*) is a state species of special concern. This species is found in a variety of habitats including coastal sage scrub, desert scrub, thornscrub, open chaparral, woodland, grassland, and cultivated areas. Its diet mainly consists of ground squirrels, rabbits, lizards, and carrion. The red-diamond rattlesnake is known from southwestern California, from near Pioneertown and Morongo Valley in San Bernardino County and southeastern Los Angeles County south through Baja California, Mexico, including several islands in the Gulf of California and several islands off the Pacific coast of Baja California (Murphy et al. 1995, Grismer 2002, Campbell and Lamar 2004). It is known from elevations ranging from sea level to approximately 4,900 feet above mean sea level, but typically below 3,200 feet above mean sea level (Campbell and Lamar 2004, Stebbins 2003). Threats to this species are associated with habitat loss, particularly within the coastal regions of its range (CA Herps 2012).

The red-diamond rattlesnake is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Prairie Falcon

The prairie falcon (*Falco mexicanus*) currently has no special status ranking. This species is associated primarily with perennial grasslands, savannahs, rangeland, agricultural fields, and desert scrub areas but has also been observed using annual grasslands and alpine meadows. It nests on cliff ledges and occasionally in rock crevices (Patten et. al. 2003; Rosenberg et. al. 1991, Steenhof 1998).

Endemic to North America, the prairie falcon ranges across the western United States, parts of Canada, and into northern Mexico. In California, it is a rare breeding resident throughout many arid regions of the state (Small 1994). The relatively small breeding population in California makes the prairie falcon vulnerable to impact. Shooting is the most common cause of death for this species; however, intermittent human disturbance near nest sites, especially rock climbing, is probably the greatest threat to this species (Steenhof 1998; Unitt 2004).

The prairie falcon is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Western Yellow-billed Cuckoo

The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a state-listed endangered species and a candidate for federal listing. This species is found in valley foothill and desert riparian habitats, usually with dense, mature riparian woodlands with large stands of cottonwood-willow riparian forest. It forages on large insects, caterpillars, and some fruit.

Endemic to the Americas, the western yellow-billed cuckoo is found throughout the western United States, south into Baja California and mainland Mexico, south through Central America, and likely into South America. In California, this species is an uncommon to rare summer resident that is found in scattered locations throughout the state.

Although the western yellow-billed cuckoo was once a common breeder throughout much of lowland California, this species has declined drastically as a result of habitat loss (Grinnell and Miller 1944, Gaines 1974b, Garrett and Dunn 1981).

The western yellow-billed cuckoo is known to occur within the Town General Plan Update area (Town 1995).

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is a state species of special concern and a federal bird of conservation concern. Habitat for the western burrowing owl includes dry, open areas with low-growing vegetation in grasslands, deserts, prairies, and agricultural lands; it is often associated with burrowing mammals (Haug et al. 1993).

Endemic to the Americas, the bulk of the population resides in western North America, but this species can be found in suitable habitat north into southern Canada, south through Central and South America to Tierra del Fuego, and in disjunct populations on coastal islands off of Florida and in the Caribbean (Haug et. al. 1993; NatureServe 2012). In California, although this species is declining in much of the state, it remains fairly common in Imperial Valley, which is home to nearly 70 percent of the entire California population (Unitt 2004). The northernmost populations of this species are almost completely migratory; however, the individuals found in southern California are only partially migratory as evidenced by reduced population sizes in winter, with some birds remaining in their territories throughout the year.

Population declines have been attributed to loss of suitable habitat though urban expansion, pesticide use, vehicle collisions, and reduction of the mammals that supply the owl with burrows (Haug et. al. 1993; Remsen 1978; Unitt 2004). Further, its propensity for nesting and foraging near roadsides and agricultural drains make it particularly vulnerable to roadside shooting, collisions with vehicles, road maintenance, and general harassment (Patten et. al. 2003; Remsen 1978; Unitt 2004).

The burrowing owl is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Vermilion Flycatcher

The vermilion flycatcher (*Pyrocephalus rubinus*) is a state species of special concern. This species inhabits cottonwood, willow, mesquite, and other vegetation in desert riparian and desert wash habitats as well as savannas and arid scrub, often associated with surface water (Shuford and Gardali 2008). It feeds on flying insects, especially bees, as well as insects from ground (Bent 1942).

The vermilion flycatcher ranges from the southwestern United States through Mexico, Central America, and well south into Argentina including the Galapagos (Wolf and Jones 2000). In California, this species is a rare, localized, yearlong resident along Colorado River, but small local populations exist in scattered areas across southern California.

Formerly a more common and widespread breeder in California, this species suffered greatly from riparian habitat loss in the last century, especially in the Colorado River, Imperial, and Coachella valleys where it was historically reported as a fairly common breeder (Grinnell and

Miller 1944). However, despite these declines, over the past 60 years, the vermilion flycatcher has expanded its range westward from its stronghold along the Colorado River through the Mojave Desert and along southern coast, where rare and localized populations are now known to occur (Small 1994, Shuford and Gardali 2008).

The vermilion flycatcher is known to occur within the Town General Plan Update area (Town 1995).

Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) is a state species of special concern. This species is found in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree woodland habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. It feeds primarily on large insects, other invertebrates, small birds, lizards, frogs, and rodents and sometimes scavenges (Fraser and Luukkonen 1986).

The loggerhead shrike ranges from central and southern Canada, throughout the United States, throughout Baja and mainland Mexico, and into northern Central America (NatureServe 2012). In California, it is a common resident and winter visitor in lowlands and foothills throughout the state (CDFW 2012a).

Though widely distributed, the loggerhead shrike is one of the few North American passerines whose populations have declined nearly continent-wide in recent decades. This species retreats from urbanization, and major factors contributing to its decline include changes in human land-use practices, pesticide use, and competition with species that are more tolerant of anthropogenic habitats (Yosef 1996; Unitt 2004).

The loggerhead shrike is known to occur adjacent to the Town General Plan Update area (Town 1995).

Least Bell's Vireo

The least Bell's vireo (*Vireo bellii pusillus*) is a federally and state-listed endangered species and a federal bird of conservation concern. This species prefers willow-dominated woodland or scrub, *Baccharis* scrub, mixed oak/willow woodland, mesquite woodland, and elderberry scrub in riparian habitat. This species typically nests and forages in vegetation along streams and rivers that measures approximately 3 to 6 feet in height and has a dense, stratified canopy providing both foraging habitat and song perches for territorial advertisement.

Endemic to California and Baja California, Mexico, this highly migratory species arrives in California in mid-March and departs by late September when it flies south to wintering grounds near the tip of Baja California, Mexico. This species formally bred in lowland riparian habitat

ranging from coastal southern California through the Sacramento and San Joaquin Valleys as far north as Red Bluff, and other scattered locations east of the Sierra Nevada (USFWS 1998; Grinnell and Miller 1944); however, by the time the species was listed in by CDFW in 1984, it had been extirpated from much of its former range and was restricted to 8 central and southern California counties, with just 300 pairs statewide (Unitt 2004).

Population declines were caused by widespread clearing of riparian habitat combined with brood parasitism by the brown-headed cowbird (*Molothrus ater*), whose increase in California was as dramatic as the least Bell's vireo's decline. Currently, with restriction of habitat destruction, extensive cowbird trapping, and protection from both FESA and CESA, populations of the least Bell's vireo have recovered in some areas of cismontane southern California, and populations are expanding into former ranges (Brown 1993, Kus 2002).

The least Bell's vireo is known to occur adjacent to the Town General Plan Update area (CDFW 2012a, Town 1995).

Bendire's Thrasher

Bendire's thrasher (*Toxostoma bendirei*) is a state species of special concern. This species is found in a variety of desert habitats with Joshua tree, Mojave yucca, cactus, and open ground and feeds on insects and arthropods, such as caterpillars, beetles, grasshoppers, ants, and termites. It is found only in the southwestern United States and the northwestern coast of mainland Mexico (NatureServe 2012). In California, it is a very local spring and summer resident and breeder that occurs primarily in San Bernardino County and western Kern County (Grinnell and Miller 1944, Remsen 1978, Garrett and Dunn 1981).

The main threats to Bendire's thrasher are the loss of habitat, such as the clearing of desert scrub habitats and habitats supporting large desert cacti and yucca (NatureServe 2012).

Bendire's thrasher is known to occur adjacent to the Town General Plan Update area (Town 1995).

LeConte's Thrasher

The LeConte's thrasher (*Toxostoma lecontei*) is a state species of special concern in its San Joaquin population, and other populations are on the state watch list. This species is found typically in sparsely vegetated desert flats, dunes, alluvial fans, or gently rolling hills that usually have multiple species of saltbush and/or cholla cactus and undisturbed substrates with accumulated leaf litter beneath desert shrubs for foraging (Sheppard 1996). The LeConte's thrasher is rare throughout its restricted range, which extends from the southwestern United States, portions of Baja California, Mexico, and extreme the northwestern portion of mainland Mexico. In California, this species occurs locally in the Antelope and Owens valleys south to the

southwestern corner of the San Joaquin Valley (including the Carrizo Plains) and southeast into isolated pockets throughout the Mojave and Colorado Deserts.

The LeConte's thrasher's limited breeding distribution, specialized habitat use, and small population size make it susceptible to changing land use practices. Habitat loss and degradation have been and continue to be the major population-level threats to this species. Though agriculture and urban development have eliminated considerable former habitat, any destruction of substrate, litter, or shrubs affects habitat suitability for the LeConte's thrasher. (Sheppard 1996; Unitt 2004). One factor contributing to habitat loss has been extensive off-road vehicle activity, which eliminates or seriously degrades habitat by crushing vegetation, destroying underlying litter and soil surface, and precluding heavily used sites from further use by this species.

The LeConte's thrasher is known to occur within and adjacent to the Town General Plan Update area (CDFW 2012a, Town 1995).

Yellow Warbler

The yellow warbler (*Dendroica petechia*) is a state species of special. This species inhabits a variety of riparian habitats varying by biogeographic region but usually in close proximity to water along streams and in wet meadows (Grinnell and Miller 1944, Lowther et. al. 1999), and feeds on a variety of small arthropods. The yellow warbler has a broad distribution in the Americas, where it breeds from Alaska, throughout the Canada and the northern United States, and into both mainland and Baja California, Mexico (Lowther et. al. 1999). In California, this species breeds throughout much of the state, including coastal areas along the length of the state, inland in extreme northern California, throughout the Central Valley, and along the east and west slopes of the Sierra Nevada Mountains, and it winters in southeastern California in the Imperial Valley and along the Colorado River.

Like many other riparian songbirds, the yellow warbler population collapsed in the late 1900s as a result of habitat destruction and cowbird parasitism (Remsen 1978; Rosenberg et. al. 1991; Unitt 2004). The yellow warbler is known throughout its range as the most frequent host of the brown-headed cowbird (Lowther et. al. 1999). Following widespread trapping of cowbirds after the least Bell's vireo was federally listed as endangered in 1986, the yellow warbler was among the species whose populations surged and has now reoccupied much of its former breeding range, except in the Central Valley, where it is close to extirpation (Shufford and Gardali 2008).

The yellow warbler is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Summer Tanager

The summer tanager (*Piranga rubra*) is a state species of special concern. This species is found in desert riparian habitats, usually in older, dense stands along rivers and streams with cottonwoods and willows. It eats insects, spiders, and small fruits. The summer tanager is known from the southern United States, south through Mexico and Central America, and into northern South America. In California, the summer tanager is an uncommon summer resident and breeder in the desert riparian habitat along the lower Colorado River and also occurs very locally in other portions of the southern California deserts (Grinnell and Miller 1944, McCaskie et al. 1979, 1988, Garrett and Dunn 1981). This species has declined primarily from loss of native habitat.

The summer tanager is known to occur within the Town General Plan Update area (Town 1995).

Pallid Bat

The pallid bat (*Antrozous pallidus*) is a state species of special concern. This species is found in a variety of habitats, including open desert scrub, grasslands, shrub lands, woodlands, and forests, and prefers open, dry environments and rocky areas for roosting (Zeiner et al. 1990). The pallid bat roosts in a variety of areas, including rock crevices, caves, mines, tree hollows, and abandoned and occupied buildings (BCI 2012) and forage low over open ground, and consume large, hard-shelled prey items such as beetles, grasshoppers, cicadas, spiders, scorpions, and Jerusalem crickets. This species ranges from central Mexico, throughout the western United States, and north to western Canada (BCI 2012) with an isolated population also occurs in Cuba (BCI 2012). In California, the pallid bat is a common year-round resident throughout most of California below 6,000 feet above mean sea level but has been documented as high as 10,000 feet above mean sea level (BCI 2012). Pallid bats are very sensitive to roost disturbance, as these roosts are crucial for metabolic economy and juvenile development. Threats to pallid bat are generally attributable to loss of roost sites resulting from human intrusion and physical alteration (Zeiner et al. 1990).

The pallid bat is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Spotted Bat

The spotted bat (*Euderma maculatum*) is a state species of special concern. This species is found in arid desert, scrub, and open forest habitats, particularly in areas with vertical cliffs or canyons near water (Blood 1993). Though specific roosting characteristics are poorly understood, the spotted bat is known to roost on rock-faced cliffs. Its diet consists almost exclusively of moths, captured using echolocation loud enough to be audible to the human ear (Blood 1993). The spotted bat ranges from southwestern British Columbia, south through the western United States, and into northern Mexico (BCI 2012). Though it has a large range, the spotted bat distribution is patchy because of its specific roosting requirements. Because the spotted bat roosts in high cliffs

and rock faces, threats to this species are believed to be minimal. However, the increase in recreational rock climbing may represent a threat to this poorly understood bat species (BCI 2012).

The spotted bat is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Western Yellow Bat

The western yellow bat (*Lasiurus xanthinus*) is a state species of special concern. This species is found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. It roosts in palm trees and forages for flying insects over water and among trees in palm oases and riparian habitat. The western yellow bat is known from the southwestern United States south into mainland and Baja California, Mexico. In California, this species is an uncommon, year-round resident that has been documented below approximately 2,000 feet above mean sea level only in Los Angeles and San Bernardino counties. Threats to the western yellow bat are generally associated with the loss of roost sites resulting from human intrusion and physical alteration.

The western yellow bat is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Pocketed Free-tailed Bat

The pocketed free-tailed bat (*Nyctinomops femorosaccus*) is a state species of special concern. This species is found in pinyon-juniper woodlands, desert scrub, desert succulent scrub, desert riparian, Joshua tree, and palm oasis (Zeiner et al. 1990). It roosts in areas with rugged cliffs, high rocky outcrops, and steep slopes and may also roost in old buildings, mines and caves, and under roof tiles (BCI 2012). The pocketed free-tailed bat forages for flying insects mainly over ponds, streams, and arid desert habitats (Easterla and Whitaker 1972). This species is found in the arid lowlands of southern California, southern Arizona, the extreme southwest of New Mexico and Texas, into Baja California, Mexico, as well as into central and western mainland Mexico at elevations from sea level to approximately 7,300 feet above mean sea level (BCI 2012). In California, this species is a rare, year-round resident that has been reported from Riverside, San Diego, and Imperial counties but may occur in other areas.

The pocketed free-tailed bat is known to occur within and adjacent to the Town General Plan Update area (CDFW 2012a).

Big Free-tailed Bat

The big free-tailed bat (*Nyctinomops macrotis*) is a state species of special concern. This species is found in desert scrub, woodlands and evergreen forests where roost sites (rock outcrops, steep canyon walls, cliffs, buildings, caves, and tree cavities) are available. It feeds primarily on large

moths but also eats crickets, grasshoppers, flying ants, stinkbugs, froghoppers, leafhoppers, and other insects (Schmidly 1977, Milner et al. 1990, Zeiner et al. 1990). The big free-tailed bat ranges from the southwestern United States, including southern California, Arizona, New Mexico, and Texas, south through Central America, the Caribbean Islands, and throughout northern South America; individuals have also been observed as far north as British Columbia, Iowa, Kansas, and South Carolina (BCI 2012). The big free-tailed bat is found at elevations up to 8,000 feet above mean sea level. In California, this species is a rare, year-round resident that is known from urban areas of San Diego County and more rugged, rocky terrain in other parts of its range. Threats to the big free-tailed bat are generally associated with the loss of roost sites resulting from human intrusion and physical alteration.

The big free-tailed bat is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Pallid San Diego Pocket Mouse

The pallid San Diego pocket mouse (*Chaetodipus fallax pallidus*) is a state species of special concern. While data is limited on this subspecies, it is likely similar to the San Diego pocket mouse, which is a common resident in coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper woodland, and annual grassland with sandy, rocky, or gravelly soils (Grinnell 1933, Miller and Stebbins 1964) where it forages on seeds of forbs, grasses, and shrubs. The pallid San Diego pocket mouse is known only from southwestern California and northwestern Baja California, Mexico. It has been documented in Los Angeles, Imperial, Riverside, San Bernardino, and San Diego counties at elevations from sea level up to 4,500 feet above mean sea level in the Santa Rosa Mountains in Riverside County and up to 6,000 feet above mean sea level on the northern slope of the San Bernardino Mountains.

The pallid San Diego pocket mouse is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Nelson's Bighorn Sheep

The Nelson's bighorn sheep currently has no special status ranking. This species occurs in a variety of habitats, including alpine dwarf-shrub, low sage, sagebrush, bitterbrush, pinyon-juniper woodland, palm oasis, desert riparian, desert succulent shrub, desert scrub, subalpine conifer, perennial grassland, montane chaparral, and montane riparian (DeForge 1980, Monson and Sumner 1980, Wehausen 1980) that have suitable escape terrain, such as cliffs or talus slopes. Nelson's bighorn sheep mainly feeds on grasses and forbs but also grazes on shrubs (Miller and Gaud 1989, Krausman et al. 1999, Shackleton et al. 1999). The bighorn sheep is found from southwestern Canada south through the western portion of the United States and into portions of Baja California and mainland Mexico. In California, the Nelson's bighorn sheep is one of three subspecies and occurs in the desert mountain ranges, from the White Mountains in

Mono and Inyo counties south into the San Bernardino Mountains and south to the United States/Mexico border. An isolated population also occurs in the San Gabriel Mountains. Threats to this species include habitat changes resulting from fire suppression, interactions with feral and domestic livestock, and human encroachment.

The Nelson's bighorn sheep is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

American Badger

The American badger (*Taxidea taxus*) is a state species of special concern. This species is found in drier, open stages of shrub steppes, agricultural fields, open woodland forests, and large grass and sagebrush meadows and valleys with friable soils. It eats of a variety of rodents, scorpions, insects, snakes, lizards, birds, and carrion. The American badger is found throughout southern Canada south through the central and western United States and south into Baja California and mainland Mexico. In California, it is an uncommon, permanent resident that is found throughout the state, except in the extreme north coast area (Grinnell et al. 1937). Threats to this species are associated mainly with human activities, such as habitat destruction, trapping, hunting, vehicular deaths, and poisoning.

The American badger is known to occur adjacent to the Town General Plan Update area (CDFW 2012a).

Table 2. Sensitive Wildlife Species within the Vicinity of the Town of Yucca Valley

Scientific Name	Common Name	Status	Habitat Description
Insects			
Paranomada californica	California cuckoo bee	--	No habitat data available.
Reptiles			
Gopherus agassizii	desert tortoise	FT ST	Desert scrub, washes, dunes, and rocky slopes with firm but not hard pan soils. Elevations from sea level to approximately 5,200 feet.
Phrynosoma blainvillii	coast horned lizard	CSC	Scrubland, grassland, coniferous woods, and broadleaf woodlands, especially in areas with sandy soils, scattered shrubs, and ant colonies, such as along the edges of arroyo bottoms or dirt roads. Elevations from sea level to approximately 6,000 feet.
Uma scoparia	Mojave fringe-toed lizard	CSC	Habitats with sparse vegetation and windblown sands, such as dune systems and washes. Elevations from below sea level to approximately 3,280 feet.

Table 2. Sensitive Wildlife Species within the Vicinity of the Town of Yucca Valley (cont.)

Scientific Name	Common Name	Status	Habitat Description
Birds			
Crotalus ruber	red-diamond rattlesnake	CSC	Coastal sage scrub, desert scrub, thornscrub, open chaparral, woodland, grassland, and cultivated areas. Elevations from sea level to approximately 4,900 feet but typically below 3,200 feet.
Falco mexicanus	prairie falcon	--	Perennial grasslands, savannahs, rangeland, agricultural fields, desert scrub, annual grasslands, and alpine meadows. Nests on cliff ledges and occasionally in rock crevices.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FC SE	Valley foothill and desert riparian habitats, usually with dense, mature riparian woodlands with large stands of cottonwood-willow riparian forest.
Athene cunicularia	burrowing owl	CSC	Dry, open areas with low-growing vegetation in grasslands, deserts, prairies, and agricultural lands often associated with burrowing mammals.
Pyrocephalus rubinus	vermilion flycatcher	CSC	Cottonwood, willow, mesquite, and other vegetation in desert riparian and desert wash habitats as well as savannas and arid scrub, often associated with surface water.
Lanius ludovicianus	loggerhead shrike	CSC	Open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree woodland habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches.
Vireo bellii pusillus	least Bell's vireo	FE SE	Willow-dominated woodland or scrub, *Baccharis* scrub, mixed oak/willow woodland, mesquite woodland, and elderberry scrub in riparian habitat. Nests and forages in vegetation along streams and rivers that measures approximately 3 to 6 feet in height and has a dense, stratified canopy providing both foraging habitat and song perches for territorial advertisement.
Toxostoma bendirei	Bendire's thrasher	CSC	Variety of desert habitats with Joshua tree, Mojave yucca, cactus, and open ground.
Toxostoma lecontei	Le Conte's thrasher	CSC	Sparsely vegetated desert flats, dunes, alluvial fans, or gently rolling hills that usually have multiple species of saltbush and/or cholla cactus and undisturbed substrates with accumulated leaf litter beneath desert shrubs for foraging.
Dendroica petechia brewsteri	yellow warbler	CSC	Variety of riparian habitats varying by biogeographic region but usually in close proximity to water along streams and meadows.
Piranga rubra	summer tanager	CSC	Desert riparian habitats, usually in older, dense stands along rivers and streams with cottonwoods and willows.

Table 2. Sensitive Wildlife Species within the Vicinity of the Town of Yucca Valley (cont.)

Scientific Name	Common Name	Status	Habitat Description
Mammals			
Antrozous pallidus	pallid bat	CSC	Open desert scrub, grasslands, shrub lands, woodlands, and forests. Roosts in a variety of areas, including rock crevices, caves, mines, tree hollows, and abandoned and occupied buildings.
Euderma maculatum	spotted bat	CSC	Arid desert, scrub, and open forest habitats, particularly in areas with vertical cliffs or canyons near water. Specific roosting characteristics are poorly understood but known to roost on rock-faced cliffs.
Lasiurus xanthinus	western yellow bat	CSC	Valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in palm trees and forages for flying insects over water and among trees in palm oases and riparian habitat.
Nyctinomops femorosaccus	pocketed free-tailed bat	CSC	Pinyon-juniper woodlands, desert scrub, desert succulent scrub, desert riparian, Joshua tree woodland, and palm oasis. Roosts in areas with rugged cliffs, high rocky outcrops, and steep slopes as well as old buildings, mines and caves, and under roof tiles.
Nyctinomops macrotis	big free-tailed bat	CSC	Desert scrub, woodlands and evergreen forests with roost sites, such as rock outcrops, steep canyon walls, cliffs, buildings, caves, and tree cavities.
Chaetodipus fallax pallidus	pallid San Diego pocket mouse	CSC	Coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper woodland, and annual grassland with sandy, rocky, or gravelly soils.
Ovis canadensis nelsoni	Nelson's bighorn sheep	--	Alpine dwarf-shrub, low sage, sagebrush, bitterbrush, pinyon-juniper woodland, palm oasis, desert riparian, desert succulent shrub, desert scrub, subalpine conifer, perennial grassland, montane chaparral, and montane riparian.
Taxidea taxus	American badger	CSC	Drier, open stages of shrub steppes, agricultural fields, open woodland forests, and large grass and sagebrush meadows and valleys with friable soils.

3.3.4 Wildlife Movement Corridors

Wildlife corridors are essential to maintain populations of healthy and genetically diverse plant and wildlife species. At a minimum, wildlife corridors promote colonization of habitat and genetic variability for both plant and wildlife species by connecting fragments of habitat that are separated by otherwise foreign or inhospitable habitats. Because the isolation of plant and wildlife populations can have many harmful effects on local and regional species' populations and may contribute significantly to local species extinctions, wildlife corridors are important to

sustain individual species distributions within these habitat fragments. Studies have concluded that many wildlife species would not likely persist in these habitat fragments over time because isolation through fragmentation would prohibit the infusion of new individuals and genetic information into the population (MacArthur and Wilson 1967; Soule 1987; Harris and Gallagher 1989; Bennett 1990). While the debate over the value of corridors has been extensive (Simberloff and Cox 1987, Noss 1987, Beier and Loe 1992, Beier and Noss 1998, Haddad et al. 2000, Beier and Noss 2000), most leading wildlife corridor biologists agree that, if corridors are used in appropriate situations and designed properly, they can be useful tools in conservation.

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 (Beier and Loe 1992). 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 (Penrod et al. 2001). In addition, roadway mortality must be considered when evaluating the importance of maintaining habitat connectivity and providing well-designed wildlife crossings (e.g., over/underpasses). If animals are inclined to move between habitat patches, a narrow road or even a wider highway isn't an absolute barrier. However, if these animals choose to cross these roadways, the likelihood of mortality increases and potentially could depress regional species' populations if these failed crossing attempts become a common occurrence.

Wildlife corridors can be classified as either regional corridors or local corridors. Regional corridors are defined as those linking two or more large areas of natural open space and local corridors are defined as those allowing resident animals to access critical resources (e.g., food, cover, water) in a smaller area that might otherwise be isolated by some form of urban development (e.g., roads, housing tracts). Both regional and local wildlife corridors reduce the effects of habitat fragmentation by (1) allowing wildlife to move between remaining habitat fragments, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on a population that may cause local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other life cycle requirements (Noss 1983; Farhig and Merriam 1985; Simberloff and Cox 1987; Harris and Gallagher 1989).

Within these wildlife corridors, wildlife movement activities typically fall into one of three movement categories: (1) dispersal (i.e., juvenile animals from natal areas or individuals extending range distributions), (2) seasonal migration, and (3) movement related to home range activities (e.g., foraging for food or water, defending territories, searching for mates). A number of terms have been used in various wildlife movement studies, such as "travel route", "wildlife corridor", and "wildlife crossing" to refer to areas in which wildlife move from one area to

another. To clarify the meaning of these terms and facilitate this discussion on wildlife movement in this evaluation, these terms are defined as follows:

Travel Route. A travel route is a landscape feature - such as a ridgeline, drainage, canyon, or riparian strip - within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another. It contains adequate food, water, and/or cover for wildlife moving between habitat areas and provides a relatively direct link between suitable habitat areas.

Wildlife Corridor. A wildlife corridor is an area of habitat, usually linear in nature, which connects two or more habitat patches that, otherwise, would be fragmented or isolated from one another. Wildlife corridors are often bounded by urban land uses or other areas that are unsuitable for wildlife. A corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as habitat or landscape linkages) can provide both transitory and resident habitat for a variety of species.

Wildlife Crossing. A wildlife crossing is a small, narrow area, relatively short in length and generally constricted in nature that allows wildlife to pass under, over, or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are manmade and include culverts, underpasses, overpasses, drainage pipes, and tunnels that provide access across or under roads, highways, pipelines, or other physical obstacles.

As discussed above, wildlife corridors provide routes for migration and dispersal. In addition, several studies have demonstrated the importance of corridors in preventing extinctions and increasing species diversity (Fahrig and Merriam 1985, Crooks 2002, Crooks and Soulé 1999, Soulé et al. 1988). Wildlife corridors also play a very important role in linking reserves and reducing the negative effects of fragmentation. While corridors are not reserves themselves, they can be viewed as a means to effectively increase reserve size. To some wide-ranging animals such as bobcat (*Felis rufus*), coyote, and mountain lion (*Felis* concolor), even a relatively large isolated reserve may not be capable of sustaining populations. However, by allowing these and other species to disperse to and move between reserves via wildlife corridors, these animals have more space to utilize and are more likely to maintain stable populations.

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. Several comprehensive wildlife corridor analyses have been conducted within the vicinity of the Town, including A Linkage Design for the San Bernardino-Little San Bernardino Connection (Penrod et al. 2005), A Linkage Design for the Joshua Tree-Twentynine Palms Connection (Penrod et al. 2008), the

California Essential Habitat Connectivity Project (Spencer 2010), and the California Desert Connectivity Project (Penrod et al. 2012). The Morongo Basin Open Space Group also has adopted these corridor designs in their overall open space strategy for the Morongo Basin area.

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, were focused on areas that are within and immediately adjacent to the Town. These studies resulted in the identification of the Joshua Tree-29 Palms linkage design and the San Bernardino-Little San Bernardino linkage design, both of which pass through the Town (Figure 4). The California Essential Habitat Connectivity Project and the California Desert Connectivity Project are more recent studies conducted at a regional level. These studies, described below, incorporated the linkage designs of the previous studies.

The California Essential Habitat Connectivity Project was initiated by the CDFW and the California Department of Transportation (Caltrans) and implemented by South Coast Wildlands. Over sixty federal, state, local, tribal, and non-governmental organizations collaborated to produce a statewide assessment of essential habitat connectivity within California using the best available science, data sets, spatial analyses, and modeling techniques. The primary goal of the California Essential Habitat Connectivity Project was to identify large blocks of intact habitat or natural landscape within California and immediately adjacent areas in neighboring states and to model linkages between these natural landscape blocks that need to be maintained, particularly as linkages/corridors for wildlife movement, to provide guidance to help infrastructure, land use, and conservation planners maintain and restore a connected California, while simultaneously making infrastructure planning projects more cost efficient. The California Essential Habitat Connectivity Project provided a statewide wildlife habitat connectivity map using a Geographic Information System (GIS) based modeling approach, an assessment of the biological value of identified connectivity areas, and a strategic plan that facilitates the interpretation and use of the statewide map and outlines a methodology necessary for completing connectivity analyses at finer spatial scales for future proposed projects. The California Essential Habitat Connectivity Project includes an analysis of the Mojave Desert Ecoregion and identifies areas surrounding the Town as Natural Landscape Blocks.

The California Desert Connectivity Project is a comprehensive connectivity assessment that will develop 23 Linkage Designs that will inform land management and conservation decisions by identifying areas where maintaining or restoring ecological connectivity is essential to conserving the biological diversity of the California deserts. This assessment used several science-based models (e.g., landscape permeability, habitat suitability, patch size, configuration analyses) and field studies to evaluate habitat suitability and movement needs for selected focal species. The California Desert Connectivity Project identifies several Wildland Blocks and open space associated with military bases. Within the vicinity of the project, these Wildland Block and military lands include the San Bernardino Mountains, Joshua Tree National Park, and the Twentynine Palms Newberry-Rodman Area of Critical Environmental Concern (ACEC), which is a combination of an open space preserve and military lands. The California Desert

Connectivity Project includes numerous Linkage Planning Areas and Linkage Designs between these Wildland Blocks.

Through the California Essential Habitat Connectivity Project, the California Desert Connectivity Project, and the earlier linkage studies, two linkages (Joshua Tree-29 Palms and San Bernardino-Little San Bernardino) have been identified within the Town (Figure 4). Collectively, these linkages are referred to as Wildlife Corridor Evaluation Areas (WCEA) by the Town. The WCEAs provide dispersal, seasonal migration, and movement opportunities for more wide-ranging species – such as mule deer, coyote, and bighorn sheep – to have access to the resources available in the desert, riparian, and mountain habitats in the region. In addition, these corridors provide dispersal, seasonal migration, and movement opportunities for more localized, resident species – such as the desert tortoise, coast horned lizard, and pallid San Diego pocket mouse – to access resources required for survival.

The Joshua Tree-29 Palms linkage crosses the northern "pan handle" portion of the Town as well as a portion of the Town on its eastern border (Figure 4). This linkage is somewhat constrained in the north part of the Town as it passes through a developed industrial area. While constrained, it still provides east-west connectivity between larger open space areas. The area within this linkage on the eastern border of the Town is on a hilly area and supports mostly undisturbed native habitat.

The San Bernardino-Little San Bernardino linkage passes through mostly undeveloped, hilly terrain in the southwestern corner of the Town. This area supports high quality native habitat and provides connectivity between Joshua Tree National Park, Big Morongo Canyon, and Open Space areas to the west. Within the Town, the goals of the WECAs are to:

- conserve habitat for rare and endangered species found in the region;
- maintain these areas for aesthetic and low-impact recreational uses;
- utilize major recreation and open-space reservations including trails and scenic highway corridors;
- preserve the scenic character of the Town;
- maintain areas for wildlife movement corridors between regional open space areas.

3.3.5 Open Space Resource Areas

The Town has identified three Open Space Resource Areas (Figure 4) with the intent of providing open space for the protection of sensitive biological resources located 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, scenic value, 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. The overall goals of the Open Space Resource Areas are the same as those

identified for the WECAs above plus an additional goal of providing an additional buffer between development and the WCEAs.

The OSRA located on the western portion of the Town, north of Highway 62 would provide 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-29 Palms linkages. Most of this OSRA is undeveloped with proposed low density land uses.

The OSRA south of Highway 62 would enhance the San Bernardino-Little San Bernardino linkage and provide a buffer between the Town and Joshua Tree National Park. This OSRA also would provide 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 located on a hill top at the eastern boundary of the Town. This OSRA provides added connectivity with the Joshua Tree-29 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.

3.3.6 Wetland and Riparian Resources

Wetland and riparian resources within the vicinity of the Town General Plan Update area are considered sensitive biological resources and are regulated by the USACE, CDFW, and/or RWQCB pursuant to several federal and state regulations. A description of each agencies jurisdiction is provided in this section, and the potential wetland resources within and adjacent to the Town are discussed as well.

United States Army Corps of Engineers Jurisdiction

In accordance with Section 404 of the CWA, the USACE has regulatory authority over the discharge of dredged or fill material into waters of the U.S. (including non-wetland waters of the U.S. and wetlands). Federal jurisdiction is dependent on a demonstrated nexus between the subject water feature and navigable waters or interstate commerce.

The USACE and EPA define wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions" (USACE 1987). To be considered a USACE jurisdictional wetland under Section 404 of the CWA, an area must possess three wetland characteristics: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. The definition of a wetland includes the phrase “under normal circumstances” because there are situations in which the vegetation of a wetland has been removed or altered as a result of recent natural event or human activities (USACE 1987). The terms “atypical situation” and “problem area” are used to describe wetlands that exhibit these conditions. An atypical situation refers to a wetland area in which one or more

wetland parameters (vegetation, soil, and/or hydrology) have been sufficiently altered by recent human activities or natural events to preclude the presence of wetland indicators of the parameter (USACE 1987). A problem area refers to a wetland area in which wetland indicators of one or more wetland parameters may be periodically lacking due to normal seasonal or annual variations in environmental conditions that result from causes other than human activities or catastrophic natural events (e.g., seasonal wetlands, wetlands on drumlins, prairie potholes, and vegetated flats) (USACE 1987). Although atypical situations and problem areas may lack one or more wetland parameters, these areas may still be considered wetlands if background information on the previous condition of the area and field observations indicate that the missing wetland criteria were present before the disturbance and would occur at the site under normal circumstances.

The USACE defines non-wetland waters of the U.S. as drainages, or portions thereof, which have strong hydrology indicators such as the presence of seasonal flows and an ordinary high watermark (OHWM). An OHWM is defined as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (USACE 1987). Areas delineated as non-wetland waters of the U.S. may lack hydrophytic vegetation or hydric soil characteristics. Hydrophytic vegetation may be absent for various reasons such as the lack of sufficient water flow to support hydrophytic vegetation or the influence of frequent scouring due to rapid water flow. Hydric soil indicators may be missing for various reasons such as the lack of sufficient water or the presence of steep topography that precludes ponding and prohibits the development of hydric soils. Non-wetland waters of the U.S. are delineated by the lateral and upstream/downstream extent of the OHWM of the particular drainage or depression.

California Department of Fish and Wildlife Jurisdiction

In accordance with Sections 1600 to 1616 of the Fish and Game Code, the CDFW regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. These sections discuss the process by which an individual, government agency, or public utility must notify the CDFW prior to any activity that would substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake. The CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by the CDFW. Following such notification, the CDFW must inform the individual, agency, or utility of the existence of any fish and wildlife resources that may be substantially adversely affected by the activity. The CDFW must also include a proposal called the Streambed Alteration Agreement for measures to protect fish and wildlife resources.

The CDFW exerts jurisdiction over all waters of the State, such as streams and rivers (measured from bank to bank) and any "riparian" vegetation associated with the waters. Streams and rivers

are defined by the presence of a channel bed and banks, and at least an intermittent flow of water. The term "riparian" vegetation refers to vegetation that occurs in and/or adjacent to a watercourse. Typical "riparian" vegetation includes willows, mulefat, western sycamores (*Platanus racemosa*), Fremont cottonwoods, cattails (*Typha* spp.), and other vegetation found in moist areas and typically associated with the banks of a stream or lake shoreline. CDFW jurisdictional areas are delineated by the outer edge of riparian vegetation or from the top of one channel bank to the top of the opposite channel bank, whichever is wider. Thus, defining the limits of the CDFW jurisdiction based on riparian habitat will automatically include any wetland areas and may include additional areas that do not meet the USACE criteria for soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the channel area of a stream away from frequently saturated soils). In addition, the CDFW may take jurisdiction over isolated wetlands and streambeds in cases where the USACE may not. Therefore, the CDFW jurisdiction is typically equal to or greater than the USACE jurisdiction.

Regional Water Quality Control Board

The RWQCB is the primary agency responsible for protecting water quality in California. The RWQCB regulates discharges to surface waters under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act. The RWQCB's jurisdiction extends to all waters of the State and to all waters of the U.S. as considered jurisdictional by the USACE and CDFW. The RWQCB also regulates isolated wetlands, such as vernal pools, that are not regulated by the USACE. Section 401 of the CWA and the state Porter-Cologne Water Quality Control Act give the RWQCB the authority to regulate any proposed activity that may affect water quality. Water quality certification and/or a Report of Waste Discharge must be based upon a finding that the proposed discharge will comply with water quality standards.

Wetland and Riparian Resources in the Town

The majority of the Town is located 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, thus resulting in flooding and sediment disposition within properties and in the streets.

Wetland and riparian resources within the Town would include creeks, washes, underground water (aquifers), and other water courses as well as various riparian vegetation communities that are associated with these water courses. While no wetland habitats are identified within the CNDDB, the USFWS 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.

4.0 EVALUATION OF FUTURE ENVIRONMENTAL OPPORTUNITIES, CONSTRAINTS, AND MITIGATION MEASURES

The Town's opportunities to protect the natural environment within the Town General Plan area as well as the potential development constraints for future projects associated with the natural resources are discussed in this section.

4.1 Opportunities

The Town lies within a portion of the Mojave Desert that has an abundance of open space, including both public and private lands as well as designated wilderness areas, national parks, and military bases. Because it is situated in such an area, the Town, through implementation of the General Plan, has the opportunity to preserve and enhance its valuable natural resources by managing growth to avoid or minimize impacts to sensitive biological resources. The Town manages biological resources through implementation of the General Plan as well as other codes, ordinances, and guidelines to assure that the Town utilizes all opportunities to integrate biological resources, open space, and conservation principles with future development.

The Town General Plan provides a variety of goals, policies, and programs that aim to protect and preserve the Town's biological resources (i.e., vegetation communities, plant species, wildlife species, wildlife corridors, jurisdictional areas), open space, and conservation principles by creating a balance between the natural environment and human development while also maintaining its rural atmosphere and the scenic qualities of the Town. By implementing these goals, policies, and programs as well as the measures discussed in Section 4.2, below, the Town will protect special status species, the broad variety of habitats needed to support these species, local and regional wildlife movement corridors, and other natural resources in the vicinity by requiring future proposed projects to comply with federal, state, regional, and local regulations established to protect these sensitive biological resources.

4.2 Constraints and Compensatory Mitigation Measures

Local, state, and federal agencies regulate sensitive biological resources and require an assessment of their presence or potential presence to be conducted for each proposed development project site for all sensitive vegetation communities and special status species that have the potential to occur within or adjacent to a proposed development project site prior to the approval and implementation of a proposed development project. Because the information provided in this report is based solely on an analysis of existing literature and data for the region and because no new surveys were conducted to prepare this report, future development projects will require a more refined evaluation of biological resources.

Sensitive biological resources in the Town General Plan area include but are not limited to those discussed in this document. The Town's environment is not static and may change over time as a result of fire, climate change, and other environmental factors. In addition, vegetation communities may become sensitive and/or species may become listed in the future. For future proposed development projects, it is the responsibility of each Project Proponent to evaluate the known and potential sensitive biological resources within the proposed development project area. This section provides the Town and future Project Proponents with guidelines to evaluate potential project-related impacts and design appropriate avoidance, minimization, and/or mitigation measures to assure impacts are below a level of significance, as defined by CEQA. Both general and resource-specific mitigation measures – designated as Bio-1, Bio-2, and so forth – are presented, below.

4.2.1 General Measures for Impact Assessments

As part of the project approval process, each future proposed development project must conduct an analysis to determine if sensitive biological resources would be impacted. The following general biological mitigation measures would apply to future proposed development projects.

Bio-1: The proposed development project shall include a biological resources survey. The biological resources survey shall be conducted by a qualified biologist. The biological resources survey shall include, but not be limited to, an:

- An analysis of available literature and biological databases, such as CNDDB, to determine sensitive biological resources that have been reported historically from the proposed development project vicinity
- A review of current land use and land ownership within the proposed development project vicinity
- An assessment and mapping of vegetation communities present within the proposed development project vicinity
- An evaluation of potential local and regional wildlife movement corridors
- A general assessment of potential jurisdictional areas, including wetlands and riparian habitats

Bio-2: If the proposed development project site supports vegetation communities that may provide habitat for plant or wildlife species, a focused habitat assessment shall be conducted by a qualified biologist to determine the potential for special status plant and/or animal species to occur within or adjacent to the proposed development project area.

Bio-3: If one or more special status species has the potential to occur within the proposed development project area, focused species surveys shall be conducted to determine the presence/absence of these species to adequately evaluate potential direct and/or indirect impacts to these species.

Bio-4: If construction activities are not initiated immediately after focused surveys have been completed, additional pre-construction special status species surveys may be required to assure impacts are avoided or minimized to the extent feasible. If pre-construction activities are required, a qualified biologist would perform these surveys as required for each special status species that is known to occur or has a potential to occur within or adjacent to the proposed development project area.

Bio-5: The results of the biological survey shall be presented in a biological survey letter report for proposed development projects with no significant impacts or in a biological technical report for proposed development projects with significant impacts that require mitigation to reduce the impacts to below a level of significance.

Bio-6: If sensitive biological resources are identified within or adjacent to the proposed development project area, the construction limits shall be clearly flagged to assure impacts to sensitive biological resources are avoided or minimized to the extent feasible. Prior to implementing construction activities, a qualified biologist shall verify that the flagging clearly delineates the construction limits and sensitive resources to be avoided.

Bio-7: If sensitive biological resources are known to occur within or adjacent to the proposed development project area, a project-specific contractor training program shall be developed and implemented to educate project contractors on the sensitive biological resources within and adjacent to the proposed development project area and measures being implemented to avoid and/or minimize impacts to these species. A qualified biologist shall develop and implement the contractor training program.

Bio-8: If sensitive biological resources are present within or adjacent to the proposed development project area and impacts may occur from implementation of construction activities, a qualified biological monitor may be required during a portion or all of the construction activities to assure impacts to the sensitive biological resources are avoided or minimized to the extent feasible. The specific biological monitoring requirements shall be evaluated on a project by project basis. The qualified biological monitor shall be approved by the Town on a project by

project basis based on applicable experience with the sensitive biological resources that may be impacted by the proposed development project activities.

Bio-9: If birds that are covered under the MBTA are identified within or adjacent to the proposed development project area, the proposed development project may result in direct or indirect impacts to these species, especially during breeding season. If impacts cannot be avoided, potential impacts during the breeding season may be considered significant depending on the species and the extent of the impact. To ensure that active nests are not impacted, pre-construction general nesting bird surveys shall be conducted within all suitable nesting habitat that may be impacted by active construction during the general avian breeding season (February 1 through August 31). The pre-construction surveys shall be conducted no more than 7 days prior to initiation of construction. If no active avian nests are identified within the proposed development project area or within a 300-foot buffer of the proposed development project area, no further mitigation is necessary. If active nests of avian species covered by the MBTA are detected within the proposed development project area or within a 300-foot buffer of the proposed development project area, construction shall be halted until the young have fledged, until a qualified biologist has determined the nest is inactive, or until appropriate mitigation measures that respond to the specific situation have been developed and implemented in consultation with the regulatory agencies.

4.2.2 Measures for Impacts to Jurisdictional Areas

Impacts to jurisdictional areas would be considered significant under CEQA depending on the extent of the proposed impact. Survey requirements and mitigation measures for unavoidable impacts associated with future proposed development projects are discussed below.

Bio-10: If the proposed development project has the potential to affect jurisdictional resources, a qualified biologist shall conduct a jurisdictional delineation following the methods outlined in the 1987 USACE Wetland Delineation Manual (USACE 1987) and the Regional Supplement to the USACE Wetland Delineation Manual: Arid West Region (USACE 2008) to map the extent of wetlands and non-wetland waters, determine jurisdiction, and assess potential impacts. The results of the delineation shall be presented in a wetland delineation letter report and shall be incorporated into the CEQA document(s) required for approval and permitting of the proposed development project.

Bio-11: If a proposed project would impact jurisdictional features, permits and authorizations shall be obtained from the USACE, CDFW, and/or RWQCB. The agency authorization would include impact avoidance and minimization measures as well as mitigation measures for unavoidable impacts. Specific avoidance, minimization, and mitigation measures for impacts to jurisdictional resources shall be determined through discussions with the regulatory agencies during the proposed development project permitting process and may include monetary contributions to a mitigation bank or habitat creation, restoration, or enhancement.

4.2.3 Measures for Impacts to WCEAs and OSRAs

While development is not prohibited in these areas, it should be conducted in such a way as to support the goals and objectives of the linkages and OSRAs.

Bio-12: If a proposed project would occur within a WCEA and/or an OSRA then, in addition to the mitigation measures identified above, a habitat connectivity evaluation shall be conducted. The results of the evaluation will be incorporated into the project's biological report required under Bio-5 above. The WCEAs and OSRAs are intended to protect sensitive biological resources, provide habitat connectivity for wildlife movement, support low-impact outdoor recreational activities, provide a buffer between development and existing open space areas (e.g. Joshua Tree National Park), and protect the scenic nature of the town. The habitat connectivity evaluation will assess the potential for the project to adversely affect the intended functions of the WCEA and/or OSRA. The evaluation also will identify project design features that would reduce potential impacts and maintain functionality. To this end, the Town will incorporate the following measures, to the extent practicable, into projects that would propose development within a WCEA and/or an OSRA shall:

- Adhere to low density zoning standards
- Encourage clustering of development
- 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
- Protect wetland/riparian areas through regulatory agency permitting process
- Encourage wildlife passable fence designs (e.g. 3 strand barbless wire fence) 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 roadkill and habitat loss
- Use native, drought resistant plant species in landscape design
- Encourage project applicants to fulfill required mitigation measures within an OSRA
- Encourage participation in local/regional recreational trail design efforts

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