Eastern Kern County Property Acquisition
Draft Environmental Impact Report

State Clearinghouse #2012091066

February 2013

State of California
Department of Parks and Recreation
Off-Highway Motor Vehicle Recreation (OHMVR) Division

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Prepared for:

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EASTERN KERN COUNTY PROPERTY ACQUISITION
ENVIRONMENTAL IMPACT REPORT

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ACRONYMS AND ABBREVIATIONS

Acronym/ Abbreviation	Full Phrase or Description
ACEC	Area of Critical Environmental Concern (BLM)
ADA	American Disability Act
APCD	Air pollution control district
AQMD	Air quality management district
ATV	All-terrain vehicle
AUM	Animal unit month
BAAQMD	Bay Area Air Quality Management District
BLM	Bureau of Land Management
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standard
CAL FIRE	California Department of Forestry and Fire Protection
CalPIF	California Partners in Flight
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDC	California Department of Conservation
CDCA	California Desert Conservation Act
CDFW	California Department of Fish and Wildlife (formerly California Department of Fish and Game)
CDPR	California Department of Parks and Recreation
CGS	California Department of Conservation, California Geological Survey
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act
CEQA	California Environmental Quality Act
CEQA Guidelines	Title 14, California Code of Regulations, sections 15000 et seq.
CESA	California Endangered Species Act
CH_4	Methane
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon monoxide
CO_2	Carbon dioxide
CRHR	California Register of Historic Resources

Acronym/ Abbreviation	Full Phrase or Description
CSSC	California species of special concern
DOD	Department of Defense
DPM	Diesel particulate matter
DTSC	California Department of Toxic Substance Control
DRECP	Desert Renewable Energy Conservation Plan
EA	Environmental Assessment
EKAPCD	Eastern Kern Air Pollution Control District
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
FAA	Federal Aviation Administration
Federal ESA	Federal Endangered Species Act
FLPMA	Federal Land Policy and Management Act
FOJ	Friends of Jawbone
Geocon	Geocon Consultants, Inc.
GHG	Greenhouse gas
GIS	Geographic Information System
GPA	General plan amendment
GWP	Global warming potential
HCP	Habitat Conservation Plan
HFC	Hydrofluorocabons
HMS	Habitat Monitoring System
JBRMP	Jawbone-Butterbredt Resource Management Plan of 1982
KCAPCD	Kern County Air Pollution Control District
LADPW	Los Angeles Department of Water and Power
LCFS	Low Carbon Fuel Standard
LRMP	Land and Resource Management Plan
LHDV	Light heavy duty diesel truck
LIDAR	Light Detection and Ranging
MBTA	Federal Migratory Bird Treaty Act
MCV2	Manual of California Vegetation, 2 Edition
MDAB	Mojave Desert Air Basin
MMTCO2e	Million metric tons of carbon dioxide equivalent
MTCO2e	Metric tons of carbon dioxide equivalent

Acronym/ Abbreviation	Full Phrase or Description
NAAQS	National Ambient Air Quality Standard
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOP	Notice of Preparation
NOx	Nitrogen oxides
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OHMVR	Off-Highway Motor Vehicle Recreation
OHMVR Division	Off-Highway Motor Vehicle Recreation Division of the California Department of Parks and Recreation
OHV	Off-highway vehicle
ORV	Off-road vehicle
PFC	Perfluorocarbons
Phase I ESA	Phase I Environmental Site Assessment
PM	Particulate matter
PRC	California Public Resources Code
PSD	Prevention of Significant Deterioration
RCA	Rudnick Common Allotment
REC	Recognized environmental condition
ReNu	ReNu Resources, LLC
ROD	Record of Decision (NEPA)
ROG	Reactive organic gas
RWQCB	Regional Water Quality Control Board
SF_6	Sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SOPA	Schedule of Proposed Actions
SVRA	State Vehicular Recreation Area
TAC	Toxic air contaminant
TRA	TRA Environmental Sciences, Inc.
URBEMIS	Urban emissions software
USACE	U.S. Army Corps of Engineers

Acronym/ Abbreviation	Full Phrase or Description
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	Volatile organic compound
WHPP	Wildlife Habitat Protection Program

SUMMARY

S.1 PROJECT DESCRIPTION

The California Department of Parks and Recreation (CDPR), Off-Highway Motor Vehicle Recreation (OHMVR) Division is proposing to acquire and manage 59 privately-owned parcels (approximately 28,275 acres) in eastern Kern County, California, from ReNu Resources, LLC (ReNu), a private company that owns and manages agricultural land in California. The ReNu parcels are largely interspersed ("checkerboard") with lands owned by the U.S. Bureau of Land Management (BLM), although some parcels are within the Sequoia National Forest or adjacent to private land. Off-highway vehicle (OHV) and other forms of recreation occur on many of the ReNu parcels, and livestock grazing occurs on all but three of the parcels under permits issued by BLM and USFS and a license with ReNu.

This Draft Environmental Impact Report (EIR) assumes that in the foreseeable future the OHMVR Division would manage the former ReNu parcels for OHV recreation. It further assumes all existing uses (including grazing) would continue to occur on the acquired parcels, subject to management necessary to protect natural and cultural resources, ensure public safety, and facilitate effective operations and subject to potential change under a general plan. A general plan may be prepared in the future but is not part of the current environmental review process. The project does not propose construction of new facilities to support the existing land uses, although minor projects such as vault toilet installation or facilities improvements for Americans with Disabilities Act (ADA) compliance or safety are foreseeable. Additionally, some existing trails, including non-motorized trails, could require minor trail realignments to address localized erosion or to avoid a sensitive resource. The project is not expected to significantly change the number of visitors. However, to account for possible increased interest in the project area due to OHMVR Division ownership and in a future planning process, the Draft EIR assumes OHV recreation visits could increase by up to 1%.

Based on these assumptions, this Draft EIR analyzes the physical environmental effects of the property purchase and management by the OHMVR Division. It considers management likely to be implemented primarily to ensure resource protection, public safety, and effective operations once the property is acquired.

S.2 IMPACTS AND MITIGATION

The impact analysis presented in the Eastern Kern County Property Acquisition Draft EIR considers whether acquisition of 59 parcels of private land and operation and maintenance of those properties by the OHMVR Division will cause significant effects as defined by the California Environmental Quality Act (CEQA). A summary of project impacts and mitigation measures is provided in Table S-1. A complete discussion of project impacts and mitigation measures is provided in the Draft EIR section pertaining to each environmental discipline (see Chapters 3 through 11).

Table S-1. Summary of Project Impacts and Mitigation Measures	
LAND USE PLANS AND POLICIES	
IMPACT: OHMVR Division acquisition could result in a 1% increase in visitor use to the project area and could add to existing levels of unauthorized OHV use on the Pacific Crest Trail, Red Rock Canyon State Park, BLM land, and private property. Implementation of Land Use Management Measures would more than offset any increase in intrusions associated with the 1%visitor use increase and is expected to reduce existing intrusion levels. **Less than Significant Impact**	**No mitigation required.**
AGRICULTURAL AND FORESTRY RESOURCES	
IMPACT: OHMVR Division acquisition would lead to future preparation of a general plan governing use of the project property. The potential loss of the property as grazing land could occur in the foreseeable future given the state livestock policy preference for no or limited grazing in state parks. Future grazing use of the property would be determined during the general plan approval process. Therefore, actual loss of grazing land is speculative at this time and cannot be assessed. Upon acquisition of the project parcels, the OHMVR Division would implement Agricultural Resource Management Measures to manage rangeland health. These measures would not result in a loss of access to public grazing land or loss of use of grazing land by the operator. Implementation of the Agricultural Resource Management Measures would apply federal standards to the presently unregulated ReNu parcels resulting in a beneficial impact. **Less than Significant Impact**	**No mitigation required.**

Table S-1. Summary of Project Impacts and Mitigation Measures

AIR QUALITY	
IMPACT: The acquisition project would result in OHMVR Division management activities including operation and maintenance, minor site improvements, and resource protection measures. Mobile emissions from light duty park operation and maintenance vehicles combined with emissions from a 1% potential increase in park visitation would generate 5.6 pounds per day of NO_x and 4 pounds per day of ROG. The project would not exceed the EKAPCD's CEQA threshold for mobile vehicle trips of 137 pounds per day of NO_x or ROG and, therefore, would not exceed ambient air quality standards for ozone. The incremental increase in OHV and park management operations on unpaved roads would generate fugitive dust. Some special events could also generate fugitive dust, although no new events have been suggested or proposed. The increased emissions would be infrequent, intermittent, and of low enough magnitude so as not to exceed established daily or annual standards for PM_{10} and $PM_{2.5}$. Implementation of the Soil Conservation Standards identified in the Geology and Soils Management Measures would have the beneficial impact of address potential erosion issues associated with existing OHV use levels which contribute to fugitive dust. **Less than Significant Impact**	**No mitigation required.**
BIOLOGICAL RESOURCES	
IMPACT: Site improvements and resource protection measures implemented by the OHMVR Division could be located where special-status species or sensitive habitat areas are known to occur resulting in harm to species individuals or trampling of habitat. Proposed Management Measures include pre-activity surveys prior to commencing disturbance activities to identify location of species and monitoring during management activity by a qualified biologist to avoid potential impacts. **Less than Significant Impact**	**No mitigation required.**

Table S-1. Summary of Project Impacts and Mitigation Measures	
IMPACT: A 1% increase in visitor use caused by OHMVR Division acquisition could increase recreational use in or near special-status plant and animal species habitat resulting in trampling of habitat or harm to species individuals but would not change the overall extent of existing effects. All fencing would allow wildlife passage. The project would not impact wildlife movement corridors. Proposed Management Measures would reduce the incidence of off-route OHV travel which poses the greatest risk to special-status plants and animals, including Mohave ground squirrel. Known and newly identified sensitive areas near designated routes would be fenced off and any trail with burrowing and nesting animals including birds in close proximity would be subject to seasonal closures. OHMVR Division acquisition and management would have a beneficial effect on the special-status species (except desert tortoise) affected by project activity as well as those affected by existing uses. **Less than Significant Impact**	**No mitigation required.**

Table S-1. Summary of Project Impacts and Mitigation Measures	
IMPACT: Desert tortoises are vulnerable to collision from high speed OHV recreation occurring during organized race events or from individual riders. The risk of collision with desert tortoise can be reduced by restricting high speed events, but cannot be eliminated from individual riders without eliminating the use. The projected 1% growth in annual visitation resulting from OHMVR Division acquisition would increase OHV recreation in areas that are known to support the desert tortoise. The increase in ridership would increase the possibility of take. **Significant Impact**	**Measure BIO-1:** Competitive special events shall be restricted to the Jawbone Canyon Open Area and courses dedicated for such use in the CDCA Plan. No competitive special events shall be permitted in desert tortoise habitat on project parcels outside of the Jawbone Canyon Open Area. Organized trail-riding events may be allowed 1 November to 1 March while most tortoises are hibernating. OHMVR DIVISION shall provide education materials informing park visitors that very young tortoises may be encountered during the fall and winter, at the time of the event, and should be avoided. Organized trail-riding events shall only be allowed on open and seasonally limited routes with the application of standard protection measures, such as use of specified parking, staging, and concession areas, and placement of monitors throughout the course. No cross-country travel shall be allowed outside of the OHV Open Areas. The OHMVR Division shall provide law enforcement presence during busy weekends and holiday periods; and work with Friends of Jawbone and BLM to maintain fences and signs to prevent off-designated route travel in desert tortoise habitat. The OHMVR Division shall consult with USFWS to determine additional effective feasible mitigation measures to further reduce take of desert tortoise. **Impact Remains Significant After Mitigation**
IMPACT: A 1% increase in visitor use caused by the OHMVR Division acquisition could increase recreational use in or near aquatic resources, including Waters of the U.S. and/or state, and wetland, riparian, or other aquatic habitat resulting in degraded conditions. Proposed Management Measures include monitoring and implementation of resource management measures developed for the WHPP and HMS. These protective measures would minimize impacts to aquatic resources from increased visitor use. OHMVR Division acquisition and management would have a beneficial effect on the aquatic resources affected by project activity as well as those affected by existing uses. **Less than Significant Impact**	**No mitigation required.**

Table S-1. Summary of Project Impacts and Mitigation Measures	
CULTURAL RESOURCES	
IMPACT: Site improvements or resource protection measures implemented by OHMVR Division could be located where cultural resources occur. Ground disturbance from these activities could harm these resources. Management Measures include pre-activity surveys prior to commencing disturbance activities. Project activity near cultural resources would occur under supervision of a qualified state archaeologist and would not result in damage of resources. A 1% increase in visitor use caused by OHMVR Division acquisition could increase recreational use near cultural resources resulting in resource damage. Proposed management measures include prescriptive actions to protect all cultural resources occurring on the project property. The OHMVR Division acquisition and management would have a beneficial effect on the cultural resources affected by project activity as well as those affected by existing uses. **Less than Significant Impact**	**No mitigation required.**
GEOLOGY AND SOILS	
IMPACT: Portions of designated routes traversing acquisition parcels have soils with high and moderate erosion potential and areas within the acquisition parcels may be prone to erosion. A 1% increase in annual usage would not significantly increase erosion potential. The OHMVR Division would implement geology and soils management measures, including a soil conservation plan to address all trails, routes, and open areas on the acquired parcels. OHMVR Division acquisition and management would have a beneficial effect on the soil resources affected by project activity as well as those affected by existing uses. **Less than Significant Impact**	**No mitigation required.**
GREENHOUSE GAS EMISSIONS	
IMPACT: Total GHG emissions from park management operations and a 1% increase in visitor vehicle trips is 166 MTCO2e. Although no standards for GHG emissions apply to mobile emissions occurring over a broad region, the increase in GHG emissions would be lower than all stationary source and land use development mass thresholds of significance adopted by EKAPCD and other air districts including BAAQMD and San Luis Obispo County APCD. **Less than Significant Impact**	**No mitigation required.**

Table S-1. Summary of Project Impacts and Mitigation Measures	
HAZARDS, HAZARDOUS MATERIALS, AND PUBLIC SAFETY	
IMPACT: Occasionally small amounts of gasoline or oil may be released from visitor or park maintenance vehicles. Fuel spills associated with the 1% increase in visitation and park maintenance and operations vehicles would be small and do not poses a significant safety hazard. Three project parcels (A-2, A-7, and B-10) have open pits or shafts, which may become dump sites or safety hazards if accessed by the public. A 1% increase in visitor use could result in increased public exposure to an existing safety hazard. Filling the open pits and closing or fencing the shaft as proposed by the Management Measures would prevent public injury and eliminate the safety hazard. The project area has the potential to support the *coccidioides* fungus. Although the chance of contracting valley fever in the area is considered remote, it is a possibility. The OHMVR Division acquisition and property management activities would not alter the risk of public exposure to the *coccidiodes* fungus. Visitors to the project property have no higher risk of exposure to the *coccidioides* fungus than elsewhere in the project region. As such, a 1% increase in visitation to the project site would not increase the amount of public exposed to fungus. **Less than Significant Impact**	**No mitigation required.**

Table S-1. Summary of Project Impacts and Mitigation Measures	
RECREATION	
IMPACT: The proposed acquisition could result in a 1% increase in visitor use to the project area. Any increase in visitor use would result in a proportional increase in the need for facility maintenance such as trails, signage, fencing, vault toilets, etc. The increase would not result in a concentration of visitor usage in one area such that the existing facilities would no longer be adequate to serve visitor demand. The increase in visitor use would not cause a deterioration of existing facilities or necessitate expanded recreational facilities. Hunting and target shooting are legal activities occurring on BLM property and may occur on the ReNu acquisition parcels that are interspersed with BLM land. Hunting and shooting on its property are not authorized by ReNu. OHMVR Division acquisition and management may curtail firearm use on OHMVR Division property but would not result in the loss of legal firearm recreation on federal property. Rockhounding may occur on ReNu property but is not authorized by ReNu. Upon OHMVR Division acquisition, rockhounding activities would be authorized and subject to OHMVR Division regulation limiting the quantity of material removed. The existing recreational opportunity for rockhounding would not be significantly reduced. A 1% increase in visitation would include visitors engaging in both motorized and non-motorized recreational activities, which could increase potential conflicts between user groups. The annual increase of 1,800 visitors equates to 35 visitors per weekend. Given the scale of the project area (28,275 acres), the increased use is unlikely to result in increased interaction between motorized and non-motorized user groups. Any increase in conflicts above baseline conditions would be considered negligible **Less than Significant Impact**	**No mitigation required.**

Source: TRA Environmental Sciences 2013

S.3 PROJECT ALTERNATIVES

S.3.1 Alternatives Considered and Rejected

The OHMVR Division considered alternative sites, but no alternative sites capable of supporting a large-scale OHV recreation site in the greater Mojave area were available. Additionally, OHV recreation is already established in the project area, and the OHMVR Division would provide additional management, including law enforcement resources. Further consideration of an alternative site was rejected.

The OHMVR Division also considered the feasibility of consolidated land ownership/land management. Such an alternative would require a land transfer or other form of agreement with BLM and possibly USFS. Similarly, the OHMVR Division considered but rejected the idea of proposing modifications to travel routes in this project. Both the land ownership/land

management consolidation and modification to travel routes would require long-range planning, changes to federal planning documents, and National Environmental Policy Act (NEPA) compliance, all of which are beyond the scope of the current project and not necessary to meet the project objectives; neither alternative would reduce adverse project effects. Further consideration of consolidated land ownership/land management or route changes was rejected for the current project.

S.3.2 No Project Alternative

Under this alternative the OHMVR Division would not acquire the 59 private parcels from ReNu. The parcels would remain as private property and, presumably, the landowner would maintain the parcels for sale until a buyer/s was found. The current or a future landowner could decide to exclude OHV and other recreation. The properties would continue to be subject to potential illegal dumping and degradation from vehicle trespass, although the current fencing/signage and litter control program may be able to continue. The sensitive resources found on the properties during extensive field surveys conducted for the EIR could also be at risk. In particular several important cultural resource sites would be at risk, as would springs supporting riparian habitat, high quality desert tortoise and Mojave ground squirrel habitat, and populations of special-status plants. Under OHMVR Division ownership, these resources would receive targeted monitoring and management. Should some of the parcels be developed for wind or solar energy, the adverse effects on wildlife, including avian migratory corridors, and recreation could be substantial.

It is difficult to find sites that are suited to OHV use. This site is uniquely suited to and currently used for OHV recreation. If the property is not purchased by the state, an opportunity to improve management of an established OHV recreation and to secure new property for future enhancement of OHV recreation would be lost. The opportunity for creating a more consolidated pattern of land ownership in an OHV area would also be lost.

S.3.3 Reduced Acquisition Area

Under this alternative the OHMVR Division acquisition would be limited to only those 33 parcels that are within the OHV use area (roughly east of and including Butterbredt Canyon Road). The 27 parcels that are west of the OHV area would remain as private property. Those western parcels comprise 12,543 acres; therefore, the removal of these parcels from the acquisition area would reduce the area acquired from 28,275 acres to 15,892 acres. The parcels to be removed are shown in Figure 12-1.

Since primary objectives of the acquisition include establishing broader public land ownership in and around an existing large-scale OHV recreation area in Southern California, reducing OHV conflicts with incompatible land uses, and protecting habitat, removal of the parcels outside the active OHV area from the purchase would meet some of the project's objectives. It would not, however, allow the OHMVR Division to work with the BLM and USFS to provide and manage a comprehensive recreation opportunity in the greater project area, such as helping to protect the Pacific Crest Trail from trespass, or to maintain public land corridors that avoid crossing private lands. Securing these parcels also provides the State with potential mitigation lands that could help offset future impacts associated with any changes in recreational use. As a result, this alternative was not selected.

S.3.4 Expanded Acquisition Area

Under this alternative the OHMVR Division acquisition area would be expanded to include additional private properties south, east, and west of the current acquisition area boundary (Figure 12-1). Acquisition of additional parcels would expand the expanse of uninterrupted

public lands in the area, thus maintaining opportunities for future recreation, whether for additional motorized or non-motorized uses. In particular, acquiring additional parcels south of the current project area would create a wider swath of buffer lands around the OHV area and minimize the potential for conflicts between land uses. In addition, resource protection would be afforded to more sensitive cultural resource sites and special-status species habitat.

The OHMVR Division has been approached by private property owners for some of these parcels, and other parcels may be available. Any additional parcels would be subject to negotiation, appraisals, and other purchase requirements, and none of the parcels in the expanded acquisition area were subject to resource surveys as part of this EIR. Furthermore, the availability of opportunity purchase funds would also need to be determined. Given that the proposed acquisition meets the OHMVR Division's objectives for the area by consolidating a large area of recreation opportunity under public ownership, and that subsequent parcels could be considered as part of future long-range planning, this alternative was not selected.

S.3.5 Exclusions for Resource Protection

Based on initial cultural and biological surveys conducted for this EIR, several parcels or groups of parcels were identified as having higher potential resource values than other parcels. These "resource sensitive" parcels are:

- Parcel D-2 (west ½): next to Dove Springs Open Area; important area for cultural resources (grinding rocks); ¼ mile of desert riparian habitat; good Mohave ground squirrel habitat. Fencing is in place on west side of SC103.
- Parcels B-9 and B-10: Contains Butterbredt Spring and lengthy corridor of desert riparian habitat; good potential for rare plants; important for cultural resources (grinding rocks). Some fencing is in place.
- Parcels A-4, A-6, and A7: around Alphie Springs; parcels have no designated trails; good tortoise area; good potential for rare plants. Some fencing is in place.
- Parcels S-3, S-4, and S-6: Next to Red Rock Canyon State Park; good tortoise area; Mohave ground squirrel present; cultural resources; good potential for rare plants.

Under this alternative, in order to reduce the incidence of OHV trespass on these parcels, existing routes that pass through the parcels would be eliminated. In particular, a two mile section of Road SC262 between Power Line Road and SC175 would be closed off. Power Line Road would remain open.

Additionally, State Parks would exclude cattle grazing on the nine parcels listed above before the current permit term expires in 2018. Removing grazing from the state properties would not affect the permittee's right to graze cattle on the adjacent BLM lands. As such, the OHMVR Division would be responsible for keeping cattle off of the parcels, presumably though the use of extensive fencing.

This alternative would require installation of as much as 20 miles of fencing. Fencing could interfere with the grazing permittee's movement of cattle in the broader area. The fencing would prevent or degrade most recreational uses of the property since designated travel routes would be closed off with gates or cattle guards. Existing cattle improvements found within the parcels including corrals and water sources would have to be relocated out of the protected parcels. The state would have to work with the grazing permittee and BLM to determine where to relocate any grazing related infrastructure.

The project impact to desert tortoise would remain significant and unavoidable under this alternative since OHV recreation would still continue in desert tortoise habitat, annual ridership in habitat areas would increase by 1%, and proposed Biological Management Measures and mitigation could not fully offset the effects of increased OHV recreation on the desert tortoise. This alternative was not selected as it would be premature since more extensive studies would need to be conducted on the acquisition parcels as well as the adjacent BLM parcels during the general plan process to assess the big picture need for resource protection measures.

S.3.6 Environmentally Superior Alternative

With the exception of the No Project Alternative, all project alternatives would accomplish many of the project objectives. Acquisition of the ReNu parcels under all project alternatives would provide better overall management of the lands by allowing land managers increased access to these currently private lands that support recreational uses and sensitive biological and cultural resources. The Exclusions for Resource Protection Alternative has specifically identified parcels that would remove 4,318 acres from effects of existing and future recreation and grazing uses. This alternative would result in a higher level of protection to cultural and biological resources and for this reason it is considered the environmentally superior alternative. It would not eliminate the significant unavoidable impact to desert tortoise. The OHMVR Division would establish an extensive data gathering and management program after acquisition, and the acquisition would bring OHMVR Division resources into an existing popular OHV recreation area; therefore, the proposed project was selected.

S.4 AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED

CEQA Guidelines section 15123(b) requires the EIR Summary to identify areas of controversy known to the Lead Agency, including issues raised by agencies and the public and issues to be resolved including choice among alternatives and whether and how to mitigate the significant effects.

The following issues were most prominent in the agency and public comments (see Section 1.4):

- Effects on existing livestock grazing
- Pacific Crest Trail trespass by OHVs
- Effects of OHV recreation on Red Rock Canyon State Park
- Whether expanded OHV opportunities or other development would occur within the acquired parcels
- Protection of sensitive biological and cultural resources
- Adequate staffing and law enforcement
- The project as an alternative to expanded wind energy development
- Overall transparency of the acquisition and planning process

Should the OHMVR Division proceed with the acquisition, subsequent to and separate from the acquisition process, the OHMVR Division may prepare a general plan for the area. It will be necessary for the OHMVR Division to carefully consider the resources, the interests of those who currently utilize the land and its resources, adjacent landowners and federal agencies, other stakeholders, and available funding in determining long-term management of the area.

CHAPTER 1 INTRODUCTION

1.1 PROJECT OVERVIEW

The California Department of Parks and Recreation (CDPR), Off-Highway Motor Vehicle Recreation (OHMVR) Division proposes to acquire and manage 59[1] mostly non-contiguous privately-owned parcels (approximately 28,275 acres) in eastern Kern County, California, from ReNu Resources, LLC (ReNu), a private company that owns and manages agricultural land in California. From east to west, the lands rise from the high floor of the western Mojave Desert into the southern Sierra Nevada and Piute Mountains (Figure 1-1). The ReNu parcels are mostly interspersed in a checkerboard pattern with lands owned by the Bureau of Land Management (BLM), although some parcels are within the Sequoia National Forest or adjacent to land under private or other ownership. Off-highway vehicle (OHV) and other recreation occurring on the adjacent public lands (both in and outside of designated OHV areas) also occurs on many of the ReNu parcels, and open range cattle grazing occurs on all but three of the parcels. The parcels are within an area frequently referred to as the Onyx or Rudnick Ranch, not to be confused with the areas around the town of Onyx, approximately 20 miles northwest of the project area.

If the land is acquired, the OHMVR Division in partnership with BLM would determine the most effective way to manage the ReNu and adjoining BLM parcels using resources available from both agencies. This Draft EIR assumes that, in the foreseeable future, the OHMVR Division would manage the former ReNu parcels for OHV recreation. It further assumes all existing uses (including grazing) would continue to occur on the acquired parcels, subject to management necessary to protect natural and cultural resources, ensure public safety, and facilitate effective operations and subject to potential future change under a general plan.

Based on these assumptions, this Draft EIR analyzes the physical environmental impacts of the property purchase and management by the OHMVR Division. It considers management likely to be implemented primarily to ensure resource protection, public safety, and effective operations once the property is acquired. Should the OHMVR Division acquire the ReNu parcels, the OHMVR Division would prepare a general plan for its properties, but a general plan is not part of this current CEQA process. The outcome of the general plan would depend on many factors, including additional detailed resource inventories, stakeholder outreach, available funding, consultation with regulatory agencies, and coordination with the BLM and USFS. As such, forecasting future land use changes is too speculative for inclusion in this EIR analysis. Preparation and approval of a general plan would be a separate action from this project and thus subject to separate environmental review.

1.2 INTENDED USES OF THE EIR

The California Environmental Quality Act (CEQA; PRC §21000 et seq.) and the CEQA Guidelines (14 CCR §15000 et seq.) establish the OHMVR Division of CDPR as the Lead Agency for the project. The Lead Agency is defined in CEQA Guidelines section 15367 as "the public agency which has the principal responsibility for carrying out or approving a project." The Lead Agency decides whether an EIR or Initial Study/Negative Declaration is required for the project and is responsible for preparing the appropriate environmental review documentation. In this case, the OHMVR Division has determined an EIR is the appropriate CEQA document for

[1] The NOP issued for this Draft EIR listed 60 parcels. One 160-acre parcel, Assessor's Parcel Number 442-040-01 in the Caliente area, has been sold to another buyer and is no longer part of this acquisition project.

the project. This Draft EIR has been prepared by the OHMVR Division in accordance with CEQA and the CEQA Guidelines.

This EIR will be used by the OHMVR Division, other regulatory agencies having jurisdiction over the project (Responsible and Trustee Agencies), and members of the general public when considering approval of the proposed project. An EIR is an objective, informational document that informs decision makers and the public of the potential for significant project effects, including possible ways to minimize those effects, and describes reasonable alternatives to the project (CEQA Guidelines §15121(a)). An EIR must be prepared with a sufficient degree of analysis to provide decision makers with information enabling them to make a decision that intelligently considers the project's potential direct and indirect environmental consequences. The evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible (CEQA Guidelines §15151). The information contained in this EIR will be used for all project-related discretionary approvals subject to environmental review. A complete list of anticipated subsequent approvals is provided in Section 2.9.

This document is intended to cover the environmental impacts of the following actions:

- OHMVR Division purchase of the ReNu parcels
- OHMVR Division management of the ReNu parcels
- Continued use of the parcels for OHV and non-motorized recreation subject to management necessary to comply with applicable federal and state laws and regulations
- Continued use of the parcels for existing uses such as cattle grazing subject to management necessary to comply with applicable federal and state laws and regulations

1.3 LEAD AGENCY CONTACT INFORMATION

The contact person for the OHMVR Division is:

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1.4 SCOPING PROCESS AND COMMENTS RECEIVED

A notice of preparation (NOP) for the EIR was published on September 28, 2012 (see Appendix A) to invite comment on the scope and content of the environmental review; the comment period closed on November 13, 2012. Late written comments were received and accepted. In addition, two scoping meetings were held, one in Ridgecrest on October 16, 2012, and one in Lancaster on October 17, 2012. Comment letters in response to the NOP were received from the following:

- U.S. Representative Kevin McCarthy, California State Senator Jean Fuller, and California Assembly Members Shannon Grove and Connie Conway
- Bureau of Land Management, Ridgecrest Field Office
- U.S. Forest Service, Regional Office, Region 5

- California Department of Fish and Wildlife (formerly California Department of Fish and Game)
- Kern County Board of Supervisors
- Kern County Planning and Community Development Department
- California Cattlemen's Association
- California Native Plant Society, Kern Chapter
- National Public Lands News
- ORV Watch Kern County
- Pacific Crest Trail Association
- Public Employees for Environmental Responsibility and Center for Biological Diversity
- Sierra Club, Kern-Kaweah Chapter
- Western Rockhound Association
- Nine businesses and individuals

Prior to these CEQA scoping meetings, on August 2, 2012, the OHMVR Division hosted a focus group meeting at Jawbone Station Visitor Center with a variety of stakeholder and agency representatives. Focus group participants had the opportunity to hear presentations by OHMVR Division staff and representatives of The Nature Conservancy, National Audubon Society, United States Marine Corps, and Friends of Jawbone regarding the proposed acquisition. Participants also shared their ideas and concerns with the entire group. Although the focus group was not conducted as part of the CEQA process, issues raised at the meeting are included for consideration in this Draft EIR. A list of agencies and organizations represented at the focus group meeting and a summary of their comments is included in Appendix A.

Issues raised in comments that were related to the scope or content of the EIR are summarized below along with the locations where the Draft EIR analysis addresses these issues.

- The status and project effects on existing cattle grazing: Chapter 2 Project Description and Chapter 4 Agriculture and Forestry Resources
- Pacific Crest Trail and other trespass by OHVs: Chapter 11 Recreation
- Effects of OHV recreation on Red Rock Canyon State Park: Chapters Chapter 3 Land Use Plans and Policies and Chapter 11 Recreation
- Compatibility with existing land use designations, including Jawbone-Butterbredt Area of Critical Environmental Concern (ACEC): Chapter 3 Land Use Plans and Policies
- Whether expanded OHV opportunities or other development would occur within the acquired parcels: Chapter 2 Project Description
- Air quality, including particulate matter and Valley Fever: Chapter 5 Air Quality and Chapter 10 Hazards, Hazardous Materials, and Public Safety
- Protection of sensitive biological resources such as migratory corridors and Butterbredt Spring, including adequate monitoring: Chapter 6 Biological Resources
- Protection of sensitive cultural resources: Chapter 7 Cultural Resources

- Project effects on soils and hydrology: Chapter 8 Geology and Soils and Chapter 13 CEQA Required Assessments
- Adequate staffing and law enforcement: Chapter 2 Project Description and Chapter 11 Recreation
- Project effects on other historical land uses, including rockhounding, special events, and hunting: Chapter 11 Recreation, and Chapter 13 CEQA Required Assessments
- Project effects on Kern County emergency services and roads: Chapter 13 CEQA Required Assessments
- The project as an alternative to expanded wind energy development: Chapter 12 Alternatives
- Overall transparency of the acquisition and planning process, including adequate project details: this section and Chapter 2 Project Description

Figure 1-1. Project Area Aerial

CHAPTER 2 PROJECT DESCRIPTION

2.1 LOCATION AND SITE DESCRIPTION

The ReNu parcels proposed for OHMVR Division acquisition are located in eastern Kern County, west of State Route 14 between the city of Ridgecrest to the northeast and the city of Tehachapi and communities of Mojave and California City to the south (Figure 2-1). Major population centers of Bakersfield and Los Angeles are approximately 75 miles to the west and 120 miles to the south, respectively. All of the adjacent BLM lands are within the jurisdiction of the BLM Ridgecrest Field Office, and the adjacent Sequoia National Forest lands are within the Kern River Ranger District (Figure 2-2). Red Rock Canyon State Park lies to the east, just north of the unincorporated community of Cantil. Within the undeveloped lands are a few developed improvements the most notable two Los Angeles Department of Water and Power (LADWP) aqueduct pipelines (Photo 2-1).

Two County-maintained roads intersect the project area: Jawbone Canyon Road, which intersects with State Route 14, and Kelso Valley Road, which intersects with State Route 178. Other local roads, including Piute Mountain Road to the northwest and Sequoia Springs Road to the southwest, provide additional access from outside the project area. As illustrated by Figure 2-2, many parcels cannot be directly accessed by a road or designated OHV route. In general, off-highway licensed vehicles (i.e., OHVs that are not street-legal such as ATVs) are not allowed on the ReNu parcels west of BLM Road SC 123 (Butterbredt Canyon Road), whereas a network of OHV routes open to non-street legal vehicles exists east of that road. Non-street legal vehicles are not allowed on Jawbone Canyon or Kelso Valley Roads, but they are allowed on SC 123. Street-legal vehicles are allowed on all designated travelways.

Geographically, the project property is located in the western edge of the Mojave Desert. It comprises lower elevation flatlands in the southern and eastern parcels and higher elevation canyons and slopes approaching the Piute Mountain Range in the northern and western parcels Photo 2-2. Site elevations range from approximately 2,200 feet near the Jawbone Station Visitor Center on State Route 14 to over 7,500 feet on Sorrel Peak. Landers Meadows is situated at approximately 6,500 feet. The project property is largely undeveloped and predominately used for cattle grazing and OHV recreation. Details of existing property uses are presented in Section 2.4 below. The project parcels are zoned for agricultural use by Kern County. Surrounding land uses include recreation (motorized and non-motorized), livestock grazing, energy development (primarily wind and solar), forestry/forest management, and low density residential.

2.2 BACKGROUND

The Pacific Railway Act of 1862 promoted the construction of the transcontinental railroad in the United States in part through grants of alternating sections (generally one square mile) of public land to railroad companies (PBS 2012) . The resulting checkerboard of public and private lands remains in place in many regions, including the project area (see Figure 2-2). As illustrated on Figure 2-2, roads and trails between BLM parcels often traverse private lands. The BLM thus faces the challenge of managing lands that are not contiguous, including the need to provide for public access while working cooperatively with adjacent landowners. Additionally, outside of the two open riding areas shown on Figure 2-3 (Dove Springs and Jawbone Canyon, discussed below), motorized travel is restricted to roads and designated OHV routes. OHV recreation, however, often occurs outside of these authorized areas on BLM and surrounding lands. Both the Ridgecrest Field Office and Friends of Jawbone, a local 501 (c)(3) (i.e., non-profit) partner

organization, have requested and received OHMVR Division Grants and Cooperative Agreements Program funds to erect hard barriers, install signs, and restore unauthorized trails in an effort to address off-route travel throughout the project area (BLM 2010). Acquisition of the ReNu parcels would provide more comprehensive management of OHV recreation throughout the area as it would greatly reduce the public-private land checkerboard, allowing land managers full access to what are currently private lands to manage existing uses, protect sensitive resources, and provide law enforcement.

2.3 PROJECT OBJECTIVES AND PRIORITIES

California's southern desert region has been identified as a premier and important OHV recreational opportunity area, but lands available for OHV recreation in Southern California have been greatly reduced due to alternative energy projects, rural development, and other closures. This project is specifically designed to provide public OHV recreation in Southern California, enhance the management of the lands, and protect OHV opportunity in this critical region of California. The primary objectives of the acquisition of the ReNu parcels are to:

- Establish broader public land ownership in and around an existing large-scale OHV recreation area in Southern California
- Facilitate the provision of a "destination" desert-oriented OHV recreation area that provides a broad spectrum of experiences and skill levels
- Transfer important springs, riparian areas, and other sensitive resource areas to the public
- Avoid conflicts by ensuring use and development of the lands are compatible with OHV recreation and public access
- Facilitate access to existing public lands
- Maintain public land corridors that avoid crossing private lands
- Work with federal partners and non-profits to provide and manage a comprehensive recreation opportunity in the greater project area
- Further OHMVR Division Strategic Plan Goal 1: Sustain Existing Opportunity (OHMVR Division 2009)
- Acquire land from willing seller(s)

More specifically the OHMVR Division has identified the following priorities for the acquisition area:

- Ensure management for compliance with the OHMVR Division 2008 Soil Conservation Standard (OHMVR Division 2008)
- Provide additional monitoring and stewardship of important biological and cultural resources
- Provide comprehensive law enforcement, emergency medical response, outreach, visitor education, and interpretation
- Facilitate a reduction in trespass into areas closed to motorized vehicles

2.4 EXISTING USES AND MANAGEMENT OF PROJECT PROPERTY

The privately owned project parcels are interspersed with public lands managed by BLM and USFS. Roads and trails accessing these public lands traverse the project parcels. The individual parcels are generally not fenced or posted as being in private ownership, and the divisions between private and public lands are usually indistinguishable on the ground. Because property boundaries are often not clearly marked, recreation uses authorized on adjacent BLM or USFS land may occur on the ReNu parcels even if the activities are not formally approved by ReNu. Facilities management such as trail maintenance and restoration occurs along authorized travel routes open to the public, including where those trails traverse private lands such as the ReNu parcels. Thus, recreation and BLM management activities occurring on the adjacent federal lands are assumed to occur on the ReNu lands and are expected to continue upon OHMVR Division acquisition of the ReNu parcels. As discussed in 2.5.2, the proposed project does not include any proposed significant changes to land uses or operations.

The individual parcels are shown in Figure 2-4 along with their assessor's parcel numbers. For ease of reference, where a specific parcel is noted in this report, it is listed by its location grouping number shown on Figure 2-4 (e.g., "K-1").

2.4.1 Recreation

The project area offers diverse motorized recreation opportunities, including casual OHV trail riding for all-terrain vehicles (ATVs), motorcycles, and 4-wheel drive vehicles. The road and OHV trail systems also provide access to public lands for recreationists to enjoy many non-motorized activities such as hiking and backpacking, camping, birding, wildlife viewing, hunting, rockhounding, mountain biking, and horseback riding. One project parcel is crossed by the Pacific Crest National Scenic Trail (Pacific Crest Trail), which is closed to vehicles. Off-leash dogs are allowed throughout the area.

Recreational popularity of the area is based on easy access from State Route 14, scenic qualities, geological features, prehistoric and historic resources, biological diversity, and birding opportunities. Two OHV open riding areas occur on either side of the project area: Dove Springs to the north and Jawbone Canyon to the south (discussed below). Within these open areas, vehicular travel is not restricted to designated trails. Outside of the open management areas, vehicular travel is permitted only on designated routes of travel, some of which are limited to street-legal vehicles only.

Designated routes traverse the ReNu parcels, and some of these lands have been subject to the proliferation of unauthorized trails by OHVs due to desirable topography for hill climbs or for other riding opportunities. Since 2009, the BLM and the Friends of Jawbone have jointly been erecting hard barriers, installing signs, and restoring unauthorized trails in an ongoing effort to maintain compliance with designated travel areas and prevent trespass. Much of the funding for these efforts has come from OHV Grants Program funds managed by the OHMVR Division.

The Dove Springs Open Area (see Figure 2-3 and Photo 2-3) contains over 3,000 acres of open riding areas with many routes and trails. None of the ReNu parcels lie within the Dove Springs Open Area, but a 640-acre ReNu parcel proposed for purchase is located at the Dove Spring Open Area's western boundary, and designated OHV routes run between the two sites. The approximately 8,500 acre Jawbone Canyon Open Area includes approximately 2,016 acres of ReNu lands that are included in the proposed acquisition (Photo 2-4). The remaining open area acres are owned by the BLM or other public and private land owners. Regardless of ownership, all of Jawbone Canyon Open Area is open to OHV recreation and includes about five miles of sand washes, many steep hill climbs, and OHV trails that provide a variety of opportunities for

the beginner to the expert OHV recreationist. Three vault toilets exist within Jawbone Canyon Open Area, one of which is on a ReNu parcel. The Ridgecrest Field Office recorded approximately 55,000 visitors to the Dove Springs Open Area and 52,000 visitors to the Jawbone Canyon Open Area from October 2011 through September 2012 (BLM, RFO 2013b).

Between the Dove Springs Open Area and the Jawbone Canyon Open Riding Area there are many miles of designated OHV routes available for backcountry exploring, scenic tours, and non-competitive riding. Because the boundaries of the open areas have sometimes been difficult to distinguish, and surrounding lands are thus subject to illegal motorized travel, the Friends of Jawbone has been working with the Ridgecrest Field Office and using OHV Grants Program funds to erect hard fencing along the boundaries of the open areas (see Figure 2-5).

With the exception of the three southwestern parcels, the entire project area and surrounding public lands are open to primitive camping. Authorized camping is not limited to designated sites, but motorized access to camping areas must occur via routes or lands open to motorized travel. Many popular camping areas have been identified by signs; these sites are shown on Figure 2-3. Within Jawbone Canyon itself, there are a number of these popular primitive camping sites and OHV staging/off-loading areas (Photo 2-5). Most of the sites within the OHV area are accessible by 2-wheel drive vehicles with trailers. Numerous camping and OHV staging/offloading areas also occur within the Dove Springs area.

2.4.2 Cattle Grazing

Almost all of the ReNu parcels are within one of two grazing allotments: the Rudnick Common Allotment (RCA) managed by the BLM and the Piute Allotment managed by the USFS (see Figure 4-1). The public lands adjoining the ReNu parcels are subject to cattle grazing consistent with federal permits. The ReNu parcels within the two grazing allotments are privately owned and therefore not managed by the BLM or USFS or subject to the direct terms of federal permits. Due to open range grazing in eastern Kern County (see below), cattle move freely from public lands onto private lands, unless private landowners fence cattle out. Hafenfeld Ranch, LLC. is the current grazing permittee for the public lands within the RCA and Piute Allotments and also holds a license agreement with ReNu to graze the private project parcels.

Range improvements, such as water tanks, cattle guards, and spring boxes, have been installed throughout the project area, including on the ReNu parcels (see Figure 4-2). Pasture and corral fencing is also present (Photo 2-6). The Kelso Camp area (see Parcel K-13 on Figure 2-4) has facilities for receiving/shipping and hay storage, a cabin serving as a year-round residence for one employee, and sub-irrigated pasture (meadows). Landers Meadow has loading chutes, corrals, and springs and is also used for shipping and receiving. Schoolhouse Meadow (see Parcel K-20 on Figure 2-4) also has sub-irrigated pasture. The three southwestern parcels (Caliente Creek) are outside of any allotments and are not subject to grazing.

As described in greater detail in Chapter 4, grazing occurs on an open range basis. In California, open range grazing is determined at the county level. Kern County is an open range grazing area. This means that landowners within an allotment who wish to exclude cattle must fence cattle out. Although the OHMVR Division would not be a grazing operator, the OHMVR Division would monitor cattle grazing within its property and initiate management as warranted.

2.4.3 Friends of Jawbone and the Jawbone Station Visitor Center

Friends of Jawbone is a 501 (c)(3) (i.e., non-profit) organization with headquarters at the Jawbone Station Visitor Center at the intersection of State Route 14 and Jawbone Canyon Road (see Figure 2-3). Friends of Jawbone supports BLM's operations and maintenance in the project area by maintaining trails (including scraping, grading, and maintaining erosion control features),

digging post holes and installing signs, repairing and installing fences, repairing and assembling kiosks, cleaning restrooms, picking up trash, and supporting safety and visitor outreach. Friends of Jawbone also supports BLM's restoration efforts in the project area by repairing unauthorized trails through:

- Ripping (using equipment to break the compacted road surface up) a predetermined area of the illegal trail access
- Fencing and photo monitoring of all restored areas
- Installing informational signing and conducting public outreach
- Supporting archeological and biological inventories prior to site restoration

Site restoration consists of a variety of techniques designed to accelerate natural revegetation and improve native habitat. Active restoration takes place along the initial line-of-sight of the unauthorized trail and is meant to discourage future incursions into the restoration area. In areas where trespass has been an ongoing problem, fencing is installed (Photo 2-7). Friends of Jawbone coordinates with and works to complement the efforts the BLM Ridgecrest Field Office to avoid duplication of effort. As a recipient of OHV Grants Program funds, Friends of Jawbone also coordinates with the OHMVR Division. Friends of Jawbone has a signed agreement with ReNu to provide maintenance and restoration on ReNu lands (Young 2009).

The Jawbone Station Visitor Center, operated by volunteers from Friends of Jawbone, was constructed using joint funding from BLM, the OHV Grants Program, and Friends of Jawbone. Jawbone Station is not on one of the ReNu parcels, but it does serve as the main gateway to the entire project area. Jawbone Station contains visitor information including maps, pamphlets, and guide books of the area, as well as gifts and information on the area (cultural history and natural history). Volunteers man the station and help visitors with recreation information including which trails to use, where to camp, and what to see and do in the area. The facility also includes a large garage, workshop, meeting rooms, storage facilities, flush and vault toilets, a covered outdoor picnic pavilion, and small botanical garden area. Both landline and cellular service is available at Jawbone Station.

Friends of Jawbone, in partnership with the California Trail Users Coalition and support from OHV Grants Program funds, publishes a detailed map of eastern Kern County and adjacent high desert areas. The mapping effort an extensive digital database developed by Friends of Jawbone provide a significant source of information about the facilities and operations of the greater project area, including the ReNu parcels.

2.4.4 Butterbredt Spring

Butterbredt Spring, extending from Parcel B-9 (see Figure 2-4), is a favorite spring birding destination as it is one of the best places in California to observe the spring migration of songbirds in California (Photo 2-8). Butterbredt Spring has been designated as a "Globally Important Bird Area" by the American Bird Conservancy. The Audubon Society, Santa Monica Bay chapter, established Butterbredt Spring as a wildlife sanctuary in cooperation with the prior private landowner. ReNu continues that cooperative relationship, although there is no formal contractual relationship (Kaschak 2012). The area is fenced and closed to motorized recreation; informal footpaths traverse the site. The area is subject to grazing, consistent with grazing permit conditions, and contains a non-functioning water trough for cattle.

2.4.5 Other Existing Uses

Currently, three steel lattice meteorological towers, each up to 60 meters in height and supported by guy wires, are located on the ReNu parcels (see V-1, V-11b, and V-12 on Figure 2-3). The towers are installed and operated on behalf of the City of Vernon, under a license agreement with ReNu (ReNu and City of Vernon 2008). The license term is for one year, automatically renewing each year unless 30-day notice is given.

Moose Anderson Days, sponsored by Friends of Jawbone, is an annual spring event that includes a poker run and clean up within the greater project area. The event does not include any timed or other competitive events. In contrast, High Desert Trails is an annual rally race held in eastern Kern County; the 2013 race is scheduled for May 4. The race route includes Jawbone Canyon and Kelso Valley Roads, which are utilized by the race sponsors in cooperation with Kern County. The route traverses some of the ReNu lands. If the acquisition project proceeds, the OHMVR Division would evaluate both events to determine whether special coordination or permits are warranted.

Although it is not a ground use, it is also worth noting that the Rough 1, a low-level flight path established by the Department of Defense (DOD) for training purposes, overlays many of the eastern ReNu parcels (Figure 3-1). The three southwestern parcels, the Caliente Creek group, are currently undeveloped and not used for recreation or other activities.

2.5 PROJECT CHARACTERISTICS

2.5.1 Land Acquisition

The OHMVR Division proposes purchasing 59 ReNu parcels totaling 28,275 acres using Southern California Opportunity Purchase Funds approved by the California State Legislature and Governor in the 2010/2011 Fiscal Year Budget Act. The California Public Works Board is responsible for approving the acquisition. The Acquisition and Development Division of CDPR would process the land transfer documents after Public Works Board approval. Appendix B lists the specific acreage and features of each parcel.

2.5.2 Management of the Acquired Parcels

2.5.2.1 Continued Land Use Activity

Upon OHMVR Division acquisition, existing uses occurring on the property as identified in Section 2.4 would continue. No changes in land uses are proposed. No expansion of open riding or the existing route network is proposed. No new points of access to the project property are proposed.

The acquisition project does not propose construction of new facilities to support the existing land uses, although minor projects are foreseeable, such as repairs to existing facilities, installing vault toilets, kiosks, and signage, or ensuring ADA compliance at existing facilities. Such minor projects could be proposed prior to completion of a general plan. Additionally, some existing trails, including non-motorized trails, could require minor trail realignments to address localized erosion or avoid a sensitive resource. These changes would be subject to subsequent environmental review and CEQA compliance. Consistent with Public Resources Code section 5002.2 (c), prior to developing a general plan, no facilities could be developed that result in the permanent commitment of a resource of the unit.

OHMVR Division acquisition of the ReNu parcels would not foreseeably cause a significant change in the location, type, or intensity of land uses presently occurring on or adjacent to the ReNu parcels (see Section 2.4). The OHMVR Division does not expect the acquisition to

significantly change the number of annual visitors to the area or the type of recreational uses. Visitation in the project area, which is primarily for OHV and other recreation, was approximately 178,000 in 2012 and has averaged 184,000 since 2003 (when BLM recorded almost 180,000 visits; BLM 2013). There is no obvious visitation growth trend, and no activities or facilities are proposed in this acquisition project that would attract additional visitors. Expanded law enforcement could encourage some new visitors but may in fact discourage others. It is possible, however, that public interest in OHMVR Division ownership of the property and in a future planning process for the park could attract a slight increase in visitation to the project area. To account for this possibility, this EIR assumes that annual visitation will increase 1% from 2012 specifically due to the acquisition project. If 2012 visitation is rounded up to 180,000 visitors, this acquisition project would thus add 1,800 visitors to the project area.

2.5.2.2 OHMVR Division Property Management

Upon acquisition, the OHMVR Division would begin to provide resource and visitor management services via rangers, environmental scientists, and maintenance staff. Trail maintenance services are currently occurring on the ReNu parcels, generally via operations of Friends of Jawbone. The OHMVR Division would provide property management in five broad categories: visitor activities, general maintenance and operations, natural and cultural resource management, special projects, and special events. These activities currently occur in the project area to at least some degree, including on the ReNu parcels (see Section 2.4 for details): They are summarized as follows:

Visitor Activities. As noted in Section 2.4, because property boundaries are often not clearly marked, recreation uses authorized on adjacent BLM or USFS land may occur on the ReNu parcels even if the activities are not formally approved by ReNu. Ongoing visitor activities include motorized vehicle use in the open areas and on designated routes outside the open areas, hiking and backpacking, camping, birding, wildlife viewing, hunting, rockhounding, mountain biking, and horseback riding. No substantial changes to these allowable uses are proposed. Camping would be allowed throughout the OHV use area with motorized access restricted to designated routes except in open areas. Off-leash dogs would be allowed year-round subject to approval of the District Superintendent. Hunting would continue but signs may be posted as needed reflecting state laws. Hunting would be evaluated during the general planning process.

Maintenance and Operations. Maintenance and operations include garbage pick-up, facilities maintenance, signing, fencing, and ongoing maintenance of trails and access corridors. General park operations include public safety and law enforcement patrols, medical aid, and emergency response to law enforcement and medical aid calls. The frequency and extent of these services would be expected to increase under OHMVR Division management as BLM staffing of the area is limited, although Friends of Jawbone currently installs and maintains extensive fencing and signage, conducts trail maintenance and litter collection, assists with restroom and campsite maintenance, and generally serves as “eyes and ears” for BLM.

Resource Management. Should the OHMVR Division purchase the ReNu parcels, a suite of resource management measures would be implemented. These measures are summarized in Section 2.5.2.3. Natural and cultural resource management activities include installing and maintaining sensitive habitat protection fences, installing and maintaining other closure area boundaries by signs and fences, wildlife species monitoring and management, vegetation management, exotic pest plant removal, and restoration planting. Management would be consistent with regulatory requirements. The frequency and extent of these services would be expected to increase under OHMVR Division management as BLM staffing of the area is

limited, although Friends of Jawbone currently installs and maintains fencing and implements restoration throughout the area.

Special Projects. Special projects are those that are not considered routine but are required to solve a facilities problem, such as installing a vault toilet or informational kiosk, ensuring ADA compliance at existing facilities, or fixing a trail to address public safety. No specific projects have been identified, although additional signage in the Landers Meadow area, which serves as a western gateway to the area, is likely. The only such projects anticipated upon acquisition and prior to adoption of a general plan would be minor in scope, consistent with Public Resources Code section 5002.2 (c).

Special Events. Special events include organized group activities such as recreational events (including OHV competitions and poker runs), tours for large groups interested in the project area and media events that draw an unusually high number of people to the park unit and/or congregate people in confined areas. Section 2.4.5 describes the only organized events known to occur in the project area. No new special events have been suggested or proposed but may be proposed should the acquisition proceed. Events involving state property would potentially be subject to the issuance of special event permits, which require a separate review and approval process.

2.5.2.3 Management Measures

The OHMVR Division is a state agency subject to compliance with public resources codes for protection of sensitive biological and cultural resources and for meeting soil conservation standards. Implementation of specific management measures to protect these resources is incorporated into the project. The application of these measures is assumed, and therefore they are not considered mitigation measures but rather resource protection measures that are part of the proposed project. They are thus considered prior to making a significance conclusion for issues in which they pertain, namely cultural resources, biological resources, and geology and soils. Table 2-1 provides a summary of the management measures that are included in the project:

Table 2-1. Summary of Management Measures

LAND USE (Section 3.3.2):
OHV Travel Route Designations. Identify areas of unauthorized OHV use and develop a response plan (e.g., restoration, signage, barriers, educational kiosks, and law enforcement).
Public Education. Post OHV opportunities and regulations throughout the property. Explore partnering with other agencies and organizations for public education on OHV recreation issues.
Law Enforcement Program. Work jointly with local authorities and federal agencies to address multi-jurisdictional issues. Assess needs and assign law enforcement to provide daily patrols.
Pacific Crest Trail Corridor Protection. Collaborate with USFS and BLM to manage OHV recreation on state lands in a manner compatible with Pacific Crest Trail corridor.
AGRICULTURAL RESOURCES (Section 4.3.2):
Terms and Conditions of RCA Grazing Permit. Apply terms and conditions of RCA grazing permit to livestock operations on the acquisition property within the RCA for the duration of the permit term.
Monitoring Rangeland and Livestock Operations. Annually monitor forage conditions on parcels used for grazing and livestock operations. Conduct rangeland health assessments.

Table 2-1. Summary of Management Measures

AIR QUALITY (Section 5.3.2):

Strategic Plan Objective 1.5, Dust Monitoring and Management Plan. Reduce the amount of dust generated by OHVs by 2014 through a dust monitoring and management program implemented as part of the OHMVR Division Strategic Plan.

BIOLOGICAL RESOURCES (Section 6.3.2):

Wildlife Habitat Protection Program (WHPP) and Habitat Monitoring System (HMS). Inventory aquatic resources, special-status species, and sensitive habitats and prepare a WHPP to manage, restore, and sustain viable species composition within the property.

Grazing Management. Work with BLM, USFS, and permittee to ensure grazing is managed to protect resources while ensuring cattle movement is not unduly impeded. Implement the same standards that apply to BLM lands.

CULTURAL RESOURCES (Section 7.3.2)

Cultural Resource Management Program. Incorporate all historical and archaeological resources that exist within the project into the OHMVR Division Cultural Resource Management Program (see Section 7.1.3). Evaluate resources for significance and protect resources.

Cultural Resources Inventory. Survey all areas for historical resources. Require a cultural resource survey and Native American consultation for all projects in non-surveyed areas.

Annual Cultural Resource Management Training. Hold annual workshops to educate staff on the resources found within the area and protocols upon the discovery of a resource.

Cultural Resource Monitoring. Implement a monitoring program to document adverse changes to the resources through the California Archaeological Site Stewardship Program (CASSP).

Accidental Discoveries. Immediately evaluate finds. If determined to be a historical or unique archaeological resource, develop and implement avoidance measures or appropriate mitigations. If human remains are discovered and coroner determines remains are Native American, the Native American Heritage Commission will be consulted.

Native American Consultation and Monitoring. Consult with California Indian Tribes and organizations connected to the region on projects and management practices involving the project area's natural and cultural resources.

Preservation in Place. Avoid archaeological sites during construction planning and use preservation in place as the preferred manner for mitigating impacts to archaeological sites.

Resource Protection Measures. Implement resource protection measures including signage, park staff patrols, restricted access, conducting a 5024 review and Native American consultation, and including site within CASSP.

GEOLOGY/SOILS (Section 8.3.2)

Assess Erosion Conditions. Evaluate all water crossings that intersect with designated routes to determine contribution to sediment load using LIDAR and aerials to identify where use occurs. Evaluate hillclimbs by assessing gullying on the slopes. Remediate where eroded soils are deposited offsite.

Address Erosion Issues. Remediate areas found out of compliance with the 2008 Soil Conservation Standard. Prepare a sustainable plan for the climbs. Direct recreationists to designated areas and prohibit use of lands more susceptible to erosion.

Prepare Trail Maintenance Plan. Prepare a protocol for assessing and maintaining trails consistent with the 2008 Soil Conservation Standard, a protocol for monitoring the trails, and a compliance report. Identify trail maintenance procedures in a trail maintenance plan.

Table 2-1. Summary of Management Measures
GREENHOUSE GAS (Section 9.3.2)
Strategic Plan Objective 1.3, Reduce Carbon Footprint. Reduce the carbon footprint associated with SVRA management by 25% below 2009/2012 fiscal year levels by 2020.
HAZARDS AND PUBLIC SAFETY (Section 10.3.2)
Provide Educational Material to Visitors Regarding Valley Fever. Disseminate the Public Health Services flyer or similar flyer to explain the causes and risk of valley fever.
Supplemental Phase I ESA. Determine the status of RECs on parcel K-13 property. Take appropriate steps to remove and/or remedy the materials.
Closure of Open Pits and Shaft. Secure open pits by filling in with earth and secure shaft by filling in or fencing and signing to prevent injury and safety hazard to the public.
RECREATION (Section 11.3.2)
Firearms. Post signage at trailhead and campsite locations and provide public outreach to educate visitors of CDPR policy on firearms. Monitor for evidence of firearm use.
Rockhounding. Allow use only upon approval from the Parks Director. Post signage at trailhead locations and campsites educating visitors of state park policy on rockhounding.
Law Enforcement and Education Program. Staff the project area with peace officers to educate the public on appropriate recreation and cite illegal uses, equipment, and conduct.
Special Events. Identify participant limits, number of concessions, need for safety personnel and facilities such as portable toilets, specific event routes, staging areas, etc. If needed, require fee to secure OHMVR Division personnel for public safety and sensitive resource protection.
Source: OHMVR Division

2.6 PROJECT SCHEDULE

Should the acquisition project be approved by the OHMVR Division and the Public Works Board, the OHMVR Division is prepared to complete the acquisition in 2013. Once the project has been approved, the OHMVR Division would work with current landowners and federal and local partners to facilitate a smooth transition to OHMVR Division management of the ReNu parcels upon acquisition. Detailed planning and related studies would not commence until after acquisition had been completed.

2.7 UNDERSTANDING BASELINE CONDITIONS

CEQA guidelines require that "an EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the [NOP] is published….. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether [a project related] impact is significant." (CEQA Guidelines §15125 (a).) Furthermore, "[a]n EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the [NOP] is published[.]"(CEQA Guidelines §15126.2 (a).) The NOP was published September 28, 2012.

The project proposes acquisition of 59 ReNu parcels; it does not propose any change in the system of designated routes that currently exist in the area, in the boundary or uses in the

Jawbone Canyon Open Area, or any additional open riding areas. The OHMVR Division would assume responsibility for management of the existing uses within the 59 parcels, including management of OHV and other recreational uses on designated routes through the parcels, enforcement of laws and regulations, protection of sensitive resources (biological and cultural), and support of existing livestock grazing as prescribed in current grazing permits.

The scope of the EIR is limited to direct or indirect physical changes in the environment resulting from the proposed change in property ownership and OHMVR Division management of the lands. Therefore, ongoing lawful OHV and other recreation, cattle grazing, and other activities currently taking place on the parcels, including OHV travel outside of designated areas, are presented in the environmental setting of the EIR chapters as existing baseline conditions for the project analysis. Within the impact sections, the EIR assesses how OHMVR Division ownership and management would change the baseline conditions.

2.8 LIMITATIONS ON FOCUSED STUDIES

Five focused studies were conducted for the EIR in the spring and summer of 2012. The focused studies addressed Mohave ground squirrel (*Xerospermophilus mohavensis*) and other mammals, desert tortoise (*Gopherus agassizii*) and other reptiles, birds, vegetation communities and rare plants, and cultural resources. Many of the surveys were directed at the eastern parcels within the OHV use area because these parcels have been subject to the most intensive OHV uses. Where time and budget allowed, other parcels were also surveyed. The Biological Resources and Cultural Resources chapters describe the specific methodologies and limitations of the relevant focused studies, including a map of areas surveyed.

Additionally, two Phase I (hazardous materials) Environmental Site Assessments (Phase I ESA) have been conducted in the project area. The first was conducted in 2008 (Kennedy/Jenks 2008) prior to the sale of the properties to ReNu, while the other was done in 2011 (Geocon 2011) for the currently proposed acquisition project. The two assessments equally addressed all 59 ReNu parcels subject to this EIR analysis. The results of these reports are summarized in Chapter 10.

2.9 PERMITS AND APPROVALS REQUIRED BY THE PROJECT

In order to complete the sale, the California Public Works Board would need to approve the acquisition site and the acquisition itself. No other authorizations or permits would be required. Should the acquisition be approved, the OHMVR Division would consult with the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife[2] (CDFW) regarding ongoing effects to listed wildlife species (see Chapter 6), but permits from either agency are not required for the acquisition project.

[2] As of January 1, 2013, the California Department of Fish and Game (CDFG) was renamed the California Department of Fish and Wildlife. When this document cites reports prepared by the Department prior to 2013, the reference includes the prior department name of CDFG. Both CDFW and CDFG mean the same agency.

Photo 2-1. LAWP Aqueduct Pipeline

Photo 2-2. Area West of the Kelso Valley in the Paiute Mountains

Photo 2-3. Dove Springs Open Area

Photo 2-4. Overview of Jawbone Canyon Area

Photo 2-5. Primitive Camping – Typical

Photo 2-6. Open Range Cattle

Photo 2-7. Fencing Installed by FOJ – Typical

Photo 2-8. Butterbredt Spring

Figure 2-1. Project Location

Figure 2-2. Land Ownership and Designated Routes

Figure 2-3. Project Area Features

Figure 2-4. Parcel Groupings and Assessor's Parcel Numbers

Figure 2-5. Friends of Jawbone Work Sites

CHAPTER 3 LAND USE PLANS AND POLICIES

The following discussion presents the federal, state, and local land use plans and policies governing the acquisition area. This section addresses project consistency with federal and state land use policy as set forth by land use management plans as well as consistency with the Wilderness Act and National Scenic and Historic Trails Act, which protect areas adjoining many of the Eastern Kern County Acquisition Project parcels. Consistency with other applicable plans and policies, such as air quality management plans or special-status species regulations, is discussed in the relevant EIR chapters.

3.1 REGULATORY SETTING

3.1.1 Bureau of Land Management

3.1.1.1 California Desert Conservation Act of 1980

The BLM administers approximately 11,000,000 acres of public lands within the California Desert Conservation Act (CDCA) planning area (BLM 1980). The CDCA planning area extends north of Death Valley, east to the state border with Nevada, south to the U.S. border with Mexico, and west along the San Bernardino Mountains. The planning area including the cities of Palmdale and Lancaster and portions of the Mojave, Sonoran, and Great Basin deserts (Figure 3-1). Management is guided by the BLM's CDCA Plan, adopted in 1980 and amended on numerous occasions since then. Congress specifically directed the BLM to prepare the CDCA Plan to comply with the Federal Land Policy and Management Act of 1976 (FLPMA). Finding that the California desert and its resources, "including certain rare and endangered species of wildlife, plants and fishes" are "seriously threatened by air pollution, inadequate Federal management authority, and pressures of increased use, particularly recreational use," Congress stated that "the use of all California desert resources can and should be provided for in a multiple use and sustained yield management plan to conserve these resources for future generations, and to provide present and future use and enjoyment, particularly outdoor recreation uses, including the use, where appropriate, of off-road recreational vehicles." To accomplish this, the BLM was directed to prepare a plan for the "management, use, development, and protection of public lands within the [CDCA]." The plan would "take into account the principles of multiple use and sustained yield in providing for resource use and development, including, but not limited to, maintenance of environmental quality, rights of way, and mineral development."

The CDCA Plan employs three tools for managing resources: categorization of public land into four multiple-use classes that allow for a variety of uses and resource conservation activities, adoption of 12 elements to provide detailed management of different land uses and resources, and designation of special management areas. In addition, for planning purposes because the CDCA covers such a vast geographic area, the BLM has divided the CDCA into five bioregional planning areas: the western Mojave Desert, the northern and eastern Mojave Desert, the northern and eastern Colorado Desert, the western Colorado Desert, and the Coachella Valley. Most of the acquisition area is in the western Mojave Desert bioregional planning area.

The CDCA Plan assigns a "multiple use class" designation to each parcel of public land based on sensitivity of resources and kinds of uses, and provides land use and management guidelines for each class. These classes include:

- Class C – controlled use for areas of wilderness, or area that could be federally listed as wilderness areas

- Class L – limited use, protecting sensitive, natural, scenic, ecological, and cultural resource values; public lands designated as Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished
- Class M – moderate use, providing for a controlled balance between higher intensity uses and resource protection
- Class I – intensive use, providing for concentrated use of lands and resources to meet human needs

Within the western Mojave Desert, 457,721 acres of BLM lands are designated Class C, 1,269,313 acres Class L, 877,042 acres Class M and 378,467 acres Class I. About 281,331 acres are unclassified. Most of the acquisition parcels within CDCA boundaries are contained within a Class L area, which allows OHV recreation (Figure 3-2). Portions of a few ReNu parcels within CDCA boundaries are not classified. Dove Springs and Jawbone Canyon Open Areas are classified as intensive use, including the portions of the ReNu parcels within the Jawbone Canyon Open Area. The other BLM lands contiguous to the ReNu parcels are classified as L or unclassified.

The CDCA Plan adopted 12 "plan elements" that establish the plan's goals and actions for each resource. Each element provides desert-wide planning decisions and detailed treatments that focus on a major resource, land use, or issue of public concern. The CDCA Plan governs management of BLM lands within the planning area with goals and specific actions for the management, use, development, and protection of the resources and public lands. Management of sensitive plant and animal species, including the designation of BLM crucial habitat and habitat management areas, is provided by the wildlife element. Procedures for establishing a motorized vehicle access network are set forth in the motorized vehicle access element.

3.1.1.2 West Mojave Plan (Amendment to CDCA)

The 9,359,070-acre West Mojave Plan area is located to the north of the Los Angeles metropolitan area (Figure 3-1). The West Mojave Plan is a habitat conservation plan and federal land use plan amendment to the CDCA that (1) presents a comprehensive strategy to conserve and protect the desert tortoise, the Mohave ground squirrel and nearly 100 other sensitive plants and animals and the natural communities of which they are a part, and (2) provides a streamlined program for complying with the requirements of the California and federal Endangered Species Acts (CESA and federal ESA, respectively). The BLM issued a Record of Decision (ROD) on March 2006 that completed a 15-year public planning process.

The West Mojave Plan was prepared through the collaborative effort of cities, counties, and state and federal agencies having jurisdiction over lands within the region. The plan allows streamlined project permitting at the local level, equitable sharing of costs among participants, and shared stewardship of biotic resources. The collaborators included:

- Federal: BLM and the USFWS
- State of California: CDFW and California Department of Transportation
- Local Jurisdictions: the cities of Adelanto, Barstow, California City, Hesperia, Lancaster, Palmdale, Ridgecrest, Twentynine Palms, and Victorville and the towns of Apple Valley and Yucca Valley; the counties of Inyo, Kern, Los Angeles and San Bernardino; and the Indian Wells Valley Water District

These agencies and local jurisdictions are cooperating with a variety of non-governmental organizations , including businesses, environmental organizations, user groups, and others with a stake in the future management of the planning area, to develop the West Mojave Plan. Over 100 non-governmental organizations participated in this process.

The West Mojave Plan's conservation program applies to BLM lands and would apply to other public and private lands within this area where agencies adopt the plan and receive take coverage under the plan. The lands include 3,263,874 acres of BLM-administered public lands, 3,029,230 acres of private lands, 102,168 acres of lands administered by the State of California and approximately 3,000,000 acres of military owned lands. Most of the ReNu parcels are within the West Mojave Plan boundary, but a few are to the west of the boundary and would not be included in the plan's coverage of take.

At present, West Mojave Plan refers solely to BLM's amendment of the CDCA Plan and does not include the actions being proposed by state agencies and local governments for the non-federal lands. Currently, the BLM is in the process of developing a supplemental EIS and specific travel management plans to designate new vehicular routes within the planning area by March 31, 2014. The routes must be consistent with the September 2009 Court issued summary judgment remanding the route designations made in the West Mojave Plan, and the remedy order based on this judgment that was issued in January 2011. Until the remedy order is satisfied, the West Mojave Plan's route network, with few changes, will be in place (BLM, RFO 2013a).

Originally, state and local government agencies were to participate in a Habitat Conservation Plan (HCP) for the 3.1 million acres of state and private lands that are in the West Mojave Plan area. However, that effort was re-directed to the Desert Renewable Energy Conservation Plan (DRECP) which is described below.

3.1.1.3 Areas of Critical Environmental Concern

The CDCA Plan and its subsequent amendments established ACECs within the CDCA planning area. Within the western Mojave Desert, thirty such ACECs have been established, and specific management plans have been prepared for most of these areas.

The proposed acquisition parcels are largely within the Jawbone-Butterbredt ACEC (187,486 acres). The BLM, in conjunction with CDFW, adopted a management plan for the Jawbone-Butterbredt ACEC in September 1982, an area located on the eastern slope of the southern Sierra Nevada, from Jawbone Canyon north to State Route 178. The objectives of the plan are to protect and improve wildlife species and habitats, Native American, and other natural and cultural resources on public land, while allowing appropriate land uses (BLM 1982).

The Jawbone-Butterbredt ACEC management plan acknowledges the ongoing OHV use in the Jawbone-Butterbredt ACEC and designates a Vehicle Management Area within the Jawbone-Butterbredt ACEC. Prior to adoption of the Jawbone-Butterbredt ACEC management plan, the BLM had completed an agreement with the Rudnick Estate Trust (the former owner of the acquisition project parcels) that largely focused OHV recreation to the east of Butterbredt Canyon Road (BLM and Rudnick Estate Trust 1976). One of the major recommendations of the Jawbone-Butterbredt ACEC Management Plan was to "allow vehicle use on approved routes only, except in designated motorized vehicle play areas (namely in the Jawbone Canyon and Dove Springs Open Areas).

3.1.1.4 West Mojave Desert Off Road Vehicle Designation Project (CDCA Plan Amendment)

Since 1980, when the CDCA Plan was adopted, BLM has taken a number of steps to designate a network of motorized vehicle routes on public lands within the western Mojave Desert, such as the preparation of ACEC management plans. In response to USFWS listing of several special-status species affecting the western Mojave Desert, the BLM revised the route designation network component of the CDCA Plan in June 2003 (BLM 2003). The designated BLM route network shown in Figure 2-2 is the network established by the West Mojave Desert Off Road Vehicle Designation Project.

3.1.1.5 The Desert Renewable Energy Conservation Plan

State Senate Bill No. 2X (Joe Simitian, 2011-2012 1st Ex. Sess.; (PRC §25740)), signed into law by Governor Brown on April 12, 2011, requires California energy providers to deliver 33 percent of all retail electricity from renewable energy sources by 2020. To accomplish this, Executive Order #S-14-08 mandated development of the DRECP, a part of California's renewable energy planning efforts. The DRECP, when completed, is expected to provide binding, long-term endangered species permit assurances while facilitating the review and approval of renewable energy projects in the Mojave and Colorado Deserts in California. The DRECP is a Natural Community Conservation Plan (NCCP), which will help provide for effective protection and conservation of desert ecosystems while allowing for the appropriate development of renewable energy projects. It will provide long-term endangered species permit assurances to renewable energy developers and provide a process for conservation funding to implement the DRECP. It will also serve as the basis for one or more HCPs under the federal ESA. The DRECP covers all of the proposed acquisition parcels (see Figure 3-1).

To oversee the implementation of the DRECP, a Renewable Energy Action Team was formed consisting of the California Energy Commission, CDFW, BLM, and USFWS. Memoranda of Understanding (MOUs) were signed by the participating agencies. Others joining the team include the California Public Utilities Commission, California Independent System Operator, National Parks Service, U.S. Environmental Protection Agency (EPA), and the DOD.

Four major products are being developed under the direction of the Renewable Energy Action Team:

- Best Management Practices and Guidance Manual: Desert Renewable Energy Projects has been completed
- Draft Conservation Strategy that clearly identifies and maps areas for renewable energy project development and areas intended for long-term natural resource conservation as a foundation for the DRECP
- The DRECP itself – a joint state and federal NCCP and part of one or more HCPs.
- DRECP Draft and Final joint state and federal EIR /Environmental Impact Statement (EIS)

Independent Science Advisors provided scientific input into the Preliminary Conservation Strategy published in October 2011 and will be used to inform the DRECP. The final report has been completed by the advisors (April 2012). Additional science input is expected as the process moves forward.

A DRECP Stakeholder Committee has been established to inform the state and federal Renewable Energy Action Team agencies on the development of the DRECP and to provide a

forum for public participation and input. The stakeholders represent the interests of the counties in the desert region, renewable energy developers, environmental organizations, electric utilities, and Native American organizations. Specific working groups, comprised of DRECP Stakeholder committee members, have been established and meet regularly to address specific issues such as covered species, covered activities, resource mapping, and cultural resources.

The DRECP is intended to advance state and federal conservation goals in these desert regions while also facilitating permitting of renewable energy projects under applicable state and federal laws. The DRECP will encompass development of solar thermal, utility-scale solar photovoltaic, 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.

The planning goals of the DRECP include:

- Provide for the long-term conservation and management of covered species within the DRECP Planning Area
- Preserve, restore, and enhance natural communities and ecosystems that support covered species within the DRECP Planning Area
- Build on the Competitive Renewable Energy Zones identified by Renewable Energy Transmission Initiative
- Further identify the most appropriate locations within the DRECP Planning Area for the development of utility-scale renewable energy projects, taking into account potential impacts to threatened and endangered species and sensitive natural communities
- Provide a means to implement covered activities in a manner that complies with the Natural Communities Conservation Planning Act, federal ESA, CESA, NEPA, CEQA, and other relevant laws
- Provide a basis for the issuance of incidental take authorizations
- Provide for issuance of take permits for other species that are not currently listed but which may be listed in the future
- Provide a comprehensive means to coordinate and standardize mitigation and compensation requirements for covered activities within the planning area
- Provide a framework for a more efficient process by which proposed renewable energy projects within the planning area may obtain regulatory authorizations and which results in greater conservation values than a project-by-project, species-by-species review would have
- Provide durable and reliable regulatory assurances, as appropriate, under the Natural Communities Conservation Planning Act and federal ESA for covered activities that occur within the DRECP planning area
- Identify and incorporate climate change adaptation research, management objectives, and/or policies into the final plan document

The DRECP is in the early stages of analysis, in particular the NEPA/CEQA EIS/EIR process is ongoing. A Preliminary Conservation Strategy with supporting maps has been prepared. The strategy addresses how the DRECP's renewable energy development goals and habitat conservation goals may be achieved using natural community and conservation planning tools (Aspen et al. 2011). Both BLM and CDPR are participating in the planning process.

3.1.1.6 Wilderness Areas

The Wilderness Act of 1964 (16 U.S.C 1131-1136; Public Law 88-577) permanently protected some of the most natural and undisturbed places in the U.S and continues to be the guiding legislation for all wilderness areas. The California Desert Protection Act of 1994 (Public Law 103-433) designates 69 wilderness areas in southern California for administration by the BLM pursuant to the Wilderness Act.

The Wilderness Act states that the purpose of wilderness is:

"...to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas in the United States ... leaving no lands designated for preservation and protection in their natural condition....".

"...lands designated for preservation and protection in their natural condition..."

> "...an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain."
>
> "...an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvement or human habitation, which is protected and managed so as to preserve its natural conditions..."
>
> "...generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable..."
>
> "...has outstanding opportunities for solitude or a primitive and unconfined type of recreation..."
>
> "...shall be devoted to the public purposes of recreation, scenic, scientific, educational, conservation and historic use."

The Wilderness Act prohibits certain uses of wilderness including commercial enterprise, permanent roads, temporary roads, use of motor vehicles, motorized equipment or motorboats, landing of aircraft, use of other forms of mechanical transport, and structures or installations.

The wilderness areas closest to the project area include the Bright Star Wilderness (8,042 acres), which is one mile northwest of the nearest project parcels and the Kiavah Wilderness (20,703 acres), which is roughly five miles north of the nearest project parcels (Figure 2-1).

3.1.1.7 BLM Manual Policy Directive 6250

As described in BLM Manual 6250, the BLM has a directive for National Scenic and Historic Trails to protect National Trails to provide the maximum compatible outdoor recreation potential for the trail. The directive also encourages the BLM to maximize the conservation, protection, and enjoyment of nationally significant scenic, historic, natural and cultural qualities of the areas and associated settings through which the trail may pass (BLM 2012a). As such, the BLM does not allow motorized use on the Pacific Crest Trail.

3.1.2 U.S. Forest Service

3.1.2.1 Sequoia National Forest Motorized Travel Management

Pursuant with the 2005 USFS Travel Management Rule, in 2009 the Sequoia National Forest finalized a Motorized Travel Management program that "creates a manageable transportation system protecting resource values for wildlife such as the California condor, and provides a fun and challenging road and trail system for local residents and other visitors to the area" (USFS 2009). The system of interconnected roads and trails for all levels of motorized use laid out and

evaluated in the preferred alternative describes motorized vehicle recreation opportunities near the project parcels. The routes set forth and finalized in this planning process and subsequent maps were developed through a Memorandum of Intent between the USFS (Region 5), the OHMVR Commission, and the OHMVR Division. (see Figure 2-2 for the alignment of USFS roads and trails in the area adjacent to the acquisition parcels.)

3.1.2.2 Piute Mountains Travel Management Project

The Sequoia National Forest is currently planning for travel management in the Piute Mountains area of the Sequoia National Forest, including parcels adjacent to and surrounding the project parcels (see Figure 2-2). The purpose of the project is "to evaluate motorized vehicle recreational opportunities in the Piute Mountains while maintaining the natural and cultural resources in those parts of the Piute Mountains managed by the [USFS]"(USFS 2009). The project will evaluate changes to the USFS's Travel Management Rule (USFS 2009) by assessing closing some roads to motor vehicles, opening some roads to motor vehicle access and OHV recreational opportunities, and changing the designations of some roads and trails to allow for multiple uses. Currently, the USFS is preparing an EIS to "evaluate the possible impacts associated with the proposed action's addition of approximately 125 miles of roads and trails, and changes to the type of motorized use allowed on approximately 22 miles of existing roads and trails." (USFS 2009) (see Figure 2-2 for the alignment of Forest Service roads and trails in the area adjacent to the acquisition parcels.)

Routine operations and maintenance as well as OHV road and trail maintenance in support of the Sequoia National Forest OHV recreation program has been funded in part by the OHV Grants Program via a cooperative agreement with the Kern River Ranger District. The Piute Mountain area has 64 miles of motorcycle trails and 2 miles of 4-wheel drive trails that are maintained partially through these grants. Funding for operations and maintenance of trails adjacent to the acquisition parcels was approved for 2012 (USFS, SNF 2012d).

3.1.2.3 The National Trails System Act

The Pacific Crest Trail was created under the National Trails System Act in 1967. The purpose of the Act is to institute a national system of recreation, scenic, and historic trails. There are currently 30 national scenic or historic trails across the country (16 U.S.C. §1244).

The Pacific Crest Trail is approximately 2,350 miles, extending from the Mexican-California border northward along the west coast mountain ranges to the Canadian-Washington border. The portion of the Pacific Crest Trail in the project region is shown in Figure 2-2. The trail runs along the northwestern corner of the project area. Management of the Pacific Crest Trail is administered by the Secretary of Agriculture (USFS), in consultation with the Secretary of the Interior (BLM). In the Eastern Kern County Property Acquisition project area, the USFS collaborates with the BLM, CDPR, and the Kern County Sherriff's Office to protect the trail corridor.

The nature and purpose of the Pacific Crest Trail is to provide high-quality, scenic, primitive hiking and horseback-riding experiences, and to conserve natural, scenic, historic, and cultural resources along the trail corridor. Campsites, shelters, and related public use facilities are allowed uses along the trail. The Secretary of Agriculture may permit other uses that do not interfere with the nature and purposes of the trail. Incompatible activities are to be avoided. The use of motorized vehicles on the Pacific Crest Trail is prohibited in the National Trails System Act (16 U.S.C. §1244) and under 36 CFR section 261.20.

3.1.3 California Department of Parks and Recreation

3.1.3.1 Off-Highway Motor Vehicle Recreation Act of 2003

In 1971, through enactment of the Chappie-Z'berg Off-Highway Motor Vehicle Law, the Legislature addressed the growing use of OHVs by adopting requirements for registration and operation of these vehicles. Chappie-Z'berg also provided funding for administration of the OHV Program along with providing facilities for OHV recreation (OHMVR Commission 2011). The law required maintenance and oversight to allow for sustainable OHV use consistent with good environmental stewardship. In 1982, these principles were expanded upon through enactment of the Off-Highway Motor Vehicle Recreation Act, which has been amended numerous times and is now referred to as the Off-Highway Motor Vehicle Recreation Act of 2003 (PRC §5090.01, et seq.).

The OHMVR Act intends that existing OHV areas be expanded, added to, and managed to sustain areas for long-term motor vehicle recreation and that the OHMVR Program support motorized off-highway access to non-motorized recreation opportunities. Under the OHMVR Act, the Legislature created a separate division within CDPR, the OHMVR Division, which was given the exclusive authority for administering the OHMVR Program. Through the OHMVR Act, the state also provides financial assistance to federal, tribal, state, and local governments and 501 (c)(3) organizations for the provision of OHV recreation (the OHV Grants Program). The OHMVR Division is charged with all aspects of managing the OHMVR Program.

3.1.3.2 State Vehicular Recreation Areas (SVRAs)

SVRAs are established on lands that have historically have been used by OHVs and where topographic features and associated recreational opportunities for OHVs are the important values. Areas must be developed, managed, and operated for the purpose of making the fullest public use of the outdoor recreational opportunities present, and the natural and cultural elements of the environment may be managed or modified to enhance the recreational experience. Lands must be selected for acquisition for SVRAs so as to minimize the need for establishing sensitive areas. If OHV use results in damage to any natural or cultural values, appropriate measures must be taken to protect these lands from any further damage. These measures may include the erection of physical barriers and must include rehabilitation of the damage to natural resources and the repair of damage to cultural resources (PRC §5090.43).

3.1.3.3 Red Rock Canyon State Park

CDPR manages the approximately 27,000-acre Red Rock Canyon State Park located adjacent to the easternmost acquisition parcels. OHV use is allowed on the primitive road system in the park. Closed routes are marked and maps are provided to depict open routes, while CDPR requests that the public does not create new routes. Revisions to the park's general plan were initiated in 2008 but have not been completed.

In 2007, a report was written by State Archaeologist Michael Sampson on the effect of OHVs on archaeological sites and selected natural resources in Red Rock Canyon State Park (CDPR 2012. This project was initiated in order: "(1) to investigate the state of knowledge on the effects of [OHVs] on public lands, (2) to investigate [OHV] use and their effects upon cultural resources and natural values within Red Rock Canyon State Park, and (3) to identify some practical measures to address problems associated with [OHV] use" (CDPR 2007). The report found that OHV use degraded, to a varying degree, all the archaeological sites studied, and off-trail riding, an unpermitted activity, was a problem at a third of the sites studied. The report also recommends how to manage vehicular recreation at Red Rock Canyon State Park to minimize resource impacts. Some of the recommendations include:

- Engineer, construct and maintain OHV trails to decrease resource impacts
- Implement a monitoring program for resources in the park
- Separate OHV use from other recreation pursuits
- Close unauthorized OHV use trails and clearly mark closed routes; conduct patrols to enforce these closures
- Restore resources damaged by unauthorized uses

3.1.4 Kern County

3.1.4.1 Kern County General Plan

All of the acquisition parcels are within Kern County and are addressed on the Kern County, Eastern Section map of the County's Land Use, Open Space, and Conservation Element of the General Plan (Kern County 2009). At present the parcels are under the jurisdiction of the Kern County General Plan as they are in private ownership, whereas the adjacent parcels, owned by the BLM, are not under County jurisdiction. Under the Kern County General Plan, properties owned by the state or federal government are called "non-jurisdictional lands." Both the state and federal government are exempt from local land use regulations.

The majority of the parcels to be acquired by the OHMVR Division are designated as Extensive Agriculture by the General Plan Land Use Element (Figure 3-4). This classification is described in the County's Land Use Elements as:

Agricultural uses involving large amounts of land with relatively low value-per-acre yields, such as livestock grazing, dry land farming, and woodlands. Minimum parcel size is 20 acres gross, except lands subject to a Williamson Act Contract/Farmland Security Zone Contract, in which case the minimum parcel size shall be 80 acres gross.

Uses shall include, but are not limited to, the following: Livestock grazing; dry land farming; ranching facilities; wildlife and botanical preserves; timber harvesting; one single-family dwelling unit; irrigated croplands; water storage or groundwater recharge areas; mineral, aggregate, and petroleum exploration and extraction; and recreational activities, such as gun clubs and guest ranches; and land within development areas subject to significant physical constraints.

A few parcels to be acquired by the State are designated Mineral and Petroleum. This classification is described in the County's General Plan Land Use Elements as:

Areas which contain producing or potentially productive petroleum fields, natural gas, and geothermal resources, and mineral deposits of regional and Statewide significance. Uses are limited to activities directly associated with the resource extraction. Minimum parcel size is five acres gross.

Uses shall include, but are not limited to, the following: Mineral and petroleum exploration and extraction, including aggregate extraction; extensive and intensive agriculture; mineral and petroleum processing (excluding petroleum refining); natural gas and geothermal resources; pipelines; power transmission facilities; communication facilities; equipment storage yards; and borrow pits.

Once the parcels are acquired by the state, they would be reclassified to the State or Federal Land designation. This classification applies "to all property under the ownership and control of the various State and federal agencies operating in Kern County (military, USFS, BLM, Department of Energy, etc.)."

3.1.4.2 Kern County Zoning Ordinance

Kern County Zoning Ordinance (2012) states:

This title shall apply, to the extent permitted by law, to all property in unincorporated Kern County whether owned by private persons, firms, corporations, or organizations; by the United States or any of its agencies; by the State of California or any of its agencies or political subdivisions; by any county or city, including the County of Kern; or by any authority or public entity organized under the laws of the State of California. Any governmental agency shall be exempt from the provisions of this title only to the extent that such property may not be lawfully regulated by the County of Kern.

The Eastern Kern County Acquisition parcels are zoned A-1 MH, A, E(20), and RF (Figure 3-3). According to the zoning, the uses allowed on these parcels include:

- A (Exclusive Agriculture District): Designate areas suitable for agricultural uses and to prevent the encroachment of incompatible uses onto agricultural lands and the premature conversion of such lands to nonagricultural uses. Uses in the A District are limited primarily to Agricultural uses and other activities compatible with agricultural uses.
- A-1 MH (Limited Agriculture, mobile home combining district): Designate areas suitable for a combination of estate-type residential development, agricultural uses, and other compatible uses.
- E(20) (Estate): Designate areas suitable for larger lot residential living environments. Uses are limited to those typical of and compatible with quiet residential neighborhoods.
- RF (Recreation-Forestry): Designate lands for the conservation and use of natural resources and for compatible recreational uses. Nonresource-related uses are limited to uses that will not adversely affect the primary resource use or uses to which the land is devoted.

3.2 ENVIRONMENTAL SETTING

The project area primarily consists of undeveloped natural land in federal (USFS and BLM) and private ownership. Within these undeveloped lands are a few developed improvements including: two Los Angeles Department of Water and Power (LADWP) aqueduct pipelines, overhead transmission lines, old windmills, stock corrals and other livestock infrastructure, meteorological towers, an operating ranch off of Kelso Valley Road, and a LADWP caretaker residence off of Jawbone Canyon Road. Improvements related to the OHV use include vault type restrooms, extensive fencing, and signs (see Figure 2-3).

Land uses occurring in the immediate project area are primarily cattle grazing and recreation. Open range cattle grazing occurs subject to federal (BLM and USFS) permits as described in Chapter 4. Recreation activities in the project area are broad ranging and also occur on both public and private lands. Typical forms of recreational opportunities include OHV recreation, camping, hiking, horseback riding, hunting, birding, and rockhounding. Recreation is further discussed in Chapter 11.

Parcels of private ownership are dispersed throughout the project area and are either undeveloped or developed with rural residences. Some have proposed renewable energy projects.

3.2.1 Red Rock Canyon State Park

OHV use is allowed at Red Rock Canyon State Park on designated travel routes (Figure 2-2). A major OHV route (SC262, also called Power Line Road) crosses through the eastern portion of

acquisition parcels S-3 and S-6 close to the western boundary of the state park (Figure 2-2). The Dove Springs Open Riding Area is located on the western park boundary and provides a link to the state park trails (Figure 2-3). The Jawbone Open Riding Area does not provide trail linkage to the state park, although it does border the state park. Unauthorized OHV use off designated trails occurs at the state park. This use may originate from visitors within the state park and from roads and trails on the ReNu parcels, travel routes and open riding areas on adjacent BLM lands, or other private parcels.

3.2.2 Pacific Crest Trail

In the project area, the Pacific Crest Trail occurs on USFS and BLM lands. The trail crosses acquisition parcel K-4 and skirts the western border of L-1 and the northwestern corner of B-1 (Figure 2-4). Seven other project parcels are located within one mile of the trail (L-2, L-3, K-1, K-2, K-3, K-7, and K-15). USFS estimates that 4,500 acres of the project property and 4,000 acres of BLM land occur within one mile of the Pacific Crest Trail (Boyst 2012).

Motorized vehicle trespass on the Pacific Crest Trail was discussed at an October 14, 2011 and a September 15, 2012 OHMVR Division Commission meeting. OHMVR Division staff informed the commission that residents living in the vicinity of the Pacific Crest Trail in Kern County have concerns regarding adequate patrol and enforcement of OHV laws on the trail. Past efforts have included joint strike-team responses coordinated with local and federal agencies, as well as periodic enforcement efforts by the OHMVR Division and other law enforcement entities (Robertson 2012).

The OHMVR Division has also met with local concerned citizens to better understand the trespass problem and how best to address it. The OHMVR Division designed a kiosk to make the structures sturdy enough to withstand the harsh environment of the desert. The kiosks were installed at intersections with authorized OHV routes and Pacific Crest Trail access areas in October 2012. They include two 48”x48” interpretational panels that provide important information to recreationist regarding the need to maintain the Pacific Crest Trail free of motorized vehicles (Robertson 2012).

Landers Meadow project parcels (L-1, L-2, and L-3) are fenced and used by the current property owner for grazing. These parcels are not used for OHV recreation and do not facilitate motorized access to the Pacific Crest Trail beyond that access already afforded by Piute Mountain Road, a county road, and USFS Road 29S05, both of which cross the Pacific Crest Trail in the vicinity of Landers Meadow.

Kelso Valley does not have designated OHV routes or open riding areas (Figure 2-2); however, OHV cross-country travel occurs in the area. Unauthorized OHV use in Kelso Valley, whether originating from BLM land or the ReNu parcels could approach the Pacific Crest Trail corridor and result in unlawful motorized use of the trail. OHV access to Pacific Crest Trail is known to occur from Kelso Valley Road. In response, Friends of Jawbone has erected fencing on BLM land along Kelso Valley Road (Figure 2-5).

Butterbredt project parcel B-1 is traversed by two designated OHV routes, Butterbredt Canyon Road (SC123) and SC124, both of which intersect the Pacific Crest Trail west of the parcel boundary on BLM land (Figure 2-2). These authorized OHV travel routes bring motorized access near the Pacific Crest Trail and increase the potential for unlawful motorized use to occur on the Pacific Crest Trail originating from this location. Friends of Jawbone has installed fences on BLM land along Butterbredt Canyon Road and SC124 to block off-trail OHV use on BLM land and motorized access to the Pacific Crest Trail (Figure 2-5).

3.3 PROJECT IMPACTS

3.3.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, a project would have a significant environmental impact related to land use plans and policies if it would do the following:

- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

There are currently no approved HCPs or NCCPs affecting the project area. The project area is within the boundaries of the DRECP which, when completed, would apply to the acquisition area if the OHMVR Division was to seek coverage under the Plan. Therefore, the potential for conflicting with an applicable HCP or NCCP is not further analyzed in this chapter.

The potential effects of unauthorized OHV use in protected or closed areas and private property are also evaluated in this EIR section. The following criteria were used to evaluate this impact:

- How frequently does the trespass occur?
- What was the nature of the trespass, purposeful or inadvertent?
- How deep into the wilderness, closed area, or private property does the trespass generally occur?
- What is the perceived magnitude of the problem by the land owner or public agency?
- What is the current level of law enforcement?
- Would additional measures significantly reduce the impact?
- Has the trespass resulted in damage to private or public property, natural or cultural resources, or public safety impacts?

3.3.2 Proposed Land Use Management Measures

Upon acquisition of the project parcels, the OHMVR Division would implement a number of management measures aimed at ensuring visitor use of its property complies with relevant federal and state land use regulations. The following Land Use Management Measures would be implemented as part of the acquisition project.

OHV Travel Route Designations. The OHMVR Division will inspect all designated travel routes on project parcels to identify areas of unauthorized OHV use. Off-trail entry points to non-designated areas will be flagged for closure. The OHMVR Division will develop a response plan for all undesignated routes occurring on the acquisition parcels including route restoration, signage, barriers, educational kiosks, and law enforcement patrols.

Public Education. Information regarding OHV opportunities and regulations will be made available at kiosks established at strategic trailhead locations throughout the park property. Maps and informational pamphlets will be available to the public depicting popular route locations and closed areas. The written material will explain applicable state and federal regulations and emphasize the "Tread Lightly" message. The OHMVR Division will explore opportunities to

assist neighboring land management agencies (e.g., BLM, USFS, Kern County) and other partners with providing public education concerning OHV recreation issues.

Law Enforcement Program. The OHMVR Division provides law enforcement on all of its park lands and supports other agencies' law enforcement efforts through the Grants Program. The OHMVR Division actively investigates and enforces OHV laws and regulations related to the California Vehicle Code and the Public Resources Code. The mission of the Law Enforcement Program is to provide public safety and protection of natural and cultural resources. OHMVR Division law enforcement officers will work jointly with local authorities and federal agencies to address multi-jurisdictional issues. Upon acquisition of the project parcels, the OHMVR Division will assess law enforcement needs of the project area and assign law enforcement officers to the park property to provide daily patrols and onsite presence.

Pacific Crest Trail Corridor Protection. The OHMVR Division will actively collaborate with BLM and USFS to manage OHV recreation on state lands in a manner that maintains the natural resources and visual character of the properties associated with the Pacific Crest Trail corridor. The OHMVR Division will do as much as possible to maintain the Pacific Crest Trail free of motorized vehicles through the use of signs, fencing, enforcement actions, and joint efforts with the BLM, USFS, and local partners.

3.3.3 Conflict with Applicable Land Use Plans, Policies, or Regulations

OHMVR Division acquisition and management of the ReNu parcels would not conflict with any of the laws and plans in effect that are identified in Section 3.1 including the California Desert Conservation Act, the West Mojave Plan, the Jawbone-Butterbredt ACEC Resource Management Plan, or the Wilderness Act of 1964. Current lawful uses within the acquisition area are consistent with those plans; no changes that would conflict are proposed. The OHMVR Division will continue to be involved in the DRECP discussions via the Resources Agency and discussions on its connection with this project will be ongoing.

If the ReNu lands are acquired, they would at first be unclassified, but the OHMVR Division may eventually propose to classify and manage some or all of the lands as an SVRA, consistent with Public Resources Code section 5090.43 and related statutes (e.g., PRC 5090.35). Additionally, although all lands may be contained in a SVRA, within the SVRA there may be areas where OHVs are not allowed, as well as areas that are protected from any public use. Within an SVRA, there may also be lands owned by other public agencies, such as BLM, but that are managed by the OHMVR Division under an agreement between agencies. The OHMVR Division would also prepare a general plan. Neither a general plan nor SVRA classification are proposed at this time.

Upon acquisition, the OHMVR Division intends that the unclassified lands immediately be subject to Public Resources Code requirements regarding the need to protect natural and cultural resources from damage and to maintain OHV uses on any existing designated OHV routes. The acquisition project does not propose significant changes to land uses or operations. A public process would be initiated and completed in advance of any future significant land use or management changes on the acquired lands, but no such changes are currently proposed. Therefore, the potential for conflicting with state or federal land use plans, policies, or regulations is less than significant. Conformance with other federal resource-specific policies and regulations is assessed in Chapters 4-11.

Currently, the agriculture and recreation uses on the acquisition parcels are consistent with Kern County's General Plan designations. As discussed above, under the Kern County General Plan, properties owned by the state or federal government are designated as "non-jurisdictional lands."

Should the OHMVR Division purchase the lands, the land use designations of the County would no longer apply. Therefore the potential for conflicting with local land use plans, policies, or regulations is less than significant.

3.3.4 OHV Intrusion into Closed Areas

3.3.4.1 Red Rock Canyon State Park

OHMVR Division acquisition of parcels near Red Rock Canyon State Park (Figure 2-4) would not change the pattern of OHV recreation or riding habits of OHV users. Although not expected, the project could slightly increase OHV use in the project area by up to 1% or 1,800 visitors. Such a slight increase in visitation when combined with OHMVR Division implementation of the Land Use Management Measures would not cause a significant increase in unauthorized OHV in the state park. Closure of unauthorized access points and travel routes through implementation trail signage, educational outreach, vehicle barriers at unauthorized points of entry, and law enforcement patrols would minimize the number of OHV incursions into non-designated areas of Red Rock Canyon State Park that may originate from the ReNu parcels. With the Management Measures in place, the project's contribution toward unauthorized OHV use at Red Rock Canyon State Park would be less than significant.

3.3.4.2 Pacific Crest Trail

OHMVR Division acquisition of the project parcels would not change the existing approved land uses occurring on the property near the Pacific Crest Trail. Grazing and livestock operations would continue in Landers Meadow and Kelso Valley for the foreseeable future, and OHV recreation would continue on designated travel routes in Butterbredt Canyon. New OHV recreation areas or trails would not be developed as part of the acquisition project and as such the project would not result in expanded OHV trail networks that could increase the number of potential entry points to the Pacific Crest Trail corridor. Changes to the existing route system on the ReNu parcels could occur under a future general plan but are not part of this project (see Alternatives, Section 12.1.2).

OHMVR Division acquisition could result in an insignificant increase (1%) of OHV use on Butterbredt Canyon Road and SC124 and therefore increase the number of OHV riders intersecting the Pacific Crest Trail corridor near project parcel B-1. Implementation of the Land Use Management Measures described above in Section 3.3.2 would adequately address unlawful motorized access on the Pacific Crest Trail by providing additional law enforcement, public education, signage, and barriers, as needed. As a result, the impact of the proposed acquisition project on the Pacific Crest Trail is considered less than significant.

3.3.4.3 Wilderness Areas

The Bright Star Wilderness Area adjoins the eastern boundary of Sequoia National Forest and is located roughly one mile north of acquisition parcels K-1 and K-2. Public access to Bright Star Wilderness is available from Piute Mountain Road, which intervenes between the wilderness area and project parcels. Bright Star Wilderness cannot be accessed directly from the project parcels (Figure 2-4), OHV recreation is not authorized on parcels K-1 or K-2, and the project does not propose any changes that would facilitate OHV access into designated wilderness lands. OHMVR Division acquisition of the project parcels and implementation of the proposed Land Use Management Measures would not affect the Bright Star Wilderness Area other than by decreasing overall OHV trespass in the area. The impact is less than significant.

3.3.4.4 OHV Travel Outside of Designated Routes and Areas

Unauthorized OHV use has occurred throughout much of the project area, on public and private lands. Some non-project private parcels do not have developed access roads but do have designated OHV routes crossing the property (SC176, SC251, LA1, LA2, Power Line Road). Friends of Jawbone has established work sites along many unauthorized access points to keep OHV recreation within areas designated for OHVs (Figure 2-5). The proposed acquisition of the ReNu parcels would not introduce OHV use to new areas or otherwise facilitate unauthorized OHV travel. The proposed project could result in a minor (1%) increase in OHV use in the area due heightened interest in the property caused by OHMVR Division ownership, which could exacerbate existing trespass issues. OHMVR Division acquisition and implementation of Land Use Management Measures, however, would result in increased law enforcement, public education, and monitoring of trails for unlawful access. The project is expected to decrease unauthorized OHV use and would thus have a less than significant impact on public and private areas closed to OHV recreation.

3.4 CUMULATIVE IMPACTS

There are no known activities or projects occurring on the acquisition parcels that would result in cumulative effects concerning land use issues. Travel management planning in the Piute Mountains would formalize existing routes. The planning and environmental review are underway. The OHMVR Division acquisition project would not contribute additional roads or trails in the Piute Mountains area, but should increase resources for outreach, education, and enforcement of rules in that area. Incidents of trespass into wilderness areas, non-designated OHV areas, and private property occur throughout the project area already. BLM and the OHMVR Division would provide law enforcement efforts at these locations. There are no other activities in the area that would contribute to OHV intrusion of wilderness areas or other areas closed to OHV use.

3.5 MITIGATION MEASURES

The acquisition of the ReNu properties and implementation of proposed Land Use Management Measures would not conflict with any impacts on land use plans, policies, or regulation. Implementation of Land Use Management Measures would adequately address identified compliance issues of unauthorized OHV access to public lands and private property. No significant land use impacts have been identified that would require mitigation.

Figure 3-1. Federal Land Use Plan and Policy Boundaries

Figure 3-2. CDCA Multiple Use Classifications

Figure 3-3. Kern County Zoning

Figure 3-4. Kern County General Plan Land Use Designations

CHAPTER 4 AGRICULTURE AND FORESTRY RESOURCES

This chapter addresses project impacts on cattle grazing occurring on the project property and adjoining federal lands. The chapter presents the regulations and federal permit conditions governing the current livestock operation and assesses the potential for the OHMVR Division acquisition to result in a loss of farmland.

4.1 REGULATORY SETTING

4.1.1 Bureau of Land Management

The federal Taylor Grazing Act of 1934 led to the creation of grazing districts on public land in which grazing use was apportioned and regulated. Grazing management was initially designed to increase productivity and reduce soil erosion by controlling grazing through both fencing and water projects and by conducting forage surveys to balance forage demands with the land's productivity. Today the BLM manages livestock grazing on 157 million acres of public lands using rangeland health standards and guidelines it developed in the 1990s. Standards describe specific conditions needed for public land health, such as the presence of streambank vegetation and adequate canopy and ground cover. Guidelines are the management techniques designed to achieve or maintain healthy public lands, as defined by the standards. These techniques include such methods as seed dissemination and periodic rest or deferment from grazing in specific allotments during critical growth periods (BLM 2012b).

BLM issues grazing permits on public rangeland to applicants that own or control base property that is either: 1) capable of serving as a base of operation for livestock use of public lands within a grazing district; or 2) contiguous land, or, when no applicant owns or controls contiguous land, noncontiguous land that is capable of being used in conjunction with a livestock operation which would utilize public lands (43 CRF 4110.2-1). The BLM administers nearly 18,000 permits and leases held by ranchers who graze their livestock, mostly cattle and sheep, at least part of the year on more than 21,000 allotments under BLM management (BLM 2012b). Permits and leases generally cover a 10-year period and are renewable if the BLM determines that the terms and conditions of the expiring permit or lease are being met.

BLM grazing regulations (43 CFR Part 4100), promulgated in 2006, are based on the Taylor Grazing Act of 1934, FLPMA, and the Public Rangelands Improvement Act of 1978. Livestock grazing on public lands is managed under the principle of multiple use and sustained yield, and in accordance with applicable land use plans. Land use plans establish allowable resource uses, related levels of production or use to be maintained, areas of use, and resource condition goals and objectives to be obtained. The plans also set forth program constraints and general management practices needed to achieve management objectives (43 CFR §4100.0-8).

4.1.1.1 Grazing Management

The number of cattle allowed in a particular allotment is typically described in terms of an animal unit month (AUM). A 1000-pound (454 kg) cow, with or without an unweaned calf, is one animal unit , with such a cow being assumed to consume 26 pounds (about 12 kg) of forage dry matter per day. AUMs in a grazing area are calculated by multiplying the number of animal units by the number of months of grazing and provide a useful indicator of the amount of forage consumed.

BLM monitors rangeland health by performing periodic evaluations of pastures (Fitton 2012). BLM evaluates the forage utilization of the pasture twice annually during the grazing period to ensure that consumption of plant growth doesn't exceed 40%. Vegetation trend studies are

conducted every ten years using permanent transects to asses cover, species richness, and presence or trend of forage species within the overall plant population. Rangeland health studies are also performed every 10 years to observe soil characteristics, riparian/wetland conditions, stream morphology, and presence of native plant species.

Privately owned pastures are often interspersed with federally managed public lands. As a result, grazing on public lands frequently requires access to both public and privately-held parcels to allow movement of cattle between pastures. Private pastures within an allotment are not managed by BLM and therefore are not subject to the direct terms of federal grazing permits, although the forage available on private lands is considered when determining stocking rates.

4.1.1.2 Rangeland Improvements

Rangeland improvements are prescribed by BLM to enhance or improve livestock grazing management, improve watershed conditions, enhance wildlife habitat, or serve similar purposes. There are two kinds of range improvements: nonstructural and structural. Seeding or prescribed burns are examples of nonstructural range improvements. Fences or facilities such as wells or water pipelines are examples of structural improvements. Many structural improvements are considered permanent, as they are not easily removed from the land. Operators (permit holders) may be required to install range improvements to meet the terms and conditions of their permits or leases. Often the BLM, operators, and other interested parties work together and jointly contribute to construction. Cooperative Range Improvement Agreements between the operator or other cooperating parties and BLM outline the provisions for constructing, using, and maintaining a permanent structural improvement on public lands. The agreements specify how the project's material costs and construction labor are divided between the cooperator(s) and BLM.

4.1.1.3 California Desert Conservation Area (CDCA) Plan, Livestock Grazing Element (1980)

The CDCA Plan is described in Chapter 3, Section 3.1.1.1. The CDCA Plan Livestock Grazing Element (BLM, CDD 1999) identifies the following goals:

1. Use range management to maintain or improve vegetation to meet livestock needs and to meet other management objectives sit forth in the Plan.
2. Continue the use of the California Desert for livestock production to contribute to satisfying the need for food and fiber from public land.
3. Maintain good and excellent range condition and improve poor and fair range condition by one condition class, through development and implementation of feasible grazing systems or Allotment Management Plans. Adjust livestock use where monitoring data indicate changes are necessary to meet resource objectives.

The Livestock Element identifies approximately 70 grazing allotments in the CDCA and classifies them into three range types – perennial, ephemeral, and ephemeral/perennial – due to the variability in the amount, quality, and timing of forage production in the CDCA.

Ephemeral/Perennial range type is managed by first establishing a stocking rate based on the perennial forage (woody shrubs and bunch grasses), and then by annually increasing that rate based on available ephemeral forage (annual forbs and grasses), according to how well the ephemeral forage responds to climatic conditions. Turnout of animals is determined annually by an interdisciplinary team, including the grazing operator, based on considerations for maintaining an adequate amount of annual forage production for wildlife, erosion prevention, and visual needs. Authorizations will be issued after an interdisciplinary team, along with grazing operators involved, make a field examination of the allotment and determine whether

production of 200 pounds per acre of dry weight will be available for turnout, except in highly crucial desert tortoise habitat, where a 350 pounds-per-acre requirement is specified.

Management Prescriptions identified in the Livestock Grazing Element require that Allotment Management Plans be prepared and establish appropriate: (1) stocking levels; (2) seasons of use; (3) turnout times bases on forage readiness (plant phenology) and tortoise emergence in highly crucial tortoise habitat; (4) levels of forage use; (5) monitoring and adjustment procedures; (6) watering and handling practices in high livestock concentration areas; and (7) range improvements (springs, wells, catchments, pipelines, troughs, fences, etc.).

4.1.1.4 West Mojave Plan

West Mojave Plan (2006) (see Chapter 3, Section 3.1.1.2) is an amendment to the CDCA Plan developed expressly to address special-status plant and animal species and to establish conservation strategies for those species. As part of the conservation strategy, BLM determined which of its lands will be available or unavailable for livestock grazing. Livestock grazing in the CDCA is an economic resource of BLM lands recognized in Section 601 of FLPMA.

4.1.2 U.S. Forest Service

The USFS supports livestock grazing in national forests: "responsible livestock grazing provides a valuable resource to the livestock owners as well as the American people" (USFS 2013). National forests were originally established to protect timberlands and watersheds, but in 1897, Congress authorized the newly formed Forest Service to regulate grazing and permit it as long as it did not injure forest growth.

The USFS controls grazing by issuing grazing permits that specify parameters of use such as herd size, allotments, and season of use. There are three types of grazing permits issued by the Forest Service:

- **Temporary Grazing Permits** are generally issued for a short period of time to handle special circumstances. They are often issued to allow livestock to remain on the national forest land while a Term Grazing Permit is being processed for issuance to a newly qualified applicant.
- **Livestock Use Permits** are issued for incidental use and are not intended to authorize commercial livestock production on national forest lands. A common situation for issuing a Livestock Use Permit is to authorize guide/outfitter's stock during the period they are operating on the national forest.
- **Term Grazing Permits** are issued for up to 10 years and are the type of permit issued to livestock producers throughout the west. An applicant must own base property and livestock in order to qualify for a Term Grazing Permit.

Individual forests determine what uses are feasible and appropriate for their forests through the development of a LRMP. Once a determination has been made that grazing is feasible and appropriate for an area, grazing is planned and managed taking into consideration all the other uses of the area (USFS 2013). The Sequoia National Forest LRMP was signed in 1988. It notes that grazing is an important use, not only for vegetation management purposes, but to sustain ranch operations which are a source of livelihood, sustain a rural lifestyle, and promote sound land use practices. Grazing in the SNF occurs on two basic types of grassland: annual and perennial. Annual grassland occurs at lower elevations of 1,000 – 3,500 feet; and perennial grassland generally occurs in wet meadows located from 4,500 – 10,000 feet (USFS 1988).

The SNF LRMP identifies the following five management objectives for grazing (USFS 1988):

1. Maintain or enhance the productivity of all forest ranges through adequate protection of the soil, water, and vegetative resources.
2. Foster, then follow with action, the idea that joint stewardship is in everyone's interest.
3. Contribute to the stability of the ranching community by recognizing ranching as part of our heritage, its contribution of food and fiber, and its maintenance of open space.
4. Utilize improved management systems that ensure cost-effective management of suitable ranges.
5. Apply the standards and guidelines set forth in the most current version of the Range Environmental Analysis Handbook.

4.1.3 California Department of Conservation

The Department of Conservation (CDC) provides services and information that promote environmental health, economic vitality, informed land-use decisions and sound management of our state's natural resources. The Division of Land Resource Protection provides information, maps, funding, and technical assistance to local governments, consultants, Resource Conservation Districts, and nonprofit organizations statewide with the goal of conserving the state's agricultural and natural resources (CDC 2013).

4.1.3.1 Farmland Mapping and Monitoring Program

The CDC applies the Natural Resources Conservation Service (NRCS) soil classifications to identify agricultural lands, and these agricultural designations are used in planning for the present and future of California's agricultural land resources. The CDC has a minimum mapping unit of 10 acres, with parcels that are smaller than 10 acres being absorbed into the surrounding classifications. The CDC's Important Farmland Map is intended for inventory purposes only and has no regulatory authority (CDC 2013).

Table 4-1 provides a comprehensive description of all the categories mapped by the CDC (2008). Collectively, lands classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland is referred to as Farmland.

Table 4-1. California Department of Conservation Farmland Classifications

Classification	Description
Prime Farmland	Farmland that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
Unique Farmland	Farmland of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.
Farmland of Statewide Importance	Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
Farmland of Local Importance	Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

Table 4-1. California Department of Conservation Farmland Classifications	
Classification	**Description**
Grazing Land	Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.
Urban and Built-up Land	Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
Other Land	Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.
Source: CDC 2013	

4.1.3.2 California Land Conservation Act (Williamson Act)

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, is promulgated in California Government Code section 51200-51297.4, and therefore is applicable only to specific land parcels within the State of California. The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space uses in return for reduced property tax assessments. Private land within locally designated agricultural preserve areas is eligible for enrollment under Williamson Act contracts. The Williamson Act program is administered by the CDC, in conjunction with local governments. The landowner commits the parcel to a 10-year period wherein no conversion out of agricultural use is permitted. Each year the contract automatically renews unless a notice of non-renewal or cancellation is filed. In return, the land is taxed at a rate based on the actual use of the land for agricultural purposes.

4.1.4 California Department of Parks and Recreation, OHMVR Division

The legislative mandate of the OHMVR Division is to manage vehicle recreation on state lands (Chapter 3, Section 3.1.3). General plans prepared for each park unit establish the designated land uses within the park and the policies governing its use and management. The OHMVR Division would prepare a general plan for the acquired project parcels in a subsequent planning process.

Contract grazing occurs at two SVRAs, Hollister Hills and Carnegie, as part of a resource management program to provide fuel reduction and weed control services. CDPR does not currently have units with commercial grazing operations, i.e., with a focus on raising livestock for commercial trade, as opposed to grazing an area for the purpose of resource management. CDPR has little policy on the matter of grazing. CDPR's Operations Manual (CDPR 2010) briefly addresses livestock grazing on state park land (Table 4-2). The policy acknowledges the potentially adverse impacts of grazing upon recreation and biological resources yet recognizes that grazing can serve a park purpose.

Table 4-2. CDPR Operations Manual, Livestock Grazing Policy

Table 4-2. CDPR Operations Manual, Livestock Grazing Policy	
0317.2.4 Livestock Grazing	Since 1957, after statewide review by the State Park and Recreation Commission, livestock grazing has been considered incompatible with park purposes, including natural resource protection and providing a meaningful outdoor recreational experience. Protecting and restoring natural processes is at the core of the State Park System's natural resource management. Livestock grazing is an artificial process impacting physical and biological resources. Grazing also impacts recreational opportunities. However, there are occasions when livestock grazing may be appropriate when it is clearly shown that a core park purpose is significantly served, e.g., natural resource restoration and interpretation (see State Park and Recreation Commission Policy II-6). In addition, short-term grazing may be appropriate to consummate land acquisition.
0317.2.4.1 Livestock Grazing Policy	It is the policy of the Department of Parks and Recreation that livestock grazing is an inappropriate use of parkland resources except under certain circumstances where a core park purpose is served. Due to the potential for inconsistent application of the Department's Livestock Grazing Policy and uncoordinated scientific monitoring, the Chief of the Natural Resources Division and appropriate Field Division Chief will approve any grazing contracts, leases or agreements deemed beneficial to the State Park System prior to execution. Livestock grazing may be permitted under the following circumstances: a. When directly contributing to historic interpretation approved in a unit's General Plan; b. When necessary for a specific natural resource restoration purpose, which normally does not include fuels reduction or an alternative to extirpated ungulate grazing; or c. When it is a necessary component to an acquisition agreement, including scaled-down grazing to improve natural resources.
Source: CDPR 2010	

4.1.5 Kern County

4.1.5.1 Kern County General Plan

The parcels proposed for the acquisition are privately owned and currently under the jurisdiction of Kern County. The Kern County General Plan (2009) land use designation of the project parcels is Extensive Agriculture. The Land Use, Conservation, and Open Space Element of the Kern County General Plan identifies the following goals and policies relevant to agricultural uses.

Goals

- Goal 2. Protect areas of important mineral, petroleum, and agricultural resource potential for future use.
- Goal 5. Conserve prime agriculture lands from premature conversion.

Policies

- Policy 1. Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of General Plan designation.
- Policy 2. In areas with a resource designation on the General Plan map, only industrial activities which directly and obviously relate to the exploration, production, and transportation of the particular resource will be considered to be consistent with the General Plan.
- Policy 5. Areas of low intensity agriculture use (Map Code 8.2 (Resource Reserve), Map Code 8.3 (Extensive Agriculture), Map Code 8.5 (Resource Management)) should be of

an economically viable size in order to participate in the State Williamson Act Program/Farmland Security Zone Contract.

- Policy 7. Areas designated for agricultural use, which include Class I and II and other enhanced agricultural soils with surface delivery water systems, should be protected from incompatible residential, commercial, and industrial subdivision and development activities.
- Policy 11. Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.
- Policy 12. Areas identified by the NRCS (formerly Soil Conservation Service) as having high range-site value should be conserved for Extensive Agriculture uses or as Resource Reserve, if located within a County water district.

4.1.5.2 Kern County Estray Ordinance

The California Food and Agriculture Code allows a County Board of Supervisors to declare certain portions of their county as being devoted chiefly to grazing. Areas so designated are generally referred to as "open range." Kern County established an Estray Ordinance in 1942. In such areas, a person may not "take up" any estray (stray) animal found on their property nor will they have a lien against the animal unless their property is surrounded by a "good and substantial" fence. In other words, in open range, land owners must fence cattle off their property if they do not want them on their property. The areas of the county devoted chiefly to grazing are presently described in Chapter 7.16 of the Kern County Ordinance Code; the eastern half of Kern County is mostly identified as open range.

4.2 ENVIRONMENTAL SETTING

4.2.1 Public Lands Grazing in the Project Area

Domestic livestock have been grazed in the California desert for more than 100 years. Both the acreage and the intensity of livestock use on federal land in the desert have continually declined during this century. Lands formerly grazed on the western edge of the desert have passed into private ownership and are no longer available for public leases or permits. In recent years, recreational use, particularly that of OHVs, has had further impact on range at the western fringe, resulting in additional livestock management challenges and decreasing forage production potential.

The project area is mostly located in the western edge of the CDCA (Figure 3-1). Currently, 4.5 million acres (36 percent) of public lands in the CDCA are leased to cattle and sheep interests (from Table 6 in BLM 1999). There are a total of 31 public land grazing allotments (a designated area suitable for grazing) in the West Mojave Plan area. Three allotments occur in the immediate project vicinity: the Rudnick Common Allotment (RCA) (BLM), Scodie (USFS), and Piute (USFS) (Figure 4-1; Table 4-3). All of the grazing on the RCA is administered by the Ridgecrest Field Office (BLM 2004), and the Kern River Ranger District of the Sequoia National Forest administers the Piute and Scodie Allotments. Since none of the ReNu parcels proposed for acquisition are in the Scodie Allotment, it is not discussed in detail.

RCA Pastures. The entire RCA comprises roughly 242,000 acres comprising approximately 153,000 acres of BLM land and 78,000 acres of private land (mostly ReNu) (BLM, RFO 2007). The RCA is defined by the CDCA Plan as perennial/ephemeral range, meaning that a baseline carrying capacity of cattle is established, and depending on available forage, additional cattle

may be allowed to graze. The RCA is divided into 11 pastures (Table 4-3), 4 of which encompass most of the proposed acquisition parcels: Kelso Valley, Dove Springs, Sheep Troughs, and Jawbone Canyon (Figure 4-2).

Table 4-3. Grazing Allotments in Project Area

BLM Pastures (RCA)	Acres	Pasture Description/Features
Cane Canyon	3,200	Permitted to Onyx Mtn. Cattle Company/
Pinyon Well	5,600	Permitted to Onyx Mtn. Cattle Company/fencing, cattle guards
Rocky Point[1]	5,000	Year round pasture. Used for holding purposes when cattle are moved between Onyx Ranch and outside range facilities/fencing, cattle guards
Kelso Creek[1]	20,000	Used as paired pasture with Bird Springs/Shoemaker Spring, Sageland Spring (private), Willow Spring
Kelso Valley[1, 2]	32,000	Adjacent to USFS Piute Allotment. Pasture used late summer through winter. Contains wrangler residence, shipping and receiving. All cattle moved here twice yearly. Calves birthed, weaned and vaccinated here. Used for rest between drives/Western Spring, Butterbredt Spring, Quail Spring (private), Kelso Valley Well, Kelso Road Well, Butterbredt Well and Reservoir, Butterbredt Pipeline, Kelso Valley Corral, Kelso Road Well Corral, Quail Spring Pipeline (private), fences, cattle guards
Sheep Troughs[1, 2]	28,000	Year round pasture. Contains 26% public lands. Schoolhouse Meadow (by Schoolhouse well) has sub-irrigated pasture. Provides summer grazing at higher elevations/fences, cattle guards, Jawbone Canyon Well
Jawbone Canyon[1, 2]	33,000	Used as paired pasture with Dove Springs. Limited use due to seasonal closures to protect desert tortoise habitat/cattle guards, fencing, Nudist Spring, Cowboy Spring,
Dove Springs[1, 2]	31,000	Used as paired pasture with Jawbone Canyon. Limited use due to seasonal closures to protect desert tortoise habitat/fencing and gates, cattle guards, Bishop conduit and trough, Dove Spring corral, Section 32 syphon, Section 17 syphon, Bishop's Claim well, Dove Well,
Bird Springs[1]	27,000	Used as paired pasture with Kelso Creek/cattle guards, fences, Linebarger Corral, Dove Spring Corral, Shorthorn (Little Syphon) Corral, Alexander Corral, Rankin Pipeline, Double Syphon Pipeline, Dove Well
Canyons[1]	27,000	Adjacent to USFS Scodie Allotment/cattle guards, fences and gates, Horse Canyon Corral, Soldier Wells Corral, Cow Heaven Pipeline, Boulder Canyon Pipeline, Cow Heaven Spring, Rock Spring, Boulder Spring, Sage Canyon Spring, Colt Spring, Horse Canyon Spring
Aqueduct[1]	17,000	Unreliable source of water. Used periodically/cattle guards, fences, Linebarger Corral, Shorthorn (Little Syphon) Corral, Rankin Pipeline, Double Syphon Pipeline, Highway Well
Total	228,800	

Table 4-3. Grazing Allotments in Project Area		
USFS Allotments	**Acres**	**Pasture Description/Features**
Piute*[2]	29,820	Adjacent to Sheep Trough (RCA) pasture. High elevation pasture permitted for summer use. Includes Landers Meadow project parcels/Grouse Meadow Spring and Trough, Grouce Meadow #2 Spring and Trough, Grouse Meadow Pasture Fence, Little French Spring and Trough, French Meadow Administrative Pasture Fence, Weldon Meadow Fence, Weldon Spring and Trough, Steve Spring and Trough, Woolstaff Meadow Fence, Cortez Spring and Trough, Harris Grade Spring and Trough, Landers Meadow Fence, Landers Camp Spring and Trough
[1]Permit held by Hafenfeld Ranch, LLC [2]Pasture/Allotment includes proposed ReNu acquisition parcels *Sources: BLM 2007, BLM 2004, RCI 2009*		

In 2007, BLM proposed issuance of two 10-year grazing permits on the RCA. One permit was issued to Onyx Ranch for 9 of 11 RCA pastures and the other was issued to Onyx Mountain Cattle Company for the remaining two pastures. BLM prepared an Environmental Assessment (BLM, RFO 2007) and adopted a Finding of No Significant Impact. In January 2009, BLM issued a grazing permit to ReNu Resources (BLM 2009a), successor to Onyx Ranch through purchase of lands from the Rudnick Estate Trust. BLM subsequently reissued this permit to Bruce and Sylvia Hafenfeld (Hafenfeld Ranch, LLC) in December 2009 (BLM 2009b). The permit runs to February 2018 and is attached in Appendix C. Permit terms and conditions are briefly summarized in Table 4-4.

Table 4-4. BLM Grazing Permit on RCA, Issued to Bruce and Sylvia Hafenfeld, 2009				
Livestock Limits				
Livestock		Grazing Period		AUMs
Number	Kind	Begin	End	
739	Cattle	03/01	08/31	3398
738	Cattle	09/01	02/28	3338
Summary of Terms and Conditions				
The following terms and conditions is the result of the environmental analysis CA-650-2004-38 and the field managers notice of final grazing decision of 2007.				
Float valves shall be installed in water troughs, where necessary, to control water loss.				
Removal of cattle carcasses within 300 feet of a road or watering source.				
Rotation of cattle herd through available pastures. Grazed pasture shall not be grazed again until it has passed through the next growing season (March through May).				
Continuous, year-long grazing of any pasture is prohibited.				
Termination of ephemeral grazing when ephemeral forage production drops below 230 pounds per acre.				
Protection measures for the desert tortoise.				
Specification of livestock utilization levels of key species of 40% on ranges that are grazed during the dormant season and meeting standards and 25% on rangelands that are grazing during the active growing season and not meeting standards.				
Suspension of grazing during critical spring season of growth (3/1-5/31) where cattle have access to				

Table 4-4. BLM Grazing Permit on RCA, Issued to Bruce and Sylvia Hafenfeld, 2009
riparian habitat that does not meet proper functioning condition.
Maintenance of proper use factors (maximum utilization levels based on current year's growth by weight, as measured during the grazing season) for all key forage plants identified on the allotment. Where forage utilization levels reach or exceed these thresholds, livestock shall be removed from the area. Salt Grass (30%), Sedge (30%), Rushes (30%), Willow (10%), and Cottonwood (10%).
No motorized/mechanized equipment is authorized within designated wilderness areas without site specific NEPA review and prior written approval from the Ridgecrest Office.
Maintenance of range improvement projects and facilities within the allotment in accordance with the appropriate cooperative agreement(s) or range improvement permit(s) and in good working order.
Range readiness of current year production of ephemeral and/or perennial forage plants (as appropriate for the allotment and/or ecological site) shall be used to determine turnout dates for livestock.
Management of livestock to protect cultural resources.
Application of the regional standards for public land health and guidelines for livestock management approved under the West Mojave Plan.
Source: BLM 2009b

The nine pastures grazed by Hafenfeld Ranch are used in a rotational grazing pattern, and contain, on the average, 76% public lands. These pastures are Jawbone, Dove Spring, Kelso Valley, Kelso Creek, Bird Springs, Canyons, Aqueduct, and Rocky Point (Table 4-3). Jawbone/Dove Springs pastures and Kelso Creek/Bird Springs pastures are used as paired pastures because natural barriers are insufficient to contain cattle in one pasture, and there are no fences between the pastures. Sheep Troughs pasture is a year round pasture containing only 26% public lands (BLM, RFO 2007, p.17).

The RCA grazing permit allows an annual 6,735 preference AUM.[3] Preference AUM serves as a baseline stocking rate and is based on perennial forage. Available forage, both perennial and annual (ephemeral), determines the actual AUM. If conditions are good, additional ephemeral AUM are available based on a threshold 230 lbs of air-dried matter (forage) per acre. The ephemeral grazing season runs from whenever forage is available in winter/spring to June 15. Forage is assessed by collecting all vegetation within a randomly chosen square footage of pasture, drying the material, and then multiplying by total acreage in pasture to ensure there is a minimum of 230 lbs. dry weight feed per acre (Hafenfeld 2013).

In its management of the RCA, BLM does not dictate which pasture is used at what time, or the specific number of cattle at any given time. The rotation of cattle through the pastures varies from year to year based on field conditions and the grazing permit terms and conditions which set forage requirements and prohibit year-long grazing in any one pasture. These conditions are set to protect the pastures from overgrazing (Hafenfeld 2013).

The critical growing season is March 1 to June 15. Per permit conditions, no pasture may be utilized during that critical growing season for two consecutive years. When forage is scarce, the animals are moved to sub-irrigated pastures to supplement feeding and thus typically do not spend the entire year in the allocated pasture..

Piute Allotment. The Piute Allotment is in the Kern River Ranger District of the Sequoia National Forest (there is no "pasture" designation) and abuts the western boundaries of the RCA

[3] The preference AUM is calculated as 739 head (March-Aug) and 738 head (Sept-Feb), of which 76% is on public (BLM) land [(739*6+738*6)*0.76 = 6,735 AUM].

Kelso Creek and Kelso Valley pastures. The Piute Allotment includes the Landers Meadow ReNu parcels (L-1 – L-3). It offers high elevation pasture during summer months. The Piute Allotment does not use perennial/ephemeral approach used by BLM; it has an annual limit of 70 AUM.

The USFS issued a Term Grazing Permit for the Piute (and Scodie) Allotment to ReNu Resources, LLC in September 2010 (USFS 2010) superseding the permit issued May 2003 to Rudnick Estate Trust. In 2011 ReNu waived its status as the preferred applicant and supported permit issuance to a third party (USFS, SNF 2011b). Permit Number 54-42A was subsequently reissued to Hafenfeld Ranch, LLC; the permit term expires in December 2020 (USFS 2011). The permit is attached in Appendix C, and a summary of the permit terms is presented in Table 4-5. Because the Landers Meadows ReNu parcels are in private ownership, cattle use is not managed by USFS and is not subject to the terms of federal grazing permits. Landers Meadow has loading chutes, corrals, and springs. Both Kelso Camp and Landers Meadow are used for shipping/receiving, as a holding area, and for rest and weight gain. Cattle are moved to high-county (Landers Meadow, upper Sheep Troughs) during the summer months.

Table 4-5. USFS Grazing Permit on Piute and Scodie Allotments, Issued to Hafenfeld Ranch, 2011

Livestock Limits				
Livestock		Grazing Period		Allotment
Number	Kind	From	To	
70	Cattle	03/01	06/30	Scodie
70	Cattle	06/01	09/30	Piute
Summary of Terms and Conditions				
Only livestock owned by the permittee are authorized to graze				
70 head from March 1 to June 30 on Scodie Allotment				
70 head from June 1 to September 30 on Piute Allotment				
Permittee will maintain all range improvements whether private or government owned				
At least 90% of the cattle must be grazed each year unless the Forest officer approves nonuse				
Salt should be placed in the allotment prior to turn out of cattle				
Owners of livestock grazed under permit must comply with State livestock laws				
Annual Operating Instructions are made part of this permit				
Appropriate disposal of an animal which dies from contagious or infectious disease. If the animal dies or is killed in the vicinity of a camp, stream, road, trail, or recreational area, its carcass must be moved to a point at least 100 yards from such areas.				
Repair of all damage other than ordinary wear and tear to roads and trails in the National Forest caused by permittee in the exercise of this permit.				
The permittee is responsible for understanding and complying with the allowable use standards. Residual dry matter is used as an indicator of utilization in annual grassland and percent weight by residual height or a 4 inch stubble height may be used on perennial grasslands as measured in key areas. The permittee is required, at a minimum, to make reasonable visual estimates of changing utilization levels throughout the season and respond appropriately.				

Table 4-5. USFS Grazing Permit on Piute and Scodie Allotments, Issued to Hafenfeld Ranch, 2011
Avoid or remove sources of weed seed to prevent new weed infestations and the spread of existing weeds. Minimize transport of weed seed into and within allotments. Maintain healthy, desirable vegetation that is resistant to weed establishment. Minimize disturbed ground conditions favorable for weed establishment in the management of livestock grazing. Improve effectiveness of weed prevention practices through awareness programs and education. Promote weed awareness and prevention efforts among range permittees. Utilizing certified weed free hay for saddle stock feed in the allotment is encouraged.
Implementation of Land and Resource Management Plan (LRMP) standards, Biological Opinions for Threatened or Endangered species and other site-specific conditions on the allotment(s) covered by this permit.
Allow livestock browse on no more that 20% of annual growth of hardwood (primarily oak) seedlings and advanced regeneration (saplings).
Grazing utilization in annual grasslands will maintain a minimum of 60% cover. Manage for 700 lbs/acre Residual Dry Matter (ROM) on satisfactory annual range with> 10" average annual precipitation or 1,000 lbs/acre on unsatisfactory annual range. Manage for 400 lbs/acre Residual Dry Matter (ROM) on satisfactory annual range with < 10" average annual precipitation or 700 lbs/acre on unsatisfactory annual range.
Prevent disturbance to stream reaches in meadows or natural shoreline of ponds and lakes from exceeding 20% (SSNFPA #103). Under season long grazing, limit livestock utilization of forage to a maximum of 40% (or minimum of 4" stubble height) for meadows in late seral status and 30% (or minimum of 6" stubble height) for meadows in early seral status (except where covered by an intensive grazing plan that includes periods of rest and other resource objectives are being met). Limit browsing to no more than 20% of the annual leader growth of mature riparian shrubs or seedlings (including willow and aspen). Remove livestock from any area of an allotment when browsing indicates a change in livestock preference from grazing herbaceous to woody riparian vegetation. Prohibit or mitigate activities that disturb bog and fen ecosystems. Limit disturbance within Riparian Conservation Areas.
Browse utilization follows guidelines in the 1969 Range Environmental Analysis Handbook (2209.21). Browse in key areas should not exceed 15% of preferred browse species in form classes 3 or 6 (heavily hedged) or 5% of staple browse species to meet satisfactory conditions. Utilization of annual leader growth should not exceed 50% for range in satisfactory condition.
Source: USFS 2010

4.2.2 BLM Rangeland Health Determination

A discussion of BLM's grazing monitoring in the RCA is provided in Chapter 6. The BLM Ridgecrest Field Office assessed the rangeland health of the RCA and prepared a Rangeland Health Determination (BLM 2004). Information was collected relevant to Fallback standards required by BLM grazing regulations (43 CFR 4180,2(f)) for Soil Permeability, Riparian/Wetland, Stream Morphology, and Native Species categories in Health Assessments from September 14, 1998 to May 19, 2004. The Soil Permeability standard was met. The Stream Morphology and Native Species standards were not met but progressing toward achievement of the standards. The Riparian/Wetland standard was not met and not progressing toward achievement of the standard. Livestock use was a significant factor in the stream morphology and riparian/wetland determination. Historic utilization records show cattle use concentrated at water bodies. Utilization checks in 2000 and 2004 showed the same trend. OHV recreation was also a factor at several sites which did not meet standards. As a result of the determination, the BLM prescribed best management practices to improve riparian area health.

The status of RCA's Rangeland Health Standards in the categories of Wetland/Riparian and Stream Morphology was further considered when BLM proposed issuing the two RCA grazing

permits in 2007 (BLM, RFO 2007). BLM identified specific measures to protect riparian areas, which became incorporated into the terms and conditions of the future RCA grazing permits. These riparian measures included: a) Suspend grazing during the critical spring season of growth (3/1-5/31) in areas where riparian rangeland health standards have not been met; b) Establish utilization studies to include proper use factors for key riparian forage species: Salt Grass (30%), Sedge (30%), Rushes (30%), Willow (10%), and Cottonwood (10%); and c) Construct exclosure fences at designated locations.

4.2.3 Cattle Operations

Ranching has occurred in the project area for over 80 years (BLM 2012b). Most of this was conducted by the Rudnick Family who grazed the area until the land was sold to ReNu. The cattle operation is now operated by Hafenfeld Ranch, which utilizes both public and private lands in its operation. The operations are managed based on permit terms and conditions (see Section 4.2.1). The permit does not dictate which pasture of the nine pastures may be used or the specific number of cattle on the pasture at any given time as long as the overall permit parameters are met.

Cattle are generally kept in one pasture at a time, although more than one ephemeral pasture may be used at the same time. Cattle may drift into another pasture due to a fence opening or similar. Cattle that do drift are returned to the pasture(s) currently being utilized. Actual pasture use in any given year can vary greatly based on feed and water conditions plus temperature and animal health. Cattle are shifted to a different pasture based on forage availability (Hafenfeld 2013).

Dove Springs/Jawbone pastures tend to be yearling pasture. Cattle are in Dove Springs/Jawbone as early as November (depending on forage) through May or even into June, because the temperatures are mild compared to the high-country, and forage begins to grow earlier. Kelso Valley is a cow pasture utilized late summer through winter. Cattle are moved to high-county (Landers Meadow, upper Sheep Troughs) during the summer months. Upper Sheep Troughs is typically a summer pasture because of its higher elevation and availability of shade and water.

Kelso Valley is the heart of the operation: receiving/shipping, hay storage, residence for one employee, and sub-irrigated pasture. All cattle come through Kelso Valley two times a year. Calves are born, weaned, and vaccinated there, and yearlings are sorted and shipped there. Cattle may need to spend up to two weeks resting up from long drives (herding, not trucking). Some cattle will remain in pastures as needed year-round. When shipping yearlings out of Kelso Valley, there may be up to 2,000 head out in the meadow. The numbers vary significantly throughout the year. Kelso Valley has a cabin providing a year-round residence for the onsite wrangler (see Figure 2-3). The residence has a septic system and uses propane.

Landers Meadow has loading chutes, corrals, and springs. Both Kelso Camp and Landers Meadow are used for shipping/receiving, as a holding area, and for rest and weight gain. Cattle are herded within and between pastures. Cattle tend to be gathered in several sweeps, not just one day. Occasionally, bulls, steer, and injured or sick cows are moved from one location to another by stock trailer. Cattle are shipped into and out of the area by trucks.

Cowboys are usually on horseback. About 10% of the time ATVs are used, e.g., running fence, packing salt or fencing supplies. Cowboys travel overland as needed, whether on horseback or ATVs. Cowboys patrol fences as often as needed. When cows are first introduced to a pasture and are walking the fence line, the fences are checked daily. After cows are settled into a pasture, fences may need checking once a week.

4.2.4 Range Improvements

In the past four years, range improvements on the RCA have been installed by the livestock operator to provide infrastructure upgrades, additions, and repairs. Some of these items do exist on privately owned land. Improvements include fences, cattle guards, gates, spring boxes, storage tanks, corrals, pipelines, and troughs (see Table 4-3 and Figure 4-2). Existing range improvements are maintained. All fencing is wildlife friendly, which requires a minimum lower strand height to allow for wildlife entry and exit, and has lower smooth wire. Many of the improvements have been done using NRCS Environmental Quality Incentives Program cost share funds. Within the non-irrigated pastures, the permittee maintains water sources, salt licks, cattle guards, corrals, and limited fencing to support the grazing operation. These facilities are dispersed throughout the pastures.

Within pastures that have legal OHV recreation open riding areas (Jawbone Canyon and Dove Springs), maintenance of grazing infrastructure has been difficult. Fences have been cut, range improvement projects have been vandalized, and cattle have been disturbed at various locations including at stockwaters (RCI 2009). In the Kelso Valley and Kelso Creek areas, vehicle use is restricted to street-legal vehicles on roads.

4.2.5 Project Parcels

Most of the project area is within the RCA (described in 4.2.1). Fifty-four acquisition parcels contain portions of four RCA pastures: Kelso Valley, Jawbone Canyon, Dove Springs, and Sheep Troughs, while the three Landers Meadow parcels include parts of the pasture in the Piute Allotment (described in 4.2.1). The three Caliente parcels are located outside of any grazing allotment.

Use of the ReNu parcels is subject to the terms of an agreement between the licensee (Hafenfeld) and the landowner (ReNu). The parcels proposed for acquisition are primarily used as rangeland; however, both Kelso Camp and Landers Meadow are critical to the Hafenfeld Ranch operation as they support shipping/receiving facilities, a holding area, and irrigated pastures for rest and weight gain. Additionally, a caretaker residence is located on an acquisition parcel in Kelso Valley. The components of the livestock operation would all become OHMVR Division managed land.

ReNu acquired the project parcels from the Rudnick Estate Trust with the stipulation that grazing would be permitted (Resource Concepts 2009). The impetus for cattle grazing stems from the availability of federal land. However, because the ownership of land in the area has a checkerboard pattern, grazing on federal lands and grazing on other lands within the allotment (potentially state owned) are inseparable. Due to open range grazing in eastern Kern County (see Section 4.1.5.2), unless landowners within the RCA fence cattle out, the cattle are free to move from BLM onto other parcels. Project parcels interspersed with BLM lands in the RCA are unfenced. Cattle can thus roam from BLM pasture onto the project parcels. The three Landers Meadow parcels are fenced. Cattle management on the Landers Meadow parcels can occur independently from the adjoining USFS managed rangeland.

4.2.6 ReNu Parcels Farmland Classification and Status

The proposed acquisition parcels are not located within an area designated by the CDC as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The acquisition parcels are classified as grazing land according to the California Division of Land Resource Protection Farmland Mapping and Monitoring Program. The proposed project property land is not prime or unique farmland, nor of local or statewide importance. None of the ReNu parcels are under a Williamson Act contract).

4.3 PROJECT IMPACTS

4.3.1 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally be considered to have a significant adverse impact on the environment if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.
- Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland (as defined by Government Code section 51104(g)).
- Result in the loss of forest land or conversion of forest land to non-forest use.
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

None of the parcels to be acquired are considered Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on CDC maps. Therefore this issue is not further analyzed in this chapter.

None of the parcels to be acquired are under a Williamson Act contract (ReNu 2012). Therefore this issue is not further analyzed in this chapter.

Acquisition parcels are zoned for agricultural use or recreation-forestry by Kern County. After acquisition these lands will be subject to state park planning. The County zoning designations would no longer apply to the state-owned lands. Therefore, the issue of conflict with existing zoning designations is not further analyzed in this chapter.

The Landers Meadows parcels may meet the definition of "forest land" per Public Resources Code section 12220(g), which is defined as land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. If acquired, the lands would be managed for recreation, biological resources, and other public benefits, which would be consistent with the definition of forest land. Therefore, this issue is not further analyzed in this chapter.

4.3.2 Proposed Agricultural Resource Management Measures

Due to the Kern County estray ordinance, cattle in the RCA and Piute allotment would move between federal and OHMVR Division lands, as they currently move between federal and ReNu lands. The OHMVR Division proposes to support the continuation of existing livestock operations on the project property. Presently, CDPR does not issue permits for commercial livestock grazing operations on park property (Section 4.1.4). Until a general plan can be developed for the property and policies governing any designated agricultural use are defined, the OHMVR Division would implement the following Management Measures.

Terms and Conditions of RCA Grazing Permit. The RCA grazing permit terms and conditions established by BLM will be applied to livestock operations on the acquisition property within the RCA for the duration of the permit term (2/28/2018) or until livestock

operation policies are established in a general plan adopted for the project property. Permit conditions are summarized in Table 4-4 and attached in Appendix C. See also Section 6.3.2.

Monitoring Rangeland and Livestock Operations. The OHMVR Division will annually monitor forage conditions on parcels used for grazing and livestock operations. Rangeland health assessments on parcels within the RCA will be conducted on the project property using the BLM protocols utilized for public rangeland in the RCA.

4.3.3 Other Changes in Environment Resulting in Conversion of Farmland

4.3.3.1 Loss of Private Grazing Land

The acquisition would not directly convert the 28,275 acres of private land to non-agricultural use in the near term. Grazing that presently occurs on the acquisition parcels in conjunction with the BLM grazing permit issued for the RCA pastures would continue as part of the acquisition project for the duration of the BLM permit, which expires in 2018. Livestock operations on the Landers Meadow parcels would continue as part of the acquisition project for the duration the USFS permit, which expires in 2020. Access to state property within the RCA would continue because property boundaries of the individual project parcels are unfenced. Cattle on BLM grazing land or other private parcels would have roaming access onto OHMVR Division lands per the Kern County Estray Ordinance (4.1.5.2). No grazing currently occurs or is proposed on the Caliente parcels (1,440 total acres).

OHMVR Division ownership could result in the future loss of agricultural use of the project parcels resulting in the removal of almost 27,000 acres from grazing land production. After property acquisition, the OHMVR Division would undertake a park planning process to apply park classifications to the property and further designate approved uses (Land Use, Section 3.1.3). OHMVR Division general plans do not currently include commercial grazing as a park use. Loss of grazing access on most or all acquisition parcels is, therefore, a potential foreseeable effect of the project.

According to CDPR policy 0317.2.4.1 (Table 4-2), "livestock grazing is an inappropriate use of parkland resources *except under certain circumstances where a core park purpose is served*." (emphasis added.) In the case of the ReNu parcels, the OHMVR Division may determine that grazing is an important historical and cultural component of the lands, and thus continue to allow livestock grazing as part of historic interpretation approved in a unit's general plan or may determine grazing serves a resource restoration purpose (see CDPR policy 0317.2.4.1). Thus, current CDPR policy does not preclude grazing entirely, and CDPR and/or the OHMVR Division could establish different policies toward grazing in the future. So, while the potential loss of grazing land could occur given the preferences stated in the existing state livestock policy (Table 4-2), the future loss is not certain. The designation of livestock operations as an approved park use would be determined by future planning efforts and is not the subject of this EIR (see Chapter 1, Section 1.1). Therefore, the future loss of access to non-federal land grazing land and the Landers Meadow parcels resulting from the planning process subsequent to OHMVR Division acquisition is speculative and not assessed by this EIR.

If the adopted general plan excluded grazing as designated use of park property, the cattle operator would lose key facilities associated with the project parcels such as shipping and holding areas, rest areas, pasture, and the wrangler residence. The effect of acreage removal on the ability of the current rancher to maintain its commercial livestock operations or keep other agricultural land in production is speculative. The potential effect on the commercial business is not an environmental effect subject to CEQA review.

Upon securing ownership of the project property, OHMVR Division would inventory and evaluate the condition of biological, cultural, and soil resources present on the property (see Management Measures in Sections 6.3.2, 7.3.2, and 8.3.2). Grazing use of the project property may be restricted in some locations if it is determined that protective measures are required to avoid resource damage. Implementation of area restrictions needed to protect natural and cultural resources would result in a loss of access to grazing land if fencing is needed to protect a resource. The potential need for use restrictions is not known at this time and therefore the potential reduction in available pasture from such closures is speculative. The total amount of pastureland affected by fenced off cultural resources would be measured in terms of square footage and would likely total less than a few acres over the entire project area. This amount is a negligible portion of the almost 27,000 acres of project property that are being grazed. Therefore, the amount of lost grazing land resulting from implementation of resource protection Management Measures identified in Sections 6.3.2, 7.3.2, and 8.3.2 is considered less than significant.

The terms of the RCA grazing permit, which presently apply only to public land in the RCA, would be applied to the project property upon OHHVR Division acquisition as an Agricultural Resource Management Measure (4.3.2). OHMVR Division would monitor the livestock operation for compliance with permit conditions. Existing conditions of the private property rangeland have not been assessed. If the rangeland forage is impaired, compliance with permit conditions could result in improved rangeland health by requiring that livestock be removed from the pasture sooner than is presently practiced. This would be a beneficial effect of the project. If the private pasture land is already well maintained, new monitoring of the property by OHMVR Division would cause no change from existing conditions. Implementation of the Agricultural Resource Management Measures would not result in a loss of grazing land designated for livestock operations and would have the beneficial effect of enforcing rangeland health standards (see Biological Resources, Section 6.2.4). Therefore, the impact of the project on agricultural land is less than significant.

4.3.3.2 Loss of Public Grazing Land

Upon acquisition of the project parcels, the OHMVR Division would implement Agricultural Resource Management Actions as described in Section 4.3.2. The livestock operator holding the BLM grazing permit for the RCA would continue to utilize the project parcels for the duration of the BLM permit term (2/28/2018). The OHMVR Division would not fence its property to exclude cattle, other than fencing that may be necessary to protect resources, and Hafenfeld Ranch would retain its ability to move cattle between project and BLM parcels. All current points of access to BLM land from the project parcels would continue unhindered. There would be no loss of access to public grazing land and no loss of use of public grazing land. Therefore, the project impact on public grazing land would less than significant.

The BLM permit for the RCA is tied to a base property controlled, but not currently owned, by Hafenfeld Ranch (Figure 4-1). This base property is not included in the acquisition parcels and its ownership is unaffected by the proposed project. As such, the Hafenfeld Ranch would retain its ability to use its base property to secure future BLM grazing permits for the RCA pastures under the BLM Livestock Grazing Regulations.

The OHMVR Division would determine the future of cattle grazing on the acquired property through a general plan process involving land owners, public agencies, and other stakeholders (Project Description, Section 1.1). If the adopted general plan excluded grazing as a designated use of park property, the cattle operator would lose key facilities associated with the project parcels (see Section 4.2.5). This could affect the operator's ability to use BLM parcels.

The interspersed locations of private and public grazing lands make cattle operations dependent upon both lands. The loss of access to and passage through the proposed acquisition parcels could impair the ability of the livestock operator to herd cattle between non-contiguous BLM parcels (Figure 4-2). This could render parts of the RCA inaccessible and therefore unavailable to the livestock operator holding future BLM grazing permits. Thus, the loss of access to state land could result in the loss of at least some BLM grazing land under cattle production. While the BLM land would not be converted to a non-agricultural use, the loss of ability to use the land through access issues could still create a loss of functional public grazing land. Given that the future of grazing on the project parcels would be determined by a separate planning process subsequent to the acquisition project, it is uncertain whether loss of grazing on OHMVR Division land would occur. As a result any impact to public grazing land resulting from a potential future loss in grazing on state land is speculative.

The AUMs permitted by BLM take into consideration the availability of forage on private parcels available to the permit holder. If the ReNu parcels within the RCA are removed from production due to OHMVR Division ownership, BLM could reduce the AUMs permitted to the livestock operator in the RCA permit, which considers the availability of forage on private grazing land in its AUM calculations. While a reduction in permitted AUMs is not a direct loss of agricultural land, the effect could be a loss of agricultural production on the public grazing land. As stated above, the future of grazing on the state parcels would be decided in a separate planning process subject to the acquisition project. As a result, any loss of production values on public grazing land resulting from a potential future loss in grazing on state land is speculative.

4.4 CUMULATIVE IMPACTS

Because the acquisition project would not eliminate or significantly curtail grazing, the acquisition of the ReNu parcels and management of those parcels would not contribute to cumulative impacts on agricultural resources (as related to rangeland) in the project area and vicinity. Furthermore, grazing on the acquisition parcels in the RCA is subject to a permit issued by BLM. The permit specifies the grazing conditions in the allotment.

4.5 MITIGATION MEASURES

The acquisition of the ReNu properties and interim management of those properties would not create any agricultural or forestry resource impacts that would warrant the use of mitigation measures.

Figure 4-1. Project Area Grazing Allotments

Figure 4-2. Grazing Features

CHAPTER 5 AIR QUALITY

This chapter summarizes the regulations governing air quality in the acquisition area and evaluates the project's potential impacts on air quality resources from mobile source emissions and fugitive dust. Direct mobile source air emissions would occur from OHMVR Division vehicles performing operation and maintenance duties. Visitor's travel to and from the project site and OHV use on the trails are indirect mobile air emission sources. The potential for dust particles to contain valley fever spores is addressed in Chapter 10.

5.1 REGULATORY SETTING

5.1.1 Ambient Air Quality Standards

The Clean Air Act (CAA) establishes federal standards known as National Ambient Air Quality Standards (NAAQS). The CAA requires states to submit a State Implementation Plan (SIP) for areas not in attainment with NAAQS. The CAA also sets forth provisions regarding mobile sources such as gasoline reformulation and tailpipe emissions standards and establishes the regulatory process for evaluating emissions from stationary sources – New Source Review (NSR) for non-attainment pollutants and Prevention of Significant Deterioration (PSD) for attainment pollutants. The California Clean Air Act (California CAA) establishes state standards known as the California Ambient Air Quality Standards (CAAQS). In general, the CAAQS are more stringent than the corresponding NAAQS. Table 5-1 summarizes the NAAQS and CAAQS.

Table 5-1. Summary of National and California Ambient Air Quality Standards

Pollutant	Averaging Time	NAAQS		CAAQS
		Primary	Secondary	
CO	1-hour	35 ppm(A)	-	20 ppm
	8-hour	9 ppm(A)	-	9 ppm
Lead	30 Day Average	-	-	1.5 µg/m^3
	Calendar Quarter	1.5 µg/m^3	1.5 µg/m^3	-
	3 month Average	0.15µg/m^3	0.15 µg/m^3	-
NO_2	1-hour	0.100 ppm(B)	-	0.18 ppm
	Annual	0.053 ppm	0.053 ppm	0.030 ppm
Ozone	1-hour	-	-	0.09 ppm
	8-hour	0.075 ppm(C)	0.075 ppm(C)	0.070 ppm
PM_{10}	24-hour	150 µg/m^3 (D)	150 µg/m^3 (D)	50 µg/m^3
	Annual	-	150 µg/m^3 (D)	20 µg/m^3
$PM_{2.5}$	24-hour	35 µg/m^3 (F)	35 µg/m^3 (E)	-
	Annual	15.0 µg/m^3 (E)	12.0 µg/m^3 (F,G)	12 µg/m^3
SO_2	1-hour	75 ppb	-	0.25 ppm
	3-hour	-	0.5 ppm(A)	-
	24-hour	0.14 ppm(A)	-	0.04 ppm
	Annual	0.030 ppm	-	-

Table 5-1. Summary of National and California Ambient Air Quality Standards

Pollutant	Averaging Time	NAAQS		CAAQS
		Primary	Secondary	
Sulfates	24-hour	-	-	25 µg/m^3
H_2S	1-hour	-	-	0.03 ppm
Vinyl chloride	24-hour	-	-	0.01 ppm
Visibility reducing particles	8-hour	-	-	See footnote (H).

KEY: µg/m3 = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion; SO_2 = Sulfur dioxide; H_2S = hydrogen sulfide

Source: CARB 2012

Notes:
(A) Not to be exceeded more than once per year.
(B) The 3-year average of the 98th percentile of the daily maximum 1-hour average.
(C) To attain this standard, the 3-year average of the fourth highest daily maximum 8-hour average concentration must not exceed the standard.
(D) Not to be exceeded more than once per year on average over 3 years.
(E) To attain this standard, the 3-year average of the 98th percentile must not exceed the standard.
(F) The 3-year average of the 98th percentile of 24-hour concentrations within an area must not exceed the standard.
(G) On December 14, 2012 the EPA lowered the annual standard for PM2.5 to 12.0 µg/m3. The EPA anticipates making initial attainment/nonattainment designations by December 2014.
(H) Extinction coefficient of 0.23 per km visibility of 10 miles or more due to particles when relative humidity is less than 70 percent.

In California, air quality is governed by the California Air Resources Board (CARB). The state is geographically divided into 15 air basins defined by geographic features such as valleys and mountains. Air quality within these basins is managed by 35 different air districts, which are called Air Quality Management Districts (AQMD) or Air Pollution Control Districts (APCD). These agencies are county or regional governing authorities that have primary responsibility for monitoring and enforcing state and federal air quality standards. Each air district sets its own regulations for air pollutant emissions in order to achieve compliance with federal and state ambient air quality standards. These thresholds are used by the air districts as a screening level to see if proposed emissions from stationary sources should be subject to further review such as NSR or PSD. The off-highway mobile sources of the proposed project are not subject to air district NSR or PSD.

Agencies assess the air quality of an area and determine its status in attaining compliance with ambient air quality standards. The EPA compares ambient air criteria pollutant measurements with the NAAQS. Similarly, CARB compares air pollutant measurements with CAAQS. Based on these comparisons, regions are placed in one of the following categories:

Attainment (A). A region is "in attainment" if monitoring shows ambient concentrations of a specific pollutant are less than or equal to NAAQS or CAAQS. In addition, an area that has been re-designated from nonattainment to attainment is classified as a "maintenance area" for 10 years to ensure that the air quality improvements are sustained.

Nonattainment (NA). If the NAAQS or CAAQS are exceeded for a pollutant, the region is designated as nonattainment for that pollutant.

Unclassified (U). An area is unclassified if the ambient air monitoring data are incomplete and do not support a designation of attainment or nonattainment.

5.1.2 Air Pollutants

The following describes the most common air pollutants associated with the existing activities in the acquisition area and the proposed project-related activities (i.e., mobile sources). Air pollutants not commonly associated with existing or proposed sources in the acquisitions area, such as lead, SO2, Sulfates, H2S, vinyl chloride, and visibility reducing particles, are not described below.

Particulate Matter (PM). Particulate matter is small diameter solid particles or liquid droplets suspended in the air. Particulate matter may be produced by natural causes (e.g., pollen, ocean salt spray, soil erosion) and by human activity (e.g., road dust, agricultural operations, fuel combustion products, wood burning, rock crushing, cement production, and motor vehicles). Of greatest concern to public health are the particles small enough to be inhaled into the deepest parts of the lung. These particles are less than 10 microns in diameter – about 1/7th the thickness of a human hair – and are known as PM_{10}. Regulation is also now focusing on a class of smaller fine particulate matter known as $PM_{2.5}$ comprising particles less than 2.5 microns in diameter.

Exposure to particle pollution is linked to an increased frequency and severity of asthma attacks and bronchitis, and even premature death in people with existing cardiac or respiratory disease. In addition to health impacts, these particles can reside in the atmosphere for long periods of time and are the main contributors to reduced visibility.

Diesel Particulate Matter (DPM). DPM is a carcinogen regulated as a Toxic Air Contaminant (TAC) separately from its contribution to PM_{10} and $PM_{2.5}$ pollution. Diesel exhaust contains carcinogenic polycyclic aromatic hydrocarbons, arsenic, benzene, and formaldehyde.

Nitrogen Oxides (NO_x). Nitrogen dioxide (NO_2), a toxic reddish-brown gas, and nitric oxide (NO), a colorless gas, comprise NO_x. Because NO_x is an ingredient in the formation of ozone, it is referred to as an ozone precursor. Both NO_2 and NO are produced as a result of fuel combustion. NO_2 is associated with adverse health effects such as breathing difficulties at high concentrations and is formed in the atmosphere when NO is oxidized to NO_2. NO_2 further oxidizes to form nitric acid when dissolved in atmospheric moisture, forming a component of acid rain and by further reaction to nitrate ion, which contributes to fine particulate (PM_{10}). NO_2 itself is a weak greenhouse gas (GHG) but when returned to earth in the form of nitric acid, it is then reduced to nitrous oxide (N_2O) by soil bacteria. Nitrous oxide absorbs about 310 times as much energy (heat) than an equal weight of carbon dioxide (CO_2).

Carbon Monoxide (CO). CO is a colorless, odorless gas resulting from incomplete combustion of carbon-containing fuel. CO interferes with oxygen uptake by hemoglobin in the blood, and exposure even at low levels leads to headache, nausea, chest pain, and confusion. Prolonged exposure and exposure to higher levels can cause death.

Reactive Organic Gases (ROG). ROG are also termed hydrocarbons (HC) or volatile organic compounds (VOC). A broad class of organic gases can react with NO_x in the presence of sunlight to create ozone, the principal chemical in smog. Except for a few toxic air contaminants like benzene, ROG are rarely of direct concern as air pollutants. They are regulated primarily for their potential to contribute to ozone formation.

Ozone. Ozone is a gas composed of three oxygen atoms. It is not usually emitted directly into the air, but at ground level is created by a chemical reaction between NO_x and ROG in the presence of sunlight. Ozone is typically a seasonal problem, occurring from May through October when warm weather and more intense sunlight accelerate ozone formation. Sources for the pollutants that react to form ozone include motor vehicles, power plants, factories, chemical solvents, combustion products from various fuels, and consumer products. Health effects

associated with ozone are related to the body's respiratory system. When ozone levels are high, people with lung disease (e.g., chronic bronchitis, emphysema, and asthma) are particularly susceptible to adverse health impacts.

5.1.3 Air Quality Regulations

Recreational-related emissions from visitor travel and OHV use are subject to a combination of federal, state, and local emissions regulations. A description of these regulations is presented below.

5.1.3.1 Federal Clean Air Act

The CAA establishes EPA's responsibilities to protect and improve the nation's air quality. EPA oversees the implementation of federal programs for setting air quality standards, permitting new and modified stationary sources, controlling toxic air contaminants, and reducing emissions from motor vehicles and other mobile sources. EPA also requires that each state prepare and submit a SIP that consists of background information, rules, technical documentation, and agreements that an individual state will use to attain compliance with the NAAQS within federally-imposed deadlines. State and local agencies implement the plans and rules associated with the SIP, but the rules are also federally enforceable.

5.1.3.2 California Clean Air Act

The California CAA establishes a statewide air pollution control program for California. CARB is the primary administrator of the California CAA. CARB's main responsibilities are to develop, adopt, implement, and enforce the state's motor vehicle pollution control program; administer and coordinate the state's air pollution research program; adopt and update the state's ambient air quality standards; review the operations of the local air pollution control districts; and review and coordinate the state's SIP for achieving federal ambient air quality standards.

The SIP for demonstrating attainment of the 1997 federal 8-hour ozone standard was adopted by CARB and the local air districts in California and submitted to the EPA in 1997. In August 2009, CARB submitted SIP revisions to EPA to account for emission reductions from the regulations adopted in 2007 and 2008, including a commitment for emission reductions in the San Joaquin Valley and Mojave Desert areas.

5.1.3.3 Eastern Kern Air Pollution Control District

CARB divides the state into 15 air basins based on geographic and meteorological features. One or more local air districts administer air quality management within each basin. These air districts develop local air quality/pollutant regulations and prepare air quality plans that set goals and measures for achieving attainment with ambient air quality standards. The districts also develop emission inventories, collect air monitoring data, and perform dispersion modeling simulations to establish strategies to reduce emissions and improve air quality. Local air regulations and air quality plans include measures to reduce air pollutant emissions from industrial facilities, commercial processes, motor vehicles, and other sources. The project is located within the Mojave Desert Air Basin (MDAB) under the jurisdiction the Eastern Kern Air Pollution Control District[4] (EKAPCD).

The EKAPCD has primary responsibility for regulating stationary sources of air pollution situated within its jurisdictional boundaries. To this end, the EKAPCD implements air quality

[4] On May 13, 2010, the Kern County APCD Governing Board formerly changed the name of the district to Eastern Kern APCD. When this document cites reports prepared by the APCD prior to 2010, the reference includes the prior district name of Kern County APCD. Both Eastern Kern APCD and Kern County APCD mean the same agency.

programs required by state and federal mandates, enforces rules and regulations based on air pollution laws, and educates businesses and residents about their role in protecting air quality. The following rules and regulations are potentially applicable to the proposed project.

Rule 201 and Rule 210.1. Rule 201 establishes permitting requirements for stationary sources. Rule 210.1 establishes stationary source offset levels for new and modified stationary sources of air pollutants. For the proposed project no stationary sources such as emergency engines were identified that would require air quality permitting or offsets.

Rule 402 – Fugitive Dust. Rule 402 of the EKAPCD's rules and regulations addresses significant man-made dust sources from large operations. A large operation is defined as "any active operation, including vehicle movement on unpaved roadways, on property involving in excess of 100 contiguous acres of disturbed surface area, or any earth-moving activity exceeding a daily volume of 7,700 cubic meters (10,000 cubic yards) three times during the most recent 365-day period." Under Section IV, Exemptions, the proposed project is exempt from Rule 402. According to the Rule, "Officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and County regional parks" are exempt from fugitive dust emissions regulations.

Rule 419 – Nuisance. Rule 419 states that a person shall not discharge from any source whatsoever such quantities of contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or that endanger the comfort, repose, health, or safety of such persons or the public or that cause or have a natural tendency to cause injury or damage to business or property.

Kern County

The Kern County General Plan, adopted on September 22, 2009, contains the following goals and policies relevant to the proposed acquisition project.

Chapter 1 – Land Use, Conservation, and Open Space Element

Goal

- Goal 1. Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

Policies

- Policy 21. The County shall support air districts efforts to reduce PM_{10} and $PM_{2.5}$ emissions.
- Policy 22. Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the EKAPCD toward air quality attainment with federal, state, and local standards.

Implementation Measures

Measure F. All discretionary permits shall be referred to the appropriate air district for review and comment.

5.2 ENVIRONMENTAL SETTING

Air quality is a function of pollutant emissions and topographic and meteorological influences. The physical features and atmospheric conditions of a landscape interact to affect the movement and dispersion of pollutants and determine its air quality.

5.2.1 Meteorology and Topography

The project area is located in Southern California, within the MDAB. EKAPCD is the primary agency responsible for monitoring and maintaining air quality in the portion of the MDAB where the project area is located, which is in Eastern Kern County. Characteristic of a desert climate, the MDAB has extreme daily temperature changes, low annual precipitation, strong seasonal winds, and mostly clear skies. The project area is characterized by high summer temperatures, with the mean maximum temperatures in July and August exceeding 100 degrees Fahrenheit (°F). Winter temperatures are more moderate, with mean maximum temperatures in the 60s, and lows in the 30s. Minimum temperatures below freezing (32°F) occur on an average of about 30 days per year. The average annual precipitation is less than six inches with over 78 percent of the precipitation occurring between November and March. There is, however, a summer thunderstorm season from July to September with violent heavy precipitation that occasionally produces flash flooding. May and June are usually the driest months. For 2012, wind data collected from the nearest weather station to the project area, located in Jawbone Canyon, indicated that the average wind speed for the project area was approximately 14 miles per hour (mph) from the west-southwest, with gusts up to 80 mph annually (National Weather Service 2012). Wind speeds are lower and more consistent between the months of July and October. This weather station is part of the Remote Automated Weather Stations system, which is a network of weather stations run by the USFS and BLM. These high sustained winds are capable of generating fugitive dust emissions from uncovered and unpaved surfaces, such as construction sites, unpaved roads, and bare (i.e., not vegetated) fields or other areas.

The most significant large-scale phenomena affecting air quality in the project area are the transport winds from the south and the west. These winds are responsible for bringing ozone and other pollutants through the mountain passes from the Los Angeles Basin (Cajon and Soledad Passes) and the San Joaquin Valley (Tehachapi Pass). Pollutant transport into the MDAB is the primary reason for the periods of national and California ozone standard violations. CARB recognizes MDAB as an area affected by transported pollutants from upwind air basins or regions. The relative contributions of upwind emissions to downwind state ozone ambient air quality standard exceedances are classified as “overwhelming,” “significant,” “inconsequential,” or some combination thereof. MDAB is assessed as overwhelming, significant, and inconsequential from the South Coast Air Basin to the Mojave Desert and overwhelming and inconsequential from the San Joaquin Valley Air Basin.

The MDAB consists of an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the presence of the Sierra Nevada, which poses a natural barrier to the north; air masses pushed onshore in southern California by differential heating are channeled through the MDAB. The MDAB is separated from the southern California coastal and central California valley regions by mountains whose passes from the main channels for these air masses.

5.2.2 Sensitive Receptors

Sensitive receptors to air quality impacts are generally defined by air districts as facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, convalescent facilities, and residential areas are examples of sensitive receptors. The project area is in a remote area location where only a few scattered residences and businesses are located. The area has long been used by OHV enthusiast for recreation, with several hundred and even thousands of recreationists gathering in the area during holiday weekends.

5.2.3 Attainment Status

The portion of the MDAB where the project acquisition parcels are located, is currently designated as nonattainment for 1-hr ozone (CAAQS only), 8-hr ozone (2008 NAAQS and CAAQS), and PM_{10} (CAAQS only). Also, it is designated as attainment or attainment/unclassifiable for 1-hr ozone (NAAQS only), PM_{10} (NAAQS only), and $PM_{2.5}$ (NAAQS and CAAQS). Table 5-2 shows the attainment status of the EKAPCD.

Table 5-2. Attainment Status of the Proposed Project Area

Pollutant	NAAQS	CAAQS
CO	A/U	U
Lead	A/U	A
NO_2	U	A
Ozone	A	NA
PM_{10}	A/U	NA
$PM_{2.5}$	A/U	U
SO_2	U	A
KEY: *A attainment* *U unclassifiable*	*A/U attainment unclassifiable* *NA not applicable*	
Source: EKAPCD 2012a		

On April 15, 2004, the EPA designated areas in the United States that violated the federal 8-hour ozone standard. As a result, each nonattainment area was assigned an attainment deadline based on the severity of its ozone problem. EKAPCD developed an ozone redesignation request and maintenance plan for the federal 1-hour ozone standard in 2003. The eastern portion of Kern County was determined to be in attainment of the 1-hour ozone standard by the USEPA in 2004 and deemed a maintenance area. The EKAPCD is in the process for being reclassified for the 8-hour ozone standard, and USEPA is reconsidering the level of the federal 8-hour ozone standard, so the initial 8-hour ozone standard attainment plan is not yet available. The 1-hour ozone maintenance plan remains in force until such time as the 8-hour attainment plan is approved. The 1-hour ozone maintenance plan requires no new control measures for maintaining attainment of the 1-hour standard.

The KCAPCD California CAA Ozone Air Quality Attainment Plan was approved by CARB on February 18, 1993. The EKAPCD's most recent Annual Implementation Progress Report for this attainment plan was completed in 2005, and will likely be updated at the same time as the initial federal 8-hour ozone attainment plan is due.

5.2.4 Mobile Source Emissions

Estimated mobile source emissions for the portion of Kern County located in the MDAB for the year 2010 are presented in Table 5-3 (see Appendix D). For the purposes of background data and this air quality assessment, this analysis relied on data collected for only mobile source emissions for the county and air basin. Stationary and area-wide emissions would not likely change as a result of the proposed land acquisition project. The proposed project would have an incremental change to mobile source emissions due to an increase in OHV use and in park maintenance and operations activities such as garbage pick-up, facilities maintenance, signing, fencing, and ongoing maintenance of trails and access corridors.

Table 5-3. 2010 Estimated Annual Average Emissions, Kern County – Mojave Desert Air Basin (Tons per Day)

Mobile Sources	ROG	CO	SO_x	NO_x	PM_{10}	$PM_{2.5}$
On-Road Motor Vehicles	4.68	45.12	0.04	22.27	1.00	0.81
Light Heavy Duty Diesel Trucks	0.01	0.07	0.00	0.24	0.00	0.00
Other Mobile Sources	5.76	27.72	0.37	11.30	3.26	3.19
Off-Road Recreational Vehicles	0.18	0.53	-	0.00	0.00	0.00
Total Mobile Sources(A)	**10.44**	**72.84**	**0.41**	**33.57**	**4.25**	**4.00**

(A) Totals may not sum due to rounding.
Source: CARB 2009

5.3 PROJECT IMPACTS

5.3.1 Thresholds of Significance

The California Natural Resources Agency has developed guidelines to address the significance of air quality impacts based on Appendix G of the State CEQA Guidelines. These thresholds have been adopted by the EKAPCD in their CEQA Guidelines (KCAPCD 1999). According to the EKAPCD CEQA Guidelines, a proposed project would not have a significant impact on air quality if operation of the proposed project would:

- Emit (from all project sources subject to EKAPCD Rule 201) less than offsets trigger levels set forth in Subsection III.B.3. of EKAPCD's Rule 210.1 (New and Modified Source Review Rule);
- Emit less than 137 pounds per day of NO_x or Reactive Organic Gas (ROG) from motor vehicle trips (indirect sources only);
- Not cause or contribute to an exceedance of any California or national AAQS;
- Not exceed the EKAPCD health risk public notification thresholds adopted by the EKAPCD Board; and
- Be consistent with adopted federal and state Air Quality Attainment Plans.

The project does not propose stationary source emissions and is therefore not subject to permit requirements from EKAPCD Rule 210.1. Thus, this impact is not further analyzed in this chapter.

5.3.2 Proposed Air Quality Management Measures

By bringing private property under public agency management, the proposed acquisition project would allow the OHMVR Division to better manage OHV recreation and steward air resources (Project Description, Section 2.3).

Strategic Plan Objective 1.5, Dust Monitoring and Management Plan. OHMVR Division ownership would result in management in accordance with the OHMVR Division's Strategic Plan. This plan describes five guiding principles and adopts a framework of six goals for the OHMVR Division to meets its legislative mandates (OHMVR Division 2009). The OHMVR Division will adhere to the guiding principles outlined in its Strategic Plan during management and operation of the acquired lands, including the principles of sustainability, transparency in decision making, and use of sound data for management decision making. Specifically, as outlined in Objective 1.5 of the Strategic Plan, this includes an aim to reduce the amount of dust generated by OHVs by 2014 through the implementation of a dust monitoring and management program.

In addition, as noted in Section 8.3.2, the OHMVR Division would address potential erosion issues (and, by association, fugitive dust) in accordance with its 2008 Soil Conservation Standard.

5.3.3 Emissions of NOx or Reactive Organic Gas (ROG) from Motor Vehicle Trips

The proposed project comprises OHMVR Division acquisition of the ReNu parcels. No significant construction activities are planned as part of the acquisition. Only very minor projects, such as fence and sign installation, addition or modification of vault toilets, or trail realignment to protect sensitive resources, are foreseeable, and as a result, the project does not have the potential for significant temporary or short-term air quality impacts from development projects.

OHMVR Division ownership and land management would include ongoing maintenance activities such as garbage pick-up, facilities maintenance, maintenance of trails and access corridors, and resource management activities. These maintenance activities may increase somewhat in frequency. General park operations would include patrols, public safety and law enforcement, medical aid, and emergency response to law enforcement and medical aid calls. These operation and maintenance activities would result in new mobile source emissions from service vehicles.

The amount of OHV use occurring in the project area could slightly increase in response to OHMVR Division ownership of the project parcels. The project would not result in expanded OHV opportunities such as new trails or open riding areas. For the purposes of this EIR, the OHMVR Division assumes that the project could result in a 1% increase in visitor use above baseline levels (see Section 2.5.2).

Approximately 180,000 OHV users visited the project area in 2012. This level of visitor use constitutes the baseline for assessing the physical changes in the air quality environment that would occur as a result of the project. A 1% increase in visitation equals a net increase of 1,800 visitors per year. Assuming that 40% of these visitors carpool or arrive in multiple-occupancy vehicles, the project may result in approximately 2,160 more passenger vehicle visitor trips per year (1,800 visitors x 2 trips per visitor x 0.6 vehicles per visitor). These trips would be spread throughout the year; however, this analysis assumes that this potential increase would occur only on weekends or holidays. Thus, the project could result in an increase of approximately 21 trips per day to the project area on a weekend or holiday (2,160 annual visitor trips / 104 weekend days). Using this trip rate, a screening-level emissions analysis was conducted using URBEMIS

2007 software (Appendix D). Each trip was assumed to travel at 65 miles per hour and last a distance of 50 miles. The trip distance assumption is based on the distance traveled within the EKAPCD by a visitor coming from Bakersfield (in Kern County, to the west) or Lancaster (in Los Angeles County, to the south). The results of the screening analysis, based on the assumptions described above, indicated that an increase in 21 vehicle trips per day results in an approximately 0.79 pounds per day of NO_x emissions and 0.24 pounds per day of ROG emissions (see Table 5-4).

The mobile source emissions associated with OHV activity and park management operations that may occur as a result of OHMVR Division acquisition would not result in daily emissions increases that are substantially different than visitor passenger vehicle trips. Based on the 2010 mobile source emissions inventory for Kern County MDAB presented in Table 5-3, a 1% increase in light heavy duty diesel truck (LHDV1; assumed to represent park management trips) and off-road recreational vehicle emissions (assumed to represent OHV trips) would result in a combined increase of 4.8 pounds per day and 3.8 pounds per day of NOx and ROG, respectively (see Table 5-4). Thus, total project-related emissions associated with a 1% increase in visitor trips, park management trips, and OHV trips would be approximately 5.6 pounds per day of NOx and 4 pounds per day of ROG. This estimate of potential project emissions overestimates emissions attributable to park management and OHV trips because county-wide data for 2010 was used to derive the 1% increase in activity potentially associated with the project (i.e., actual park activity levels would be less than the activity levels used to generate the county's emissions inventory). The project, therefore, would not exceed the EKAPCD's CEQA threshold for mobile vehicle trips of 137 pounds per day of NOx or ROG. The impact is less than significant.

Table 5-4. Project Mobile Source Emissions

	Daily Emissions (lbs/day)	
	NOx	ROG
Visitor Passenger Vehicles, On Road Vehicles	0.79	0.24
Visitor Off Road Recreational Vehicles	<0.0	3.6
Park Management Vehicles, On Road Vehicles	<4.8	0.2
Total Project Emissions	5.59	4.04
Significance Threshold	137	137

Source: TRA Environmental Sciences 2013

5.3.4 California and National Ambient Air Quality Standards

As presented above, the portion of the MDAB (i.e., the area under the jurisdiction of EKAPCD), where the project acquisition parcels are located, is currently designated as nonattainment for 1-hr ozone (CAAQS only), 8-hr ozone (NAAQS and CAAQS), and PM_{10} (CAAQS only). The proposed project would not introduce new uses or stationary sources to the project area beyond existing conditions. The project does not have the potential to emit the ozone precursors NOx or ROG in levels that exceed EKAPCD CEQA significance thresholds and would therefore not exceed ambient air quality standards for ozone. Similarly, the project does not have the potential to emit lead, SO2, sulfates, H2S, or vinyl chloride in amounts that exceed air quality standards.

The incremental increase in OHV and park management operations on unpaved roads would generate fugitive dust. Some special events could also generate fugitive dust, although as noted in Section 2.5.2.2, no new events have been suggested or proposed. Any fugitive dust impact would be less than significant, however, because the project would not conflict with EKAPCD

Rule 402, and any potential fugitive dust emissions that the project's incremental increase in OHV and park management operations may generate would be infrequent, intermittent, and of low enough magnitude so as not to exceed established daily or annual standards for PM10 and PM2.5. The less than significant magnitude of this impact would be further reduced through the OHMVR Division's implementation of its Soil Conservation Standard, which addresses areas susceptible to erosion and, by association, fugitive dust. Therefore, the proposed project would not contribute to an exceedance of any NAAQS or CAAQS. The impact is less than significant.

5.3.5 EKAPCD Health Risk Public Notification Thresholds

According to the EKAPCD's CEQA guidelines, project emissions would be a significant impact if they result in exposure of sensitive receptors to emissions exceeding public notification thresholds adopted by the EKAPCD Board. These thresholds include a cancer risk greater than or equal to 10 in a million and/or a Hazard Index (non-cancerous) greater than or equal to one. Risks would be associated with emissions of toxic air contaminants (TACs), such as diesel particulate matter and other substances.

DPM is a TAC that would be emitted during construction. However, significant construction activities are not associated with the acquisition project. TACs (DPM and TACs from gasoline) are also emitted in trace amounts from motor vehicles. OHV and on-road vehicles used by visitors and by OHMVR Division staff (for inspection and maintenance activities) would not result in significant emissions of TACs because federal and state requirements have mandated cleaner burning fuels and technological controls such as catalytic converters. The project's incremental increase from additional visitors and maintenance activities would also not be substantial and the exposure would be non-continuous (i.e., vehicle emissions are not stationary sources and would disperse so that concentrations would be lower with distance). Exposure to a cancer risk greater than or equal to 10 in a million and/or a Hazard Index greater than or equal to one would not occur at any sensitive receptor location as a result of the project. The impact is less than significant.

5.3.6 Federal and State Air Quality Attainment Plans.

The applicable air quality management plan for the MDAB is the Ozone Air Quality Attainment Plan (KCAPCD 1992a). The most recent Implementation Progress Report on the Plan was prepared by the KCAPCD in 2005 (KCAPCD 2005). A "moderate" ozone non-attainment area, EKAPCD has adopted retrofit Reasonably Available Control Technology rules for all sources of ozone precursor emissions in its 2005 progress report. This demonstrates that EKAPCD has adopted all control measures identified in the Air Quality Attainment Plan into its Rules and Regulations, and is demonstrating further progress toward attainment of the ozone CAAQS. The proposed project would comply with applicable rules and would not conflict with or obstruct implementation of the attainment plan. The impact is less than significant.

5.4 CUMULATIVE IMPACTS

As discussed in Section 5.3 above, the project would not result in construction or operational emissions that exceed EKAPCD thresholds of significance and is consistent with local and regional air quality attainment plans. In developing its CEQA significance thresholds, air districts generally consider the emission levels at which a project's individual emissions would be cumulatively considerable. The EKAPCD considers projects that result in emissions that exceed its CEQA significance thresholds to result in individual impacts that are cumulatively considerable and significant. Since the proposed project would not individually exceed any

EKAPCD CEQA significance thresholds, the proposed project would result in less than significant cumulative air quality impacts.

5.5 MITIGATION MEASURES

The above analysis identifies that direct and indirect emissions associated with the project would not result in any individual or cumulatively significant impacts. The on- and off-road equipment that generates project emissions would be subject to federal and state emission standards and regulations that control and reduce project emissions. No mitigation measures are necessary for the project. Additionally, eventual implementation of Strategic Plan Objective 1.5, a dust monitoring and management program should further reduce ongoing air quality emissions from the project area.

CHAPTER 6 BIOLOGICAL RESOURCES

This chapter describes the biological resources occurring in the acquisition area including vegetation communities, wildlife, and special-status species and their governing regulations. The assessment is based on data collected from resource agencies, scientific literature review, and field surveys. It identifies existing effects on these resources from current property uses as part of baseline conditions in the environmental setting. The analysis addresses the impacts to biological resources from OHMVR Division property management activities as well as increased visitor recreational use resulting from the acquisition.

6.1 REGULATORY SETTING

6.1.1 Federal Endangered Species Act

The federal Endangered Species Act (ESA) of 1973 (16 USC §§1531 et seq.) protects fish and wildlife species that are listed as threatened or endangered along with their habitats. "Endangered" refers to species, subspecies, or distinct population segments that are in danger of extinction in all or a significant portion of their range. "Threatened" refers to species, subspecies, or distinct population segments that are considered likely to become endangered in the future.

Federal ESA Section 9 protects federally listed endangered and threatened wildlife species from unlawful take (16 U.S.C. §1538 (a)(1)). "Take" is defined to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 U.S.C. §1532 (19)). "Harm" is defined as an act that "actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR 17.3). The federal ESA also prohibits removing, digging up, cutting, or maliciously damaging or destroying federally listed plants on federal land.

Section 7 of the ESA requires federal agencies, in consultation with and with the assistance of, the Secretary of the Interior or the Secretary of Commerce, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modifications of critical habitat for these species. Critical habitat is defined as specific geographic areas, whether occupied by listed species or not, that are determined to be essential for the conservation and management of listed species, and that have been formally described in the Federal Register. Section 10 of the federal ESA provides a means whereby a nonfederal action with a potential to result in the take of a listed species could be allowed under an incidental take permit. An incidental take permit is required when non-federal activities would potentially result in the take of a threatened or endangered species.

Under the federal ESA, the Secretary of the Interior and the Secretary of Commerce have the authority to list species as threatened or endangered. The ESA is enforced by the USFWS and National Marine Fisheries Service (NMFS). NMFS's jurisdiction under the ESA is limited to the protection of marine mammals, marine fishes, and anadromous fishes; all other species are subject to USFWS jurisdiction. The USFWS also publishes a list of candidate species. Species on this list receive "special attention" from federal agencies during environmental review, although they are not protected otherwise under the ESA. The candidate species are those for which the USFWS has sufficient biological information to support a proposal to list as endangered or threatened.

The USFWS no longer maintains a species of concern list; however, in compliance with the Fish and Wildlife Conservation Act (1980, as amended), the USFWS has identified "species,

subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973." Birds of Conservation Concern 2002 is a compilation of information about bird species of concern that identifies which species are of concern in each region of the country. The project area is within Bird Conservation Regions 15 (Sierra Nevada) and 9 (Great Basin). "Species of concern" are not regulated by the ESA, and take of a species of concern is not prohibited by the ESA and does not require a take permit.

6.1.2 Migratory Bird Treaty Act

The Federal Migratory Bird Treaty Act (MBTA) (16 USC §§703 et seq.) enacted the provisions of treaties between the United States, United Kingdom, Mexico, Japan, and the Soviet Union, and authorizes the Secretary of the Interior to protect and regulate take of migratory birds. The MBTA is administered by the USFWS. It establishes seasons and bag limits for hunted species, and renders taking, possession, import, export, transport, sale, purchase, and barter of migratory birds, their occupied nests, and their eggs illegal except when authorized by a federal permit. Take is defined more narrowly under the MBTA than under the federal ESA and includes only the death or injury of individuals of a migratory bird species or their eggs. As such, take under the MBTA does not include the concepts of harm and harassment as defined under the ESA.

More than 800 species of birds are protected under the MBTA. Specific definitions of migratory bird are addressed in the international treaties. In general, birds that migrate to complete different stages of their life history or to take advantage of different habitat opportunities during different seasons are "migratory birds" subject to the MBTA.

6.1.3 Bald and Golden Eagle Protection Act

The Federal Bald and Golden Eagle Protection Act (16 USC §§668 et seq.) makes it unlawful to import, export, take, sell, purchase, or barter any bald eagle or golden eagle, or their parts, products, nests, or eggs. "Take" includes pursuing, shooting, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing. Exceptions may be granted by the USFWS for scientific or exhibition use, and for cultural use by Native Americans; however, no permits may be issued for import, export, or commercial activities involving eagles.

On November 10, 2009, USFWS implemented new rules (74 FR 46835) governing the "take" of golden and bald eagles. The new rules were released under the existing Bald and Golden Eagle Protection Act, which has been the primary regulation protection for unlisted eagle populations since 1940. All activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity must be permitted by the USFWS under this act. The definition of disturb (72 FR 31132) includes interfering with normal breeding, feeding, or sheltering behavior to the degree that it causes or is likely to cause decreased productivity or nest abandonment.

On February 18, 2011, the USFWS published the Draft Eagle Conservation Plan Guidance (USFWS 2011a). The Draft Eagle Conservation Plan Guidance was developed to provide guidance to wind developers and others applying for permits under the Bald and Golden Eagle Protection Act.

6.1.4 Federal Management Plans: BLM California Desert Conservation Area Management Plan, West Mojave Plan, BLM Sensitive Species

FLPMA was enacted in 1976 for the purposes of establishing a unified, comprehensive, and systematic approach to managing and preserving public lands in a way that protects "the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values." In the context of FLPMA, public lands consist of federally-owned

lands that have not been set aside for national forests and parks, wildlife preservation areas, military bases, or other federal purposes. Under FLPMA, the BLM is required to establish a planning process for the management of public lands that accommodates multiple uses of the land and its resources and achieves sustained yields of natural resources. As a result of Congress enacting FLPMA, the 25-million-acre CDCA was created. Half of the CDCA, 12 million acres of public lands, are administered by BLM. FLPMA directed BLM to inventory CDCA resources and to prepare a comprehensive land-use management plan for the area. The 1980 CDCA Plan, as amended, is based on the concepts of multiple use, sustained yield, and maintenance of environmental quality. The CDCA Plan provides overall regional guidance for management of the public lands in CDCA and establishes long-term goals for protection and use of the California Desert (see Chapter 3, Section 3.1.1).

The project area falls within the boundaries of the West Mojave Plan, which is a CDCA plan amendment and HCP adopted in 2006 that presents a comprehensive strategy to conserve and protect the desert tortoise, the Mohave ground squirrel, and nearly 100 other sensitive plants and animals and associated natural communities. The West Mojave Plan would allow for streamlined project permitting at the state and local level, equitable sharing of costs among participants, and shared stewardship of biotic resources. In March 2006, the BLM issued a ROD for the West Mojave Plan Final EIS (BLM 2006). However, the ROD addressed only the BLM's amendment to the CDCA Plan, and it did not include actions proposed by state and local governments for non-federal lands. The HCP has not been completed and would require greater specificity for state and local governments to obtain incidental take permits under the state and federal ESAs. Such efforts have been re-directed to DRECP, which is described in Chapter 3, Section 3.1.1.

BLM Sensitive Species are species designated by the State Director that are not already federally listed as endangered or threatened. The sensitive species designation is normally used for species that occur on BLM administered lands for which BLM has the capability to significantly affect the conservation status of the species through management. Each State Office of the BLM maintains a list of special-status plant and wildlife species that are to be considered as part of the management activities carried out by the BLM on the lands that they administer.

6.1.5 California Endangered Species Act

CESA, administered by CDFW, protects wildlife and plants listed as "threatened" or "endangered" by the California Fish and Wildlife Commission, as well as species identified as candidates for listing. CESA restricts all persons from taking listed species except under certain circumstances. The state definition of take is similar to the federal definition, except that CESA does not prohibit indirect harm to listed species by way of habitat modification. Section 2080 of the Fish and Game Code prohibits "take" of any species that the California Fish and Wildlife Commission determines to be an endangered species or a threatened species. Take is defined in Fish and Game Code section 86 as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

CDFW maintains lists of animal species of special concern (CSSC) that serve as "watch lists." A CSSC is not subject to the take prohibitions of CESA. The CSSC are species that are declining at a rate that could result in listing under the ESA or CESA and/or have historically occurred in low numbers, and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals and is intended to focus attention on the species to help avert the need for costly listing under federal and state endangered species laws. This designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them.

State agencies should not approve projects as proposed that would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat that would prevent jeopardy (Fish and Game Code §2053). Under sections 2080.1 or 2081(b) of the California Fish and Game Code, CDFW may permit incidental take of species listed under CESA, except for species that are designated as fully protected.

6.1.6 CDFW and CEQA

As a trustee agency, CDFW comments on the biological impacts of projects reviewed under CEQA. CEQA gives CDFW jurisdiction to comment on the protection of habitats deemed necessary for any species to survive in self-sustaining numbers, but does not allow CDFW to govern land use. It stipulates that the state lead agency shall consult with, and obtain written findings from, CDFW in preparing an EIR on a project, as to the impact of the project on the continued existence of any endangered or threatened species (PRC §21104.2).

6.1.7 California Fish and Game Code

The California Fish and Game Code protects a variety of species, separate from the protection afforded under CESA. The following specific statutes afford some limits on take of named species: sections 3503 (nests or eggs), 3503.5 (raptors and their nests and eggs), 3505 (egrets, osprey, and other specified birds), 3508 (game birds), 3511 (fully protected birds), 4700 (fully protected mammals), 4800 et seq. (mountain lions), 5050 (fully protected reptiles and amphibians), and 5515 (fully protected fish).

Section 3503 simply states, “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” The exceptions generally apply to species that are causing economic hardship to an industry. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted.” Section 3505 prohibits taking, selling, or purchasing egrets, osprey, and other named species or any part of such birds. Fully protected species may not be taken or possessed except for scientific research or under an approved NCCP.

6.1.8 California Native Plant Protection Act

The California Native Plant Protection Act of 1977 preserves, protects, and enhances endangered and rare plants in California by specifically prohibiting the importation, take, possession, or sale of any native plant designated by the California Fish and Game Commission as rare or endangered, except under specific circumstances. Various activities are exempted, although take as a result of these activities may require other authorization from CDFW under the California Fish and Game Code.

6.1.9 Regulated Waters

Impacts to stream channels (bed and bank) are specifically addressed by California Fish and Game Code sections 1600 et seq. and may fall under the jurisdiction of the federal Clean Water Act Section 404 and Section 401 permit process and the state Porter-Cologne Water Quality Control Act.

6.1.9.1 Clean Water Act, Section 404

As part of its mandate under the Clean Water Act, the EPA regulates the discharge of dredged or fill material into "Waters of the U.S." under Section 404 of the Act. "Waters of the U.S." include territorial seas, tidal waters, and non-tidal waters in addition to wetlands and drainages that support wetland vegetation, exhibit ponding or scouring, show obvious signs of channeling, or have discernible banks and high water marks. The EPA also regulates excavation and changes in drainage. The discharge of dredged or fill material into waters of the U.S. is prohibited under the Clean Water Act except when it is in compliance with Section 404 of the Act. Enforcement authority for Section 404 was given to the U.S. Army Corps of Engineers (USACE), which it accomplishes under its regulatory branch.

6.1.9.2 Clean Water Act, Section 401

Any applicant for a federal permit to impact waters of the U.S., including wetlands, under Section 404 of the Clean Water Act, including nationwide permits where pre-construction notification is required, must also provide to the USACE a certification from the State of California. The "401 Certification" is provided by the State Water Resources Control Board through the local Regional Water Quality Control Board (RWQCB).

The RWQCB recommends that the application be made at the same time that any applications are provided to other agencies, such as the USACE or the USFWS. Application is not final until completion of environmental review under CEQA. The application to the RWQCB is similar to the pre-construction notification that is required by the USACE. It must include a description of the waters being impacted, a description of how the impact is proposed to be minimized, and proposed mitigation measures with goals, schedules, and performance standards. Mitigation must include a replacement ratio that is greater than 1:1. The RWQCB looks for mitigation that is on site and in-kind, with functions and values as good as or better than the waters being removed.

6.1.9.3 Fish and Game Code Section 1602

Section 1602 requires an entity to notify CDFW of any proposed activity that may substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing pavement where it may pass into any stream, river, or lake. Pursuant to the California Fish and Game Code, a "stream" is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that supports or has supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial drainages valuable to fish and wildlife are also subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water ephemerally during storm events.

Preliminary notification and project review generally occur during the environmental process. A project proponent submits a complete Lake or Streambed Alteration Program notification package and fee to CDFW, which then has 30 days to review the proposed actions and propose measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the project proponent becomes the Lake or Streambed Alteration Agreement. The conditions of an agreement and a Clean Water Act Section 404 permit often overlap.

6.1.9.4 Porter-Cologne Water Quality Control Act

Permit provisions of the Porter-Cologne Water Quality Control Act are enforced by the RWQCB. The intent of the Porter-Cologne Act is to protect water quality and the beneficial uses

of water, and applies to both surface and groundwater. Under this law, the California State Water Resources Control Board develops statewide water quality plans, and the RWQCBs develop basin plans that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under Porter-Cologne include isolated waters that are no longer regulated by USACE. Projects that impact jurisdictional waters must demonstrate compliance with the goals of the Porter-Cologne by developing Storm Water Pollution Prevention Plans, Standard Urban Storm Water Mitigation Plans, and other measures in order to obtain a Clean Water Act Section 401 certification.

6.1.10 California Desert Native Plants Act

The California Desert Native Plants Act protects California desert native plants from unlawful harvesting on both public and privately owned lands within Imperial, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego counties. The following native plants, or any part thereof, may not be harvested except under a permit issued by the commissioner or the sheriff of the county in which the native plants are growing: all species of the Agavaceae (century plants, nolinas [now Ruscaceae], and yuccas); all species of the family Cactaceae; all species of the family Fouquieriaceae (ocotillo); all species of the genus Prosopis (mesquites) and the genus Parkinsonia (palo verdes); catclaw acacia (*Acacia greggii*); desert holly (*Atriplex hymenelytra*); smoke tree (*Psorothamnus spinosus*); and desert ironwood (*Olneya tesota*), both dead and alive (provision 80073). This provision excludes any plant that is declared to be a rare, endangered, or threatened species by federal or state law or regulations, including, but not limited to, the California Fish and Game Code. The fee for the permit to remove any of these plants will not be less than $1 per plant, except for Joshua trees (*Yucca brevifolia*), which will not be less than $2 per plant.

The California Desert Native Plants Act was taken into consideration in this evaluation due to the presence of Joshua trees and other covered species in the project area.

6.1.11 Kern County General Plan

The Kern County General Plan identifies the federal, state, and local statutes, ordinances, or policies that govern the conservation of biological resources that must be considered by Kern County during the decision-making process for any project that could impact biological resources.

Land Use, Open Space, and Conservation Element. The Land Use, Open Space, and Conservation Element of the Kern County General Plan states that the element provides for a variety of land uses for future economic growth while also assuring the conservation of the County's agricultural, natural, and resource attributes. Section 1.10, General Provisions, provides goals, policies, and implementation measures that apply to all types of discretionary projects, including:

Section 1.10.5 – Threatened and Endangered Species Policies

- Policy 27. Threatened or endangered plant and wildlife species should be protected in accordance with state and federal laws.
- Policy 28. The County should work closely with state and federal agencies to assure that discretionary projects avoid or minimize impacts to fish, wildlife, and botanical resources.
- Policy 29. The County will seek cooperative efforts with local, state, and federal agencies to protect listed threatened and endangered plant and wildlife species through the use of

conservation plans and other methods promoting management and conservation of habitat lands.

- Policy 30. The County will promote public awareness of endangered species laws to help educate property owners and the development community of local, state, and federal programs concerning endangered species conservation issues.
- Policy 32. Riparian areas will be managed in accordance with USACE, and the California Fish and Game rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.

Section 1.10.10 – Oak Tree Conservation Policies

- Policy 65. Oak woodlands and large oak trees shall be protected where possible and incorporated into project developments.
- Policy 66. Promote the conservation of oak tree woodlands for their environmental value and scenic beauty.

6.2 ENVIRONMENTAL SETTING

The environmental setting section describes the regional biological setting, local biological setting, and the biological study area. The text also refers to the project area, which includes the parcels proposed for acquisition. The vegetation communities and common wildlife found in the project area are described, and a detailed description of the special-status species known to occur in the project area is provided.

Because the project area already supports lawful OHV use, other recreational uses, and cattle grazing, impacts associated with these activities are considered part of the baseline physical conditions. According to CEQA, in assessing the impact of a proposed project on the environment, the Lead Agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the NOP is published (CEQA Guidelines §15126.2 (a)). As a result, the discussion of biological conditions and how they are affected by ongoing OHV use, other recreational uses, and grazing is presented in the environmental setting section rather than the impact section. The ongoing impacts of these activities are part of the baseline conditions. The impact section discusses how the proposed acquisition would change the baseline conditions.

The assessment is based on recent species-specific and vegetation community surveys, CDFW resources such as the California Natural Diversity Database (CNDDB), personal communication with CDPR, USFWS, and CDFW personnel, and review of the scientific literature on species' life histories, distribution, habitat requirements for breeding and forage, response to human disturbance, and current threats. This assessment was prepared using the following resources:

- Historical and recent photographs including aerial ortho-rectified topography/ photography, historical aerial photography, and current photographs taken during site visits and fieldwork
- Field observations from reconnaissance-level surveys of the acquisition parcels starting in fall 2011
- Field observations from spring and summer 2012 field surveys recommended by state and federal agencies

- CNDDB database queries which included all U.S. Geological Survey [USGS] 7.5-minute quadrangles encompassing the project site and the adjacent USGS quadrangles around the site
- California Native Plant Society (CNPS) rare plant database
- California Consortium of Herbaria plant database
- California Department of Fish and Wildlife's Special Animals list (CDFG 2011)
- Special Vascular Plants, Bryophytes, and Lichens List (CDFG 2012a)
- Inventory of Rare and Endangered Vascular Plants of California (online, 8th Ed.; CNPS 2012)
- Formal contacts with resource agency staff to review agency staff knowledge of onsite habitats and species accounts
- Review of relevant literature on biological resources in and around the project area
- Consultation with wildlife and botanical experts
- Ongoing informal contacts with resource agency staff
- Review of environmental studies from other development projects in the area

6.2.1 Regional Setting

The project area is located at the boundary of the Mojave Basin and Range and the Southern California Mountains ecoregions and includes a diversity of topography, ranging from high desert floor in the eastern area to the foothills of the Piute Mountains and the southern Sierra Nevada in the west. Elevations in the project area range between 2,150 and 7,500 feet above mean sea level and include several prominent ridgelines. In general, the area is rugged and dominated by desert scrub habitat in the eastern, lower elevation portion and by woodland in the western, higher elevation portion.

The Mojave Basin and Range ecoregion contains flat basin topography punctuated by mountains that are lower than the surrounding ranges. The vegetation consists primarily of creosote bush scrub. Much of the Mojave Basin and Range ecoregion is federally owned and there is less grazing compared to nearby regions. The Southern California Mountains ecoregion consists of mountainous terrain and includes the Tehachapi, Piute, and Sierra Nevada ranges. The vegetation consists primarily of chaparral, oak woodland, and coniferous forest.

The Mojave Basin and Range ecoregion is generally characterized by a Mediterranean climate of hot, dry summers and moist, cool winters. Over the last ten years the average precipitation at Jawbone Station, on the west side of the basin, was eight inches, occurring primarily between October and April, with an occasional heavy summer thunderstorm and the potential for flash floods. Snow is not uncommon in this area but contributes very little to the total precipitation. Winters are cold, and days with freezing temperatures are common. Summer temperatures of over 90 °F occur frequently from June to September, sometimes exceeding 102 °F (WRCC 2012).

The majority of the project area is located at a higher elevation than the Jawbone BLM Station, however, and transitions from Mojave Basin and Range ecoregion to the more mountainous terrain of the Southern California Mountains ecoregion. Snow is more common at the higher elevations, and temperatures at the higher elevations are more moderate. Summers are slightly

cooler and precipitation amounts (including snow) are greater in this ecoregion, allowing the landscape to be more densely vegetated.

6.2.2 Local Setting

The project area is situated in a transition zone between the two ecoregions. Land uses include both grazing and recreational uses. Existing development in the area is sparse, and includes rural access roads, producing and non-producing water wells, and cattle ranching and maintenance facilities. The Pacific Crest Trail passes through Parcel K-4 (Figure 2-4). The project area supports a diversity of habitats containing native and non-native species. Habitat disturbance caused primarily by livestock grazing and OHV use ranges from moderate to substantial, although portions of the project area are relatively undisturbed.

The Jawbone-Butterbredt ACEC comprises 187,486 acres and encompasses the majority of the project area (Figure 3-2). The 1982 Sikes Act Plan for Jawbone-Butterbredt ACEC addressed the Sierra/Mojave/Tehachapi Ecotone Wildlife Habitat Management Area, a designated "special area" in the CDCA Plan. The ACEC plan incorporated all of the RCA and the vehicle management boundary agreement between the BLM and the Rudnick Estate Trust. Motorized vehicle routes of travel were designated within the ACEC, which includes both designated wilderness and the Jawbone Canyon Open Area. The Pacific Crest Trail crosses the ACEC as well. The ACEC was established to manage and protect significant cultural and wildlife values of this transition zone between the mountains and the northwestern Mojave Desert.

Unique wildlife habitats present within the Jawbone-Butterbredt ACEC include Butterbredt Spring, an important migratory bird stopover site; potential habitat for the yellow-eared pocket mouse in Kelso Valley; and the vulture and raptor migratory corridor between the Kern River Valley and the Mojave River. The Kelso Creek monkeyflower is a Mojave endemic plant species that occurs almost primarily within this ACEC. Conservation areas for Mohave ground squirrel, Kelso Creek monkeyflower, and Bendire's thrasher (*Toxostoma bendirei*; see below) occur within the Jawbone-Butterbredt ACEC, but only the Bendire's thrasher conservation area occurs within the project area (Figure 3-2).

The West Mojave Plan created a four-unit Conservation Area for the Bendire's thrasher. One of the four units is located in the southern Kelso Valley, within the biological study area (Figure 2-1 Bird Survey Locations in Appendix G), comprising 7,678 acres. The other units are located in Joshua Tree National Park, northern Lucerne Valley, and Coolgardie Mesa. Public lands within this BLM managed Conservation Area total roughly 130,000 acres. BLM may eventually amend the ACEC management plan to include protections and monitoring specifically addressing the Bendire's thrasher (BLM 2005).

6.2.3 Biological Study Area

The biological study area (study area) includes a five-mile radius around the parcels proposed for acquisition. This is because biological resources are dynamic, and project activities could potentially affect resources found in the surrounding area either directly or indirectly. In addition, special-status species found within five miles of the project area were evaluated for the potential to occur in the project area if not already found there. Research about the study area informed the fieldwork, which focused on the acquisition parcels. Field surveys were conducted to map plant communities and to determine the presence/absence of special-status species. Survey methods generally followed guidelines and protocols recognized by state and federal resource agencies. Variation from standard protocols is described where applicable.

6.2.4 Rudnick Common Allotment (RCA)

The acquisition parcels are located within the RCA managed by BLM (see Chapter 4.0 for discussion of BLM grazing management). The BLM has standards and guidelines, approved by the Secretary of the Interior in July 2000, that were prepared in consultation and coordination with three of BLM-California's four Resource Advisory Councils. To assure standards are being met, the BLM Ridgecrest Field Office has three levels of monitoring on grazing allotments (Email comm., Samuel Fitton, 9/12/2012).

Utilization studies are performed usually twice during a grazing season. These studies estimate the amount of current year's growth that has been consumed by livestock. Acceptable levels of growth are generally below 40% usage. The usage is monitored on perennial shrubs and grasses that are known forage species (e.g., desert needle grass [*Stipa speciosa*], sand grass [*S. hymenoides*], four wing salt-bush [*Atriplex canescens*], *Ephedra*, bitterbrush [*Purshia tridentata*], and spiney hopsage [*Grayia spinosa*]). Greater than 40% usage is considered over grazing as it does not leave enough new growth for the plant to carry on its physiological functions properly. Utilization studies are performed by toe-point transects. There are two to five study sites per pasture or allotment.

Vegetation trend studies are performed every 10 years in the spring and summer. Permanent transects have been established in various places recording cover, species richness, and presence or trend of forage species within the overall plant population, bare ground, and litter.

Separately, rangeland health studies are performed every ten years. Representative sites measure Proper Functioning Condition on riparian sites. BLM staff characterize wildlife habitat and record all plant species found on a site for diversity, surface soil characteristics, cryptogramic soil, non-native species, and special-status species. Four health standards are measured: soil permeability, riparian/wetland condition, stream morphology, and native species. In the rangeland health study determination, the standards are deemed met or not met, and if the standards are not met, BLM staff determines if cattle grazing was the cause. The most recent rangeland health study was performed in 2004. The RCA did not meet standards primarily around riparian areas at the time, and cattle were considered a factor. The BLM prescribed a variety of best management practices to be implemented to reduce grazing pressure on riparian areas (BLM 2004).

6.2.5 Vegetation Communities

Vegetation communities are defined by species composition and relative abundance. Vegetation mapping was conducted to characterize habitats within the project area and identify potential suitable habitats where rare plants may occur. The report entitled Botanical Resources Report summarizes survey methods and results and is included in this document as Appendix E. Vegetation communities that occur in the project area are described below and shown on Figure 6-4a-g. The elevation range, soil and vegetation types, and disturbance factors/existing condition in each ReNu parcel are summarized in Appendix I, Table I-1 Summary of Elevation, Soils, Vegetation Types, and Disturbances for the Acquisition Parcels. In general, vegetation communities correspond to alliances or associations described in the second edition of A Manual of California Vegetation (MCV2; Sawyer et al. 2009).

6.2.5.1 Barren and Rock Outcrop

Barren areas have very low cover but fine-textured soil that may be high in clay or alkalinity. White bursage (*Ambrosia dumosa*) is the most common woody species. In 2012, a very dry year, the species richness of annuals was limited, but the special-status species Mojave spineflower

(*Chorizanthe spinosa*; CRPR List 4.2) was detected in this vegetation type. Rock outcrop is used to describe upland areas with rocky substrate and low plant cover.

6.2.5.2 Blackbrush Scrubland

Blackbrush Scrub. Blackbrush scrub (*Coleogyne ramosissima* shrubland alliance) is found on alluvial fans bordering intermountain basins, slopes, upper bajadas (an alluvial plain formed by the merging of several alluvial fans), and rocky highlands. Parent materials are mixed alluvium and colluvium. Soils are thin and sandy with abundant exposed rock. They often have a shallow caliche layer (a hardened deposit of calcium carbonate) and moderate alkalinity. This vegetation type is defined by at least two percent blackbrush in the shrub canopy. Associated species such as Nevada ephedra (*Ephedra nevadensis*), green rabbitbrush (*Ericameria teretifolia*) cheesebush (*Ambrosia salsola*), bladder sage (*Scutellaria mexicana*), or California buckwheat (*Eriogonum fasciculatum*) may exceed the cover contributed by blackbrush on disturbed sites (Sawyer et al. 2009). Blackbrush is a long-lived, low-growing, many-branched shrub with diffuse, shallow roots and a low tolerance of salinity. Plants are drought-deciduous. Typical stands have shallow soils with caliche layers and well-developed cryptogamic crusts. Stands are generally simple and monotypic, with shrubs closely to rather widely spaced. Low soil moisture or cold air drainage set the lower elevation limit for this vegetation type, and cold air temperatures set the upper limit; this vegetation is most common above 3,300 feet in the Mojave Desert (Sawyer et al. 2009). Stands occur abundantly on older geologic soils. Blackbrush is very sensitive to fire, which can spread quickly in closely spaced stands. This species does not sprout after fire and is slow to invade sites once burned.

Blackbrush-creosote Bush Scrub. Blackbrush-creosote bush scrub (*Coleogyne ramosissima-Larrea tridentata-Ambrosia dumosa* Association) is much like the preceding, but was found at the lower elevational limit of blackbrush, where it intergrades with creosote bush (*Larrea tridentata*)-white bursage. Shrubs form an open, sparse layer with limited herbs.

6.2.5.3 Creosote and Bursage Scrub

Creosote and bursage scrub includes three MCV2 alliances: creosote bush scrub, creosote bush-white bursage scrub and white bursage scrub. These alliances are described below.

Creosote Bush Scrub. Creosote bush scrub (*Larrea tridentata* shrubland alliance) is found on alluvial fans, bajadas, and upland slopes. Soils are well drained, and sometimes have desert pavement (Sawyer et al. 2009). This vegetation type is defined by the visual dominance of creosote bush, which may exceed other shrubs in cover except for goldenhead (*Ericameria cooperi*), green rabbitbrush, Nevada ephedra, and white bursage, none of which would have more than double the cover of creosote bush. Creosote bush is a very long-lived shrub with low seedling recruitment. It is evergreen and extremely resistant to high temperatures. This species grows well in deep, sandy soils because of its deep, spreading root systems, but also grows well on poorly developed alluvial soils. In sandy situations on wash terrace deposits, creosote bush may be found with allscale (*Atriplex polycarpa*). Creosote bush is poorly adapted to fire because of its limited sprouting ability and highly flammable resinous foliage (Sawyer et al. 2009).

Creosote Bush-White Bursage Scrub. Creosote bush-white bursage scrub (*Larrea tridentata-Ambrosia dumosa* shrubland alliance) is found on minor washes and rills, alluvial fans, bajadas, and upland slopes. Soils are well-drained, alluvial, colluvial, sandy, and sometimes underlain by hardpan (Sawyer et al. 2009). This vegetation type is defined by both creosote bush and white bursage having at least 1 percent in the shrub canopy, and both species having at least twice the cover contributed by other species (Sawyer et al. 2009). Creosote bush-white bursage represents the major vegetation type of California's hot deserts, where it is the typical vegetation on

bajadas, alluvial fans, and lower slopes. Conditions supporting creosote bush-white bursage may range from extremely hot and dry (with attendant low species diversity) to relatively mild and mesic (with higher species diversity) (Sawyer et al. 2009).

Creosote bush-desert senna scrub (creosote bush-white bursage/desert senna (*Senna armata*) association) is a subset of the creosote bush-white bursage alliance that is found in relatively stable desert washes.

White Bursage Scrub. White bursage scrub (*Ambrosia dumosa* shrubland alliance) is found on older washes and river terraces, alluvial fans, bajadas, rocky hills, partially stabilized and stabilized sand fields, and upland slopes. Soils are sandy, clay-rich or calcareous and may have desert pavement surfaces (Sawyer et al. 2009). Desert pavements are surfaces of closely packed angular or rounded rock fragments, commonly only one or two fragments thick, which form a mosaic in a matrix of fine sediment. This vegetation type is defined by white bursage having more than twice as much absolute cover as creosote bush, or white bursage exceeds the cover of other subshrubs. White bursage is a short-lived shrub with relatively shallow roots. It dominates sandy substrates, rocky hills or alluvial fans, and particularly older soils with caliche (calcium carbonate) or clay layers. The geographic distribution of white bursage scrub is similar to that of creosote bush, and the two species, together with Acton's encelia (*Encelia actonii*), form large areas with varying proportions of these shrubs. White bursage is sensitive to fire because it has limited ability to re-sprout.

6.2.5.4 Desert Wash and Terrace

Desert wash and terrace includes three MCV2 alliances: cheesebush scrub, allscale scrub and rubber rabbitbrush scrub; and one mixed scrub type with no single dominant species: desert wash. These vegetation types are described below.

Cheesebush Scrub. Cheesebush scrub (*Ambrosia* (=*Hymenoclea*) *salsola* shrubland alliance) is found in valleys, flats, rarely-flooded low-gradient deposits, arroyos, intermittent channels and washes. Soils are alluvial, sandy and gravelly, and disturbed desert pavement. The vegetation type is variously defined as cheesebush having more than five percent absolute cover in the shrub canopy; more than two percent cover in the shrub canopy but more cover than other shrub species; or more than one percent cover with other shrubs less than half the cover of cheesebush (Sawyer et al. 2009). Cheesebush is a short-lived shrub with shallow roots. It colonizes bare mineral soil and also sprouts following damage from flood or fire. It occupies upland sites, such as steep slopes or loose alluvium, as well as bottomland sites. It is a pioneering species after disturbance.

Allscale Scrub. Allscale scrub (*Atriplex polycarpa* shrubland alliance) is found in washes, dissected alluvial fans, rolling hills, terraces, and edges of large, low gradient washes. Soils may be carbonate rich, alkaline, sandy or sandy clay loams. The vegetation type is defined as allscale having more than two percent absolute cover in the shrub canopy, or more than 50 percent relative cover in the shrub canopy. Allscale is an intricately branched shrub that grows to six feet tall. It tolerates moderately saline conditions or dry, non-saline upland sites with shallow water tables. It is sensitive to fire and does not re-sprout if top-killed. Its limited but varied salt tolerance and high drought tolerance interact to define the broad habitat boundaries of the vegetation type (Sawyer et al. 2009).

Rubber Rabbitbrush Scrub. Rubber rabbitbrush scrub (*Ericameria nauseosa* shrubland alliance) is found in all topographic settings, especially sites with disturbance. Soils are well-drained sands and gravels. This vegetation type is defined as having rubber rabbitbrush with two percent or more absolute cover or more than 25 percent relative cover in the shrub canopy (Sawyer et al.

2009). Rubber rabbitbrush is a fast-growing, relatively short-lived, early-successional shrub that establishes after disturbance. It is well-adapted to the regime of periodic disturbance found in washes and fans with intermittent flooding. It is also fire-adapted, sprouting vigorously after a fire. In stable situations without repeated disturbance, rubber rabbitbrush may be replaced by other species.

Desert Wash. Desert wash consists of a mix of rocky canyon, desert wash, and terrace scrub types with generally low cover where the dominant species were present in a fine-textured mosaic and no single species dominance could be defined at the scale of mapping used in the vegetation study. Typical species in this vegetation type include desert baccharis (*Baccharis sergiloides*), sweetbush (*Bebbia juncea*), and shrubby ragwort (*Senecio flaccidus*) in narrow, rocky canyons with subsoil moisture; allscale, cheesebush, rubber rabbitbrush, and white bursage in broader, deeper washes.

6.2.5.5 Joshua Tree Woodland

Joshua tree woodland (*Yucca brevifolia* woodland alliance) is found on gentle alluvial fans, ridges, gentle to moderate slopes with coarse sands, very fine silts, gravel or sandy loams. This vegetation type is defined as having at least one percent cover of Joshua tree, with juniper or pine species having less than one percent absolute cover in the tree canopy (Sawyer et al. 2009). Joshua trees are relatively long-lived plants that typify the Mojave Desert region. Vegetative reproduction is the most common method of propagation, and clonal, multi-stemmed clusters of Joshua trees may be seen throughout its range. There is a high degree of stand-to-stand variation in structure and species composition in Joshua tree woodland (Sawyer et al. 2009); Joshua trees can grow over an open canopy of shrubs or grasses comprised of many species. The fire resistance of Joshua trees increases with age because the thick mat of dried leaves along the trunk decreases with age, and the corky bark of older trunks serves as insulation. Plants respond to fire by sprouting after low-severity fires, but high-severity fires may kill Joshua trees.

Many expressions of Joshua tree woodland were observed over a considerable range of elevation and soil conditions in the survey area:

- Joshua tree/goldenbush woodland
- Joshua tree/white bursage woodland
- Joshua tree/big sage woodland
- Joshua tree/blackbrush woodland
- Joshua tree/Nevada ephedra woodland
- Joshua tree/rubber rabbitbrush woodland
- Joshua tree/California buckwheat woodland
- Joshua tree/creosote bush woodland
- Joshua tree/ lower Mojave mixed woody scrub woodland
- Joshua tree/ upper Mojave mixed woody scrub woodland

6.2.5.6 Grassland

Grassland on the ReNu parcels consists of annual grassland dominated by non-native annual grasses. Annual grassland may be found in all topographic settings and soil textures. It is generally defined as having 80 percent relative cover in the herbaceous layer (Sawyer et al. 2009). In the survey area, the most typical species in this vegetation type is red brome, although

Mediterranean grass is also present in the lower elevations, and cheatgrass is abundant in the higher elevations. None of these species are native to California. Annual grasslands are usually found where a substantial disturbance has removed the native woody vegetation. Fire is one cause, but mechanical disturbance from livestock or vehicular activity can also result in invasion by these non-native grasses.

6.2.5.7 Upper Mojave Woody Scrub

Upper Mojave mixed woody scrub was a category devised for the project area vegetation survey to describe vegetation types found at higher, cooler, and moister sites than creosote bush scrub and white bursage. It includes several specific vegetation types and also is a collective term for a fine-textured mosaic without a single dominant species.

Big Sage Scrub. Big sage scrub (*Artemisia tridentata* shrubland alliance) is found on plains, alluvial fans, bajadas, lower slopes, valley bottoms, seasonal and perennial stream channels, and dry washes. Soils are sandy to loamy, well-drained and deep, but generally not alkaline or saturated for long periods. This vegetation type is defined by big sage having at least two percent absolute cover in the shrub canopy and no other species with greater cover (Sawyer et al. 2009). Shrubs may live to 50 years. Stands are sensitive to fire because shrubs do not sprout after fire.

California Buckwheat Scrub. California buckwheat scrub (*Eriogonum fasciculatum* shrubland alliance) is found on upland slopes, intermittently flooded arroyos, cannels and washes, and rarely flooded low-gradient deposits. Soils are coarse, well drained and moderately acidic to slightly saline. This vegetation type is defined by California buckwheat having more than five percent absolute cover in the shrub canopy; or at least 50 percent relative cover in the shrub canopy (Sawyer et al. 2009). California buckwheat is a semi-woody, many-branching shrub with roots that penetrate to nearly five feet. Stands do well on rocky sites and in shallow soils, and they establish well after disturbance by fire or flood or even heavy grazing.

Nevada Ephedra Scrub. Nevada ephedra scrub (*Ephedra nevadensis* shrubland alliance) is found on dry, open slopes, ridges, breaks with southern exposures, canyons, sides of arroyos, floodplains and washes. Soils are well drained, gravelly or rocky, and may be saline or alkaline. This vegetation type is defined by Nevada ephedra contributing at least two percent absolute cover in the shrub layer. Nevada ephedra is a relatively slow-growing shrub that spreads clonally and may survive for more than 100 years. Stands are common but widely scattered throughout the mid-elevations of the Mojave Desert, and the species is a component of many alliances. Nevada ephedra scrub can include a variety of shrubs such as big sage, green ephedra, bitterbrush, spiny hopsage (*Grayia spinosa*), and blackbrush. Nevada ephedra readily sprouts from the root or crown after low or moderate intensity fires.

Spiny Hopsage Scrub. Spiny hopsage scrub (*Grayia spinosa* shrubland alliance) occupies basins, valleys, bajadas, and mountain slopes. Soils are deep and alluvial, and can vary from alkaline and calcareous clays to sandy soils free of salt accumulations and hardpans. This vegetation type is defined by spiny hopsage contributing at least two percent cover in the shrub canopy and with cover at least as great as any other species (Sawyer et al. 2009). Spiny hopsage is a long-lived, diffusely branched shrub that reaches nearly five feet in height. Stands are small but widespread in the Mojave Desert. They usually occur at elevations higher than creosote bush scrub and lower than big sage. Shrub density and cover tend to increase with stand age. The state rank of this alliance is S3, meaning it is a sensitive alliance in California.

Upper Mojave Mixed Woody Scrub. This vegetation type is a catch-all for vegetation dominated by a variety of species in a fine-textured mosaic, with no one species dominating a large area. Typical species include spiny hopsage, big sage, bitterbrush, green rabbitbrush, interior

goldenbush, Cooper's box thorn (*Lycium cooperi*), horsebrush (*Tetradymia* spp.), and Nevada ephedra.

Wedge Leaf Ceanothus Scrub. Wedge leaf ceanothus (*Ceanothus cuneatus* shrubland alliance) is found on ridges and upper slopes, on shallow, rocky and well-drained soils (Sawyer et al. 2009). This vegetation type is defined by wedge leaf ceanothus having more than 60 percent cover in the shrub canopy. Wedge leaf ceanothus is an evergreen shrub with thorny, rigid branches that grows to more than 10 feet in height. Stands are often dense, with interlocking crowns that contain considerable dead wood, or stands may be open with much bare ground. The species is an obligate seeder; that is, the plant is killed by fire, but fire breaks seed dormancy, and abundant germination takes place following fire.

Wright's Buckwheat Scrub. Wright's buckwheat scrub (*Eriogonum wrightii* dwarf shrubland alliance) is found on flats, ridgetops, and stony slopes on granitic, sedimentary or serpentinite substrates. Soils are typically loams or clays (Sawyer et al. 2009). This vegetation type is defined by Wright's buckwheat comprising more than 50 percent relative cover in the shrub canopy. Wright's buckwheat is an intricately branched low shrub with gray leaves. Its distinctive, fine-textured, rather dark appearance is easy to discern from a distance. The state rank of this alliance is S3, meaning it is a sensitive vegetation type in California.

6.2.5.8 Lower Mojave Woody Scrub

Lower Mojave mixed woody scrub is a collective term for the vegetation found in the survey area on low-elevation and south-facing slopes, and often in rocky sites with limited soil development. It often has a fine-textured mosaic of dominant species with no one species dominant over large areas. Typical species include white bursage, Acton's encelia, bladder sage, grape lupine (*Lupinus excubitus*), little leaf Mojave indigo bush (=indigo bush, *Psorothamnus arborescens* var. *minutifolius*) and green rabbitbrush.

6.2.5.9 Oak Forest and Woodland

Oak forest and woodland includes two MCV2 alliances: blue oak woodland and interior live oak woodland, described below.

Blue Oak Woodland. Blue oak woodland (*Quercus douglasii* woodland alliance) is found on hillsides, valley bottoms, and rocky outcrops, in shallow, rocky soils with low fertility. The vegetation type is defined as blue oak having more than 50 percent relative cover in the tree canopy (Sawyer et al. 2009). Blue oak is a drought- and flood-tolerant tree that can sprout after cutting or burning (Sawyer et al. 2009). Blue oak woodland establishes in varied stands and can form savannas or woodlands with a variety of co-dominants; on the east side of the Sierra Nevada, typical co-dominants would include California juniper, and interior live oak (*Quercus wislizenii*).

Interior Live Oak Woodland. Interior live oak woodland (*Quercus wislizenii* woodland alliance) is found on upland slopes, valley bottoms, and terraces where soils are shallow and moderately to excessively drained. This vegetation type is defined as interior live oak having more than 50 percent relative cover and 15 percent absolute cover in the tree canopy (Sawyer et al. 2009). Interior live oak is a slow-growing evergreen tree that can live for 200 years with root systems that can be much older (Sawyer et al. 2009). This species is well adapted to fires with relatively thick bark on mature trees. Throughout its wide range in California, interior live oak can form savannas or woodlands with a variety of hardwood and conifer species.

6.2.5.10 Juniper Woodland

California juniper woodland (*Juniperus californica* woodland alliance) is found on ridges, slopes, valleys, alluvial fans, and valley bottoms. This vegetation type is loosely defined as California juniper having more than 3 percent absolute cover over lower shrubs; or California juniper having more than 1 percent cover as a dominant shrub or tree and no other tree species exceeding the cover of California juniper (Sawyer et al. 2009). Soils are porous, rocky, coarse, sandy, or silty, and are often very shallow. California juniper is a slow-growing shrub or small tree that usually grows to about 13 feet in height. It may appear as a single dominant tree species over a variety of smaller shrubs, including blackbrush, rabbitbrush, and California buckwheat, or it may be present with other trees such as singleleaf pinyon pine or with Joshua tree. California juniper does not sprout after fire, and stands may be eliminated by repeated fire (Sawyer et al. 2009). Because California juniper is so slow-growing, stand recovery from a single fire event may take over 125 years (Sawyer et al. 2009).

Several associations were identified in the survey area within the California juniper woodland alliance. These included:

- California juniper/blackbrush woodland
- California juniper/rubber rabbitbrush woodland
- California juniper/California buckwheat woodland
- California juniper-Joshua tree/blackbrush woodland

6.2.5.11 Pine Forest and Woodland

Pine forest and woodland includes three MCV2 alliances: gray pine woodland, Jeffrey pine forest, and singleleaf pinyon pine woodland, described below.

Gray Pine Woodland. Gray pine (or ghost pine; *Pinus sabiniana* woodland alliance) is found on streamside terraces, valleys, slopes, and ridges. This vegetation type is defined as gray pine having more than 10 percent absolute cover and dominant in the tree canopy (Sawyer et al. 2009). It is found on soils that are shallow, often stony, infertile, and moderately to excessively drained. Gray pine woodland occupies rough foothill slopes intermixed with stands of chaparral. Gray pine is a drought tolerant conifer that is fire sensitive despite its relatively thick bark on mature individuals (Sawyer et al. 2009). Although found at elevations as low as 1,000 ft, this vegetation type is found at higher elevations on the eastern side of the Sierra Nevada, where it grows along stream terraces below the conifer belt. On the western slopes of the Sierra Nevada, gray pine woodland occupies a broad belt at lower elevations. It often appears as an emergent tree over a chaparral understory, but may also occur as an open savanna over an herbaceous understory.

The gray pine-interior live oak association is found in similar ecological situations as the preceding, but consists of a denser canopy co-dominated by gray pine and interior live oak.

Jeffrey Pine Forest. Jeffrey pine forest (*Pinus jeffreyi* forest alliance) is found on raised stream benches, slopes, ridges and plateaus. Soils are typically shallow and infertile. The vegetation type is defined as Jeffrey pine having more than five percent absolute cover in the tree cover, with other conifer species having no more than five percent cover (Sawyer et al. 2009). In the region of the survey area Jeffrey pine forest is typically found at the higher elevations in the Piute Mountain area. Jeffrey pine is a conifer that attains a height of nearly 200 feet and an age of 500 years (Sawyer et al. 2009). Trees are shade in tolerant and grow most rapidly in full sunlight. This vegetation type is typically an early- to mid-seral (successional) species on

productive sites, eventually being replaced by more shade-tolerant species under long fire intervals. The amount of tree cover varies in Jeffrey pine forest. Jeffrey pines are moderately resistant to fire, although sensitivity varies with fire intensity, age of tree, and season.

Singleleaf Pinyon Pine Woodland. Singleleaf pinyon pine woodland (*Pinus monophylla* woodland alliance) is found on alluvial fans, pediments, slopes, ridges, canyons, and ravines. This vegetation type is defined as singleleaf pinyon pine having more than five percent absolute cover in the tree canopy (Sawyer et al. 2009). Soils are typically well drained. Singleleaf pinyon pine is a slow-growing conifer that attains a height of 40 feet and an age of 800 years. This vegetation type is typically found at higher elevations in desert mountains and in desert transitions on the eastern side of the Sierra Nevada, where it is believed to be relictual; this and other conifer alliances (such as California juniper) were probably much more widespread in the Mojave Desert during and following the Pleistocene. Singleleaf pinyon pine does not sprout after a fire, and repeated, even moderate, surface fires remove stands. Singleleaf pinyon pine is often co-dominant with California juniper and a variety of shrubs typical of the upper mixed Mojave Desert scrub vegetation type.

6.2.5.12 Wetland and Riparian

Several natural springs and ponds occur throughout the project area, as well as a number of small ephemeral drainages that contain riparian vegetation such as that listed above. No formal wetland delineations were conducted. The locations of streams and wetlands identified during the field surveys and on aerial photographs are shown on Figure 6-3. Surface water is minimal and normally is limited to ephemeral flow during winter and spring storms and discharge from perennial springs such as Butterbredt Spring. Riparian canopies surrounding springs and drainages may provide breeding opportunities for common and special-status bird species.

Wetland and riparian areas are characterized as having higher moisture content than other areas and include many vegetation types, described below. All wetland and riparian vegetation types are considered sensitive.

Blackstem Rabbitbrush Scrub. Blackstem rabbitbrush scrub (*Ericameria paniculata* shrubland alliance) is found in intermittently flooded arroyos, channels, and washes. Soils are coarse to fine sand, usually well drained and moderately acidic to slightly saline. The vegetation type is defined as having more than five percent cover of blackstem rabbitbrush with no other shrub having more than 50 percent relative cover (Sawyer et al. 2009). Blackstem rabbitbrush is distinctive in having a rust that causes black banding around the stem. This species is a fast-growing but relatively short-lived shrub that can achieve 16 feet in height and often forms single-species stands. Blackstem rabbitbrush may sprout following minor damage, while large flood events may destroy all shrubs, necessitating seedling recruitment from nearby protected individuals. Stands are localized in medium to large washes where flooding events occur every few years. Blackstem rabbitbrush is ranked S3, meaning it is considered a sensitive natural community statewide (Sawyer et al. 2009).

California Coffeeberry Scrub. California coffeeberry scrub (*Frangula (=Rhamnus) californica* shrubland alliance) is found widely in California on concave slopes, lower slopes, along drainages and undulating moderate to steep slopes of sedimentary or serpentine substrates. Soils typically retain moisture for much of the year. California coffeeberry shrubland alliance is defined as having more than 50 percent relative cover in the shrub canopy (Sawyer et al. 2009). California coffeeberry is a long-lived, shade tolerant shrub that can reach 20 feet in height and 200 years in age (Sawyer et al. 2009). It sprouts vigorously from the base following fire, browsing, or cutting. Although this vegetation type is not considered sensitive throughout

California, the example mapped in the survey area appeared to be a riparian vegetation type and therefore was considered unusual and sensitive locally.

Desert Olive Scrub. Desert olive scrub *(Forestiera pubescens* shrubland alliance), also referred to as desert olive patches, is found on floodplains, streambanks, springs, river terraces, and washes. Soils range from silty clays to coarse sands. The vegetation type is defined as consisting of more than 50 percent relative cover of desert olive in the shrub layer (Sawyer et al. 2009).

Desert olive is a long-lived, spreading shrub or small tree. Plants form clonal thickets and sprout after stem damage (such as from floods, fires, or browse). Desert olive scrub occurs as scattered, small stands in slightly drier conditions upslope from flowing water, in areas with subsurface moisture such as washes and river terraces, and narrows in desert canyon bottoms where moisture is forced to the surface (Sawyer et al. 2009). The statewide ranking of this alliance is S2, meaning it is a sensitive natural community.

Desert Riparian Forest and Scrub. Desert riparian forest and scrub is an assemblage of MCV2 (Sawyer et al. 2009) alliances dominated by tree and tree-like woody species dependent on fairly consistent subsurface or surface water for most of the year. Desert riparian scrub may be found a springs, along perennial or seasonally intermittent streams, in the lower canyons of desert mountains, and in valleys with a dependable subsurface water supply. Typical dominant species include Fremont cottonwood (*Populus fremontii*), arroyo willow *(Salix lasiolepis*), sandbar willow (*Salix exigua* var. *exigua*), and red willow (*Salix laevigata*). The understory is often fairly sparse and may include rubber rabbitbrush, mule fat (*Baccharis salicifolia*), and big sage (*Artemisia tridentata*), among others. The understory often consists of a dense accumulation of downed branches, litter, and duff. As a result, there is often limited development of the herbaceous layer, although peripheral areas often contain a variety of grasses and grass-like plants. Desert riparian forest and scrub is a sensitive vegetation type that is rare in the region and provides high wildlife value.

Mesquite Scrub. Mesquite scrub (*Prosopis glandulosa* woodland alliance) is found in sites with access to permanent underground water; deep roots tap water supplies up to 15 m (50 ft) below the surface (Sawyer et al. 2009). This vegetation type is defined as having at least three percent absolute cover of mesquite and is not exceeded by any other species of shrub or tree (Sawyer et al. 2009). Mesquite scrub is found on the fringes of playa lakes, river terraces, stream banks, floodplains, and sometimes the flooded margins of arroyos and washes and sand dunes, although they are generally not found in close association with rivers. Frost sensitivity creates an upper altitudinal limit for this vegetation type, and other limiting factors include flooding, shifting sand, and fires. Mesquite scrub is a sensitive vegetation type and is quite rare in the western Mojave Desert.

Scalebroom Scrub. Scalebroom scrub (*Lepidospartum squamatum* shrubland alliance) is found along intermittently or rarely flooded, low-gradient alluvial deposits along streams, washes, and fans. Soils range in texture from fine to coarse and may be somewhat layered. Scalebroom scrub is defined as having more than one percent cover in alluvial environments (Sawyer et al. 2009). Scalebroom is a woody, broom-like shrub that grows up to more than six feet tall. It is well-adapted to the dynamic conditions of desert washes; seedlings become established in moist soil among older shrubs, while older plants sprout from branches and crown bases. It can become established from plant fragments dispersed downstream in scouring floods, and root crowns can sprout from deep beneath flood-deposited alluvium or on alluvial fans. Scalebroom shrubland alliance is ranked S3, meaning it is a sensitive natural community in California.

Baltic and Mexican Rush. Baltic and Mexican rush (*Juncus balticus* and *J. mexicanus*) are sometimes treated as varieties of *Juncus arcticus* (vars. *balticus* and *mexicanus*), as they are in

Sawyer et al. (2009). Thus, the alliance described in the Manual of California Vegetation is the Baltic and Mexican rush (*Juncus arcticus*) herbaceous alliance. Particularly because the two rushes were difficult to reliably distinguish in the field, this vegetation type is simply referred to here as rush meadow. Rush meadows are found in wet and mesic situations, along stream banks, rivers, lakes, ponds, fens, and sloughs, in freshwater, brackish and alkaline marshes. Soils are poorly drained, often with a thick organic layer. Plants form dense stands because of their dense rhizomes. Plants grow in shallow soil, but the rooting depth varies greatly. This species tolerates disturbance, usually resulting from flooding and deposition, although it can also resprout following fire (Sawyer et al. 2009).

Saltgrass Grassland. In the desert, the saltgrass grassland (*Distichlis spicata* herbaceous alliance) is found on playas, swales, seeps, and terraces along washes that are typically intermittently flooded. Soils are often deep, alkaline or saline, and may have an impermeable layer making them poorly drained. When the soil is dry, the surface usually has salt accumulations (Sawyer et al. 2009). Salt grass is a rhizomatous, warm-season grass that is widespread in North America. It may form a dense thatch in suitable habitat. The leaves have special salt glands that allow for extrusion of salt to maintain osmotic balance in the plant.

Alkali Sacaton Grassland. Alkali sacaton grassland (*Sporobolus airoides* herbaceous alliance) is found on alluvial flats, basins, stream terraces, swales, valley bottoms, and lower portions of alluvial slopes. Soils are non-saline to moderately saline, and usually alkaline. The vegetation type is defined by alkali sacaton comprising more than 50 percent relative cover in the herbaceous layer (Sawyer et al. 2009). Alkali sacaton is a long-lived, warm-season, tussock-forming grass that grows to over 3 feet in height. It has a broad tolerance to salinity and pH conditions. Stands usually occur in seasonally wet, alkaline areas. They usually form a mosaic with other meadow and shrubland types.

Pond. This vegetation type is generally associated with desert riparian forest and scrub or meadow and seeps. Pond habitat may support emergent species such as spikerush (*Eleocharis* spp.), cattails (*Typha latifolia*), and rush, as well as aquatic species such as water speedwell (*Veronica anagallis-aquatica*) and duckweed (*Lemna* sp.).

6.2.6 Wildlife

Wildlife habitat values depend on the availability of water, food, and cover. While some wildlife species are restricted to specific vegetation communities, others range across communities and biotic zones. Many species are active in a higher zone in the summer and hibernate or migrate away from these zones in the winter. As the project area is located at the transition between the Piute Mountains and the western Mojave Desert, a broad diversity of wildlife is expected to occur on-site. Common wildlife observed by contractors in the area include black bear (*Ursus americanus*), mountain lion (*Puma concolor*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), and mule deer (*Odocoileus hemionus*). TRA personnel observed greater roadrunner (*Geococcyx californianus*), sage sparrow (*Amphispiza belli*), and common raven (*Corvus corax*) amongst many others.

6.2.6.1 Wildlife Surveys

Three focused wildlife surveys were conducted in the project area for this EIR in the spring and summer of 2012, as described below.

Desert Tortoise Survey. A preliminary survey to better define the distribution of the desert tortoise in the region was conducted by Leatherman Bioconsulting, Inc. (Leatherman) between April 30 and May 15, 2012. Leatherman surveyed 15 parcels and 13 square miles by walking 149 miles of transects. The parcels of land to be surveyed were tentatively identified based on

vegetation maps depicting the distribution of typical habitat for desert tortoise – creosote bush scrub – in the region (BLM 2006), but were adjusted in the field based on topography and habitat. After informal consultations with USFWS and CDFW personnel, Leatherman and TRA concluded that conducting protocol level surveys (USFWS 2010) on all 59 parcels would not be necessary and may not be well suited to estimating the number of tortoises because the westernmost parcels are clearly beyond the known western range of the desert tortoise and above known elevation limits; the steep, rugged, and (in some cases) mountainous terrain on some parcels would severely limit access and present safety hazards for biologists conducting the surveys; and, the project site is not contiguous, includes several habitat types, spans many miles and a wide elevation gradient, and was expected to have very few tortoises (if any in the parcels in the Open Area). Fifteen parcels of land were ultimately included in the survey effort. All 15 parcels were located at the eastern end of the acquisition area below 4,500 feet elevation and supported at least some creosote bush scrub habitat. Although the survey did not follow the current USFWS desert tortoise survey protocol (USFWS 2010), and represented a relatively small percentage of the project area (7.1%), presence of the desert tortoise was established on 11 of the 15 parcels surveyed, and the associated data can be used to direct subsequent survey efforts as necessary. The report entitled Desert Tortoise Survey of [ReNu] Resources Property Acquisition Project, Kern County, CA, 2012 (Leatherman Bioconsulting, Inc. 2012) summarizes survey methods and results and is included in this document as Appendix F. Desert tortoise is discussed in more detail in Section 6.2.9.3 below.

Avian Study. TRA Environmental Sciences, Inc. (TRA) conducted avian surveys the weeks of March 4-9 and May 2-May 5, 2012. Survey points were located in each ReNu parcel that had at least one designated route passing through it (30 parcels). TRA conducted point counts in 41 locations in the 30 parcels containing roads. Playback surveys were conducted at each point count location to detect Le Conte's thrashers (*Toxostoma lacontei*) and Bendire's thrashers (*Toxostoma bendirei*; California species of special concern, BLM sensitive). Playback surveys consisted of playing recorded Le Conte's thrasher and Bendire's thrasher songs to elicit response from nearby individuals. Additional playback surveys for Bendire's thrasher were conducted in the Kelso Valley, within and adjacent to the Bendire's thrasher ACEC. Le Conte's thrasher was detected at14 of the point count locations, while Bendire's thrasher was not detected at all. The report entitled ReNu Resources Property Acquisition Project Baseline Avian Resources (TRA Environmental Sciences, Inc. 2012) summarizes survey methods and results and is included in this document as Appendix G. Le Conte's thrasher, Bendire's thrasher, and other special-status bird species detected are discussed in more detail in Section 6.2.9.3 below.

Special-Status Wildlife Surveys. Biosearch Associates (Biosearch) conducted Mohave ground squirrel and other small mammal surveys over several weeks between March and May of 2012. Prior to this, a preliminary special-status wildlife habitat assessment identified ~30 parcels that supported potential Mohave ground squirrel habitat (Biosearch 2011). Based on the preliminary assessment, diurnal live-trapping was conducted at 18 100-trap (24.5-acre) grids in the northeastern portion of Onyx Ranch in 2012. Mohave ground squirrels were live-trapped at 10 of the 18 locations. Nocturnal live-trapping was conducted on the same trapping grids used for Mohave ground squirrel trapping. Two motion-activated game cameras (Reconyx HC500 Hyperfire and/or Moultrie Model M100) were also operated for four consecutive nights at each of the 18 grids. Ten species of nocturnal rodents were detected during live trapping at the 18 sites. Several other special-status species were observed or detected by sign.

Since this effort was limited to five days of trapping, absence should not be assumed for those grids at which the species was not trapped. The potential for presence of Mohave ground squirrels should be assumed on all parcels that provide appropriate habitat from Butterbredt

Canyon east. Although Kelso Valley is generally considered to be outside the range of the Mohave ground squirrel, suitable habitat is present, and the species is present in adjacent Butterbredt Canyon.

The report entitled Special-status Species Surveys for [ReNu] Resources Property Acquisition Project, Kern County, CA (Biosearch Associates 2012) provides details on survey methods and results and is included in this document as Appendix H Mohave ground squirrel and other special-status mammal species detected are discussed in more detail in Section 6.2.9.3 below.

The Leatherman and Biosearch reports also recorded reptile, bird, and mammal species observed incidentally during the survey periods.

The descriptions below of the reptiles, birds, and mammals found in the project area rely on species observed during surveys. No fish or amphibian species were observed; however, two special-status amphibians have moderate potential of occurring in the southwest corner of the project area in the Caliente Creek watershed and Piute Mountains. In addition to the wildlife described below, numerous arthropods and other invertebrate species exist in the project area but are not described below as no invertebrate surveys were conducted.

6.2.6.2 Reptiles

In addition to the desert tortoise, Leatherman, Biosearch, and TRA biologists detected 11 species of lizards and 7 species of snakes in the project area including the following: desert iguana (*Dipsosaurus dorsalis*), long-nosed leopard lizard (*Gambelia wislizenii*), zebra-tailed lizard (*Callisaurus draconoides*), desert spiny lizard (*Sceloporus magister*), western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), desert horned lizard (*Phrynosoma platyrhinos*), desert night lizard (*Xantusia vigilis*), skink (*Plestiodon* sp.), western whiptail (*Cnemidophorus tigris*), Great Basin collared lizard (*Crotaphytus bicinctores*), coachwhip (*Masticophus flagellum*), western patch-nosed snake (*Salvadora hexalepis*), glossy snake (*Arizona elegans*), gopher snake (*Pituophis catenifer*), sidewinder (*Crotalus cerastes*), western rattlesnake (*C. oreganus*), and Mojave rattlesnake (*C. scutulatus*). These species are likely the most common reptiles in the project area, although a few other species of lizards and snakes have range maps that overlap with the project area and could occur there.

6.2.6.3 Birds

The avian surveys detected 71 species during the point count surveys, and another 49 species were detected incidentally for a total of 120 bird species detected in the project area during the avian surveys alone. Biosearch and Leatherman detected 85 species incidentally during the course of their surveys. Thirty-four species were detected on point count survey in March and 65 species in April-May. Based on unlimited-distance point counts (i.e., all birds detected were counted in these summary statistics, regardless of how far they were from the observer), an average of 5.0 (±2.4 Standard Deviation [SD]) species and 8.9 (±6.7 SD) individuals were detected per point in March (32 points surveyed) and an average of 7.6 (±4.7 SD) species and 15.7 (±14.5 SD) individuals were detected per point in April-May (39 points surveyed). The birds detected were typical of the western Mojave Desert region and species migrating through the project area. One survey point was in a ReNu parcel in the western part of the project area that supported mixed oak-pine forest, and the bird species detected there were typical of that habitat. For a complete list of bird species observed by TRA, see Appendix G. Biosearch and Leatherman detected some of the same bird species as well as 7 additional species; thus, the total number of bird species detected during surveys was 127.

The number of birds detected during point counts and informal surveys conducted after the point counts is just a fraction of the bird species known to occur in the study area (Nature Alley 2012),

as the surveys were conducted during a small period of time in the spring by two people. The Butterbredt Spring-Jawbone Canyon area is a popular destination for birdwatchers (Heindel 2000) and an extensive list of species detected in the area has been compiled based on the observations of ornithologists and birdwatchers (Appendix B in Appendix G). Bird species composition varies by season according to migratory patterns (Tables 1 and 2 in Appendix G). The primary differences from March to May are reflected in the presence of different migrants. For example, white-crowned sparrow (*Zonothrichia leucophrys*) and sage thrasher (*Oreoscoptes montanus*) were relatively common in March, and were less abundant and absent, respectively, in May. The number of species and individuals during the April-May surveys was greatly enhanced by the presence of large numbers of migrants passing through the study area, at migrant hotspots such as Butterbredt Spring and throughout the study area.

Raptor species identified during the avian surveys, either during the point count surveys or incidentally, include turkey vulture (*Cathartes aura*), northern harrier (*Circus cyaneus*), Cooper's hawk (*Accipiter cooperii*), Swainson's hawk (*Buteo swainsoni*), red-tailed hawk (*Buteo jamaicensis*), rough-legged hawk (*B. lagopus*), golden eagle (*Aquila chrysaetos*), osprey (*Pandion haliaetus*), American kestrel (*Falco sparverius*), and prairie falcon (*Falco mexicanus*). Three species of owl were also observed, including barn owl (*Tyto alba*), great-horned owl (*Bubo virginianus*), and burrowing owl (*Athene cunicularia*). Special-status bird species are discussed in Section 6.2.9.3 below.

6.2.6.4 Mammals

Besides Mohave ground squirrel, white-tailed antelope ground squirrels (*Ammospermophilus leucurus*), and desert cottontail (*Sylvilagus audubonii*) were captured during diurnal trapping conducted by Biosearch, along with some birds and reptiles.

Small mammal species captured during the nocturnal trapping conducted by Biosearch included: Panamint kangaroo rat (*Dipodomys panamintinus*), Merriam's kangaroo rat (*D. merriami*), great basin kangaroo rat (*D. microps*), long-tailed pocket mouse (*Chaetodipus formosus*), little pocket mouse (*Perognathus longimembris*), desert woodrat (*Neotoma lepida*), southern grasshopper mouse (*Onychomys torridus ramona;* California species of special concern), canyon mouse (*Peromyscus crinitus*), deer mouse (*P. maniculatus*), and pinyon mouse (*P. truei*). Panamant kangaroo rat and deer mouse were the most widespread and abundant of these species. Other mammal species detected incidentally in the project area include California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), big-eared woodrat (*Neotoma macrotis*), and mule deer (*Odocoileus hemionus*).

Species detected by the nighttime camera surveys included coyote (*Canis latrans*), bobcat (*Lynx rufus*), white-tailed antelope ground squirrel, black-tailed jackrabbit (*Lepus californicus*), desert cottontail, Panamint kangaroo rat, and several species of birds.

Signs of kit fox (*Vulpes macrotis*) and American badger (*Taxidea taxus*) were detected by Biosearch during transect surveys and incidental observations. These species are discussed in more detail in Section 6.2.9.3. No surveys were conducted for bats, but several special-status bat species have a moderate to high potential to occur in the project area and are discussed in Section 6.2.9.3 below.

6.2.7 Wildlife Movement Corridors

Habitat corridors facilitate wildlife migration and movement within landscapes and are essential to the viability and persistence of many wildlife populations. Wildlife movement includes migration (i.e., usually one-way per season), inter-population movement (i.e., long-term genetic flow), and small travel pathways (i.e., daily movement corridors within an animal's territory).

Habitat linkages are contiguous areas of open space that connect two larger habitat areas. Linkages provide for both diffusion and dispersal for a variety of species within the landscape. These linkages among habitats can extend for miles and occur on a large scale throughout California. Generally, movement corridors are centered around waterways, riparian corridors, flood control channels, contiguous habitat, and upland habitat. Drainages often serve as movement corridors because wildlife can move easily through these areas, and fresh water is available; however, in arid desert environments, upland areas can be just as important to wildlife movement. Corridors also offer wildlife unobstructed terrain for foraging and for dispersal of young individuals. Ridgelines that occur throughout the region may also serve as movement corridors.

The project area lies in the path of the Pacific Flyway, a large migration route used by numerous bird species that pass throughout large portions of California. Within the Pacific Flyway, the study area appears to be an important migratory corridor for songbirds. Hundreds to thousands of birds can be seen passing through Butterbredt Spring during the spring migration in late April and early May (Heindel 2000, Steele 2005), passing west-northwestward through the canyons such as Dove Spring Canyon and Jawbone Canyon. Large numbers of migrants can be seen stopping in the desert scrub vegetation, away from the typical migratory hotspots and corridors such as the cottonwood-willow riparian habitats and canyons, respectively (TRA 2012). During the avian surveys conducted by TRA in early May, for example, biologists observed large numbers of migrant songbirds throughout the study area flying westward into a strong headwind, regularly stopping in the desert vegetation for cover, to rest and forage. The Butterbredt Spring Wildlife Sanctuary, an avian migratory stopover, is considered an avian "hotspot" area and is located within parcel B-9.

Butterbredt Spring is one of the most famous "migrant traps" for migrating birds, or desert oases, within eastern Kern County (Steele 2005). Butterbredt Spring has been designated as a "Globally Important Bird Area" by the American Bird Conservancy (ABC). The ABC is a 501(c)(3), not-for profit organization whose mission is to conserve native birds and their habitats throughout the Americas. Butterbredt is a favorite spring birding destination for locals and visitors alike, as it is one of the best places in California to observe the spring migration of songbirds in California. It is not fully understood why so many migrants pass through Butterbredt Spring, though birds moving north and westward seem to be funneled up Jawbone Canyon (and other canyons in the study area) (Heindel 2000). Although it is small in area, just a few acres, Butterbredt Spring attracts birders from all over the U.S. In the spring, early morning winds force migrants down to near ground level. On such mornings, hundreds to thousands of migrants can be observed. All of the western warblers pass through Butterbredt Spring, with Wilson's (*Cardellina pusilla*), black-throated gray (*Setophaga nigrescens*), Audubon's (*S. coronata auduboni*), and orange-crowned warbler (*Oreothlypis celata*) abundant on some days. Warbling vireo (*Vireo gilvus*), western tanager (*Piranga ludoviciana*), and black-headed grosbeak (*Pheucticus melanocephalus*) are often seen in large numbers, while Cassin's vireo (*Vireo cassinii*), lazuli bunting (*Passerina amoena*), and several species of Empidonax flycatchers can be common (Heindel 2000). A typical birding list for one morning will often exceed 50 species and individual count numbers can be in the thousands. Local breeding specialties like mountain quail (*Oreortyx pictus*), Costa's hummingbird (*Calypte costae*), pinyon jay (*Gymnorhinus cyanocephalus*), Le Conte's thrasher, and black-throated sparrow (*Amphispiza bilineata*) are also regularly sighted.

Butterbredt Spring is also well known for its vagrants (migrating birds that are typically off course and found out of their typical range), especially eastern warblers. A few of the vagrant warblers seen there in past years include prairie (*Setophaga discolor*), worm-eating (*Helmitheros vermivorum*), Kentucky (*Geothlypis formosa*), and black-throated blue (*Setophaga*

caerulescens). In all, 34 warbler species have been seen at Butterbredt Spring. Regional compiler for North American Birds, John Wilson, has been birding Butterbredt Spring for over 25 years. According to Wilson, Butterbredt Spring is arguably the best place in the western United States to witness the spectacle of spring migration. Its southeast to northwest juxtaposition seems to create the perfect corridor for migrants coming off of the desert and heading into the Sierra Nevada Mountains (Steele 2005). A bird species list for Butterbredt Spring (Nature Alley 2012) is found in Appendix A of Appendix G.

A known turkey vulture migration route is located through the Kern River Valley 20 miles north of the project area. The largest turkey vulture migration in the United States has been recorded in the Kern River Valley near Kelso Creek, in Kern County, with over 27,000 vultures counted during 46 days in 1994 (Rowe and Gallion 1996). This fall migration route passes through the South Fork Kern River and provides roosting sites at riparian habitats for the vultures before passing over the Mojave Desert to the nearest documented roosting site along the Mojave River near Victorville, California. The Mojave Desert Raptor Watch near Victorville has counted over 12,000 turkey vultures during fall migration. Vultures migrating down the west side of the Sierra Nevada roost in the South Fork Kern River before continuing on to the Mojave River. From the Kern River Valley, the most direct route to the Mojave Desert is southeast along Kelso Creek (Rowe and Gallion 1996) through Kelso Valley.

6.2.8 Existing Effects on Biological Resources

This section describes how vegetation and wildlife species are currently affected by the existing activities in the project area. The effects are not effects caused by the proposed project but rather part of the biological baseline.

6.2.8.1 Vegetation

Several types of disturbance affect the condition of vegetation within the project area. Livestock grazing, wildfire, development, and OHV use frequently affect vegetation in the western Mojave Desert. Invasive weeds often increase after other types of vegetation disturbance. Incidental observations were made of vegetation disturbance in survey parcels and reported in Appendix E, Botanical Resources Report. Several invasive weeds are abundant and widespread in the project area: cheatgrass (*Bromus tectorum*), red brome (*B. madritensis* ssp. *rubens*), Mediterranean grass (*Schismus arabicus* and *S. barbatus*), redstem filaree (*Erodium cicutarium*), Saharan mustard (*Brassica tournefortii*), and tamarisk (*Tamarix* spp.).

Physical disturbance near or in wetlands or streams could directly damage riparian vegetation and stream banks and impact aquatic wildlife or breeding birds if present. These are sensitive habitats, and physical disturbance that removes vegetation, fragments the habitat, or introduces invasive non-native species results in a significant adverse impact.

In 2007, the USGS conducted an extensive literature search on the environmental effects of OHVs on BLM lands. From the literature reviewed, the USGS summarized the impacts as follows: “direct impacts of OHV activities on vegetation include reduced vegetation cover and growth rates, and increased potential for non-native grasses and pioneering species to become established, thus altering vegetation communities. In certain instances, however, the impervious nature of compacted route and paved road surfaces could result in significant runoff that generates greater moisture availability immediately along OHV routes. In turn, this would promote increased vegetation cover and plant abundance than one might find in surrounding areas farther away from OHV routes. Some important indirect effects of OHV activities on vegetation are associated with soil properties altered by OHV traffic, as soil properties typically influence vegetation growth. OHV roads and trails also create edge habitats, which can generate

conditions that promote the encroachment of non-native and invasive plant species. Other indirect effects include increased amounts of airborne pollutants and dust raised by OHV traffic. A blanket of fugitive dust on plant foliage can inhibit plant growth rate, size, and survivorship" (Ouren et al. 2007).

See Section 6.2.9.2 for additional discussion of current activity effects on special-status plants.

6.2.8.2 Wildlife

The Mojave Desert region in general connects intact wilderness and park lands across private or federally managed multiple-use lands supporting mostly natural landcovers, which are relatively permeable to wildlife movements (Spencer et al. 2010). The acquisition parcels maintain this permeability between the desert floor and the Sierra Nevada mountains. Creating roads and trails (of any kind) diminishes habitat connectivity, increases the proportion of edge to interior habitat, and decreases patch size of habitats (Reed et al. 1996). Fragmentation can isolate habitat patches from each other and create edge effects. Negative effects of fragmentation and edge effects include the creation of barriers to dispersal, increases in native and non-native predators, and potential increases in nest parasitism by brown-headed cowbird (CalPIF 2009). Within the project area, existing roads and trails fragment habitat, though wildlife are unlikely to be isolated in the fragments as they are separated by relatively narrow roads rather than extensive tracts of urbanization or agriculture. However, bird species may still be subject to increased predation or nest parasitism, and all wildlife may be vulnerable to collisions with vehicles. Edge effects on wildlife communities are generally most intense at the interface between development and agriculture and natural habitat. See Section 6.2.9.4 for additional discussion of current activity effects on special-status wildlife.

6.2.9 Special-Status Species

6.2.9.1 Special-Status Plant Species

A special-status plant is defined as a species meeting one or more of the following criteria:

- Listed or proposed for listing as threatened or endangered under the federal ESA or candidate for possible future listing as threatened or endangered under the federal ESA (50 CFR §17.12)
- Listed or candidates for listing by the State of California as threatened or endangered under CESA (Fish and Game Code §2050 et seq.)
- Listed as rare under the California Native Plant Protection Act (Fish and Game Code §1900 et seq.)
- Meets the definition of rare or endangered under CEQA (§15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
    - Species considered by the California Rare Plant Rank (CRPR) to be "rare, threatened or endangered in California" (Ranks 1A, 1B, and 2; CNDDB 2012; CNPS 2012)
    - Species that may warrant consideration on the basis of local significance or recent biological information
    - Some species included on the California Natural Diversity Database (CNDDB) Special Plants, Bryophytes, and Lichens List (California Department of Fish and Game 2012a)
    - Considered a locally significant species; that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region. An example could include a species at the outer limits of its known range or a species occurring on an uncommon soil type. In general, CRPR Rank 3 and 4 species were considered locally significant for the purposes of this report5
    - Designated by BLM Ridgecrest or Bakersfield Field Office as a "special-status" plant (BLM 2012).

A list of special-status plants was compiled based on three primary sources: a CNDDB Rarefind query of the six U.S. Geological Survey 7.5-minute quadrangles on which the project is located – Cinco, Claraville, Cross Mountain, Dove Spring, Emerald Mountain, and Pinyon Mountain – as well as the 14 quadrangles surrounding them (CDFG 2012b); a query of the CNPS Electronic Inventory for the same quadrangles (CNPS 2012); and a review of a recent, nearby botanical survey for the North Sky River Wind Farm (Garcia and Associates 2010). A list of 52 special-status plant species was developed from these sources.

Appendix A of the Botanical Resources Report (Appendix E) summarizes the name, status, habitat, and potential to occur of those 52 special-status plant species considered. Figure 6-1 shows the locations of those 52 plant species as shown by CNDDB, California Herbaria, and the botanical resources survey conducted for this acquisition project. Of those, 39 species were considered to have at least moderate potential to occur in the project area. This large number of potentially-occurring species is the result of the considerable geographic, elevational, and habitat range encompassed by the project area.

[5] In general, CRPR Rank 3 and 4 plants may not warrant consideration under CEQA. To be inclusive they are included here under the definition of special-status plants.

A discussion of the appearance, status, habitat, distribution, and likely occurrence of the 39 species deemed to have at least moderate potential to occur within the project area can be found in the Botanical Resources Report (Appendix E). Ten special-status plants were observed in the survey area in 2012 or have been reported previously from project parcels.

6.2.9.2 Existing Effects on Special-Status Plants

The effects of OHV recreation and livestock grazing on vegetation can range from destroying seeds and trampling and breaking seedlings or saplings, to destroying soils and even to enhancing habitat (for plants that prefer disturbance). Existing fencing surrounding sensitive habitats such as at Butterbredt Spring potentially protects several occurrences of special-status plant species. Many special-status plant species may occur in suitable habitat throughout the project area outside of fenced areas. These species are vulnerable to physical destruction and trampling from ongoing OHV and other recreation and livestock grazing as well as habitat alteration from soil compaction caused by these land uses. These are not effects caused by the proposed project but rather part of the biological baseline.

The following species may be affected by existing activities occurring in the project area: Spanish needle onion (*Allium shevockii*; CRPR 1B.3), California androsace (*Androsace elongata* ssp. *acuta*; CRPR 4.2), Palmer's mariposa lily (*Calochortus palmeri* var. *palmeri*; CRPR 1B.2), alkali mariposa lily (*C. stiatus*; CRPR 1B.2), Kern County evening-primrose (*Camissonia kernensis* ssp. *kernensis*; CRPR 4.3), white pygmy poppy (*Canbya candida*; CRPR 4,2), Mojave paintbrush (*Castilleja plagiotoma*; CRPR 4.3), Death Valley sandmat (*Chamaesyce vallis-mortae*; CRPR 4.2), Mojave spineflower (*Chorizanthe spinosa*; CRPR 4.2), Kern Canyon clarkia (*Clarkia xantiana* ssp. *parviflora*; CRPR 4.2), streambank spring beauty (*Claytonia parviflora* ssp. *grandiflora*; CRPR 4.2), desert cymopterus (*Cymopterus deserticola*; CRPR 1B.2), Red Rock tarplant (*Deinandra arida*; state listed as "rare" and CRPR 1B.2), Mojave tarplant (*D. mohavensis*; state endangered and CRPR1B.3), unexpected larkspur (*Delphinium inopinum*; CRPR 4.3), limestone dudleya (*Dudleya abramsii* ssp. *calcicola*; CRPR 4.3), Tracy's eriastrum (*Eriastrum tracyi*; state listed as "rare" and CRPR 3.2), Breedlove's buckwheat (*Eriogonum breedlovei* var. *breedlovei*; CRPR 1B.2), Red Rock poppy (*Eschscholzia minutiflora* ssp. *twisselmannii*; CRPR 1B.2), pine fritillary (*Fritillaria pinetorum*; CRPR 4.3), Piute cypress (*Hesperocyparis nevadensi*; CRPR 1B.2), pale yellow layia (*Layia heterotricha*; CRPR 1B.2), intermontane lupine (*Lupinus pusillus* var. *intermontanus*; CRPR 2.3), solitary blazing star (*Mentzelia eremophila*; CRPR 4.2), creamy blazing star (*M. tridentata*; CRPR 1B.3), Calico monkeyflower (*Mimulus pictus*; CRPR 1B.2), Kelso Creek monkeyflower (*M. shevockii*; CRPR 1B.2), Tehachapi monardella (*Monardella linoides* ssp. *oblonga*; CRPR 1B.3), crowned muilla (*Muilla coronata*; CRPR 4.2), Piute Mountains navarretia (*Navarretia setiloba*; CRPR 1B.1), slender threadplant (*Nemacladus gracilis*; CRPR 4.3), Shevock's bristle moss (*Orthotrichium shevockii*; CRPR 1B.3), fragile pentachaeta (*Pentachaeta fragilis*; CRPR 4.3), Transverse Range phacelia (*Phacelia exilis*; CRPR 4.3), Charlotte's phacelia (*P. nashiana*; CRPR 1B.2), aromatic canyon gooseberry (*Ribes menziesii* var. *ixoderme*; CRPR 1B.2), Mojave fish hook cactus (*Sclerocactus polyancistrus*; CRPR 4.2), Piute Mountains jewel-flower (*Streptanthus cordatus* var. *piutensis*; CRPR 1B.2), and San Bernardino aster (*Symphyotrichum defoliatum*; CRPR 1B.2).

6.2.9.3 Special-Status Wildlife Species

Special-status wildlife species are those animals that are legally protected or otherwise recognized as vulnerable to habitat loss or population decline by federal, state, or local resource conservation agencies and organizations. For purposes of this CEQA analysis, special-status animal species include:

- Species listed as threatened or endangered under the federal ESA or CESA
- Species considered as candidates or proposed for federal or state listing as threatened or endangered
- Species listed as Sensitive Species by BLM
- Species listed as Sensitive Species by USFS
- Species listed by the USFWS as Birds of Conservation Concern (Regions 32 or 33)
- Fully protected species per California Fish and Game Code
- CDFW Species of Special Concern
- Species on the CDFW Watch List

Special-status animal species with potential for occurrence in the project area are listed in Table I-2 Special-status Wildlife Potentially occurring in the project area in Appendix I. The table was prepared consistent with the CEQA Guidelines. For database searches, 20 USGS 7.5 minute quads were searched: six 7.5-minute USGS quadrangles containing the project area (Cinco, Claraville, Cross Mountain, Dove Spring, Emerald Mountain, and Pinyon Mountain), and 14 adjacent USGS 7.5-minute quadrangles (Lake Isabella South, Woolstalf Creek, Cane Canyon, Horse Canyon, Freeman Junction, Saltdale NW, Piute Peak, Cantil, Lorain, California City North, Mojave NE, Cache Peak, Tehachapi NE, and Tehachapi North). Figure 6-2 shows the locations of species as shown by CNDDB and resource surveys performed for this EIR.

The project area is not included in any critical habitat areas for federally listed wildlife designated by the USFWS.

Amphibians and Reptiles

The project area is in the range of several special-status amphibian and reptile species, and provides habitat that supports them. Research determined that six special-status amphibian and reptile species could occur in the project area, including the following:

- Tehachapi slender salamander (*Batrachoseps stebbinsi*, State Threatened, BLM Sensitive and USFS Sensitive)
- Yellow-blotched salamander (*Ensatina eschscholtzii croceator*, California Species of Special Concern, BLM Sensitive and USFS Sensitive)
- Western pond turtle (*Actinemys marmorata*, California Species of Special Concern, BLM Sensitive and USFS Sensitive)
- Desert tortoise
- Coast horned lizard (*Phrynosoma blainvillii*, California Species of Special Concern, BLM Sensitive and USFS Sensitive)
- Silvery legless lizard (*Anniella pulchra pulchra*, California Species of Special Concern and USFS Sensitive)

These species are described below. Surveys completed in 2012 confirmed that desert tortoise occurs in the project area.

The Kern Plateau slender salamander (*Batrachoseps robustus*, USFS Sensitive) and the rosy boa (*Charina trivirgata*, USFS Sensitive) are unlikely to occur in the project area because it is outside of their known range. These species are in included in Table I-2 in Appendix I but are not described below.

Tehachapi Slender Salamander. Adult Tehachapi slender salamanders are small and slim, reaching 3.5-5 inches in total length. The species is light beige, tan, or black in color, and patches and blotches may form an indistinct dorsal stripe with uneven edges. It is a member of lungless salamander (Plethodontidae). Little is known about this particular species, but all California lungless salamanders lay eggs in moist places on land. The young hatch from the egg as a tiny terrestrial salamander with the same body form as an adult. Most Slender Salamander species are active on rainy or wet nights when temperatures are moderate, fall through spring, retreating underground when the soil dries or when air temperature drops to near freezing. Most surface activity for this species has been observed from February to March or April. Feeding behavior is not well known, but other *Batrachoseps* species are sit-and-wait predators that use a projectile tongue to catch prey. It eats a variety of small invertebrates. It inhabits north-facing moist canyons and ravines in oak and mixed woodlands in arid to semi-arid locations at elevations of 2,000-4,600 feet. It is found under rocks, logs, bark, and other debris in moist areas, especially in areas with a lot of leaf-litter, often near talus slopes (California Herps 2012). The Tehachapi slender salamander has a moderate potential to occur in the southwestern portion of the project area, which is the only portion of the project area with suitable habitat for this species. It was not observed during 2012 field surveys.

Yellow-blotched Salamander. Adult yellow-blotched salamanders measure 3-6 inches in total length. This subspecies has a black ground color that is marked with large yellow or cream-colored blotches, and has yellow or orange on the base of the limbs. It is a member of the lungless salamander family (Plethodontidae). All California lungless salamanders lay eggs in moist places on land. The young hatch from the egg as a tiny terrestrial salamander with the same body form as an adult. *Ensatina* species live in relatively cool moist places on land becoming most active on rainy or wet nights when temperatures are moderate. They stay underground during hot and dry periods where they are able to tolerate considerable dehydration. They may also continue to feed underground during the summer months. Ensatinas eat a wide variety of invertebrates, including worms, ants, beetles, spiders, scorpions, centipedes, millipedes, sow bugs, and snails. This species is found in evergreen and deciduous forests, under rocks, logs, and other surface debris, especially bark that has peeled off and fallen beside decaying logs. It favors shaded north-facing areas, especially near creeks or streams (California Herps 2012). The yellow-blotched salamander has a moderate potential to occur in the southwestern portion of the project area – the only portion of the project area with suitable habitat for this species. It was not observed during 2012 field surveys.

Western Pond Turtle. The western pond turtle ranges in size from 3.5-7 inches and is the only freshwater turtle native to California. It occurs in ponds and small lakes with abundant vegetation. It is also found in marshes, slow-moving streams, reservoirs, and occasionally brackish water. The western pond turtle feeds on aquatic plants, such as pond lilies, beetles, aquatic invertebrates, fishes, frogs, and carrion. It requires basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks, as well as underwater retreats to hide from predators and humans. Females deposit their eggs in nests in sandy banks or in the case of foothill streams, in upland areas away from the stream. Nests have been observed in many soil types, from sandy to very hard, and have been found up to 100 meters (325 feet) from the water. Certain fish species, bullfrogs, garter snakes, wading birds and some mammals prey on hatchlings and juveniles (California Herps 2012). The western pond turtle has a moderate potential to occur in ponds and springs of the project area, but is not known from the area. It was not observed during 2012 field surveys.

Desert Tortoise. The desert tortoise is a large, slow-moving, terrestrial desert turtle with a high domed shell composed of large scutes marked with many growth lines, large elephantine rear

feet, and stocky forelimbs covered with large conical scales. An adult desert tortoise shell length is 8-15 inches. The desert tortoise spends most of its life in underground burrows. The feeding and activity period of this species is very short, and mostly restricted to spring. It is most active during the day in spring, early summer, and during summer rains, becoming more active in early morning and late afternoon as seasonal temperatures increase. There may be another period of activity in the early fall as new sprouts germinate. Winter hibernation begins from October to November, and often occurs in a communal den. A desert tortoise may live as long as 150 years. Adults become sexually mature at 15-20 years. Courtship and breeding occur soon after emergence from hibernation in March and April. Males combat each other for access to females, using enlarged horns to ram and possibly overturn another tortoise. A tortoise that cannot right itself is in danger of dying from overexposure to the sun. Females lay a clutch of 1-12 eggs from May to July, usually near the opening of a burrow. One to three clutches might be laid in favorable years. The eggs hatch from mid-August to October. The desert tortoise is herbivorous and eats plant material such as grass, cactus, herbs, flowers, and legumes. In California, desert tortoise is found in arid sandy or gravelly locations along riverbanks, washes, sandy dunes, alluvial fans, canyon bottoms, desert oases, rocky hillsides, creosote flats, and hillsides. It needs firm ground in order to dig burrows, or rocks to shelter among (California Herps 2012).

Desert tortoises are known from the general region and occur in the project area. From April 30-May 15, 2012, Leatherman surveyed 15 of the easternmost parcels of Onyx Ranch for desert tortoise, including several in the Jawbone Canyon Open Area and one adjacent to the Dove Springs Open Area (Appendix F). During the desert tortoise surveys, presence of the desert tortoise was established on 11 of the 15 parcels surveyed. Ten individual tortoises were observed directly, and in other cases presence was established by carcasses, scat, and burrows. All size classes (juvenile, young adult, adult) of desert tortoise were observed indicating recent recruitment and long-term survivorship, at least in some areas. Desert tortoise sign was concentrated in canyons and badlands where OHV use was limited due to fencing or rugged terrain. One desert tortoise was observed within the Jawbone Canyon Open Area, representing the only recent sign detected within that area (other sign observed did not indicate recent use). Most of the desert tortoise sign was detected in the eastern parcels north of the Jawbone Canyon Open Area where there was good habitat and the rugged topography (badlands) limited OHV access. Areas dominated by blackbush scrub were usually devoid of desert tortoise sign, although tortoises were observed in adjacent canyons where Mojave mixed woody scrub and/or creosote bush was dominant (Leatherman Bioconsulting, Inc. 2012).

Coast Horned Lizard. The coast horned lizard has a flattened oval body with five backwardly projecting head spines and pointed fringe scales running along the sides of the body. Its color is highly variable, but generally mimics the color of the surrounding soil (Stebbins 1985). The coast horned lizard is active from April to October, engaging in breeding activities during April and May. Its diet consists almost entirely of ants, but it will feed on other insects when available. The coast horned lizard inhabits open areas of sandy soil and low vegetation in valleys, foothills and semiarid mountains from sea level to 8,000 ft. in elevation. It is found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. It is often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills. When threatened, it inflates with air, makes hissing noises, or sprays blood at a predator from the corner of its eyes as a last resort (California Herps 2012). The Coast horned lizard has a high potential to occur in the project area based on the presence of suitable habitat and confirmed presence at a nearby wind development site. It was not observed during 2012 field surveys.

Silvery Legless Lizard. The silvery legless lizard is a small slim lizard approximately 4-7 inches long with no limbs. Although often confused with snakes it is distinguished from snakes by its movable eyelids. Its smooth scales and shovel-shaped snout allow it to more easily move through loose or sandy soil. Typically, this species is silver to beige above with a yellow underside. Silvery legless lizards inhabit beaches, pine-oak woodland, chaparral, and riparian habitat where there is suitable loamy or sandy soil available for burrowing. They forage for insects and spiders in leaf litter during the day. No eggs are produced by this species; instead, live birth produces up to four young from September through November (Stebbins 1985). The silvery legless lizard has a high potential to occur in the project area based on the presence of suitable habitat and confirmed presence at a nearby wind development site. It was not observed during 2012 field surveys.

Birds

The project area is in the range of several special-status avian species, and provides habitat that supports them. Research determined that 24 special-status avian species were observed to be present, are presumed to occur, or have a moderate potential to occur in the project area, including:

- American white pelican (*Pelecanus erythrorhynchos*, California Species of Special Concern)
- Cooper's hawk (*Accipiter cooperii*, CDFW Watchlist)
- Northern goshawk (*Accipiter gentilis*, California Species of Special Concern, BLM Sensitive and USFS Sensitive)
- Golden eagle (*Aquila chrysaetos*, California Fully Protected Species)
- Ferruginous hawk (*Buteo regalis*, USFS Sensitive and CDFW Watchlist)
- Swainson's hawk (*Buteo swainsoni*, State Threatened and USFS Sensitive)
- Northern harrier (*Circus cyaneus*, California Species of Special Concern)
- Osprey (*Pandion haliaetus*, CDFW Watchlist and USFS Sensitive)
- Prairie falcon (*Falco mexicanus*, CDFW Watchlist)
- American peregrine falcon (*Falco peregrines anatum*, California Fully Protected Species)
- Mountain plover (*Charadrius montanus*, California Species of Special Concern and BLM Sensitive)
- Long-eared owl (*Asio otus*, California Species of Special Concern)
- Burrowing owl (*Athene cunicularia*, California Species of Special Concern and BLM Sensitive)
- Vaux's swift (*Chaetura vauxi*, California Species of Special Concern)
- Black swift (*Cypseloides niger*, California Species of Special Concern)
- Olive-sided flycatcher (*Contopus cooperi*, California Species of Special Concern)
- Willow flycatcher (*Empidonax traillii*, State Endangered and USFS Sensitive)
- Loggerhead shrike (*Lanius ludocivianus*, California Species of Special Concern)
- Least bell's vireo (*Vireo belli pusillis*, Federal and State Endangered)

- California horned lark (*Eremophila alpestris actia*, CDFW Watchlist)
- Purple martin (*Progne subis*, California Species of Special Concern)
- Bendire's thrasher (*Toxostoma bendirei*, California Species of Special Concern and BLM Sensitive)
- Yellow warbler (*Dendroica petechia*, California Species of Special Concern)
- Yellow-breasted chat (*Icteria virens*, California Species of Special Concern)

Five other species included in the Biosearch assessment and with CNDDB records in the region are considered unlikely to occur in the project area due to a lack of suitable habitat in the project area, a lack of records of the species in the area and/or because the project area is outside of the species' usual range. These include white-tailed kite (*Elanus leucurus*, California Fully Protected Species), western snowy plover (*Charadrius alexandrinus*, Federal Threatened and California Species of Special Concern), long-billed curlew (*Numenius americanus*, CDFW Watchlist), grasshopper sparrow (*Ammodramus savannarum*, California Species of Special Concern) and tricolored blackbird (*Agelaius tricolor*, California Species of Special Concern and BLM Sensitive). These species are included in Table 2 in Appendix I but are not described below.

According to a list of birds of Butterbredt Spring maintained by Nature Alley (2012), 256 species of birds have been observed at Butterbredt Spring including many of the special-status species observed during wildlife surveys for the proposed project and eight additional special-status bird species. These include sharp-shinned hawk (*Accipiter striatus*, CDFW Watchlist [nesting]), bald eagle (*Haliaeetus leucocephalus*, State Endangered, California Fully Protected Species, USFS Sensitive), merlin (*Falco columbarius*, CDFW Watchlist [wintering]), vermilion flycatcher (*Pyrocephalus rubinus*, California Species of Special Concern), brown-crested flycatcher (*Myiarchus tyrannulus*, CDFW Watchlist), bank swallow (*Riparia riparia*, State Threatened), summer tanager (*Piranga rubra*, California Species of Special Concern) and yellow-headed blackbird (*Xanthocephalus xanthocephalus*, California Species of Special Concern). These species are not described below because they were not recorded during surveys for the proposed project or nearby projects and likely only occur in the project area occasionally, and because Butterbredt Spring is protected and will not be adversely impacted by the project.

American White Pelican. American white pelican breeds primarily in the interior of North America from the Canadian and U.S. prairies patchily south and west to southern Oregon, northeastern California and western Nevada and winters along the Pacific coast from Central California to Nicaragua and from Florida to the Yucatan Peninsula. In California, breeding populations are mainly confined to the Klamath Basin. American white pelicans nest in colonies, usually on earthen, sandy or rocky islands, peninsulas or on tule mat islands. White pelicans typically forage cooperatively in shallow inland waters, such as open areas in marshes and along lake or river edges; wintering and nonbreeding birds also feed in shallow coastal marine habitats (Shuford and Gardali 2008). There is no aquatic habitat for American white pelican in the study area; however, they have been seen flying over the study area, as aquatic habitat occurs nearby to the east at China Lake. This species was observed incidentally during avian surveys in 2012.

Cooper's Hawk. The Cooper's hawk is a crow-sized woodland raptor that breeds throughout much of the United States, southern Canada, and northern Mexico. It is more readily observed as a bird of passage at well-known migration watch-sites, locations where raptors concentrate in migration. Female Cooper's hawks are about one-third larger than males, and indeed this species shows among the greatest reversed size dimorphism of any of the world's hawks. Vocalizations, especially by the female, may be an essential element of the pair bond in this highly dimorphic

bird. Midway in size between North America's larger Northern goshawk (*Accipiter gentilis*) and the smaller sharp-shinned hawk (*A. striatus*), the Cooper's hawk, like these other Accipiters, is a quintessential woodland hawk. With short, powerful, rounded wings and a relatively long tail that ensures maneuverability in dense cover, it is well adapted for quick pursuit of forest birds and mammals. The Cooper's hawk breeds in extensive forests and smaller woodlots of deciduous, coniferous, and mixed pine-hardwoods, as well as in pine plantations, in both suburban and urban habitats. It captures a variety of prey, mainly medium-sized birds and mammals such as doves, jays, robins, chipmunks, and other rodents (Curtis et al. 2006). In the deserts of eastern Kern County in general Cooper's hawk is an uncommon migrant and winter visitor (Heindel 2000) but was regularly seen by TRA biologists during the bird surveys. Cooper's hawk is reported to nest in the vicinity of Butterbredt Spring, according to the compiled Butterbredt Spring bird checklist (Nature Alley 2012).

Northern Goshawk. The Northern goshawk (hereafter referred to as goshawk) is a large forest raptor, occupying boreal and temperate forests throughout the Holarctic. In North America, it breeds from Alaska to Newfoundland and south. This partial migrant winters throughout its breeding range including occasionally the Great Plains and southeastern states; some individuals undergo short movements to lower elevations during winter, apparently in search of food. Movements of northern birds to the south occur at approximately 10-year intervals that coincide with population lows of snowshoe hare (*Lepus americanus*) and grouse. Largest of the three North American accipiters, the goshawk is a powerful hunter capable of killing a variety of prey, including tree squirrels, hares, grouse, corvids, woodpeckers, and large passerines such as American robins (*Turdus migratorius*). When breeding, the female generally defends the nest, while the smaller male provisions the family with food. Foraging males rapidly traverse large home ranges when searching for prey. Goshawks are well adapted for hunting in forests but also hunt open habitats. They are short duration sit-and-wait predators, perching briefly while searching for prey before changing perches. Their short, powerful wings allow rapid acceleration and their long tails quick maneuverability in trees. As an aggressive North American hunting hawk, goshawks eagerly crash through brush when capturing prey or readily strike intruders approaching their nests. Although goshawks nest in a variety of habitat types, they seem to prefer mature forests with large trees on moderate slopes with open understories. They nest in coniferous, deciduous, or mixed-pine forests, depending on availability. Nest trees are usually one of the largest trees in the nest area; most territories contain several alternative nest trees (Squires and Reynolds 1997). Northern goshawk is rare in the study area – there is only one record of occurrence for eastern Kern County (Heindel 2000).

Golden Eagle. The golden eagle inhabits a wide range of latitudes throughout the Northern Hemisphere and uses a variety of habitats ranging from arctic to desert. Rare in the eastern half of North America, it is most common in the West near open spaces that provide hunting habitat and often near cliffs that supply nesting sites. Northern breeders migrate thousands of kilometers to wintering grounds; southern pairs tend to be resident year-round. The golden eagle has astonishing speed and maneuverability for its size and uses a wide variety of hunting techniques to capture prey, including soaring, still-hunting from a perch, and low contouring flight. Although capable of killing large prey such as cranes, wild ungulates, and domestic livestock, this species subsists primarily on rabbits, hares, ground squirrels, and prairie dogs. Most do not acquire a nesting territory until they are at least four years old, after they have molted into adult plumage. Once an individual establishes a territory, it tends to stay there, defending an area of approximately 10-20 square miles from conspecifics. A territory may contain up to 14 nests, which a pair maintains and repairs as part of courtship. The nesting season is prolonged, extending more than six months from the time eggs are laid until young reach independence. A

typical golden eagle raises an average of only one young per year and up to 15 young over its lifetime. Pairs commonly refrain from laying eggs in some years, particularly when prey is scarce. The number of young that golden eagles produce each year depends on a combination of weather and prey conditions. The black-tailed jackrabbit is a key prey species throughout much of the range, and eagle reproductive rates fluctuate with jackrabbit population cycles (Kochert et al. 2002). Golden eagle is an uncommon year-round resident in the study area (Heindel 2000). This species was observed incidentally during avian surveys in 2012.

Ferruginous Hawk. The ferruginous hawk is an open-country species that inhabits grasslands, shrub steppes, and deserts of North America, nesting in 17 states in the United States and three provinces in Canada. This hawk avoids montane forests, aspen (*Populus*) parkland, and habitats recently altered by agricultural cultivation. Before the elimination of bison (*Bison bison*) in the west, its nests were often partially constructed of bison bones and wool. Today, this hawk uses nest sites ranging from cliffs, trees, utility structures, and farm buildings to haystacks and relatively level ground. The primary prey of the ferruginous hawk are rabbits (*Lepus* spp.), ground squirrels (*Spermophilus* spp.), and prairie dogs (*Cynomys* sp.). Populations and the reproduction of this hawk can fluctuate with the availability of prey. In winter, ferruginous hawks typically aggregate where ground squirrels and especially prairie dogs are numerous. They are "sit-and-wait" hunters (Bechard and Schmutz 1995). Ferruginous hawk is an uncommon winter visitor to the study area (it does not breed in the region) and is most numerous from late October through mid-February.

Swainson's Hawk. Each autumn, nearly the entire breeding population of the Swainson's hawk migrates from the temperate zone of North America to "wintering" areas in South America. From prairie Canada, this migration is more than 6,000 miles each way. A highly gregarious species, the Swainson's hawk forages and migrates in flocks sometimes numbering in the thousands. Nearly 350,000 Swainson's hawks have been counted passing over a single point in Panama City in October and November, and up to 845,000 have been counted in a single autumn in Veracruz, Mexico. The breeding-season diet of the Swainson's hawk is similar to that of other temperate-zone buteos; young are fed rodents, rabbits, and reptiles. When not breeding, however, this hawk is atypical because it is almost exclusively insectivorous, eating grasshoppers (Acrididae) in particular. In many parts of its range, this hawk has adjusted to agricultural landscapes. Nonetheless, its numbers have declined significantly in parts of the western United States (Bechard et al. 2010). In the study area, Swainson's hawk is a rare to irregularly fairly common migrant, primarily in spring, with peak numbers occurring from mid-April to early May (Heindel 2000). This species was observed incidentally during avian surveys in 2012.

Northern Harrier. In California, Northern harrier breeding range extends throughout the Central Valley, in the northeastern, central eastern and southwestern portions of the state, and in many areas along the coast (Shuford and Gardali 2008). Northern harrier inhabits fresh and saltwater marshes, as well as upland grasslands. This medium-sized raptor often flies close to the ground while hunting for small mammals and birds. The male and female of this species are highly sexually dimorphic. The female is larger than the male and has dominantly brown colored plumage while the male is dominated with gray plumage. However, both have white rumps that are obvious during flight (Sibley 2000). In eastern Kern County in general, Northern harrier is a fairly common migrant and winter visitor and a rare breeder in wet marshes and alfalfa fields, which can be variable in their availability from year-to-year (Heindel 2000). Northern harrier is not known to breed in the study area, as there is no suitable breeding habitat in the study area. This species was observed incidentally during avian surveys in 2012.

Osprey. The osprey is North America's only raptor that eats almost exclusively live fish. Despite this restriction, ospreys have colonized a broad array of habitats. Ospreys nest from mangrove

islets of the Florida Keys to coastal rivers of Labrador, from Alaskan lakes to Montana reservoirs, from New England salt marshes to the saline lagoons of Baja, Mexico, and from Carolina cypress swamps to the foggy redwood coasts of California. All but southernmost populations are migratory, vacating their breeding grounds in late summer for rainforest rivers and fish-rich seacoasts and lakes of Central and South America, returning north each spring as waters warm and fish become accessible.

Ospreys dive feet first for their prey, accessing only about the top meter of water, so they are restricted to surface-schooling fish and to those in shallows – the latter generally being most abundant and available. Thus North America's ospreys tend to breed most densely where shallow waters abound: Long Island Sound, Chesapeake Bay, and Florida Bay along the Atlantic coast; Baja Mexico's Pacific coast; Georgian Bay in the Great Lakes; and several large reservoirs and lakes in western states. In many of these regions, as in others, artificial nest sites have helped breeders enormously in recent decades. Historically, ospreys built their nests atop trees, rocky cliffs and promontories, and on the ground on those few islands free of mammalian predators. While some continue to use such natural sites, many have shifted to artificial sites: channel markers in harbors and along busy waterways; towers for radio, cell phone, and utility lines; and hundreds of nesting poles erected just for this species. This shift has been dramatic in many regions, with 90–95% of pairs choosing artificial sites; predation, loss of trees, and development of shorelines have been driving forces behind the change (Poole et al. 2002).

Osprey is an uncommon migrant in the region in both spring and fall (Heindel 2000). Sightings of osprey at the study area are likely of migrants passing overhead, as there is no suitable aquatic habitat for this species in the study area. This species was observed incidentally during avian surveys in 2012.

Prairie Falcon. The prairie falcon inhabits dry environments of western North America where cliffs or bluffs punctuate open plains and shrub-steppe deserts. An efficient and specialized predator of medium-sized desert mammals and birds, the prairie falcon ranges widely, searching large areas for patchily distributed prey. Several species of ground squirrels are the mainstay of the prairie falcon's diet; they provide fat-rich calories that the prairie falcon needs for raising its broods of 4-5 young during its 3- to 4-month nesting season. When ground squirrels move underground to escape summer heat and dryness, prairie falcons leave their nesting areas in search of other prey. Horned larks and western meadowlarks are important prey items in winter. On its breeding areas, the prairie falcon is often heard long before it is seen. Loud territorial and courtship calls are sometimes the only clue that this species is present, because its nondistinct plumage blends in with the dark, earthy mineral colors of the cliffs on which it nests. The smaller male can be distinguished from the female by its more rapid wing beats and shriller call. Prairie falcons often share their nesting cliffs with common ravens, golden eagles, and red-tailed hawks (Steenhof 1998). Prairie falcon is an uncommon year-round resident in the study area, with numbers increasing from September to February (Heindel 2000). This species was observed incidentally during avian surveys in 2012.

American Peregrine Falcon. The peregrine falcon is distributed worldwide, but the subspecies that occurs in California is called the American peregrine falcon. Peregrine falcons feed on other birds up to and including ducks in size, and may take mammals, insects, and fish. Their primary feeding mode is to attack other birds in flight. They require protected cliffs and ledges for cover. Peregrine falcons nest near water, on cliffs, banks, dunes, or mounds. They will also occasionally nest on buildings or bridges, in cavities in trees or snags, or in the abandoned nests of other raptors. Peregrine falcons occur in California as residents or in the winter as migrants that breed further north (White et al. 2002). In the study area, peregrine falcon is a casual migrant in spring and fall (Heindel 2000).

Mountain Plover. The mountain plover is a North American endemic that breeds on the dry tablelands of the western Great Plains, and winters in dry grasslands and deserts of northern Mexico and California. The mountain plover is a species of xeric tablelands with sparse, low vegetation, especially where those landscapes hosted native herbivores such as prairie dogs, bison, and pronghorns (*Antilocapra americana*). The plover also nests in short-grass prairie sites with either a history of disturbance by native herbivores, or a recent disturbance event such as lightning-strike fires. In recent times, many plovers have nested on agricultural fields that are barren when birds arrive on breeding grounds in spring. Most plovers winter in the Central, Imperial and San Joaquin valleys of California. These valleys historically supported large numbers of Tule elk (*Cervus elaphus*), pronghorns, and kangaroo rats (*Dipodomys* spp.) that created a micro-landscape similar to the nesting grounds. Scattered flocks of plover also regularly winter eastward to south-central and west Texas, and in northern Mexico.

Throughout its range, this plover arrives on its breeding grounds in late March and April, two months before warm-season grasses begin to green. Some adults and fledged chicks begin leaving the breeding grounds by mid-July and wander throughout the southwestern plains and deserts until early November, when they arrive at the wintering grounds and gather, localized, in small flocks. Spring migration, apparently directed around the southern extents of the Sierra Nevada and Rocky Mountains to the breeding grounds, is much faster.

Because the continental population of the mountain plover apparently declined three percent or more per year during the 1970s, 1980s, and early 1990s, the species was proposed for listing as Threatened under the Federal Endangered Species Act in 1999, but was subsequently withdrawn in 2003. Individuals in California may spend up to seventy-five percent of their time on agricultural fields where they are exposed to an array of pesticides, although no direct effects of pesticides on reproductive success or survival have been detected. In the southern part of the breeding range, birds also nest on tilled fields. Although nests are lost to tillage practices during incubation, nest success on tilled fields currently appears compensatory rather than additive to losses due to predation in native habitats (Knopf and Wunder 2006). In the study area, mountain plover is a rare fall migrant and possible over-winter visitor (Heindel 2000).

Long-eared Owl. Long-eared owl inhabits open and sparsely forested habitats across North America and Eurasia between 30° and 65°N latitude. Isolated populations also occur in North and East Africa, the Azores, and the Canary Islands. The long-eared owl typically nests in trees, laying its eggs in abandoned stick nests of other species. Less often, it nests in cavities in trees or cliffs, or on the ground. Although it prefers to nest and roost in dense vegetation, it hunts almost exclusively in open habitats. The long-eared owl is an active-search hunter, taking a variety of small rodents. It normally hunts at night and probably locates most of its prey by ear. This species often roosts communally during the nonbreeding season; typical roosts contain 2-20 birds, but up to 100 have been reported. Although this owl winters throughout most of its breeding range, some individuals migrate long distances, with several records of birds banded in the northern United States and southern Canada and recovered in Mexico. Long-eared owl populations appear to be stable in most of North America, but in some places this species has declined because of destruction of riparian vegetation, conversion of hunting areas to agricultural fields, and reforestation of open areas (Marks et al. 1994). Long-eared owl is generally an uncommon to irregularly fairly common migrant and winter visitor in the study area. Although they have bred at Butterbredt Spring, the birds that bred at Butterbredt Spring were shot; long-eared owls have not bred at Butterbredt since (Heindel 2000).

Burrowing Owl. In California, burrowing owl breeding range extends throughout the Central Valley, in the northeastern and southeastern portions of the state, and in small, scattered areas near the coast (Shuford and Gardali, eds. 2008). The burrowing owl inhabits open annual and

perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. It may also occupy woodland habitats where the canopy covers less than 30 percent of the ground surface. Within these habitats, burrowing owls nest in and occupy burrows made by fossorial mammals, particularly those of California ground squirrel. They will also occupy man-made structures including cement culverts, cement, asphalt, or wood debris piles (CBOC 1993). The diet of burrowing owls in California includes a broad array of arthropods (centipedes, spiders, beetles, crickets, and grasshoppers), small rodents, birds, amphibians, reptiles, and carrion (Shuford and Gardali 2008). Burrowing owl is an uncommon breeding resident in the study area (Heindel 2000). A nesting pair and juveniles were seen by TRA biologists along SC251 west of Butterbredt Spring on BLM land on three days between May 1 and May 5, 2012.

Vaux's Swift. The Vaux's swift breeds from southwestern Canada through the western United States to Mexico, Central America, and northern Venezuela. In winter, northern migrant populations of this species overlap southern residents. Best known for its quick flight and aerial agility, this bird seldom perches except when nesting or roosting, and it probably mates on the wing. Hollow trees are its favored nesting and roosting sites (chimneys are used on occasion), making this swift vulnerable to loss of old-growth forest. Recent declines in Vaux's swift populations have been documented in the Pacific Northwest where mature forest is dwindling. Its nest, an open half-circle of loosely woven twigs, is glued together and to the inside of a hollow tree or chimney with the bird's sticky saliva.

Like other swifts, the Vaux's is almost entirely insectivorous, consuming a variety of ants, bugs, flies, moths, spiders, and aphids from the air. An adult feeding young collects food in its mouth and carries these back to its nestlings. Each parent makes up to 50 trips per day, delivering more than 5,000 small insects from dawn to dusk (Bull et al. 2007). Vaux's swift is a fairly common, sporadic migrant in the study area. Vaux's swifts are usually seen in flocks flying through the study area during migration, and are more numerous in spring than in fall (Heindel 2000). This species was observed during avian avian point count surveys in March and/or May of 2012.

Black Swift. This swift occurs widely throughout western North America in summer, with its breeding range extending as far north as southeastern Alaska, as far east as central Colorado, and south through Mexico and Central America to Costa Rica, with additional populations in the West Indies. Despite this extensive distribution, only about 80 specific nesting localities have been documented; most nesting sites are associated with sheer cliffs and waterfalls. Nowhere in this range is it considered to be an abundant summer resident. Unique aspects of the breeding biology of the black swift are its single-egg clutch, long incubation and fledging periods, and apparent specialization in foraging on the nuptial-flight swarms of fat-rich, winged reproductive ants (Lowther and Collins 2002). Black swift is a casual migrant, seen passing through the region and study area primarily in the spring (Heindel 2000). This species was observed incidentally during Mohave ground squirrel surveys in 2012.

Olive-sided Flycatcher. The olive-sided flycatcher is one of the most recognizable inhabitants of North America's coniferous forest, breeding from sea level to 11,000 feet in the Rocky Mountains. This flycatcher undergoes one of the longest and most protracted migrations of all Nearctic migrants, wintering primarily in Panama and the Andes Mountains of South America. It breeds in habitat along forest edges and openings, including burns; natural edges of bogs, marshes, and open water; semi-open forest; and harvested forest with some structure retained. Tall, prominent trees and snags, which serve as singing and foraging perches, and unobstructed air space for foraging, are common features of all nesting habitats. One of the most tyrannical species of the tyrant flycatchers, both members of the pair aggressively defend their nest areas. Nesting territories are relatively large for a passerine bird; one pair may defend up to 100 acres. The olive-sided flycatcher is monogamous and produces 3-4 eggs per clutch and one clutch per

pair per year. Nests are open-cup structures placed at various heights above ground and well out from the trunk of a coniferous tree in a cluster of needles and twigs on a horizontal branch.

Olive-sided flycatchers prey almost exclusively on flying insects, especially bees. They often forage from high, prominent perches at the tops of snags or dead tips or uppermost branches of live trees, from which they fly out (sallying) to snatch flying insects, and then return to the same or another prominent perch.

In the past 30 years, this species has experienced significant declines in populations throughout its range, causing it to be listed as a Sensitive Species or Species of Concern by several federal and state agencies and conservation groups (Altman and Sallabanks 2000). Olive-sided flycatcher is an uncommon to fairly common migrant in the spring and uncommon migrant in the fall (Heindel 2000) in the study area. This species was observed incidentally during avian surveys in 2012.

Willow Flycatcher. The willow flycatcher is a common migratory species that breeds in a variety of usually shrubby, often wet habitats from Maine to British Columbia and as far south as southern Arizona and southern California. It winters from southern Mexico to northern South America in habitats similar to those occupied on the breeding grounds. Willow flycatchers are late spring migrants and have a short, 70- to 90-day breeding season. This flycatcher is nearly always single-brooded, laying a clutch of 3-4 eggs in late May-late June; the incubation period is 13-14 days, and young fledge about 13-15 days after hatching, usually in mid-July, or somewhat earlier in the Southwest. Both adults feed nestlings and fledglings, but usually it is the female that incubates the eggs and broods the young. The willow flycatcher is primarily an aerial forager, capturing most of its insect diet on the wing, but it may hover-glean extensively from leaf surfaces or occasionally take insects from the ground. Because the willow flycatcher is restricted to river corridors (at least in the arid parts of the West), it is vulnerable to a variety of human activities that may alter or degrade such habitats, activities including river dewatering, channelization, overgrazing, dam construction, and urbanization. Breeding Bird Survey (BBS) data show this species decreasing in number in both the United States and the North American continent during the period 1966-1996 (Sedgwick 2000). Willow flycatcher is a common migrant in the region and study area during the spring and fall (Heindel 2000).

The southwestern willow flycatcher (*Empidonax traillii extimus*) is a subspecies of the willow flycatcher and is both state and federal endangered. The CDFW lists the willow flycatcher as endangered and includes all subspecies in that listing. The USFWS has designated critical habitat for the southwestern willow flycatcher along the South Fork of the Kern River approximately 15 miles to the north of the project area. The southwestern willow flycatcher is distinguished from other willow flycatchers by its song. Because the willow flycatcher is strongly migratory, migrants of the more northern subspecies, the little willow flycatcher (*Empidonax traillii brewsteri*; state endangered) occurs commonly in the breeding range of the southwestern willow flycatcher. With the population crash of the southwestern willow flycatcher, almost all willow flycatchers seen in southern California are the little willow flycatcher. The southwestern willow flycatcher is encountered only at the few sites where it breeds (Unitt 2003). There are no reports of the southwestern willow flycatcher breeding in the project area.

Loggerhead Shrike. The loggerhead shrike receives its name from its relatively large head in comparison to body size. Loggerhead shrikes have a black mask, gray head and back, and white chest. The loggerhead shrike is an unusual member of the order of Passerines because it is a top-level predator. Loggerhead shrikes possess a hooked bill, not unlike many raptor species, and capture and kill large prey by impaling them on a thorn or barbed wire fence. Prey items for loggerhead shrikes consist of large insects, small mammals and birds, amphibians, reptiles,

carrion, and other invertebrates. In southern portions of their range, loggerhead shrikes are non-migratory and defend a territory as a pair year round (Shuford and Gardali 2008). Loggerhead shrike is a fairly common year-round resident in the study area (Heindel 2000). This species was observed during avian surveys in March and/or May of 2012.

Least Bell's Vireo. Least Bell's vireo, a subspecies of the Bell's vireo, is quite similar in appearance to the other subspecies, the Arizona Bell's vireo. The least Bell's vireo is a summer resident of cottonwood-willow forest, oak woodland, shrubby thickets, and dry washes with willow thickets at the edges. The cottonwood-willow habitat is the more commonly used habitat. Formerly, the vireo was known to breed from interior northern California near Red Bluff in Tehama County south through the Sacramento and San Joaquin valleys and Sierra Nevada foothills and in the coastal ranges from Santa Clara County south to the approximate vicinity of San Fernando in Baja California. The bird also occurred in the Owens and Death valleys in Inyo County and at scattered oases and canyons throughout the Mojave Desert. Currently, its breeding range is in Southern California, with large populations in Riverside and San Diego counties and smaller populations in Santa Barbara, Ventura, and San Bernardino counties and in northern Baja California (Kus 2002). Least Bell's vireo is a casual migrant in the region, with three spring records (Heindel 2000).

California Horned Lark. The California horned lark is a subspecies of the horned lark, which is much more widely distributed. The horned lark is the only member of the family Alaudidae that is native to North America. Its distribution is holarctic, from the Arctic south to central Asia and Mexico with outlying populations in Morocco and Colombia. A common, widespread bird of the open country, the horned lark prefers short, sparsely vegetated prairies, deserts, and agricultural lands. Horned larks often sing in flight, and in such instances, the song appears to function in courtship. Adults eat primarily weed and grass seeds, but they feed insects to their young. In North America, geographic variation is most obvious in body size and coloration, especially of the eyebrow stripe, throat, and ear coverts, which vary from white to yellow. The variation in back color is strongly correlated with the color of the local soil. Males and females are similar, but females tend to be slightly smaller and their plumages duller (Beason 1995). California horned lark is a common resident of the study area (Heindel 2000). This species was observed during avian point count surveys in March and/or May of 2012.

Purple Martin. The purple martin is the largest swallow in North America and among the largest in the world. Surviving on a diet consisting exclusively of flying insects, the purple martin is not well suited to the climatic regime of middle and northern North America. The species has been recorded as far north as northern Yukon, northern Alaska, and central Labrador, but the more northerly populations are small and ephemeral. Martins are highly vulnerable to regular spells of cold and rainy weather during spring and early summer, conditions that temporarily reduce their insect food supply. Periodically, regional martin populations as far south as the Mid-Atlantic states may be eliminated or reduced by cold weather. Since it is a secondary-cavity nester, the purple martin has also suffered from the introduction into North America of European starlings (*Sturnus vulgaris*) and house sparrows (*Passer domesticus*), which compete with it for nest sites throughout much of the eastern half of the continent. Without human intervention and management of colony sites, starlings and sparrows can cause local extinction of martins by appropriating their nest cavities and making them permanently unsuitable for martin use. In the mountain forests, deserts, and coastal areas of western North America, where the species is less common, the purple martin nests almost exclusively in woodpecker holes or natural cavities; while it nests largely in artificial nest boxes in much of the rest of its range. The relatively recent conversion of purple martins to artificial nest sites in most of its range has probably affected its social behavior. The species is often considered "colonial" because multiple pairs nest in the

same or adjacent birdhouses, but the western and Mexican populations frequently nest solitarily, and the purple martin's behavior is in many respects similar to that of swallows that nest solitarily (Brown 1997). Purple martin is an irregularly occurring, rare migrant in the study area (Heindel 2000).

Bendire's Thrasher. The breeding range of the Bendire's thrasher extends from southern Nevada, Utah, and Colorado south through southeastern California, Arizona, and western New Mexico to Sonora, northern Sinaloa, and extreme northern Chihuahua, Mexico. The winter range encompasses southern Arizona, southwestern New Mexico, and Sonora and northern Chihuahua. It occurs primarily as a summer resident in California from March to late August (rarely Oct or later); breeds from late March-late July, and most birds leave the state by mid-August. The ecological requirements of Bendire's thrashers in California are largely unknown. Generally, they are closely associated with plants in the genera *Yucca* and *Opuntia*, as well as "firmly packed dirt" with less rock, sand, and desert pavement than other Mojave soil types. Bendire's thrashers generally avoid areas with steep slopes and rocky terrain. They are found infrequently in areas with hard, rocky, or loose sandy soils, and these areas, including the Antelope Valley, may be unsuitable for sustaining breeding populations. In the Mojave Desert, nearly all Bendire's thrashers breed in Mojave desert scrub with either Joshua tree, Spanish bayonet (*Yucca baccata*), Mohave yucca (*Y. schidigera*), cholla cacti (*Opuntia* spp.), or other succulents. They selectively occupy areas with high density and cover of these species. However, density of Joshua trees and height of perennial shrubs do not predict the presence of Bendire's thrashers. Bendire's thrashers place their open-cup nests, made of sticks and lined with soft materials, 0.6-20 feet (typically 2.3-4.9 feet) high in shrubs, trees, and cacti. In California, most pairs raise a single brood, although a record of a second brood suggests that they may at least occasionally raise more than one. These thrashers forage for ants, termites, insect larvae, grasshoppers, beetles, and some fruit and seeds, most often procured on the ground but occasionally gleaned or plucked from vegetation. Housing and agricultural development are grave threats to Bendire's thrasher populations; large military bases are also a threat. Other direct threats include the removal of yuccas and cholla cacti as well as OHV disturbance during the breeding season (Shuford and Gardali 2008). A small, isolated population of Bendire's thrasher occurs in Kelso Valley (England and Laudenslayer, Jr. 1989), and individuals have infrequently been observed in this area since England and Laudenslayer's surveys in 1986-1987. Because of the importance of this isolated population, the California Desert Conservation Plan has designated a Bendire's thrasher ACEC in the western portion of the project area (see Figure 2 in Appendix G). In addition to breeding pairs, Bendire's thrasher also occurs in the region as a casual migrant (Heindel 2000). Playback surveys were conducted for Bendire's thrasher at all the point count locations and at several additional locations in Kelso Valley as part of the May avian surveys, but no Bendire's thrashers were detected.

Yellow Warbler. This warbler is most abundant in early succession riparian habitats that possess dense thickets of young willow trees. The male has distinctive reddish streaking on his chest with a bright yellow face. Insects, other arthropods, and occasionally wild fruits make up the diet of the yellow warbler. This species is a common brown-headed cowbird host and is one of the few species documented as rejecting the nest parasitism by building a new nest bottom over the existing clutch, thus creating a multi-tiered nest (Lowther 1999). Yellow warbler is a common migrant in the study area, particularly in the spring, though it is still fairly common during fall migration (Heindel 2000). This species was observed incidentally during avian surveys in 2012.

Yellow-breasted Chat. The yellow-breasted chat is the largest wood-warbler, looking closer in size to a tanager than other warblers. It is identified by a plain olive back, bright yellow throat and breast, and white feathers around the eye that give it the appearance of wearing spectacles

(Sibley 2000). The chat is typically found along streams, ponds, and swamps in low, dense brush that is void of a closed tree canopy (Eckerle 2001). Its diet consists of insects and berries, which are gleaned from foliage. Yellow-breasted chat lays three to four eggs in a cup nest built up to eight feet from the ground. Brown-headed cowbirds frequently lay their eggs in the chat's nest, leaving the parenting to the chats (Ehrlich 1988). Yellow-breasted chat is an uncommon migrant, though more numerous in the spring, in the project area (Heindel 2000). This species was observed incidentally during avian surveys in 2012.

Mammals

The project area is in the range of several special-status mammal species, and provides habitat that supports them. Research determined that 20 special-status mammal species could occur in the project area, including:

- Western mastiff bat (*Eumops perotis californicus*, California Species of Special Concern and BLM Sensitive)
- Pallid bat (*Antrozous pallidus*, California Species of Special Concern, BLM Sensitive, and USFS Sensitive)
- Townsend's big-eared bat (*Corynorhinus townsendii*, California Species of Special Concern, BLM Sensitive, and USFS Sensitive)
- Spotted bat (*Euderma maculatum*, California Species of Special Concern and BLM Sensitive)
- Western red bat (*Lasiurus blossevillii*, California Species of Special Concern and USFS Sensitive)
- Small-footed myotis (*Myotis ciliolabrum*, BLM Sensitive)
- Long-eared myotis (*Myotis evotis*, BLM Sensitive)
- Fringed myotis (*Myotis thysanodes*, BLM Sensitive)
- Yuma myotis (*Myotis yumanensis*, BLM Sensitive)
- Pocketed free-tailed bat (*Nyctinomops femorosaccus*, California Species of Special Concern)
- Big free-tailed bat (*Nyctinomops macrotis*, California Species of Special Concern)
- Tulare grasshopper mouse (*Onychomys torridus tularensis*, California Species of Special Concern and BLM Sensitive)
- Tehachapi pocket mouse(*Perognathus alticola inexpectatus*, California Species of Special Concern, BLM Sensitive and USFS Sensitive)
- San Joaquin pocket mouse (*Perognathus inornatus inornatus*, BLM Sensitive)
- Yellow-eared pocket mouse (*Perognathus parvus xanthonotus*, BLM Sensitive)
- Mohave ground squirrel (*Xerospermophilus mohavensis;* State Threatened)
- Ringtail (*Bassariscus astutus*, California Fully Protected Species)
- Desert kit fox (protected fur-bearing mammal)
- Pacific fisher (*Martes pennanti* (*pacifica*) DPS, California Species of Special Concern, BLM Sensitive, and USFS Sensitive)

- American badger (*Taxidea taxus*; California Species of Special Concern)

These species are described below.

Western Mastiff Bat. The western mastiff bat is nocturnal and does not hibernate; although it goes into a daily torpor from December through February. Crevices in cliff faces, high buildings, trees, and tunnels are required for roosting. When roosting in rock crevices, it needs vertical faces to drop off to take flight. Nursery roosts have been described as tight rock crevices at least 35 inches deep and 2 inches wide, or crevices in buildings. Adults of both sexes can be found together throughout the year. Copulation probably occurs most frequently in early spring (March), when testes of adult males enlarge and descend. Length of gestation period is unknown. In California, parturition may occur from early April through August or September. One offspring is produced per female each year. The western mastiff bat catches and feeds on insects in flight. In Arizona, one study found that it fed primarily (58%) on night-flying hymenopterous insects. The insects consumed were relatively small, low-flying, and weak-flying forms, caught from ground to tree-level. However, over rugged terrain these bats typically forage at much greater heights (195 ft) above the ground. Suitable habitat consists of extensive open areas with abundant roost locations provided by crevices in rock outcrops and buildings (CDFG 1999). This species has a high potential to occur in the project area because rock crevices on the ReNu parcels provide suitable habitat and because they were detected nearby during surveys for an adjacent wind energy development.

Pocketed Free-tailed Bat. The pocketed free-tailed bat is nocturnal and probably active year-round. It prefers rock crevices in cliffs as roosting sites, as it must drop from the roost to gain flight speed. It reproduces in rock crevices, caverns, or buildings. Young are born in June and July, peaking in late June. The single litter has a single offspring. Lactation occurs in July and August. The pocketed free-tailed bat feeds on flying insects detected by echolocation high over ponds, streams, or arid desert habitat. Large moths are the principal food, but a wide variety of insects is taken. Its flight is swift and direct. This species prefers rocky desert areas with high cliffs or rock outcrops (CDFG 1999). This species has a moderate potential to occur because suitable habitat occurs throughout much of the project area; but it has not been recorded in the area.

Big Free-tailed Bat. The big free-tailed bat is nocturnal. It roosts in crevices in high cliffs or rock outcrops. It probably does not breed in California. In other areas, small nursery colonies are formed in rocky crevices in high cliffs. The young are born in June and July; births peak in late June. A single young is born annually. The young are capable of flight in August to mid-September. The big free-tailed bat feeds principally on large moths. It takes a variety of other flying insects as well. It often forages over water sources. This species refers rugged, rocky canyons and is rare in California (CDFG 1999). This species has a moderate potential to occur because suitable habitat occurs throughout much of the project area, but it has not been recorded in the area.

Pallid Bat. The pallid bat is nocturnal and hibernates in winter. It occupies day roosts in caves, crevices, mines, and occasionally in hollow trees and buildings. Roosts must protect bats from high temperatures. Bats move deeper into cover if temperatures rise. Night roosts may be in more open sites, such as porches and open buildings. Few hibernation sites are known, but it probably uses rock crevices. Maternity colonies form in early April, and may have a dozen to 100 individuals. Males may roost separately or in the nursery colony. Pallid bats mate from late October-February. Fertilization is delayed and gestation is 53-71 days. The young are born from April-July, mostly from May-June. The average litter is two, but females reproducing for the first time usually have one young. Pallid bats eat a wide variety of insects and arachnids, including

beetles, orthopterans, homopterans, moths, spiders, scorpions, solpugids, and Jerusalem crickets (CDFG 1999). This species has a high potential to occur in the project area because roosting habitat is present in mines and trees and because it was detected nearby during surveys for an adjacent wind energy development.

Townsend's Big-eared Bat. The Townsend's big-eared bat is nocturnal and hibernates in winter. It requires caves, mines, tunnels, buildings, or other human-made structures for roosting. It may use separate sites for night, day, hibernation, or maternity roosts. Maternity roosts are found in caves, tunnels, mines, and buildings. Small clusters or groups (usually fewer than 100 individuals) of females and young form the maternity colony. Most mating occurs from November-February, but many females are inseminated before hibernation begins. Sperm is stored until ovulation occurs in spring. Gestation lasts 56-100 days, depending on temperature, size of the hibernating cluster, and time in hibernation. Births occur in May and June, peaking in late May. A single litter of one is produced annually. Young are weaned in six weeks and fly in 2.5-3 weeks after birth. Small moths are the principal food of this species. Beetles and a variety of soft-bodied insects also are taken. Townsend's big-eared bats capture their prey in flight using echolocation, or by gleaning from foliage. This species prefers mesic habitats (CDFG 1999). This species has a high potential to occur in the project area because roosting habitat is present in mines and trees and because it was detected nearby during surveys for an adjacent wind energy development.

Spotted Bat. The spotted bat is nocturnal and hibernates in some places. It may move from forests to lowlands in autumn. It apparently prefers to roost in rock crevices, but is occasionally found in caves and buildings. Cliffs provide the optimal roosting habitat. It mates in autumn and most births occur before mid-June. Lactating females have been reported from June to August. A single offspring is produced each year. Moths are the principal food for this species. There is some evidence of beetle consumption. It feeds in flight, over water, and near the ground, using echolocation to find prey. This species is rare in California (CDFG 1999). This species has a high potential to occur in the project area because roosting habitat is present in cliffs and because it is known to occur within Red Rock Canyon State Park.

Western Red Bat. The western red bat is nocturnal, hibernates in winter, and is migratory. It roosts primarily in trees, less often in shrubs. Roost sites often are in edge habitats adjacent to streams, fields, or urban areas. Preferred roost sites are protected from above, open below, and located above dark ground-cover. Such sites minimize water loss. Roosts may be from 2-40 feet above ground level. Females and young may roost in higher sites than males. Young are born and roost in sites with the characteristics described under cover requirements. Family groups roost together. Nursery colonies are found with many females and their young. Mating occurs in August and September. After delayed fertilization there is an 80-90 day gestation. Births are from late May through early July. Most females bear two or three young, though the single litter may have 1-5. Lactation lasts 4-6 weeks, and the young are capable of flight between 3-6 weeks of age. The most important prey are moths, crickets, beetles, and cicadas. Foraging flight is slow and erratic. It captures insects in wing and tail membranes utilizing echolocation. This species prefers edges or habitat mosaics that have trees for roosting and open areas for foraging (CDFG 1999). This species has a high potential to occur in the project area because suitable roosting habitat is present at Butterbredt Spring and because it was detected nearby during surveys for an adjacent wind energy development.

Small-footed Myotis. The small-footed myotis is nocturnal and hibernates in winter. This bat seeks cover in caves, buildings, mines, crevices, and occasionally under bridges and under bark. Separate night roosts may be used, and have been found in buildings and caves. Groups of 50, or more, may inhabit a hibernation site. Maternity colonies of females and young are found in

buildings, caves, and mines. Such colonies usually contain 12-20 individuals. This species mates in the fall. The young are born from May through June, with a peak in late May. Usually there is a single young, but twins are common. Most young are flying by mid-August. Prey includes moths, flies, beetles, and bugs. Foraging flight is slow and maneuverable. The small-footed myotis often is seen foraging among trees and over water. The small-footed myotis is a bat of arid, upland habitats. It prefers open stands in forests and woodlands as well as brushy habitats. Streams, ponds, springs, and stock tanks are used for drinking and feeding (CDFG 1999). This species has a high potential to occur in the project area because suitable roosting habitat is present in mines and rock crevices and because it was detected nearby during surveys for an adjacent wind energy development.

Long-eared Myotis. The long-eared myotis is nocturnal and hibernates in winter. This species roosts in buildings, crevices, spaces under bark, and snags. Caves are used primarily as night roosts. The long-eared myotis roosts singly, or is found in small groups. Nursery colonies of 12-30 individuals are found in buildings, crevices, snags, and behind bark. Mating probably occurs in the fall. The young are born from May-July, with a peak in June. The single yearly litter averages one young. Most young are flying by early August. The long-eared myotis feeds on a variety of arthropods including beetles, moths, flies, and spiders. Insects are caught in flight, gleaned from foliage, or occasionally taken from the ground. Foraging flight is slow. This species is capable of hovering. It forages among trees, over water, and over shrubs (CDFG 1999). This species has a high potential to occur in the project area because suitable roosting habitat is present in mines and rock crevices and because it was detected nearby during surveys for an adjacent wind energy development.

Fringed Myotis. The fringed myotis is nocturnal and hibernates in winter. It roosts in caves, mines, buildings, and crevices. Separate day and night roosts may be used. Adults and subadults generally form separate groups in the roost. Maternity colonies of up to 200 individuals are located in caves, mines, buildings, or crevices. Adult males are absent from maternity colonies, which are occupied from late April through September. Maternity group members may remain together during hibernation. Mating occurs in the fall, followed by delayed fertilization. Gestation lasts 50-60 days. The young are born from May through July, but most are born in late June. A single offspring is produced per year. Lactating females are found in July and August. Young females are mature in their first year; males are mature in their second year. Fringed myotis feeds mostly on beetles, and on moths, arachnids, and orthopterans. Foraging flight is slow and capture may utilize wing and tail membranes. This species is capable of hovering, and occasionally may land on the ground. It feeds over water, over open habitats, and by gleaning from foliage (CDFG 1999). This species has a high potential to occur in the project area because suitable roosting habitat is present in mines and rock crevices and because it was detected nearby during surveys for an adjacent wind energy development.

Yuma Myotis. The Yuma myotis is nocturnal and hibernates in winter. Maternity colonies of several thousand females and young may be found in buildings, caves, mines, and under bridges. Warm, dark sites are preferred. The Yuma myotis, like other California bats, mates in the fall. Births occur from late May to mid-June with a peak in early June. It is likely that some young are born in July in some areas. A single litter of one young is produced yearly. The Yuma myotis feeds on a wide variety of small flying insects found by echolocation. This species usually feeds over water sources such as ponds, streams, and stock tanks. Prey includes moths, midges, flies, termites, ants, homopterans, and caddisflies (CDFG 1999). This species has a high potential to occur in the project area because suitable roosting habitat is present in rock crevices and because it was detected nearby during surveys for an adjacent wind energy development.

Tulare Grasshopper Mouse. The Tulare grasshopper mouse is a subspecies of the southern grasshopper mouse (*Onychomys torridus*). It is nocturnal and active year-round. It frequents desert areas, especially scrub habitats with friable soils for digging. Nests are constructed in burrows abandoned by other rodents, or may be excavated. Peak breeding is from May to July, but may start in January under ideal conditions, and may continue year-round. Gestation is 27-30 days. Litter size averages four young (range 2-6). A female may produce as many as six litters per year. Both males and females care for the young. Weaning in the laboratory has occur in 20 days. Males store sperm at 40 days of age. Females can become receptive at six weeks of age. This species feeds almost exclusively on arthropods, especially scorpions and orthopteran insects. Vertebrate prey includes salamanders, lizards, frogs, and small mammals. Both vertebrates and seeds are minor components of the diet (CDFG 1999). The Tulare grasshopper mouse has a high potential to occur in the project area based on the presence of suitable habitat in all or portions of the project area and proximity of known occurrences. Because it is a subspecies of the southern grasshopper mouse, which was captured during the surveys, the Tulare grasshopper mouse may have been detected during the small mammal trapping surveys conducted in the project area by Biosearch (2012). Subspecies can be difficult to distinguish from a parent species.

Tehachapi Pocket Mouse. The Tehachapi pocket mouse is a subspecies of the white-eared pocket mouse (*Perognathus alticolus*). It is nocturnal, aestivates in very hot weather, and hibernates in very cold weather. Burrows are constructed in loose soil. A nest of dried grass is built in a chamber of the underground burrow. Reproduction patterns are unknown for this species, but reproduction of related *P. parvus* occurs in March to April, with a peak in June. Gestation is likely 21-28 days. Litter size ranges from 3-8 offspring with weaning likely within three weeks. This species feeds on plant seeds, probably preferring various grass seeds, and perhaps some insects. It forages on open ground and beneath shrubs. Likely predators of this species include foxes, coyotes, weasels, owls, and snakes (CDFG 1999). The Tehachapi pocket mouse has a moderate potential to occur based on the presence of suitable habitat in the project area, but the closest known occurrence is 15 miles south-southwest of the project area near Tehachapi.

San Joaquin Pocket Mouse. The San Joaquin pocket mouse is nocturnal and may become torpid during extreme heat or cold. It occurs on shrubby ridge tops and hillsides or in open, sandy areas with grasses and forbs. It digs burrows for cover. The young are born and raised in a nest built in the burrow. Reproduction probably occurs during spring and early summer. Seeds probably constitute the majority of the diet; but it also eats green vegetation and insects. Seeds are gathered, carried in cheek pouches, and stored in the burrows (CDFG 1999). The San Joaquin pocket mouse has a high potential to occur in the project area based on the presence of suitable habitat in all or portions of the project area and proximity of known occurrences.

Yellow-eared Pocket Mouse. The yellow-eared pocket mouse is a subspecies of the Great Basin pocket mouse (*Perognathus parvus*). This species is nocturnal and crepuscular, and presumably enters a period of torpor between November and March or April. Burrows are excavated in sandy to gravelly soils, usually at base of shrubs. It occurs in all canopy coverage classes, being least common under sparse cover. Population numbers are correlated with sand availability. Nest chambers are excavated within the burrow system, and average 3 inches in diameter. The nest is lined with dried vegetation. Burrows usually are under 4 feet in length and run 2-3 feet deep. It breeds March through August. Females enter estrus in April and the gestation period is about 21-28 days. Average litter size is 5.5 young (range 3-8). In exceptional years, two litters may be raised, but usually there is one or none in poor years. Weaning occurs at about three weeks. Sexual maturity usually occurs in spring following birth, although in exceptional years subadults may breed. This species is mainly granivorous, but will eat green vegetation and insects. Winter

diet largely consists of seeds; vegetation and insects become important diet elements in spring and summer. Seeds of brome, wheat, and fescue grasses, mustard, buckwheat, and composites are common in the diet (CDFG 1999). The yellow-eared pocket mouse has a high potential to occur in the project area based on the presence of suitable habitat in all or portions of the project area and proximity of known occurrences.

Mohave Ground Squirrel. The Mohave ground squirrel occupies all major desert scrub habitats in the western Mojave Desert inhabiting flat to moderate terrain and is not generally found in steep contours. This diurnal ground squirrel is active above ground in the spring and early summer. Emergence dates vary from March to June, depending on elevation. Squirrels begin aestivation in July or August. Stored body fat is the principal source of energy for aestivation, although food is stored, and captive individuals eat during intermittent periods of wakefulness. Home range had an average size of 0.91 acres, with a variation of 0.25-2 acres. Home range boundaries are at the outer extent of the burrow system. Mojave ground squirrel uses burrows at the base of shrubs for cover. The reproductive success of the Mohave ground squirrel is dependent on the amount of fall and winter rains. Following a year of low rainfall, annual herbaceous plants are not readily available, and the species may forego breeding entirely. Individuals may maintain several home burrows that are used at night, as well as accessory burrows that are used for temperature control and predator avoidance. Burrows are essential to the survival of the Mohave ground squirrel, as they provide protection from predation and the temperature extremes of the desert, are likely used to store food, and provide a safe location for reproduction and rearing young. Nests are built in the burrow system, which may be as long as 20 feet, and as deep as 3.3 feet. Young are born from March to May with a peak in April. Litter size is about six. This species eats a wide variety of green vegetation, seeds, and fruits. It forages on the ground or in shrubs and Joshua trees. Fruiting Joshua trees may attract concentrations of ground squirrels. This species caches food. Predators of Mohave ground squirrel include badgers, foxes, coyotes, hawks, and eagles (CDFG 1999).

The Mohave ground squirrel is known to occur in the project area. Diurnal live-trapping was conducted at 18 100-trap (24.5-acre) grids in the northeastern portion of Onyx Ranch by Biosearch in 2012 (Appendix H). Mohave ground squirrels were live-trapped at 10 of the 18 locations. As expected, given the below-average rainfall during the preceding winter, none of the adults showed evidence of reproductive activity and no juveniles were observed. When these data are combined with known records from previous studies, Mohave ground squirrels are widely distributed throughout much of the eastern two-thirds of the proposed acquisition parcels, extending from Jawbone Canyon north to Dove Springs, and from the vicinity of State Route 14 west through Butterbredt Canyon. Additional field studies are needed to determine if the species occurs on those parcels in Kelso Valley (Biosearch Associates 2012).

Desert Kit Fox. The desert kit fox is one of two subspecies of *Vulpes macrotis* currently recognized. The subspecies *arsipus* occurs in desert and semi-arid regions of southwestern United States and central Mexico. The desert kit fox is designated as a Protected Furbearer under the California Fish and Game Code and the California Code of Regulations. Uncommon to rare, this permanent resident of the Mojave Desert lives on the open desert, creosote bush flats, and grassy open stages of vegetation dominated by scattered brush, shrubs, and scrub. Kit foxes primarily are carnivorous. The principal foods are black-tailed jackrabbits and desert cottontails, rodents (especially kangaroo rats and ground squirrels), insects, reptiles, and some birds, bird eggs, and vegetation. They hunt by searching, meandering, circling clumps of brush, and wandering back and forth between clumps of vegetation. Kit fox dens have several entrances, and a fox usually has several dens within its home range. The burrow entrance is a little higher than wide and too narrow for a coyote to enter. Tunnels extend for three to six meters. Several

different dens are used during the year. Nocturnal activity and regular use of dens are important adaptations for thermal regulation and water conservation (CDFG 1999). Sign of desert kit fox was observed on two parcels (S-1 and S-3) during surveys conducted in 2012 by Biosearch (Appendix H). Suitable habitat occurs in most portions of the project area.

Ringtail. The ringtail is nocturnal and active year-round. Suitable habitat for ringtails consists of a mixture of forest and shrubland in close association with rocky areas or riparian habitats. Hollow trees, logs, snags, cavities in talus and other rocky areas, and other recesses are used for cover. In California, home range varies from 109 to 1,280 acres. It nests in rock recesses, hollow trees, logs, snags, abandoned burrows, or woodrat nests. The young are reportedly often born in May and June. Females produce one litter per year with an average of three offspring. Gestation ranges from 40-50 days. Females may drive males away 3-4 days prior to giving birth. The ringtail is primarily carnivorous, eating mainly rodents (woodrats and mice) and rabbits. It also consumes substantial amounts of birds and eggs, reptiles, invertebrates, fruits, nuts, and some carrion. It forages on the ground, among rocks and in trees, usually near water. Probable predators of the ringtail include bobcats, raccoons, foxes, and especially large owls (CDFG 1999). The ringtail has a moderate potential to occur because suitable habitat exists in the project area in the Piute Mountains and near springs, but there are no records of this species in the project area.

Pacific Fisher. Pacific fishers are mostly nocturnal and crepuscular, with some diurnal activity. They are active year-round. Suitable habitat for fishers consists of large areas of mature, dense forest stands with snags and greater than 50% canopy closure. Fishers use cavities in large trees, snags, logs, rock areas, or shelters provided by slash or brush piles. Dense, mature stands of trees also provide cover, especially in winter. Home range size varies from about five to 15 miles. Fishers den in a variety of protected cavities, brush piles, logs, or under an upturned tree. Hollow logs, trees, and snags are especially important. Females breed a few days after parturition; implantation of the embryo is delayed until the following winter. Post-implantation active growth lasts about 30 days. Young are born February through May. Litter size averages 2.7, and ranges from 1-4. Young remain with the female until late autumn. Males and females become sexually mature in the first or second year. Fishers are largely carnivorous. They eat rabbits and hares, especially snowshoe hares, and rodents (e.g., mice, porcupines, squirrels, and mountain beavers), shrews, birds, fruits, and carrion. Fishers are opportunistic; they search for small mammals, and pounce on, or chase prey and dig out prey (CDFG 1999). The Pacific fisher has a moderate potential to occur because suitable habitat exists at the western edge of the project area, and it is known from the Piute Mountains, but the project area is near the edge of its range.

American Badger. The American badger is active year-round with variable periods of torpor in winter. It is nocturnal and diurnal. Suitable habitat for badgers is characterized by herbaceous, shrub, and open stages of most habitats with dry, friable soils. Home range size varies geographically and seasonally from about 340 acres-1,550 acres. Badgers dig burrows in friable soil for cover. They frequently reuse old burrows, although some may dig a new den each night, especially in summer. Young are born in burrows dug in relatively dry, often sandy, soil, usually in areas with sparse over-story cover. Badgers mate in summer and early fall. An average litter of 2-3 individuals is born mostly in March and April. A few females may breed in the first year. Males do not mature sexually until the second year. Badgers are carnivorous, primarily eating rodents: rats, mice, chipmunks, and especially ground squirrels and pocket gophers. Badgers also eat some reptiles, insects, earthworms, eggs, birds, and carrion. Their diet shifts seasonally and yearly in response to availability of prey (CDFG 1999). Biosearch detected evidence of American badger (scat, dens, digging) on six parcels: D-2, B-4, A-4, S-2, S-3, and S-6. These

sites are scattered throughout the study area, reflecting a widespread but seemingly low-density distribution in the area (Biosearch Associates 2012).

6.2.9.4 Existing Effects on Special-Status Wildlife

This section describes how special-status wildlife species are currently affected by the existing activities in the project area. The effects are not effects caused by the proposed project but rather part of the biological baseline.

Visitor Use Activity

Human activity occurring in the project area can impact wildlife through exploitation, disturbance, habitat modification, and pollution. Disturbance caused by ongoing recreation pursuits or other human activities may elicit behavioral response and physiological responses in wildlife. Wildlife behavior may take the form of avoidance, habituation, or attraction. Behavioral response may be of short duration (temporary displacement) or long-term, such as abandonment of preferred foraging or breeding areas. Likewise, physiological responses that affect an individual's energy budget may result in death. At the population level, physiological responses may result in reduced productivity for some species. Negative effects to wildlife resulting from recreation and livestock grazing can include the physical alteration of habitat and soils, the removal of vegetation or replacement of native species by disturbance-tolerant exotics and/or noxious weeds, increased noise disturbance, introduction of predators, reduction in home range, and (in some instances) direct injury or mortality. These effects are more pronounced on species with low tolerances for human disturbance, on habitat specialists, and on species with highly localized populations or generally low population levels. Some wildlife species or individuals become habituated to OHV or other human activities, and are not harmed by them.

Home Range Use. Noise and extended human presence from existing OHV and other recreational activities could reduce the size of the home range for several wildlife species. The home range provides food, shelter, and breeding opportunity, and if it is reduced, could compromise species survival, particularly during stressful survival conditions.

Breeding Disruption. The presence of OHVs could disrupt courtship and nesting or denning activities due to noise and/or visual disturbance that results in behavioral changes in the animals. This ongoing impact may have a minor to moderate effect on common species as it would affect individuals, but it would not affect the viability of common wildlife species' populations. For special-status species, breeding disruption could have a significant adverse effect on a species with an already low population.

Physiological Stress. Single or repeated interactions between OHVs and wildlife could lead to energy expenditures from flight or vigilance reactions. Animals may experience an elevated heart rate and metabolism resulting in high energy expenditures, elevated production of stress hormones (i.e., glucocorticoids), increased susceptibility to predation, decreased reproduction, and diminished nutritional condition (NPS 2007). The energetic cost of flight can be significant for predatory animals. Quantifying these physiological responses in wildlife is extremely difficult. It is assumed that an individual animal is unlikely to have repeated encounters with OHVs as encounters would likely result in animals avoiding trail areas (NPS 2007). Many species will become habituated to human presence. Habituation often poses risks to animals, resulting in undesirable behaviors, poor nutrition, and a host of other factors. Human activity along road networks can have an impact on wildlife behavior that is often complex and varies among species and across both space and time (Blumstein et al 2005; Stankowich 2008). Recreational disturbance, including off-road activities, can affect wildlife behavior that, ultimately, can effect wildlife populations (Naylor et al 2008, Blumstein et al 2005). It is not just

the number of people but the type of human activity that is expected to cause shifts in behavioral responses of wildlife. Studies (primarily focusing on ungulates) suggest that certain hunting practices and motorized recreational activities can have a stronger impact on wildlife than less intrusive disturbances (Stankowich 2008; Naylor et al 2008; Ciuti et al 2012). However, the actual effect of human disturbance on behavior, population dynamics, and life history is still poorly documented (Ciuti et al 2012).

Introduction of Predators. Recreationists provide a food source (e.g., trash) to opportunistic predators such as ravens and coyotes, possibly increasing predation rates of local wildlife including desert tortoise, the contents of nests (i.e., eggs, nestlings, incubating/brooding adults), and predation of birds off the nest. For example, ravens increased in the Mojave Desert by 1,500 percent between 1968 and 1988 as a result of human activities (Boarman and Berry 1995). Ravens proliferate near garbage dumps, sewage ponds, agricultural areas, and along roads, all of which provide unnaturally abundant food, water, perches, and nest sites (UC Davis Wildlife Health Center 2007).

Habitat Alteration. An important characteristic of habitat for wildlife is the composition and physical structure of vegetation (e.g., height and density of vegetative cover). OHV and other visitor uses that are restricted to roads and existing trails have limited direct impacts to vegetation; however, OHVs in open riding areas and illegal use of closed trails and going off designated routes impacts vegetation. For example, several studies found that OHV use resulted in reduced vegetative cover from smaller plant size due to soil compaction, that non-native annual grasses were more common in areas with OHV use, and that native annual plants were less common or absent from OHV use areas (Adams et al. 1982, Prose et al. 1987, Bolling and Walker 2000). Use of the trail/road system provides access to otherwise remote sensitive habitats such as cottonwood-willow riparian areas, which may see increased use by recreationists. Some of these sensitive areas are fenced, preventing access by OHVs, but not necessarily foot-traffic, while others are not.

The spread of many exotic plant species is facilitated by access provided by roads (Brooks and Lair 2005) and through provision of livestock feed (Esque and Schwalbe 2002). OHV use can disturb desert soils, damaging their microbiotic crusts, making them more susceptible to invasion by exotic species (Wilson et al. 2002). Invasive plant species can increase wildfire frequency and intensity in desert habitats (Esque and Schwalbe 2002). Wildfire destroys nesting habitat for birds, and rare habitats such as cottonwood-willow riparian can be destroyed by wildfire, thereby substantially impacting important habitat for birds and other wildlife.

OHV riders and other recreationists may increase the risk of wildfire through campfires, fireworks, or engine idling over dry vegetation. Non-native annual grasses may also build up fuel loads and increase the risk of wildfire (CalPIF 2009). Wildfire alters habitat for birds and other wildlife. For example, one study showed that most native desert shrubs are poorly adapted to wildfire and failed to regenerate after fire; creosote bush, white bursage), and prickly pear (*Opuntia* spp.) shrubs were replaced by open stands of brittle bush (*Encelia farinosa*), native ephemerals, and non-native annual grasses (Brown and Minnich 1986).

Livestock Grazing

Livestock grazing applies three ecological forces on a landscape: herbivory, physical alteration, and deposition. The ecological impact of grazing depends on the type of ecosystem, plant community, and conditions of a particular site. Grazing can reduce habitat quality for local wildlife through vegetation loss and trampling, disturbance of soil surfaces, increased erosion, and soil compaction. The introduction and spread of alien grasses may be partially due to cattle grazing. Grazing is particularly detrimental to the wetland and riparian habitats in the Mojave

Desert, altering streambeds and trampling vegetation of an already fragile ecosystem (UC Davis Wildlife Health Center 2007). Hoof action may also increase compaction and reduce ground cover resulting in increased erosion and decreased water infiltration; effects are most severe around troughs and corrals and less severe in lightly grazed areas further from water.

Existing Effects on Amphibians and Reptiles

Desert Tortoise. The quality of habitat within the project area for desert tortoise and other special-status species varies based on the dominant vegetation types and human-related disturbances including OHV use, utility corridors, and cattle grazing. Sections within the Jawbone Canyon Open Area are denuded of vegetation due to camping and OHV use, although intact habitat remains in inaccessible canyons and rock outcrops. Other sections are lightly to heavily impacted by cattle grazing where the severity of the impact is usually highest along low gradient washes and flat areas easily traversed by cattle. Impacts associated with cattle grazing that reduce habitat quality include vegetation loss and trampling, disturbance of soil surfaces, increased erosion potential, and soil compaction.

Vehicles, especially those operating at high speeds, can run over and kill or injure tortoises. When racing, even informally, vehicles may leave more traveled portions of routes, resulting in route-widening, vegetation loss, crushing of tortoises and burrows, increased compaction, loss of soil and nutrients, and destruction of cryptogamic crusts. Compaction of soils reduces water absorption, increases surface temperatures, and increases the difficulties in digging burrows. The spread of alien plants is aided by surface disturbance and, possibly, fugitive dust along trail and road edges. New disturbance may destroy cryptogamic crusts that are important in reducing erosion, controlling water infiltration, regulating soil temperatures, fixing atmospheric nitrogen, pre-adapting soils for plant growth, and accumulating organic matter. Destruction of vegetation reduces tortoise protection from predators and weather and reduces annual plant habitat suitability and productivity. OHV activities' direct effects are likely to be minor if vehicles use established routes of travel, even in designated open areas.

In years of low annual plant production, cattle can compete with tortoises and Mohave ground squirrels for food. There is forage overlap even in years of abundant forage, but there is probably no competition in these years. Cattle may trample tortoise burrows, destroying the burrow and possibly entombing a live tortoise (Boarman 2002).

During the past few decades, the population of the common raven has increased substantially in the California desert, primarily in response to human-provided subsidies of food, water, and nest sites. The common raven is a known predator of the desert tortoise. There is documentation of numerous carcasses of hatchling and juvenile desert tortoises under the nests of common ravens and a reduction in the proportion of hatchling and juvenile desert tortoises in the population at several locations in the California desert (USFWS 2008). Use of the ReNu parcels by recreationists could provide a food source (e.g., trash) to opportunistic predators such as ravens and coyotes, which could increase predation rates of the contents of nests (i.e., eggs, nestlings, incubating/brooding adults) and predation of birds off the nest. As noted above, ravens increased in the Mojave Desert by 1,500 percent between 1968 and 1988 as a result of human activities (Boarman and Berry 1995). Ravens proliferate near garbage dumps, agricultural areas, and along roads, all of which provide unnaturally abundant food, water, perches, and nest sites (UC Davis Wildlife Health Center 2007).

Tehachapi Slender Salamander, Yellow-blotched Slender Salamander, Western Pond Turtle, Coast Horned Lizard, Silvery Legless Lizard. Vehicles can run over and kill or injure common and special-status reptiles and amphibians if present. Degradation of habitat including damage to shrubs and plants could alter access to a variety of essential resources, including shade, shelter,

and food sources. OHV activities could result in the displacement and/or potential mortality of resident wildlife species that are poor dispersers such as snakes and lizards. Potential indirect impacts to habitat from OHV activities and livestock grazing include alterations to existing topographical and hydrological conditions, increased erosion and sediment transport, and the establishment of nonnative and invasive weeds.

Existing Effects on Birds

Direct Mortality. The most direct impact of OHV use to birds is death or injury from vehicle collisions. OHV use may also cause direct mortality by impacting shrubs supporting nests or crushing burrows (e.g., those used by burrowing owls; Ouren et al. 2007). These impacts are likely greater in the spring and summer during the nesting season and when OHV use is the highest and the spring migration is occurring. Impacts to burrowing owls through the crushing of burrows can happen year-round as use of burrows by burrowing owls in not limited to the nesting season.

Birds may become trapped in open top vertical pipes on vault toilets, fencing, or other facilities. Any open top vertical pipe can be a death trap to birds and other wildlife, and the remains of birds and other wildlife have been found in open top pipes in other areas. As an example, in 2009, a fallen irrigation sand pipe 6 inches in diameter and 10 feet tall located adjacent to the Kern River Preserve on CDFW land contained the remains of over 200 birds. In all, forty-five species of birds (and several species of lizards and small mammals) have been found trapped in open-topped pipes in California (Audubon California and Southern Sierra Research Station 2012).

Noise and Other Disturbances. OHV traffic is a source of noise and other stimuli that creates disturbance for birds. Traffic noise can lead to significant reductions in breeding bird densities (Reijnen et al. 1995, 1997), and nesting in close proximity to OHV trails can cause an increase in nest abandonment and desertion rates in songbirds and lower abundance of some species adjacent to trails used by OHV (Barton and Holmes 2007). Traffic noise may play a role in altering bird communities by interfering with bird communication during the incubation and fledgling phases (Forman and Deblinger 2000).

Shooting firearms or discharging fireworks is another source of noise and disturbance for birds. According to Ouren et al. (2007), studies have shown that birds and other wildlife experience accelerated heart rates and metabolic function during disturbance events, which may include OHV use, gunshots and fireworks. During the avian surveys, numerous shells from firearms were observed, and one camper was observed discharging fireworks.

Nesting Special-Status Birds. Burrowing owls are particularly vulnerable to OHV use as burrows may be crushed by vehicles. Other ground nesting birds in the area, such as California horned lark, are also more vulnerable as nests could be run over.

Other special-status birds that nest in the area (but are not ground nesters) include Cooper's hawk, golden eagle, prairie falcon, long-eared owl, loggerhead shrike, possibly least Bell's vireo, and Bendire's thrasher. Species that nest in shrubs, such as loggerhead shrike and Bendire's thrasher, may be more vulnerable to the direct impacts of existing OHV use (e.g., collisions of OHV into nests) than species that nest at greater heights in trees (i.e., Cooper's hawk). However, nesting habitat for all of these species occurs adjacent to or close to roads. Such impacts, however, are considered less than significant, as most of the nesting habitat is not immediately adjacent to roads.

Livestock grazing has been documented degrading other shrubland habitat (i.e., coastal scrub) by preventing the growth of young shrubs, opening up the shrub canopy to invasion by exotic

annuals, and reducing the ability of native forbs and grasses to compete with exotics (CalPIF 2009). Such effects change vegetation structure and composition, which may impact bird populations.

Migrating and Over-wintering Special-Status Birds. Migrating and over-wintering special-status birds in the area may include American white pelican, Northern harrier, Northern goshawk, ferruginous hawk, Swainson's hawk, osprey, American peregrine falcon, mountain plover, Vaux's swift, black swift, olive-sided flycatcher, willow flycatcher, purple martin, yellow warbler, and yellow-breasted chat. There is no suitable aquatic habitat in the project area for American white pelican; this species is almost entirely observed flying over the project area. These other species are less impacted by ongoing OHV use and other impacts because they are in the area for a short time (migratory species), do not nest in the area, and/or are in the area during the time of year when there is less OHV and other recreational activity (wintering species). While these species may still be subjected to some of the impacts of ongoing OHV use, such as vehicle collision or habitat damage, such impacts are generally considered less than significant for the reasons discussed above. Furthermore, some of these species are so rare or uncommon in the study area (mostly because the study area is not part of a species' breeding or wintering range, or because of lack of suitable habitat) that they are unlikely to be impacted or only suffer minimal impacts. Such rare or uncommon species include American white pelican, Northern goshawk, ferruginous hawk, American peregrine falcon, mountain plover, and black swift.

Existing Effects on Mammals

Mohave Ground Squirrel. OHV use can harm Mohave ground squirrels through direct collisions, disturbance of soil and burrows, destruction of shrubs, and facilitation of invasive species that displace native species along dirt roads and trails (MGSWG 2006; UC Davis Wildlife Health Center 2007). The four BLM-operated off-highway areas (Jawbone Canyon, Dove Springs, El Mirage, and Spangler Hills) cover 95,347 ac, or 1.8 percent of the range of the Mohave ground squirrel (USFWS 2011). The impacts to the Mohave ground squirrel and its habitat are greatest in open areas and areas of high OHV use (e.g., staging areas for OHV events, camping areas), and less in areas where activities are confined to existing roads and trails. Among the ReNu parcels, cross-country OHV use is restricted to Jawbone Canyon Open Area; however, the occurrence of off-route OHV use tends to extend or spill over into areas immediately adjacent to both Jawbone Canyon and Dove Springs Open Areas. The BLM estimates that these "spill-over" zones, encompass an additional 150,239 acres around its four OHV areas (BLM et al. 2005), or 2.8 percent of the range of the Mohave ground squirrel. This area, combined with the four designated OHV management areas, constitutes about 4.6 percent of the range of the Mohave ground squirrel. The intensive and widespread OHV activity that occurs within the management and high-use areas has likely resulted in extensive loss and degradation of potential habitat for the squirrel. However, the status of the Mohave ground squirrel within these areas is not well known. Biosearch trapped Mohave ground squirrel near both Jawbone Canyon and Dove Springs Open Areas in 2012, but was unable to trap within Jawbone Canyon Open Area due to safety and logistical concerns. Areas of lesser use, such as existing unpaved roads and trails, can result in the loss of habitat, and vehicle activity can crush Mohave ground squirrels and their burrows; however, the significance of such losses is undocumented for the Mohave ground squirrel. Although miles of roads and trails exist, the habitat loss is essentially a narrow, linear band, the impacts of which are minor compared to that of a management or high-use area.

Livestock grazing may cause habitat degradation and have direct impacts on Mohave ground squirrel (Leitner 2008; MGSWG 2006). Livestock grazing can affect vegetative structure, disturb soils, accelerate erosion, and collapse Mohave ground squirrel burrows (MGSWG 2006). Cattle and sheep forage on winter fat foliage, which is also important to Mohave ground squirrel,

especially in years with low precipitation and annual forb production (MGSWG 2006). Grazing by cattle and sheep occurs throughout the range of the Mohave ground squirrel (MGSWG 2006), but only cattle graze in the project area.

Special-Status Rodents, Ringtail, and Pacific Fisher. OHV activities may have resulted in displacement and/or potential mortality of resident wildlife species such as small mammals. Potential indirect impacts to habitat from OHV activities and livestock grazing include alterations to existing topographical and hydrological conditions, increased erosion and sediment transport, and establishment of nonnative and invasive weeds. Impacts to special-status rodents would be similar to impacts to Mohave ground squirrel. Impacts to ringtail and Pacific fisher are expected to be minimal as potential habitat is limited to the forested western parcels where no OHV activity is allowed.

Special-Status Bats. Bats use important fat reserves when aroused during hibernation. Vandalism and disturbance of roosting sites seriously threaten remaining populations. Maternity roosts are very sensitive to disturbance, and females may abort their fetus if disturbed during maternity roosting in the spring. Though bats are long-lived, they reproduce slowly. Most bats only rear one young per year. Thus, population recovery from disturbance can take a long time. There are no known bat roosts within the project area, and OHV use and livestock grazing are not expected to impact potential roosts.

6.3 PROJECT IMPACTS

6.3.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, a project would have a significant biological impact if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFG or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

6.3.2 Proposed Biological Management Measures

OHMVR Division ownership of the project parcels would result in OHMVR Division biologists taking steps to ensure that sensitive resources are adequately protected. The OHMVR Division

would implement the following Management Measures to remedy impaired resources from ongoing activity and prevent new adverse effects from project activity.

Wildlife Habitat Protection Program (WHPP) and Habitat Monitoring System (HMS). Public Resource Code section 5090.35(c) requires the OHMVR Division to inventory wildlife populations and their habitats in each SVRA and to prepare a WHPP for the SVRA. The goals of the WHPP are to monitor and manage wildlife and plant populations and restore habitats where necessary to sustain a viable species composition within the SVRA. If the OHMVR Division determines that the WHPP is not being met in any portion of an SVRA, the OHMVR Division must close the noncompliant portion until the program is met. If the WHPP cannot be met, the OHMVR Division must close and restore the noncompliant portion.

Implementation of the WHPP is supported by the HMS, which is developed based upon scientifically accepted techniques and measures that are appropriate for the specific biological resources found within a particular SVRA. The HMS provides an inventory of study data, establishes monitoring protocols, and allows managers to make decisions on the basis of quantitative field data. The HMS is intended to be adaptive such that the HMS program itself and/or management practices are changed as more effective monitoring strategies are developed or new information is made available through monitoring.

While the project area is not currently proposed for designation as a SVRA, if the OHMVR Division acquires the properties, it will treat the acquired parcels as subject to WHPP requirements mandated by Public Resource Code section 5090.35. The WHPP and associated HMS are a major part of each SVRA's resource monitoring and evaluation program that includes standardized protocols tailored for the needs of the particular SVRA. Several special-status species and sensitive habitats occur within the project area, including riparian, wetlands, drainages, and other sensitive vegetation communities, and desert tortoise, Mohave ground squirrel, desert kit fox, American badger, and nesting birds. The OHMVR Division will perform additional, seasonally appropriate, resource surveys. These surveys, along with those already performed for this EIR, will inform the development of monitoring and management plans for special-status species and sensitive habitats as part of the general plan, WHPP, and HMS. During the development of the WHPP and HMS, OHMVR Division Environmental Scientists will assess the condition of and perform wetland delineations of jurisdictional waters, including waters regulated under the Porter-Cologne Act, and develop protective measures for regulated waters.

Protective measures for special-status species and sensitive habitats may include the following: placement of protective signs and/or interpretive signs; notification of park rangers and additional park staff to patrol sensitive area and contact visitors; overall increased law enforcement; closed or restricted access or trail re-routes; placement of protective fencing, barriers, or additional protection measures; and surveys for special-status species or habitats prior to constructing minor improvements, e.g., vault toilets, or conducting other ground disturbance. In order to prevent birds and other wildlife being trapped in various open pipes that may be installed (e.g., vault toilets, fencing), the OHMVR Division will incorporate appropriate caps for fenceposts and other pipes into project design. The OHMVR Division will also incorporate information about pipes and trapped wildlife into educational materials. Additionally, the OHMVR Division will perform accurate mapping of existing fences on project parcels to understand where rare plant populations are currently protected and where they need protection. All fencing installed will allow wildlife passage.

The 2008 Soil Conservation Standard and Guidelines indicate the presence of special-status wildlife and vegetation should be assessed when developing effective soil conservation-related

OHV projects. Special-status plant and animal surveys (including burrowing animals) will be conducted prior to commencement of repairs or installations. These management actions will be taken under supervision of a qualified Environmental Scientist to ensure soil conservation measures do not result in damage of biological resources.

Grazing Management. The acquisition parcels are included in the RCA and Piute allotments (Figure 4-1) and actively grazed by the permittee (Hafenfeld Ranch). As the ownership of land in the area has a checkerboard pattern, and grazing is open range, cattle can occur on all ReNu parcels within either grazing allotment. The permit is attached in Appendix C and discussed in detail in Section 4.2. As a Management Measure, the OHMVR Division will utilize the terms of the BLM permit as a baseline for management on the newly acquired parcels and work with the permittee to assure sensitive resources are protected while ensuring cattle have access to water and movement through the RCA is not unduly impeded.

The OHMVR Division is not the livestock operator or permittor and will not be required to gain or issue any permits specific to grazing. As described in detail in Chapter 4.0, grazing occurs on an open range basis. Open range grazing requires that landowners within an allotment that desire to exclude cattle from their property must fence cattle out. Although the OHMVR Division will not be a grazing operator, the OHMVR Division will monitor cattle grazing within its property and initiate management as warranted. The OHMVR Division will work with the BLM and permittee to ensure grazing is managed within the acquisition parcels, which at a minimum will include implementing the same standards that apply to BLM lands to the acquisition parcels. These standards specifically address riparian areas during Rangeland Health Studies. As OHMVR Division Environmental Scientists work to develop the WHPP, and the Soil Conservation Standard is implemented, areas requiring specific measures to address erosion or riparian impacts will be identified. To the extent those areas are affected by cattle grazing, the OHMVR Division will work with the permittee to address the condition, but any biological impacts will not be a result of this project. Rather, this project will ensure the resources receive suitable monitoring and management measures. The BLM and USFS will remain responsible for enforcing the terms of their respective permits.

6.3.3 Special-status Species

For any project, natural resource managers are concerned with general habitat protection, management, and enhancement; protection of breeding activity; minimizing effects on common wildlife; and maintaining wildlife corridors and connectivity to promote genetic diversity.

OHMVR Division ownership of the acquisition parcels would not change the type of land use activity presently occurring on the property or increase the intensity of those uses, but could lead to an essentially negligible (1%) increase in overall visitation.

The project does not propose construction of new facilities to support the existing land uses, although minor projects are foreseeable such as repairs to existing facilities, installing vault toilets, kiosks, and signage, or ensuring ADA compliance at existing facilities (see Chapter 2, Section 2.5). Such minor projects could be proposed prior to completion of a general plan. Additionally, some existing trails, including non-motorized trails, could require minor trail realignments to address localized erosion or avoid a sensitive resource. These changes would be subject to subsequent environmental review and CEQA compliance. Consistent with Public Resources Code section 5002.2 (c), prior to developing a general plan, no facilities could be developed that result in the permanent commitment of a resource of the unit. As described in Biological Management Measures, rare plant and animal surveys would be conducted prior to commencement of repairs or installations. These management measures would be taken under supervision of a qualified Environmental Scientist.

Implementation of some of the management measures developed for the WHPP would involve minor ground disturbance to erect protective fencing or signage, or route closures. These management actions would be taken under supervision of a qualified biologist and would not result in damage of resources that the action is designed to protect. Therefore, implementation of the Biological Management Measures resulting from OHMVR Division acquisition would not impact biological resources; the impact would be less than significant.

Since tortoises are slow moving animals, they are particularly vulnerable to collisions with high-speed vehicles. The 1% increase in annual visitor use of the project area or resulting from OHMVR Division acquisition of the project property or special events permitted by the OHMVR Division could increase the take of desert tortoise. In order to reduce the incidence of vehicle collisions, Mitigation Measure BIO-1 is recommended. This measure prohibits high speed, competitive special events outside of the Jawbone Canyon Open Area or courses dedicated to such use in the CDCA Plan. Organized trail-riding events would only be allowed on designated routes from November 1 to March 1, with the application of standard protection measures, such as use of specified parking, staging, and concession areas, and placement of monitors throughout the course. Additionally, the OHMVR Division shall increase enforcement of off- route travel and provide educational materials to visitors regarding tortoise presence.

However, even with this mitigation measure in place, the potential for take of desert tortoise cannot be eliminated. The species' population and distribution in the project area is not well studied, and the extent of potential take, while presumed low, is not known. Given that desert tortoise is state and federally listed, this unknown potential for increased take of desert tortoise is considered an unavoidable, significant adverse impact.

6.3.4 Vegetation Communities including Wetland and Riparian Areas

Activities in the project area, including OHV use and grazing can result in adverse impacts to aquatic resources, possibly including Waters of the U.S. and/or state, and wetland, riparian, or other aquatic habitat. Adverse effects are caused by direct disturbance of these habitats including removal of vegetation, filling of Waters of the U.S. and/or state, including wetlands, or altering the bed, bank or channel of a stream or wash. Biological Management Measures, such as monitoring and protective measures developed for the WHPP and HMS, would ensure that aquatic resources are adequately protected. Protective measures will include restricting access to aquatic communities where substantial impacts are observed through educational materials and signage, or, if necessary using barriers or trail re-routes. The OHMVR Division will include monitoring of jurisdictional waters, and riparian, wetland, and other sensitive aquatic habitats occurring within the project area in the WHPP and HMS.

The proposed project would not change the type of land use activity presently occurring on the property or increase the intensity of those uses, but could lead to an essentially negligible (1%) increase in overall visitation. The project does not propose construction of new facilities to support the ongoing land uses, although minor projects are foreseeable, such as fence and sign installation, addition or modification of vault toilets, or trail realignment to protect sensitive resources (see Project Description, Section 2.5). Prior to installation, surveys would confirm sensitive resources would not be affected. Implementation of some of the Biological Management Measures would involve minor ground disturbance, such as from installing protective fencing or signage. These management actions would be taken under supervision of a qualified Environmental Scientist. In some cases, measures such as fence and sign installation may be implemented specifically to protect riparian, wetland, and other sensitive aquatic habitats from damage by existing land use activities. Thus, the project would not have significant adverse

impacts on any sensitive vegetation communities, including riparian, wetland, and other aquatic habitat.

6.3.5 Wildlife Movement Corridors

Habitat fragmentation may result in smaller and more isolated wildlife populations. Smaller populations are more vulnerable to local extinction, due to stochastic events (Gilpin and Soule 1986). Smaller populations are also more susceptible to the negative effects of inbreeding depression. Because the project does not alter (or convert) habitat to human uses, new edge effects caused by the project are expected to be minimal. The proposed project would not change the type of land use activity presently occurring on the property or increase the intensity of those uses, but could lead to an essentially negligible (1%) increase in overall visitation. The project does not propose construction of new facilities to support the ongoing land uses, although minor projects are foreseeable, such as fence and sign installation, addition or modification of vault toilets, or trail realignment to protect sensitive resources (see Project Description, Section 2.5). The OHV activity in the project area has been in existence for many years. OHV use is dispersed across the project area, but primarily concentrated around Jawbone Canyon Open Area. The acquisition of the property as proposed by the project would not change the extent of existing effects. All fencing installed would allow wildlife passage, and management actions would be taken under supervision of a qualified Environmental Scientist. Therefore, the project, including implementation of the Biological Management Measures, would not impact wildlife movement corridors; the impact would be less than significant.

6.3.6 Conflict with Local Policies Related to Protection of Biological Resources or an Approved HCP or NCCP

The project area is currently private property and is subject to Kern County ordinances and policies. Should the acquisition be approved, at the time the OHMVR Division purchases the lands, the County's land use designations and ordinances would no longer apply to the acquired parcels. Therefore, the potential for conflicting with local land use plans, policies, or regulations is less than significant.

There are no adopted HCPs or NCCPs in effect within the project area. The DRECP is still in the planning stages. The project area is within the boundaries of the West Mojave Plan, which is comprised of a pending HCP and an approved amendment to the CDCA Plan for the desert tortoise, Mohave ground squirrel, and nearly 100 additional species. The West Mojave Plan was approved for BLM lands in 2006, and the portion of the West Mojave Plan that would apply to non-BLM lands is still pending. As the West Mojave Plan is only applicable to BLM parcels, the potential for conflicting with an applicable HCP or NCCP is less than significant.

6.4 CUMULATIVE IMPACTS

In addition to the recreational uses and cattle grazing that are ongoing in the project vicinity and addressed in the EIR, other activities could occur on the BLM, National Forest, and lands throughout the year possibly affecting the same biological resources occurring in the project area. A list of specific projects planned or proposed is presented in Section 13.4. These activities may influence wildlife populations by introducing more vehicle traffic into the natural landscape and creating more disturbed areas with high intensity uses, which can disturb and fragment wildlife habitat. Many of the cumulative projects have gone through environmental review by local agencies, and impacts on species-status species should have been assessed by state and federal wildlife management agencies. Measures to minimize significant impacts on special-

status plant and animal populations and wetlands would have been developed and approved by each of the regulatory agencies during this review.

The project will formalize recreational uses on the private properties that have designated routes or that are within the Jawbone Open Area. Ownership by the OHMVR Division would also assure that more law enforcement occurs in the area and that resource protection policies are implemented on the acquisition parcels. Most other activities occurring within the BLM, National Forest, and on other private lands will be implemented either under agency resource management plans or under requirements of lead agency permits and environmental compliance documents. Therefore, the cumulative effects on biological resources (excluding the desert tortoise) are considered less than significant.

Since under the proposed project, impacts on desert tortoise are considered unavoidable, the impacts would remain unavoidable and significant under the cumulative project scenario.

6.5 MITIGATION MEASURES

The following mitigation measure would further reduce some significant impacts to biological resources to a less-than-significant level, however for the desert tortoise, the impacts from ongoing OHV use and cattle grazing, even after mitigation, would remain a significant adverse impact due to the fact that tortoise may be harmed by the activities.

Impact BIO-1: Desert tortoises are vulnerable to collision from high speed OHV recreation occurring during organized race events or from individual riders. The risk of collision with desert tortoise can be reduced by restricting high speed events, but cannot be eliminated from individual riders without eliminating the use. The projected 1% growth in annual visitation resulting from OHMVR Division acquisition would increase OHV recreation in areas that are known to support the desert tortoise. The increase in ridership would increase the possibility of take, and is considered a significant unavoidable impact.

Mitigation Measure BIO-1: Competitive special events shall be restricted to the Jawbone Canyon Open Area and courses dedicated for such use in the CDCA Plan. No competitive special events shall be permitted in desert tortoise on project parcels outside of the Jawbone Canyon Open Area. Organized trail-riding events may be allowed 1 November to 1 March while most tortoises and Mohave ground squirrel are hibernating. The OHMVR Division shall provide education materials informing park visitors that very young tortoises may be encountered during the fall and winter, at the time of the event, and should be avoided. Organized trail-riding events shall only be allowed on open and seasonally limited routes with the application of standard protection measures, such as use the specified parking, staging and concession areas, and placement of monitors throughout the course. No cross-country travel shall be allowed outside of the OHV Open Areas. The OHMVR Division shall provide law enforcement presence during busy weekends and holiday periods; and work with Friends of Jawbone and BLM to maintain fences and signs to prevent off-designated route travel in desert tortoise. The OHMVR Division shall consult with USFWS to determine additional effective feasible mitigation measures to further reduce take of desert tortoise.

Implementation: Competitive event restrictions would be implemented by BLM and the OHMVR Division through the issuance of special event permits. Enforcement actions would be coordinated between BLM and the OHMVR Division, and maintenance of fences and signs would be coordinated between Friends of Jawbone, BLM, and the OHMVR Division.

Effectiveness: Elimination of special events in desert tortoise habitat and/or outside the tortoise hibernation season would significantly reduce chances of special-status wildlife being hit by vehicle traffic, or being harmed or harassed by people congregating off trails, or burrows being destroyed. Increasing enforcement and maintaining fences and signs will reduce proliferation of unauthorized routes and prevent trespass into and destruction of desert tortoise habitat.

Feasibility: The implementation of these measures can be accomplished through regular communication between BLM, OHMVR Division, and Friends of Jawbone.

Monitoring: The enforcement and effectiveness of this measure will be monitored by OHMVR Division headquarters.

Figure 6-1. Special-Status Plant Occurrences

Figure 6-2. Special-Status Animal Occurrences

Figure 6-3. Water Courses, Springs, and Wetlands

Figure 6-4. Botanical Survey Vegetation Alliances and Associations

CHAPTER 7 CULTURAL RESOURCES

This chapter identifies known cultural resources present on the acquisition parcels based on field survey and literature review. It identifies existing effects on these resources from current property uses as part of the baseline conditions in the environmental stetting. The analysis addresses the impacts to cultural resources from OHMVR Division property management activities as well as increased visitor recreational use resulting from the acquisition.

7.1 REGULATORY SETTING

7.1.1 California Environmental Quality Act (CEQA)

CEQA establishes statutory requirements for the formal review and analysis of projects. CEQA recognizes archaeological resources as part of the environment. For the purpose of CEQA, "environment" is defined to include "the physical conditions which exist within the area which will be affected by the proposed project, including objects of historic or aesthetic significance" (PRC §21060.5). A project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment (PRC §21084.1). If the lead agency determines that a project may have a significant effect on unique archaeological resources, these effects will be addressed in an environmental impact report, or proper mitigations can be made to lessen or avoid impacts all together (PRC §21083.2). Public Resources Code sections 21084.1 and 21083.2 operate independently to ensure that potential effects on archaeological resources are considered as part of a project's environmental analysis. The former applies to archaeological sites which are listed on or eligible for listing on the California Register of Historical Resources (CRHR), the latter applies to other "unique" archaeological resources. Either of these benchmarks may indicate that a proposed project may have a potential adverse effect on archaeological resources.

An effective determination of whether or not a project will adversely affect archaeological resources is contingent upon supporting baseline data that includes, but is not limited to, archaeological archival research, field work, analyses, and resource evaluations. A record search to determine whether any previously identified resources exist within the project boundary is the first step in determining whether archaeological resources may be present. A record search is conducted at the applicable California Historical Resources Information System (CHRIS). There are 11 regional centers that maintain the State Archaeological Inventory as part of the Historical Resources File System. This system maintains current information on recorded archaeological sites, as well as resources listed in the CRHR. Additional sources of information include colleges and universities within archaeology departments, the local historical or archaeological society, local Native American groups, or appropriate archives and repositories. Most importantly, the Native American Heritage Commission maintains a file of sacred lands that contains information unavailable elsewhere. If the project area has never been surveyed for archaeological resources, the lead agency should require a field survey by a qualified state professional archaeologist to identify, record, and evaluate known archaeological resources within the project boundary.

Historical Resources

Pursuant to CEQA Guidelines section 15064.5(a)) the term "historical resources" includes the following:

1. A resource listed, or determined to be eligible by the State Historical Resources Commission for listing, in the California Register of Historical Resources (PRC §5024.1,14 CCR §4850 et seq.).

2. A resource included in a local register of historical resources, as defined in Public Resource Code section 5020.1 (k) or identified as significant in a historical resource survey meeting the requirements of Public Resource Code section 5024.1(g), shall be presumed historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (PRC §5024.1, 14 CCR §4852) including the following:
    a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    b. Is associated with the lives of persons important in our past;
    c. Embodies the distinctive characteristics of type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
    d. Has yielded, or may be likely to yield, information important in prehistory or history.
4. The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC §5020.1(k)), or identified in a historical resources survey (meeting the criteria in PRC §5024.1(g)) does not preclude a lead agency from determining that the resource may be a historical resource as defined by Public Resource Code section 5020.1(j) or 5024.1.

Unique Archaeological Resources

Pursuant to CEQA section 21083.2(g), a unique archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person

The resource must also be at least 100 years old, possess "substantial stratigraphic integrity" (i.e., is substantially undisturbed), and involve "important research questions that historical research has shown can be answered only with archaeological methods."

To the extent that unique archaeological resources are not preserved in place or not left in an undisturbed state, mitigation measures shall be required (PRC §21083.2(c)). If it is proven that an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment, and no further CEQA review is required (14 CCR §15064.5(d)).

National Register of Historic Places (NRHP) Criteria

The criteria for determining whether a property is eligible for listing in the NRHP are found in 36 CFR 60.4 and are reproduced below:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

a. That are associated with events that have made a significant contribution to the broad patterns of our history; or

b. That are associated with the lives of persons significant in our past; or

c. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinctions; or

d. That have yielded, or may be likely to yield, information important in prehistory or history.

For a property to qualify for the NRHP, it must meet at least one of the above National Register Criteria for Evaluation by

- Being associated with an important context, and
- Retaining historic integrity of those features necessary to convey its significance

A resource also has to be at least 50 years old and must possess several of the 7 levels of integrity to be eligible for listing in the CRHR. Integrity is defined as "…the authenticity of an historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance." The seven levels of integrity are location, design, setting, materials, workmanship, feeling, and association. Resources that are listed in the NRHP are automatically eligible for the CRHR (PRC §5024.1(c)).

Both NRHP and CRHR evaluations must be made within an appropriate historic context. A historic context includes three components: a time period, place, and event. A historic context is developed through one or more research themes to help identify the resources' significance at the local, state, or national level. A resources' integrity is based on its ability to convey its significance through data requirements. Data requirements can best be described as evidence found within the archaeological record that conveys the resources' historical significance. If the appropriate data requirements are lacking, the resource arguably lacks significance and is therefore not an eligible resource.

7.1.2 California Register of Historical Resources

The Office of Historic Preservation administers CRHR, which was established in 1992 through amendments to the Public Resources Code, as an authoritative guide to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected from substantial adverse change. The CRHR includes resources that have been formally determined eligible for, or listed in, the NRHP, State Historical Landmark Number 770 or higher, Points of Historical Interest recommended for listing by the State Historical Resources Commission , resources nominated for listing and determined eligible in accordance with criteria and procedures adopted by the SHRC, and resources and districts designated as city or county landmarks when the designation criteria are

consistent with CRHR criteria. The CRHR criteria are set forth in Public Resource Code section 5024.1 and identified in CEQA Guidelines section 15064.5(a) (see Section 7.1.1).

7.1.3 Public Resources Code Sections 5024 and 5024.5

As a state agency, CDPR is also required to follow Public Resources Code sections 5024 and 5024.5 when it comes to resource management. Section 5024 requires each state agency to make a good faith effort to formulate policies to preserve and maintain all state-owned historical resources under its jurisdiction and to submit to the State Historic Preservation Officer (SHPO) an inventory of all state-owned structures over 50 years of age under its jurisdiction. Additionally, section 5024 permits the SHPO to determine which historical resources identified in inventories meet NRHP and state historical landmark criteria for inclusion on the master list of historical resources. The SHPO will maintain this master list comprised of all inventoried structures submitted and determined significant pursuant to section 5024(d) along with all state-owned historical resources currently listed in the NRHP or registered as a state historical landmark under state agency jurisdiction. In an effort to keep an updated master list, each state agency is required to submit inventory updates to the SHPO along with an annual report of preservation activities. The SHPO shall provide state agencies with advice and assistance as needed with regards to historical resources, for instance, during projects that may affect historical resources listed in or eligible to the NRHP, or registered or eligible as a state historical landmark. CDPR has had an active and on-going historic preservation program with the SHPO since 1982 and is required to submit annual inventory updates as well as preservation and protection measures of historical resources to SHPO (CDPR 2005).

An effective way in which a state agency complies with Public Resources Code section 5024 is by establishing a Cultural Resource Management Program. The OHMVR Division's Program includes the development of Cultural Resource Management Guidelines that ensure that all cultural resources under OHMVR Division jurisdiction are inventoried, evaluated, monitored, and protected. The Cultural Resource Management Guidelines include the following:

1. In accordance with Public Resource Code sections 5024 and 5024.5, known cultural resources will be evaluated according to the NRHP and/or the CRHR criteria. A Determination of Eligibility from the SHPO for listing the resource on the NRHP/CRHR will also be obtained for known resources. If resources are determined to be eligible for NRHP/CRHR, protection measures consistent with the Secretary of Interior's Standards for the Treatment of Historic Properties and CEQA will be generated. In the event a complete inventory and/or resource evaluations are not feasible, all known cultural resources will be managed as potentially significant for listing in the NRHP/CRHR in accordance with CDPR policy;
2. Identify significant cultural resources that are in need of data recovery, or are in areas of high risk of impact/vandalism. Initiate a data recovery effort, including surveys, GIS mapping, analysis, and documentation to develop specific management guidelines for the monitoring, site treatment and protection of significant cultural resources;
3. Areas with eligible and/or potentially eligible resources should be set aside as educational and scientific areas with limited and/or controlled public access to prevent further destruction of these heritage treasures;
4. Determine the eligibility of cultural resources within proposed project areas prior to construction. If significant cultural resources are discovered within or adjacent to areas that will be affected by planned or proposed activities, the activities will be designed to avoid or minimize impacts to the identified resources. If cultural resources are discovered inadvertently during construction activities, cease construction activities within and in the vicinity of the find and consult an OHMVR Division archaeologist or other qualified cultural

resource specialist to determine the potential significance of the find per NRHP/CRHR criteria. If the find is determined to be significant, develop and implement mitigation measures in consultation with the archaeologist consistent with the Secretary of Interior's Standards for the Treatment of Historic Properties, and CEQA. Mitigations could include avoidance, site capping, project redesign, or data recovery;

5. Maintain appropriate confidentiality of all cultural resources in conformance with Government Code 6254 "Restriction of Archaeological Record Disclosure" and 6254.10 "Information Maintained by Department of Parks and Recreation";
6. Consultation with local California Indian tribes and organizations who are culturally affiliated and connected to the area will occur on a regular basis to ensure productive, collaborative working relationships, especially when considering management practices involving the project area's natural and cultural resources of interest and concern to Native American individuals and communities;
7. Conduct a focused ethnographic study of the project area through archival research and consultation with California Indian tribes and organizations that are culturally affiliated and connected to the area to identify possible traditional cultural properties and additional culturally sensitive and sacred areas; and
8. Conduct a focused archival research on the history of the project area to identify historic context(s) for the historic-era resources located in the project boundary. Identify and record historic buildings, structures, sites, objects, and landscape features for those that lack such documentation. Develop treatment recommendations for significant historic structures and identify compatible and non-compatible uses

7.1.4 Public Resources Code Section 5090

Public Resources Code section 5090 requires management and protection of cultural resources specific to SVRA areas. Section 5090.35(f) requires the OHMVR Division to monitor and protect cultural and archaeological resources within the SVRAs.

7.1.5 Public Resources Code Section 5097.5

The Public Resources Code section 5097.5 states, "it is illegal for any person to knowingly and willfully excavate or remove, destroy, injure, or deface cultural resources." Furthermore, the crime is a misdemeanor punishable by a fine not to exceed $10,000 and/or county jail time for up to one year. In addition to a fine and/or jail time, the court can order restitution, and restitution will be granted of the commercial and archaeological value of the property. The OHMVR Division's law enforcement officers are the primary personnel responsible for the protection of OHMVR Division cultural resources on a daily basis.

7.1.6 Health and Safety Code

California Health and Safety Code section 7050.5 regulates procedure in the event of human remains discovery. Pursuant to Public Resources Code section 5097.98, in the event of human remains discovery, no further disturbance is allowed until the County Coroner has made the necessary findings regarding the origin and disposition of the remains. If the remains are determined to be Native American, the County Coroner is required to contact the Native American Heritage Commission (NAHC). The NAHC is responsible for contacting the most likely Native American descendent, who would consult with the local agency regarding how to proceed with the remains.

7.1.7 CDPR Native American Consultation Policy and Implementation

It is CDPR policy to involve Native California Indian groups in all plans and practices that have impacts on the cultural resources under CDPR's stewardship (CDPR 2007). Prior to

implementing projects or policies that may have impacts to Native American sites within the State Park System, CDPR will actively consult with local Native California Indian groups regarding the protection, preservation, and/or mitigation of cultural sites and sacred places in the State Park System. Departmental Notice 2007 *Native American Consultation Policy and Implementation Procedures* (CDPR 2007) identifies the following nine areas of activity where consultation between local Native California Indian groups and California State Parks is required:

1. Acquisition of properties where cultural sites are present
2. During the General Plan process and/or development of Management Plans
3. Planning, design, and implementation of capital outlay projects
4. Issues of concern identified by the tribes
5. Plant and mineral gathering by Native people
6. Access to Native California Indian ceremonial sites
7. Archaeological permitting
8. Mitigation of vandalism and development of protective measures at Native American sites
9. When using the Native voice in presenting the story of California native Indian people in park units

7.1.8 Executive Order B-10-11

In September of 2011 California Governor Edmund G. Brown Jr. filed with the Office of the Secretary of the State Executive Order B-10-11. This Executive Order acknowledges the important relationship that many Native American California Tribes have with their native home of California. As described in the Executive Order, the term "Tribes" includes all Federally Recognized Tribes and additional California Native Americans. The Executive Order affirms that the State of California recognizes and reaffirms the inherent right of these Tribes to exercise sovereign authority over their members and territory. Most importantly, it is ordered that it is the policy of the Brown administration that every state agency and department subject to the Governor's control shall encourage communication and consultation with California Indian Tribes.

7.2 ENVIRONMENTAL SETTING

A Cultural Resource Survey of the Onyx Ranch Acquisition Kern County, California (Perez 2012) was completed by the OHMVR Division to determine the presence of resources within the proposed Eastern Kern County Acquisition project area. The following sections are excerpts from the report, and more detailed prehistoric, ethnographic, and historic overviews can be found in the survey report. A public version of the report is provided in Appendix J. As noted in the appendix, all confidential cultural information has been removed from the attached report in accordance with Government Code 6254.10. The complete report is on file at OHMVR Division Headquarters in Sacramento. Citations in this section are as given in Perez 2012.

7.2.1 Prehistoric Setting

The chronological sequence for the Mojave Desert includes six chronological periods: Lake Mojave Complex, Pinto Complex, Deadman Lake Complex, Gypsum Complex, Rose Spring Complex, and a Late Prehistoric Complex (Warren 1980 and 1984; Warren and Crabtree 1986; Sutton et al. 2007). The following section outlines this chronological sequence adapted from Warren (1980 and 1984), Warren and Crabtree (1986), and Sutton et al. (2007) for the Mojave Desert.

7.2.1.1 Paleo-Indian Cultural Complex (ca. 12,000 to 10,000 B.P.)

This time period is distinguished by large fluted Clovis projectile points and related hunting material occurring in the archaeological record, all of which are commonly viewed as representing Big Game Hunting Tradition focused on the exploitation of Pleistocene mega fauna (Moratto 1984: 79). This period lacks substantiated evidence of milling equipment, although a variety of plant resources and small game were also exploited (Sutton 1996: 227). Current understanding of this time period is poor since evidence for this culture has been developed from a few isolated finds. It has been suggested that the people of this culture were "highly mobile, living in small, temporary camps located near (then) permanent water sources" (Sutton et al. 2007:234).

7.2.1.2 Lake Mojave Cultural Complex (ca. 10,000 to 8,000 B.P.)

Assemblages associated with the Lake Mojave Cultural Complex include Lake Mojave series projectile points (leaf-shaped, long stemmed projectile points with narrow shoulders) and Silver Lake projectile points (short bladed, stemmed pointed with distinct shoulders) (Campbell et al. 1937). Additional diagnostic items associated with the Lake Mojave Complex include Great Basin stemmed points, bifaces, scrapers, gravers, perforators, and additional heavy core tools, in addition to flaked stone crescents and the occasional ground stone tool (Sutton et al. 2007:234).

In the Mojave Desert this assemblage is typically found adjacent to ancient lakes, and most of the studied components of this time period are surface finds that lack datable artifacts. Large bifacial and unifacial tools appear to have been curated and reworked for a long period of time and were transported during the seasonal foraging travels. Although groundstone artifacts occur during this time period, the wear patterns on the recovered artifacts suggest a low reliance on plant resources (Sutton et al. 2007:237). Groups during this time period would have consisted of small, highly mobile camps that practiced a forager-like strategy in order to monitor resource availability. The availability of rich resources would have greatly influenced camp placement (Sutton et al. 2007).

7.2.1.3 Pinto Cultural Complex (ca. 8,000 to 5,000 B.C.)

The Pinto Complex is assumed to have neatly followed or even overlapped with the Lake Mojave Complex (Sutton et al. 2007:238). This period is marked by the appearance of Pinto series projectile points and named for the Pinto Basin Site, and are characterized as thick, shouldered, expanding stem points with concave bases, and are usually produced by percussion reduction methods with limited pressure retouch (Campbell and Campbell 1935).

Warren (1984) sees this period as marking the beginnings of cultural adaptation to the desert, as materials characteristic of the Pinto period gradually replace those of the preceding Lake Mojave period. Major technological shifts include the appearance of Pinto points and domed scrapers. Similar tool curation and reworking is seen during this time period. There is the Pinto series projectile point that was used for spears rather than darts. The presence of *Olivella* shell beads suggests interaction with groups across the region; however, reduced toolstone source diversity implies a reduction in foraging ranges (Sutton et al. 2007:238). Groundstone implements appear to be more important and used during this time period and are present in almost all recorded Pinto deposits. Warren (1990) theorizes the increase of milling implements coincided with the development to the exploitation of hard seeds, which is seen as a part of a process of subsistence diversification brought on by increased aridity and reduced ecosystem carrying capacity.

Sites associated with this period are usually found in open settings near water sources and are large and contain midden features – evidence of long-term occupational periods (Sutton et al. 2007). Also evident in the archaeological record is a transition from big game hunting to a more

broadly based economy (Sutton 1996: 231). Small rodents and reptile faunal along with freshwater mussel have been identified in Pinto period archaeological contexts (Sutton 1996: 232).

7.2.1.4 Deadman Lake Cultural Complex (ca. 9,500 to 7,200 B.P.)

This cultural complex has only been recognized at the Twenty-nine Palms area in the southeastern Mojave Desert and includes "small- to medium-size contracting-stemmed or lozenge-shaped points, extensive concentrations of battered cobbles and core tools, abundant bifaces, simple flake tools, and milling implements" (Sutton et al. 2007:239).

Many researchers suggest there was a 1,000-year "hiatus" between the Pinto and Deadman Lake Complexes and the later Gypsum Complex. It has been suggested that population densities were very low during this time period and some areas were largely abandoned (Sutton et al. 2007:241).

7.2.1.5 The Gypsum Cultural Complex (ca. 4,000 to 1730 B.P.)

The Gypsum Complex is the earliest Late Holocene complex and is marked by population increases and broadening economic activities as technological adaptation to the desert environment evolved. Hunting practices continued and the processing of plant resources increased in practice and is evident by the high volume and diversity of ground stone artifacts in the archaeological record. Sites were open and the use of rock shelters increased during this time. Base camps located near water resources and near substantial subsistence resources occur with extensive midden deposits. Additional site types including special purpose sites located in upland settings also occur during this period (Warren 1984; Warren and Crabtree 1986). There are very few deep deposits from this time period, which suggests highly transient groups moving across the region (Sutton et al. 2007:241).

This cultural complex is "defined by the presence of a range of corner-notched (Elko series), concave base (Humboldt series), and well-shouldered contracting stemmed (Gypsum series) point forms" (Sutton et al. 2007:241). Additional artifacts associated to this period include: rectangular-based knives, flake scrapers, occasional large scraper planes, choppers, and hammerstones. Handstones and milling tools continue to be part of the conventional tool kit while the mortar and pestle appear for the first time. Considerable archaeological evidence has been identified that suggests increased contact with the California Coast and the Southwest occurred during this period. Additionally, split-twig figurines and zoomorphic petroglyphs are suggestive of ritualistic practices (Grant et al. 1968).

Faunal evidence suggests a shift in subsistence orientation and mobility may have occurred along with a decrease in residential mobility near the end of the Gypsum period (Basgall et al. 1988; Sutton 1996: 234). Rock art images have been identified that suggest the hunting of mountain sheep played an important role during the Gypsum period (Grant et al. 1968). Additionally, artiodactyl, lagomorph, rodent, and tortoise remains have all been identified in Gypsum period sites in the central Mojave Desert (Hall and Basgall 1994).

7.2.1.6 Rose Spring Cultural Context (cal. A.D. 200 to 1100)

The bow and arrow were introduced during this time period and the diagnostic projectile points changed to smaller points like the Eastgate and Rose Spring point types that are assumed to be arrowheads. It is generally thought that populations increased across the Mojave during the Rose Spring Complex and is reflected in marked changes in artifact assemblages. Additionally, middens and long-term habitation sites became more frequent and developed. Aside from diagnostic projectile points, it has been suggested that common artifacts of the Rose Spring

Complex include "stone knives, drills, pipes, bone awls, various milling implements, marine shell ornaments, and large quantities of obsidian" (Sutton et al. 2007:241). Rose Spring sites are commonly found near water and "populations appear to have reached their peak during this time" (Sutton et al. 2007:241-242). It has been suggested that "the resource emphasis was clearly on medium to small game, predominantly lagomorphs and rodents" (Sutton et al. 2007:242). Obsidian use increased during this time period and was an important factor that influenced settlement and subsistence patterns. The majority of obsidian used during this time period comes from the Coso Volcanic Field (Inyo County).

New technologies and population decline occurred from about cal A.D. 1100 to historic contact. Two distinct cultural spheres in the region appear at this time:

> *The northern sphere is characterized by both Desert side-notched and Cottonwood projectile points, brownware ceramics, some buffware near the Mojave River, and the use of obsidian obtained mostly from northern sources (primarily Coso). The eastern sphere is characterized by the presence of both brownware and buffware ceramics, a dominance of Cottonwood projectile points, and the exclusive use of local obsidian sources. For some reason, groups in the eastern Mojave were not participating in the Coso obsidian trade. The area just north of the Mojave River seems to have been the boundary between the two spheres [Sutton et al. 2007:242]*

Known archaeological sites from this time period include:

> *A variety of types, including a few major villages with associated cemeteries, as well as special purpose and seasonal sites. Artifact assemblages consist of Desert series projectile points, buffware and brownware ceramics, shell and steatite beads, slate pendants, incised stones, and a variety of milling tools. Faunal remains typically consist of lagomorphs, deer, rodents, and some reptiles. Obsidian use dropped off significantly, and flaked stone tool manufacture shifted to silicate stone [Sutton et al. 2007:242]*

7.2.2 Ethnographic Setting

The project area is located within the traditional range of the Nïwï or Kawaiisu people. The Kawaiisu tribe is generally placed within the Great Basin cultural area, but the group shares many similar traits to the California cultural area. The term Kawaiisu is a Yokuts word, but was never used by the people themselves. The most accurate word is Nïwï which is their word for themselves.

The area occupied by this ethnographic group includes several mountain ranges including a portion of the southern Sierra Nevada Mountains, the Piute Mountains, and Tehachapi Mountains.

The group had ties to the San Joaquin Valley and large portions of the western Mojave Desert during their seasonal subsistence rounds.

Kroeber estimated that the original population count of the Kawaiisu prior to historic contact was approximately 500 individuals. They were part of the westernmost branch of the Southern Numic Division of languages. The Numic branch was the northern most manifestation of the Uto-Aztecan language family. It is thought that the Kawaiisu lived in this area for approximately 2,000 years and manifested during the expansion of Numic speakers in the area. Additionally, the Kawaiisu lack a migration story in their myths, and Sutton hypothesized that they moved into

the mountains after previously living in the western Mojave. Drier conditions probably forced them out of the desert and into surrounding areas (Sampson 2006; Zigmond 1986).

The Kawaiisu relied on hunting and gathering for subsistence. They gathered acorns and pinyon pine nuts in the fall and seed-producing plants in the spring (Garfinkel and Williams 2011:78). Important vegetal resources included oak (*Quercus* spp.), juniper (*Juniperus* spp.), Bull Pine (*Pinus sabiniana*), pinyon pine (*Pinus monophylla*), yucca (*Yucca brevifolia* and *Y. whipplei*), Indian rice grass (*Achnatherum hymenoides*), tick seed (*Coreopsis bigelovii*), blazing star (*Mentzelia* spp.), tansy mustard (*Descurainia pinnata*), and chia (*Salvia columbariae* and *S. carduacea*) (Garfinkel and Williams 2011:78-79). Bighorn sheep, deer, pronghorn antelope, jackrabbits, quail, fish, and chuckwallas were also important game. Because of their reliance on the annual availability of plants and animals, the Kawaiisu adopted a seasonal migration pattern.

This group did not recognize tribal cohesion as is seen in neighboring Californian groups like the Yokuts. Garfinkel and Williams (2011) suggest that "chiefs were known but no single individual united the Kawaiisu as a whole" (80). The Kawaiisu were organized at the family level and these families would search for food together and cooperate with related families for various economic necessities (Sampson 2006:9-10).

Structures created and used by this group included a winter house, summer house, sweathouse, a temporary brush enclosure, and granaries for food storage (Sampson 2006:10; Zigmond 1986).

Garfinkel and Williams (2011) provide a recent report dedicated solely to the Kawaiisu with a chapter on place names. Hava-yugwi-nü-wa=ika meant "old road or trail around Butterbredt Canyon" (39). Jawbone Canyon was called either moko-havi-dü or shiga-vü and refers to the pictographs recorded on the higher ridges at the head of the canyon (Garfinkel and Williams 2011:40). This ridge "commemorates when Chipmunk was hunting and saw a deer at the bottom of the canyon and slid down the mountain with his tail making a trench in order to get a better shot at the game (Garfinkel and Williams 2011:41). The Jawbone Pass was "an area where the Kawaiisu camped when in route to and from Kelso Valley on the way to Koehn Lake" (Garfinkel and Williams 2011:41).

Kelso Canyon was called peelakawi, and it served as an important route between the Kawaiisu and the Tubatulabal ethnographic area on the South Fork of the Kern River (Garfinkel and Williams 2011:41). Kelso Creek that runs through this canyon was called muruna-vi-dï. The entire Kelso Valley region was called paayaa-vi-dü=aka (Garfinkel and Williams 2011:42).

Puguro'oci was a ridge in the Kelso Valley where native Kawaiisu women would pick berries. The word means "dog hole" and a place where Kawaiisu reported to have seen supernatural dogs (Garfinkel and Williams 2011:54).

Sageland, a historic mining town, is just north of the project area along Kelso Valley Road and was called maha-vidi or mah-va'a-di. There was a native cemetery in the vicinity of Sageland and a large village in a nearby canyon (Garfinkel and Williams 2011:56).

Landers Meadow, the northwestern-most portion of the project area was called pa-wazidi-bi and the largest meadow in the Piute Mountains (Garfinkel and Williams 2011:44).

The first European contact with the Kawaiisu was in 1776 by Fr. Francisco Garcés during his travels from the Colorado River to Mission San Gabriel (Garfinkel and Williams 2011:69). Additional European expeditions continued throughout the late 1700s and early 1800s and the Gold Rush brought more American settlement into the area in the late 1850s. The establishment of the transcontinental railroad in the 1850s and additional mining in the 1860s brought an influx of Americans into the area for development, and the Koso (Panamint Shoshone) along with some

Tubatulabal and Kawaiisu fought back. Captain Moses A. McLaughlin led 908 Native Americans out of the area to the Sebastian Indian Reservation in 1863, but most of them returned to their native lands (Garfinkel and Williams 2011:74).

A most severe massacre of thirty-five defenseless Native American men occurred in 1863 during a native spring ceremony at the Indian Rancheria of Paligawan. The assault was led by Captain Moses A. McLaughlin who was accompanied by 44 soldiers (Garfinkel and Williams 2011:43).

Violence between settlers and natives continued during this time until the late 1860s. By the end of the Civil War sheep herding became popular and some of the native people were employed in this industry (Garfinkel and Williams 2011:75). According to Garfinkel and Williams (2011), "in 1906, some 40 native people were enumerated at Caliente, with other Kawaiisu and relatives also being recorded at this time, including eight at Paiute Rancheria, 15 at Tehachapi, 23 at Walker Basin, and 30 at Kelso Canyon and Kelso Valley" (75). Towards the end of the 19th century, "native families became increasingly dependent on farming and wage work . . . ranch and cattle work was particularly important. . . . Kawaiisu families continue to reside in the Monolith/Tehachapi areas and at the Paiute Mountain Rancherias during the 20th century" (Garfinkel and Williams 2011:75-76).

7.2.3 Historic Setting

The first Spanish explorer to enter the desert environs of Kern County was Francisco Garces, a Spanish priest along with one Indian guide (Peirson 1956:1). He explored the Mojave River, Kern River, and Mojave Desert and discovered a pass between the Tehachapi Mountains and Sierra Nevada. Jedediah Strong Smith was also an early pioneer in the area and the first American to cross the Mojave Desert around 1826 (Peirson 1956:2). Another explorer, Joseph Reddeford Walker was on the scene in 1834, and Walker's Pass that leads from Kern County's desert area into the San Joaquin Valley is named after him (Peirson 1956:2-3). John C. Fremont passed through the area in the 1840s and named the Mojave River (Peirson 1956:3-4).

The western Mojave Desert, in its earliest times, was an important travel corridor for prehistoric people because of the availability of water in an otherwise arid environment. Early Gold Rush miners, pioneers, and immigrants used those prehistoric trails to travel across the desert. Shipments and provisions for the Gold Rush were shipped across present-day Red Rock Canyon SP. The mountain range in the park was termed El Paso during this time period. Accounts claim "a freight station and stage stop was established near Ricardo Campground in the present day park by 1873" (Sampson 2006:11).

Kelso Valley in the project area was named after John W. Kelso, a merchant in Keyesville who transported his supplies "by freight wagon from Los Angeles to the Kern River mines in the 1850's."

A wave of miners poured into this area in the 1850's, and "while the majority of travelers to Kern River went by way of Fort Tejon, heavy teams also went through the desert, Jawbone Canyon, and Kelso Valley" (Barras 1976:25). Local mines sprouted up during this time. The historic mining town of Sageland was established in 1864 and is located north of the project area along Kelso Valley Road (Garfinkel and Williams 2011:56). Butterbredt Canyon, portions of which are in the project area, was named after an early pioneer, Frederick Butterbredt, Sr. (Garfinkel and Williams 2011:39). Butterbredt was born in Germany and immigrated to the region during the area's early mining development. He married Betty Buckskin who was born in Kelso Canyon and survived the Keysville McLaughlin Massacre (Garfinkel and Williams 2011:39, 41, 43).

According to C. Hart Merriam:

> *Mr. Butterbredt, his Indian wife, her mother, and grandmother lived at a ranch in the canyon on Kelso Creek about eight miles south of Weldon. Butterbredt had received a homestead patent in 1901 for the northwest quarter of Section 27, T27S, R35E, MDBM, at the confluence of Kelso and Pinyon Creeks, and this was presumably the site of the ranch [Garfinkel and Williams 2011:41]*

This would place the old Butterbredt homestead approximately eight miles north of the project area along Kelso Valley Road.

The railroad came through the desert in 1876, and the town of Mojave was formed (Peirson 1956:5). The railroad bought people and business to the desert. Early borax mining took place on Borax Lake, now Searles Lake (80 miles from Mojave), and shipments were transported through Mojave (Peirson 1956:5). In 1890, gold was discovered and a mini-Gold Rush spread through the Mojave Desert area but was short-lived.

During the early 1900's the area thrived as the Los Angeles Aqueduct was constructed to bring water from the Owens River to Los Angeles (Peirson 1956:7). Mining throughout the area began again in the 1930s. New mining was triggered by the Great Depression. The settlement patterns became more permanent than the relatively intermittent mining lifestyle that had preceded it. Important mines in the area include Grubstake Hill, the Golden Rule, Pasadena Mine, the Daly Claim, and Florence #7 (Sampson 2006:11). Mining for pumicite, an active ingredient for certain household cleansers, took place near Last Chance Canyon in Red Rock Canyon State Park. Mining took place in the hills of Jawbone Canyon as late as 1939 (Darling 1988:63).

The military also played an important role in the development of the area. A Navy air base was established during World War II near Mojave (Peirson 1956:8). Additionally, the installation of the Air Force base at Edwards, California also added development.

7.2.4 Cultural Resource Inventory

7.2.4.1 Record Search

Pre-field research consisted of a record search at the Southern San Joaquin Valley Information Center (CSU, Bakersfield) of CHRIS on January 20, 2011 by Associate State Archaeologists Kelly Long and Alicia Perez. Other files and documents referenced include:

- OHP Historic Property Data File (2011)
- NRHP/CRHR Listings (2008 & updates)
- California Inventory of Historic Resources (1976)
- California State Historical Landmarks (1996)
- Points of Historic Interest (1992)
- California Place Names (Gudde 1975)
- California Gold Camps (Gudde 1969)
- Historic Spots in California (Hoover et al. 1990)
- Caltrans Bridge Inventory
- Historic Maps

An additional record search was conducted at the BLM Ridgecrest Field Office on October 3, 2011 by Kelly Long and Alicia Perez. OHMVR Division archaeologists met with BLM

archaeologists to discuss the project and exchange information. Additional research was conducted at the OHMVR Division archives and the California State Library. A record search of the NAHC sacred files was also conducted. Consultation with Native American tribes and individuals listed on the contact list provided by NAHC was also completed.

The record search, literature review, and Native American consultation was conducted to accomplish the following: (1) to identify previously recorded or known archaeological or historical resources within the project area; and (2) to determine the likelihood of unrecorded resources based on historical references, Native American consultation, and the distribution and environmental settings of nearby sites.

The record search conducted at the Southern San Joaquin Valley Information Center, BLM Ridgecrest Field Office, and consultation with Donna Begay identified 18 previously recorded sites within the project area: six prehistoric resources, nine historic-era resources, and two multi-component resources. One resource's occupation period is unknown. Approximately five previous archaeological surveys have been conducted within the project area.

7.2.4.2 Field Methods

State archaeologists conducted field surveys during the months of March, April, and October 2011. Supplemental archaeological field work was completed by Far Western Anthropological Research Group, Inc. in June 2012. A complete visual intensive survey was not conducted due to poor ground visibility and steep topography. Additionally, the immensity of the over 28,000-acre project area combined with time constraints allowed complete visual survey of only 3,508 acres by CDPR archaeologists and 1,200 acres by Far Western archaeologists for a total of 4,708 acres. Field survey coverage area is shown in Figure 3-1.

The purpose of the cultural resources survey was to conduct a complete visual intensive survey in order to 1) find and update all previously recorded sites, and 2) to record newly identified resources. A complete visual intensive survey is one in which archaeologically-trained individuals systematically traverse the area at 10-meter intervals or less, inspecting the ground surface for all evidence of prior human activity.

All sites were recorded and updated using CDPR 523 site record forms. One Rose Spring Corner-notched obsidian projectile point was collected from CA-KER-7025 and one Cottonwood obsidian projectile point was collected from P-15-015857. The collection is stored at the OHMVR Division office in Sacramento. A Trimble GeoExplorer XH was used to record all site boundaries and geographic data. ArcGIS 10 was used to prepare the geographic data for all sites and the State Parks Cultural Resource Geodatabase for the Eastern Kern County Acquisition was used to archive all of the geographic data. All geographic data was collected using North American Datum 1983 and maps were projected using Universal Transverse Mercator, Zone 11. Metadata was prepared for all collected geographic data.

7.2.4.3 Field Survey Results

CDPR and Far Western archaeological field work found 6 previously recorded sites and 23 new sites within the project area for a total of 29 sites: 13 prehistoric, 15 historic-era, and one multi-component. Twelve of the 18 previously recorded sites were not found because of two factors: (1) the previously recorded resources were not located within areas that were surveyed; or (2) the previously recorded resources located within the areas surveyed could not be relocated.

Additionally, 63 isolated finds were recorded: 20 prehistoric, 42 historic-era, and 1 multi-component. Appendix J, Table 3 provides a list of all of the cultural resources that were recorded within the acquisition project boundary.

Potential Historical Resources

The 29 recorded sites within the project area were evaluated for historic context, data potential, and current integrity conditions. Based on these preliminary field evaluations, 13 resources are likely historical resources as defined by CEQA Guidelines section 15064.5(a) and eligible for listing in either the NRHP or the CRHR. Further prehistoric, ethnographic, and historic research is necessary to adequately evaluate the recorded resources. These resources are described below. A summary evaluation of all the recorded sites is included in Appendix J, Table 5.

CA-KER-913 (Site Update [Dove Springs Village Site]). This is a prehistoric habitation site with milling stations, pictographs, rock shelters, hearths, and midden. Cultural constituents include lithics and ceramics.

CA-KER-7025 (Site Update [10192011B]). This site was originally recorded by J. Lloyd of Applied EarthWorks, Inc. in 2006 as a prehistoric site consisting of localized midden, three bedrock milling features, one pictograph, and a sparse to moderately dense artifact scatter of pottery, groundstone, flaked stone tools, debitage, and faunal remains. This site was successfully relocated during this survey and now includes two areas of dense midden, nine bedrock milling features, one pictograph, and a sparse to moderately dense artifact scatter of pottery, groundstone, flaked stone tools, debitage, and faunal remains. Three possible hearth features are located in the eastern portion of the site.

CA-KER-5944H. Two sites have been recorded under this number. The first, recorded by R. Bevill of URS in 2001, describes two large dwelling structures, water-storage tanks, holding ponds, a mine shaft, two ore bins, and other features. In the second record, J. Nelson (also of URS) reports several mine shafts, a possible powder magazine, and associated debris located almost 300 meters west of the remains recorded by Bevill. Nelson assigned his site a temporary number (J-21) and mentions Bevill's site as a separate entity. At some point, J-21 was subsumed under the number KER-5944H and labeled an update to that record.

In 2012, Far Western revisited both locations and found them to be as recorded; the crew combined the two within one larger site boundary and designated them Locus A (Nelson's site J-21) and Locus B (Bevill's site). The rationale for combining the two is that both contain features associated with hard-rock mining and both date to the late 1950s-early 1960s.

CA-KER-8422 (Butterbredt Grind). This is a prehistoric site that consists of six bedrock milling features situated in a bedrock outcropping. There are a total of eight milling slicks and seven bedrock mortars on various outcroppings of decomposing granite. There is a light scatter of historic amethyst glass and porcelain along with three white chert waste flakes.

CA-KER-8424 (Grinding with a View). This is a prehistoric site that consists of four milling station features, one rock shelter feature, lithic scatter, and midden. There are obsidian flakes, chert cores, chert flakes, and boulder overhangs on the site.

CA-KER-8427 (04192011A). This is a prehistoric site that consists of two milling features, a granite bedrock mortar and a separate bedrock milling slick.

CA-KER-8428 (04192011B). This is a prehistoric site that consists of one milling feature, a granite bedrock mortar with five cupules, and an obsidian waste flake.

CA-KER-8716/H (The Edge of Glory Site [10172011B]). This is a multi-component site consisting of four bedrock milling features, a flake scatter, and a historic dam. The bedrock milling features are located on granite outcrops and contain bedrock mortars and milling slicks. The sparse lithic scatter consists of ±5 obsidian, white chert, chalcedony, and quartzite flaked

stone artifacts. Historic elements consist of a small earthen dam crossing a drainage, and isolated glass and sanitary can fragments scattered across the site.

CA-KER-8718H (10182011A). This is a historic habitation area with eight features. The habitation area is surrounded by ±10 Trees of Heaven and includes an uncapped water well, two granite rock foundations with a lumber scatter and domestic artifacts, a locus of car parts, a trash dump cut into the hillside, a possible privy pit, and a large trash scatter measuring approximately 600 ft. (E-W) by 300 ft. (N-S) that contains thousands of cans, bottles, and domestic items.

CA-KER-8720 (Joanna's Flake Site). This is a prehistoric lithic scatter that includes fourteen flakes (including one with cortex and one shatter) of various material including: chalcedony, chert, and basalt.

CA-KER-8721 (Joanna's Milling Station). This is a prehistoric milling site that consists of 1 large, granite outcropping with 15 milling features, including 14 milling slicks and 1 possible mortar. A mano, in situ, was also identified adjacent to a milling slick feature.

STH-03. This site is composed of a can dump with a number of cans and metal debris eroding downslope from the central dump area. The site is situated on a low terrace south of a major, seasonal drainage in Jawbone Canyon. The primary dump is a dense scatter of 50+ cans; 22 of these cans are knife-opened, lapped-seam, stamped-end, hole-in-cap cans that type out as Simonis Type 3, 6 or 7 milk cans. These date the site to between 1885 and 1914. These cans are the largest constituent of the artifact assemblage. This makes it likely that this can dump is associated with the original construction of the Los Angeles Aqueduct, which was built though Jawbone Valley between 1912 and 1913. A single flake is present on site; however, this artifact is likely an isolate that was present prior to the historic-era occupation of the area.

STS-04. This prehistoric site is composed of a sparse lithic scatter associated with five concentrations of fire-affected rock (Features 1-5). Two pieces of ground stone are also present on site, indicating that this is a lightly used habitation site.

Existing Condition of Historical Resources

Of the 13 thirteen historical resources eligible for listing in the NRHP and/or the CRHR, 6 have been identified as experiencing substantial adverse change to their significance resulting from one or more of the following activities: designated and unauthorized trail access, visitor impact, cattle grazing. The locations of affected resources are shown in Figure 4-1. In accordance with Government Code section 6254.10, the identity of each mapped resource is undisclosed for protective purposes.

OHV Trail. Impacts to historical resources because of trail routes include one unnamed road that bisects CA-KER-7025. The road allows visitor use direct access through the site and in close proximity to features that convey the resource's significance. Visitor access has the potential to cause substantial adverse change to the physical characteristics that convey the resource's significance.

Visitor Use. The following sites show evidence of direct impacts because of visitor disturbance: CA-KER-8422; and CA-KER-8424. Visitor disturbance at these sites includes evidence of recent loitering, camping, and target practice shooting. Visitor activities within or adjacent to artifacts and features have the potential to adversely change the physical characteristics that convey the resources' significance.

Cattle Grazing. Cattle grazing occurs throughout much of the project area including within the following historical resource boundaries: CA-KER-913, CA-KER-7025, CA-KER-8422, CA-KER-8716/H, and CA-KER-8718H. Currently, cattle walk and graze within the historical

resource boundaries resulting in game trails throughout the resource boundaries. Cattle grazing also results in cow excrement located on or adjacent to recorded features and artifacts. Grazing cattle, coupled with additional impacts related to cattle access, have the potential to adversely alter, change, and/or demolish in an adverse manner the physical characteristics of the historical resources' ability to convey their significance.

Existing Condition of Archaeological Resources

Of the areas that were surveyed for cultural resources, 16 archaeological resources were identified within the acquisition project area. Five have been identified as having experienced substantial adverse change to their significance from one or more of the following impacts: designated and unauthorized trail access, visitor impact, and cattle grazing. The locations of affected resources are shown in Figure 4-1. In accordance with Government Code section 6254.10, the identity of each mapped resource is undisclosed for protective purposes.

OHV Trail. Impacts to archaeological resources because of bisecting trail routes include CA-KER-7127H, CA-KER-8425H, and CA-KER-8426.

Visitor Use. Evidence of visitor impact has been identified at JBB-50H including, graffiti, garbage, and target practice shooting.

Cattle Grazing. Evidence of cattle grazing has been identified in the CA-KER-8715H boundary.

Current Status of Potential Historical, Archaeological, or Other Cultural Resources

Field studies conducted in 2011 by CDPR and in 2012 by Far Western covered less than 20% of the total acquisition project acreage (4,708 of the ~28,000 acres). Until field survey work is conducted for the total project area, the inventory of cultural resources is incomplete. Unrecorded cultural resources may exist in the project area and be currently subject to damage from the same, existing land use activities that are presently affecting known historic and archaeological resources described above. If unrecorded resources exist, damage to these resources from existing uses may already be occurring.

7.3 PROJECT IMPACTS

7.3.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, a project would have a significant environmental impact related to cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

7.3.2 Proposed Cultural Resources Management Measures

By bringing private property under public agency management, the proposed acquisition project would allow the OHMVR Division to improve management of OHV recreation and steward cultural and natural resources (Project Description, Section 2.3). OHMVR Division ownership would result in OHMVR Division archaeologists taking steps in accordance with its Cultural

Resources Management Program (Section 7.1.3 above) to protect cultural resources. The Cultural Resources Management Program would address existing conditions, ensuring that resources are adequately protected, ongoing activities that are currently impairing resources are remedied, and new adverse effects do not arise from project activity.

Specifically, the OHMVR Division would implement the following Management Measures.

Cultural Resource Management Program. All historical and archaeological resources that exist within the project area will be incorporated into the OHMVR Division Cultural Resource Management Program (see Section 7.1.3). Resources will be evaluated for significance as set forth in Section 7.1.5 above and protective measures prescribed as appropriate for their risk of disturbance by existing uses.

Cultural Resources Inventory. All areas not included in the recent cultural resource inventory (Perez 2012) will be surveyed for historical resources. If a complete cultural resource inventory is not feasible, all future projects proposed in areas that have not been surveyed for historical resources will require a cultural resource survey along with Native American consultation in accordance with CEQA, Public Resources Code Sections 5024 and 5024.5, and Executive Order B-10-11.

Annual Cultural Resource Management Training. Annual workshops will be held by OHMVR Division archaeologists to train additional Division staff such as Interpreters, Environmental Scientists, Park Rangers, and District Superintendents on the management of cultural resources. Workshops will educate park staff about the types of archaeology that is found within the area and how to distinguish between an artifact (an item modified by humans) and a natural object that has not been modified and used by humans.

OHMVR Division archaeologists instruct the field staff to abide by the following rules when an unanticipated resource is discovered: (1) document the geographical location of the resource, (2) take a photograph (although do not photograph human remains), (3) inform a supervisor, and (4) contact an OHMVR Division archaeologist. Most importantly, do not move or remove any element of the resource. In addition to these steps, it is important that the location of the resource is not discussed over the radio and the photographs are not duplicated and/or shared with park staff other than the supervisor.

Cultural Resource Monitoring. The OHMVR Division will implement a cultural resource monitoring program that includes annual site visits to historical resources and documenting adverse change to the resources because of either intentional destruction (e.g., visitor impacts, looting, vandalism) or inadvertently caused deterioration (e.g., erosion, natural causes, animal burrowing). Cultural resource monitoring will be implemented through the California Archaeological Site Stewardship Program (CASSP). The CASSP is a volunteer archaeological site stewardship program offered through the Society for California Archaeology. CASSP is comprised of trained volunteers to monitor cultural resources throughout the state and is utilized by federal, state, and local agencies to involve members of the public in an effort to better monitor, preserve, and manage archaeological sites. OHMVR Division archaeologists will establish the CASSP to recruit and train public volunteers to monitor the historical resources recommended for inclusion in an "Archaeological Site Stewardship Program" as noted in Table 7-1.

The frequency in which a historical resource is monitored is contingent on the amount of destructive influences in close proximity to the resource. For instance, if a resource is near visitor facilities, resource monitoring will occur more frequently to ensure site preservation and protection. CASSP volunteers will be trained by OHMVR Division staff in the following:

CASSP goals, cultural prehistory and history pertaining to the specific region in which they will be volunteering, legal requirements, ethical and confidential requirements related to the treatment of archaeological resources, safety in the field, and basic knowledge of archaeological field surveying methods. CASSP volunteers will also be taught how to document a historical resource's existing conditions using CASSP resource monitoring forms as well as through photography and geographic positioning system (GPS) equipment. The information recorded by CASSP volunteers will be reviewed by OHMVR Division archaeologists to determine historical resources that require immediate preservation management, such as fencing for better protection. Additionally, OHMVR Division archaeologists will compile the CASSP monitoring documentation completed within a given fiscal year, including mitigations developed for better site preservation, and submit these findings to the Archaeology, History & Museums Division to be included in CDPR's annual report to the SHPO. The application of CASSP will reinforce the OHMVR Division's ongoing effort to preserve its historical resources.

Accidental Discoveries. In the event that a historical or archaeological resource is accidentally discovered during ground disturbance activities, the find will be immediately evaluated by a qualified state archaeologist. In the event the find is determined to be a historical or unique archaeological resource, avoidance measures or appropriate mitigations will be developed by the archaeologist. Work could continue in other parts of the project area while historical or unique archaeological mitigations take place (14 CCR §15064.5(f)).

In the event that human remains are accidently discovered, activities at the find site must come to a complete stop and no further excavation or disturbance of the area or vicinity will occur. The county coroner is to be called immediately to determine if the remains are of Native American ancestry. If the coroner confirms that the remains are Native American, within 24 hours of the discovery the coroner is to contact the NAHC. The Commission will identify the person(s) believed to be the Most Likely Descendent (MLD), and the MLD will decide, along with the property owner, on appropriate treatment or disposal of the human remains and associated grave goods as provided in Public Resources Code 5097.98. If the NAHC cannot identify the MLD, the MLD fails to make a recommendation, or the property owner rejects the MLD's recommendations, the property owner can rebury the remains and associated burial goods in an area not subject to ground disturbance (14 CCR §15064.5(e)).

Native American Consultation and Monitoring. Native American consultation will continue during immediate project implementation, as well as for any future proposed projects. Regular consultation with California Indian Tribes and organizations that are culturally affiliated and connected to the region will ensure productive, collaborative working relationships, especially when considering management practices involving the project area's natural and cultural resources.

Preservation in Place. Planning construction to avoid archaeological sites is an example of how to ensure the preservation in place of archaeological sites, and it is CDPR's preferred manner for mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context, and most importantly this option can help to avoid conflict with religious or cultural values of groups associated with the site. Thus, the preferred method to avoid significant project impacts to known historical resources within the Eastern Kern County Acquisition project area is for no ground disturbing activities to occur within known cultural resource boundaries or culturally sensitive areas.

Resource Protection Measures. Resource protection measures will be implemented to prevent significant adverse changes in the significance of identified potential historical resources occurring in the project area. These measures include the following:

- Placement of protective signs and/or interpretive signs
- Notification of park rangers and additional park staff to patrol sensitive area
- Restrict access; placement of protective fencing or additional protection measures
- Conduct a 5024 Review (see Section 7.1.3) of proposed projects within and adjacent to sensitive areas; conduct Native American consultation
- Include the site within CASSP

Table 7-1 identifies the resource protection measures prescribed by the OHMVR Division, State Archaeologist for the proper resource management and preservation of the 29 known historical and archaeological resources found in the project area during the cultural resources inventory (Perez 2012). Implementation of these measures would prevent further impairment of known historical and archaeological resources resulting from existing designated and unauthorized trail access, visitor impact, and cattle grazing. Prescriptive measures have not been identified for isolated finds, such as single artifact finds, as they do not likely meet NRHP and CRHR criteria, and therefore do not require further resource management or protection.

Until a more formal evaluation of these archaeological resources according to the NRHP and CRHR criteria, the resource protection measures identified in Table 7-1 would address cultural resources that are presently being damaged by OHV access, visitor use, and cattle grazing. These protective measures would prevent significant adverse change to the physical characteristics of the archaeological resource that convey its historical significance and justify its inclusion in, or eligibility for, inclusion in the NRHP or CRHR.

Table 7-1. Resource Management and Preservation Measures

Trinomial or Primary #/Site Name	Historical Resource (HR) or Archaeological Resource (AR)	Placement of Protection Signs and/or Interpretative Signs	Notify Park Rangers and Other Park Staff to Patrol Site	Restrict Access	Placement of Protective Fencing or Additional Protective Measures	Conduct 5024 Review of Proposed Projects	Native American Consultation	Include in Archaeological Site Stewardship Program
CA-KER-913	HR	X	X	X	X	X	X	X
CA-KER-5944H	HR	X	X	X	X	X		X
CA-KER-6393H	AR					X		X
CA-KER-7025	HR	X	X	X	X	X	X	X
CA-KER-7127H	AR					X		
CA-KER-8422	HR	X	X	X	X	X	X	X
CA-KER-8423H	AR					X		X
CA-KER-8424	HR	X	X	X	X	X	X	X
CA-KER-8425H	AR					X		X
CA-KER-8426	AR			X		X	X	X
CA-KER-8427	HR					X	X	X
CA-KER-8428	HR					X	X	X
CA-KER-8715H	AR		X			X		X
CA-KER-8716/H	HR	X	X	X	X	X	X	X
CA-KER-8718H	HR			X		X		X
CA-KER-8719H	AR	X	X	X	X	X		X
CA-KER-8720	HR					X	X	X
CA-KER-8721	HR					X	X	X
JBB-50H	AR		X			X		X
STH-01	AR					X		X
STH-02	AR					X	X	X
STH-03	HR					X		X
STH-04	AR					X		X
STH-05	AR					X		X
STH-06	AR					X	X	X
STS-01	AR					X	X	X
STS-02	AR					X		X
STS-03	AR					X		X
STS-04	HR					X	X	X

Source: Perez 2012

7.3.3 Potential Impacts to Historical and Archaeological Resources

Pursuant to CEQA Guidelines Section 15064.5(b), a substantial adverse change in the significance of a historical resource because of a project is defined as "the demolition, destruction, relocation, or alteration of a resource or its immediate surroundings such that its significance is materially impaired." In general, a historical resource's significance is materially impaired when it can no longer convey its historical significance and therefore can no longer justify its inclusion in, or eligibility for, inclusion in the CRHR, the local register of historical resources pursuant to Public Resources Code Section 5020.1(k), or its identification in an historical resources survey meeting the requirements of Section 5024.1(g). To determine the significance of impacts to archaeological resources because of a project, the OHMVR Division will follow the specifications provided in CEQA Guidelines Section 15064.5(c).

The proposed project would not change the type of land use activity presently occurring on the property or increase the intensity of those uses, but could lead to an essentially negligible (1%) increase in overall visitation. The project does not propose construction of new facilities to support the ongoing land uses, although minor projects are foreseeable, such as fence and sign installation, addition or modification of vault toilets, or trail realignment to protect sensitive resources (see Project Description, Section 2.5).

OHMVR Division acquisition of the project parcels would place all cultural resources occurring on the property within the protective management of a state agency. The OHMVR Division's Cultural Resources Management Guidelines (Section 7.1.3) and Cultural Resources Management Measures (Section 7.3.2) would be implemented to protect recorded and undiscovered historical and archaeological resources from both current and future damage by the existing land uses and foreseeable project activities. Recreation, trail maintenance, livestock operations, and other uses would continue largely as presently occurring in areas where known historical and archeological resources are located and where undiscovered resources may exist. All cultural resources occurring on the property would be identified through field survey. Recorded resources would be evaluated for significance and, if eligible, included in the NRHP and/or CRHR. Protection measures would be prescribed for all resources that could be potentially harmed by existing or proposed activities. Thus, the project would have a beneficial effect on existing resource conditions described in Section 7.2.4.3.

Implementation of some of the Management Measures (Section 7.3.2 and Table 7-1) would involve minor ground disturbance, such as from installing protective fencing or signage. These management actions would be taken under supervision of a qualified state archaeologist and would not result in damage of resources that the action is designed to protect. Therefore, implementation of the Management Measures resulting from the acquisition would not impact historical or archeological resources; the impact would be less than significant.

7.3.4 Potential Impacts to Unique Paleontological Resources or Unique Geologic Features

Of the areas that were surveyed, no known unique paleontological resources or sites or unique geologic features were identified. The potential remains for undiscovered unique paleontological resources or unique geologic features to occur on the ReNu parcels and for those resources to be damaged by existing land use activities (OHV access, visitor use, and cattle grazing).

The proposed project would not change the type of land use activity presently occurring on the property or increase the intensity of those uses, but could lead to an essentially negligible (1%) increase in overall visitation. The project does not propose construction of new facilities to support the ongoing land uses, although minor projects are foreseeable, such as fence and sign

installation, addition or modification of vault toilets, or trail realignment to protect sensitive resources (see Project Description, Section 2.5).

If unique resources are found during the cultural resource inventory field work to be completed upon property acquisition, OHMVR Division would implement Management Measures as needed to protect the resource. Such measures include restricted access, protective fencing, signage, and enforcement patrols (Section 7.3.2). Implementation of these measures would protect new discoveries of unique paleontological resources or unique geologic features from damage by existing land use activities. Thus, the project would have a beneficial effect on any unique paleontological resources and unique geologic features that may exist on the ReNu parcels.

Implementation of some of the Management Measures (Section 7.3.2 and Table 7-1) would involve minor ground disturbance, such as from installing protective fencing or signage. These management actions would be taken under supervision of a qualified state archaeologist and would not result in damage of resources that the action is designed to protect. Therefore, implementation of the Management Measures resulting from OHMVR Division acquisition would not impact cultural resources; the impact would be less than significant.

7.3.5 Native American Human Remains

Of the areas that were surveyed, no human remains were identified. The potential exists for undiscovered human remains to occur in the project area and for those remains to be subject to impact from existing land use activities.

The proposed project would not change the type of land use activity presently occurring on the property or increase the intensity of those uses, but could lead to an essentially negligible (1%) increase in overall visitation. The project does not propose construction of new facilities to support the ongoing land uses, although minor projects are foreseeable, such as fence and sign installation, addition or modification of vault toilets, or trail realignment to protect sensitive resources (see Project Description, Section 2.5).

If human remains are discovered on the project site, OHMVR Division would implement Management Measures (see Section 7.3.2, Accidental Discoveries) to protect the find and evaluate it for cultural significance. If the human remains are determined to be of Native American ancestry by the county coroner, Native American consultation would be included in that process. Implementation of these measures would protect new discoveries of Native American human remains from damage by existing land use activities. Thus, the project would have a beneficial effect on Native American human remains.

Implementation of Management Measures needed to protect a new discovery could involve minor ground disturbance to erect protective fencing or signage, or restrict access. These management actions would be implemented under supervision of a qualified state archaeologist and would not result in damage to the remains that the action is designed to protect. Therefore, implementation of the Management Measures resulting from OHMVR Division acquisition would not impact cultural resources; the impact would be than significant.

7.4 CUMULATIVE IMPACTS

The EIR has determined that the project will not result in any incremental effect that is cumulatively significant to known historical and/or archaeological resources when considered with other projects. Acquisition of the private parcels would not significantly change the existing and ongoing use of the parcels with the possible exception of a few locations where culturally sensitive resources need to be protected from cattle and visitor recreation use. Upon acquisition,

management of the parcels would be the responsibility of the OHMVR Division and all culturally sensitive and historical resources would be protected and managed according to existing state environmental resource laws and regulations.

7.5 MITIGATION MEASURES

No significant impacts have been identified for the project based on the analysis contained in Sections 7.3 and 7.4 above, which includes the OHMVR Division's implementation of the Management Measures described in Section 7.3.2. No mitigation is required.

Figure 7-1. Cultural Resources Survey Area

CHAPTER 8 GEOLOGY AND SOILS

This chapter describes the regulatory setting and affected environment for geology and soils. It also describes the measures the OHMVR Division would implement to effectively manage geology and soils on the project parcels and ensure compliance with applicable laws and regulations. The information used for this analysis was derived from readily available literature on the project area and a preliminary assessment of erosion hazard potential conducted by the Department of Conservation, California Geological Survey (CGS) (Appendix K).

8.1 REGULATORY SETTING

Geologic resources and geotechnical hazards are governed primarily by local jurisdictions. The Kern County General Plan contains policies for the protection of geologic features and avoidance of hazards. CEQA is the major environmental statute that guides the design and construction of projects on non-federal lands in California, establishing a specific process for environmental impact analysis and public review. The statutes, regulations, and policies governing seismic safety and soils that would apply to development or management of facilities in the project area are described below. Because no habitable buildings or other significant development are proposed, this setting discussion only gives an overview of building and development standards.

8.1.1 Uniform Building Code

The federal Uniform Building Code provides seismic design standards that have been established to reduce structural problems that could occur during major earthquakes. In 1998, the code was revised as follows:

- Upgrade the level of ground motion used in the seismic design of buildings
- Add site amplification factors based on local soil conditions
- Improve the way ground motion is applied in detailed design

8.1.2 Alquist-Priolo Earthquake Fault Zoning Act (1972)

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (formerly the Special Studies Zoning Act) regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture. In accordance with this law, CGS maps active faults and designates Earthquake Fault Zones along mapped faults. Three basic types of faults exist: active, potentially active, and inactive. Historic- and Holocene-age faults are considered active, Late Quaternary- and Quaternary-age faults are considered potentially active, and pre-Quaternary–age faults are considered inactive. These classifications are qualified by the condition that a fault must be shown to be "sufficiently active" and "well defined" by detailed site-specific geologic explorations to determine that building setbacks should be established. Any project that involves the construction of buildings or structures for human occupancy, such as an operation and maintenance building, is subject to review under Alquist-Priolo, and any structures for human occupancy must be located at least 50 feet from any active fault.

8.1.3 Seismic Hazards Mapping Act (1990)

In accordance with Public Resources Code, Chapter 7.8, Division 2, the California Department of Conservation, Division of Mines and Geology (now CGS) is directed to delineate Seismic Hazard Zones. The purpose of this act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards, such as those associated with strong ground shaking, liquefaction, landslides, other ground failures, or other hazards caused by earthquakes. Cities, counties, and state agencies are directed to use

seismic hazard zone maps developed by CGS in their land use planning and permitting processes.

8.1.4 California Building Code (2010)

The State of California provides minimum standards for building design through the California Building Code (CBC). The CBC is based on the Uniform Building Code, which is used widely throughout the United States (generally adopted on a state-by-state or district-by-district basis) and has been modified for conditions unique to California. In 2010, a revised version of the CBC took effect.

8.1.5 2008 Soil Conservation Standard and Guidelines for Grants and Cooperative Agreements

The Ridgecrest Field Office and Friends of Jawbone have been receiving Grants Program funds annually to assist with maintenance of the open areas and designated routes within the Jawbone-Butterbredt ACEC, including maintenance activities on and adjacent to the ReNu parcels. Recipients of grant funds for projects that involve ground disturbing activities (including trail maintenance activities) must prepare, submit, and implement a soil conservation plan (PRC §5090.53). The plan must comply with the 2008 Soil Conservation Standard (14 CCR §4970.06.3). The following 2008 Soil Conservation Standard applies to both SVRAs and Grants Program funded areas (as noted above):

> OHV recreation facilities shall be managed for sustainable long-term prescribed use without generating soil loss that exceeds restorability, and without causing erosion or sedimentation which significantly affects resource values beyond the facilities. Management of OHV facilities shall occur in accordance with Public Resources Code, Sections 5090.2, 5090.35, and 5090.53.

The 2008 Soil Conservation Standard provides information on what is required for a soil conservation plan:

The Soil Conservation Plan shall reference, adopt, and utilize the methods, considerations, and other suggestions contained in the Soil Guidelines or other comparable methods or considerations that demonstrate how the Soil Conservation Standard is being or will be met in the Project Area.

The Soil Conservation Plan shall include the following components:

- A protocol for assessment and maintenance
- A protocol for monitoring change detection of features, trails, and facilities
- A monitoring and soil conservation standard compliance report

The BLM Ridgecrest Field Office has prepared and submitted soil conservation plans in support of its OHV Grant Applications for more than five grant cycles. The soil conservation plan has applied to OHV areas that BLM manages within the Jawbone-Butterbredt ACEC. The most recent plan submitted was for the 2011/2012 grant cycle. The OHMVR Division has determined the BLM Ridgecrest Field Office is currently in compliance with the 2008 Soil Conservation Standard (Glaspie 2012).

8.1.6 Kern County General Plan

Chapter 1, Land Use, Open Space, and Conservation Element, Section 1.3 – Physical and Environmental Constraints, lists the goals, policies, and measures associated with geologic hazards. Chapter 4, Safety Element, Sections 4.3 – Seismically Induced Surface Rupture, Ground

Shaking, and Ground Failure and Section 4.5 – Landslides, Subsidence, Seiche and Liquefaction, also lists the goals, policies, and measures associated with geologic hazards.

8.2 ENVIRONMENTAL SETTING

8.2.1 Regional Setting

The proposed project is located in the northwestern portion of the Mojave Desert Geomorphic Province, a broad interior region of isolated mountains separated by desert plains (CGS 2012). The Mojave Desert Geomorphic Province lies between the northeast-trending Garlock Fault on the north, and the northwest trending San Andreas Fault on the south (Figure 8-1). The Southern Sierra Nevada Fault crosses from north to south and intersects with the Garlock Fault south of the project area. Both of these faults are discussed in more detail below.

Kern County is located in one of the more seismically active areas of California and may at any time be subject to moderate to severe ground shaking. This hazard exists because elastic strains accumulate deep within the earth, resulting in movement along a fracture zone that releases these large amounts of energy. Seismic hazards include surface rupture, ground shaking, liquefaction, landslides, subsidence, and expansive soils.

8.2.2 Regional and Local Faults

The surface topography within the region is controlled by two sets of faults, a prominent northwest to southeast trending set (San Andreas Fault) and a secondary east to west trending set (Garlock Fault).

San Andreas Fault. The San Andreas Fault is a right-lateral, strike-slip fault that extends more than 700 miles from the Gulf of California to Cape Mendocino in northern California. The segment of the San Andreas Fault within Kern County is relatively short compared to its 700-mile length. However, it is important because this segment breaks from the system's predominantly 350-degree trending direction between the San Luis Obispo County and Los Angeles County line. This is an active fault capable of damaging the project area. Areas along this fault have been designated by the State of California as Alquist-Priolo Special Studies Zones. Several historic earthquakes on the San Andreas Fault Zone have produced significant seismic shaking within the vicinity of the proposed project. The most notable example was on January 9, 1857, the Fort Tejon earthquake, one of the largest earthquakes ever recorded in the United States (SCEDEC 2011).

Garlock Fault. The Garlock Fault extends eastward from its point of intersection with the San Andreas Fault, near Lebec, for a distance of nearly 150 miles. The fault is located nearly 35 miles southeast of downtown Bakersfield. The Garlock Fault Zone is one of the most obvious geologic features in southern California, clearly marking the northern boundary of the area known as the Mojave Block, as well as the southern ends of the Sierra Nevada Mountain Range and the valleys of the westernmost Basin and Range Province. While no earthquake has produced surface rupture on the Garlock Fault in historic times, there have been a few sizable quakes recorded along the Garlock Fault Zone. The most recent was a magnitude 5.7 event near the town of Mojave on July 11, 1992. It was believed to have been triggered by the Landers earthquake just two weeks earlier. At least one section of the fault has shown movement in recent years. This is an active fault capable of damaging the area. Areas along this fault have been designated by the state as Alquist-Priolo Special Studies Zones (SCEDEC 2011).

Southern Sierra Nevada Fault. The Sierra Nevada Fault is located within the project area and trends north to northeast. The Sierra Nevada fault zone is a zone of high-angle normal faults that bound the eastern front of the southern Sierra Nevada from Owens Valley to the southern end of

the range, north of the Garlock fault. It intersects the Garlock Fault near the southern end of the Sierra Nevada Mountains and shows rapid vertical displacement of more than 10,000 feet. It trends northerly along the eastern face of the mountain range. Evidence for active fault movement consists of recent escarpments in alluvium and damage in an abandoned aqueduct tunnel along the trace of the fault. The average slip rate of the fault is estimated to be less than 0.04 inch per year. The average recurrence interval between major ruptures is uncertain. Its maximum predicted earthquake is 7.5 (moment magnitude scale).

8.2.3 Fault Rupture

Surface rupture occurs when movement on a fault deep within the earth breaks through to the surface. Fault ruptures almost always follow pre-existing faults that are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking. Fault creep is the slow rupture of the earth's crust.

8.2.4 Geologic Hazards

Seismicity is the geographic and historical distribution of earthquakes, including their frequency, intensity, and distribution. Geologic hazards include surface rupture, ground shaking, liquefaction, landslides, subsidence, expansive soils, and soil erosion. As described above, the Mojave Desert Geomorphic Province is bordered by major active fault systems, making eastern Kern County a historically active seismic area. The Kern County General Plan provides fault locations and policies and implementation measures for seismic hazards. Due to the numerous geologic fractures in the earth's crust within the Mojave Desert Geomorphic Province, all development within the valley floor area of eastern Kern County is subject to seismic hazards.

8.2.4.1 Ground Shaking

The southern California region is characterized by and has a history of faults and associated seismic activity. Earthquakes are classified by their magnitude – the measure of the amount of energy released during an event. During a seismic event, the project site may be subjected to high levels of ground shaking due to proximity to active faults in the area. The largest fault in the area is the San Andreas Fault, which is considered active. The San Andreas Fault's most recent seismic event within the project vicinity occurred in 1857, resulting in nearly 200 feet of horizontal movement along the main trace of the fault.

8.2.4.2 Expansive Soils

Expansive soils generally result from specific clay minerals that expand in volume when saturated and shrink in volume when dry. The presence of this soil type can damage structures when expansion and contraction of soil cracks rigid building materials (i.e., concrete, wood, drywall, etc.). The expansion potential of the on-site soils within the project area ranges from low to high due to differential soils classifications found throughout the area (Roffers 2012).

8.2.4.3 Liquefaction

Liquefaction occurs when saturated, loose materials (e.g., sand or silty-sand) are weakened and transformed from a solid to a near-liquid state as a result of increased pore water pressure. The increase in pressure is caused by strong ground motion from an earthquake. A site's susceptibility to liquefaction is a function of depth, density, groundwater level, and magnitude of an earthquake. Liquefaction-related phenomena can include lateral spreading, ground oscillation, loss of bearing strength, subsidence, and buoyancy effects.

For liquefaction to occur, the soil must be saturated (i.e., shallow groundwater) and be relatively loose. Liquefaction more often occurs in areas underlain by young alluvium where the groundwater table is higher than 50 feet below ground surface.

The project area is underlain by recent alluvium, Pleistocene non-marine sediments, and granitic bedrock deposits near the surface, and older alluvium and bedrock (granitic and other intrusive crystalline rocks) at depth. California Liquefaction Hazard Zones have not been mapped for Kern County, including the project area. However, groundwater in most of the project area is expected to be over 200 feet below ground surface (Kern County Planning Department 2012a).

8.2.5 Local Setting

8.2.5.1 Topography and Climate

Ground surface elevations in the project area range from approximately 2,150 to 7,500 feet (CGS 2012). The topography of the project area is variable, including gentle, moderate, and steep slopes. The Mojave Basin and Range ecoregion is generally characterized by a Mediterranean climate of hot, dry summers and moist, cool winters. Over the last ten years the average precipitation at Jawbone Station was eight inches, occurring primarily between October and April, with an occasional heavy summer thunderstorm and the potential for flash floods.

8.2.5.2 Geology and Soils

The project area is underlain by recent (Quaternary) alluvium, Pleistocene non-marine sediments, and granitic bedrock deposits near the surface, and older alluvium and bedrock (granitic and other intrusive crystalline rocks) at depth. Alluvial deposits are composed of sand, silt, and gravel; the non-marine deposits are comprised of finer-grained sands, silts, and clays. Soils in the Mojave Desert are shallow, deep, or very deep and are well drained to excessively drained (Figure 8-2). The surface layer soils range from sandy to clayey loam. Sandy surface layers are highly susceptible to blowing, have low available water capacity, and have a hazard of erosion due to slopes and insufficient plant cover. These conditions can be exacerbated due to the highly variable climate of the area resulting from both mountain ranges and desert.

CGS prepared a Preliminary Assessment of Erosion Hazard Potential for the Eastern Kern County Acquisition (CGS 2012; Appendix K). CGS found that 129 soil map unit categories exist within the project area. These units were then grouped into four erosion hazards categories: very high erosion potential, high erosion potential, moderate erosion potential, and low erosion potential (Figure 8-3). CGS found the following distribution of erosion hazard rating categories within the parcel units: < 1% Very High, 18% High, 25% Moderate, and 57% Low.

As indicated in Figure 8-3, most designated trails traverse through soils with a low erosion hazard. This results from the routes being established in washes or along ridge tops where soils are more stable. The Jawbone Canyon Open Area has the highest occurrence of moderate and high erosion prone soils and is the most subject to disturbance by OHVs. Five ReNu parcels are entirely or partly contained in the Jawbone Canyon Open Area.

The areas of higher relief within the project area are primarily underlain by Mesozoic granitic rocks, Pre-Cenozoic granitic and metamorphic rocks, or Pre-Cretaceous metamorphic rocks. The steepest slopes in the study area also occur within these areas, and the soils in these locations appear to be the most susceptible to erosion as measured by the applied EHR method. The areas of lowest assessed erosion hazard potential appear to be predominantly located in areas with Quaternary alluvium, in soils derived from Pleistocene non-marine units, or in soils derived from granitic bedrock with very gentle slopes.

8.2.5.3 Existing Condition of Geologic and Soils Resources

A field evaluation of the soil conditions along designated routes and areas on the acquisition parcels has not been completed; therefore, the extent to how many routes and trails are not in compliance with the 2008 Soil Conservation Standard is unknown. Biologists, archaeologists, and state park resource managers working on the parcels in 2012 have anecdotally reported sightings of bare soils areas that could be contributing to soil erosion in the area. Existing land use activities continue to have the potential to cause erosion in the area. As noted above, to the extent areas receive Grants Program funds, the OHMVR Division has determined such areas are in compliance with the 2008 Soil Conservation Standard (Glaspie, pers. comm.).

8.2.5.4 Existing Condition of Geologic and Soils Resources

BLM and Friends of Jawbone conduct trail maintenance and restoration work in the OHV area of the Jawbone-Butterbredt ACEC (BLM, RFO 2012, FOJ 2012), including on the ReNu parcels. They perform both mechanized and hand trail maintenance to repair and maintain trail tread. Trail work includes using a grader for scraping and grading trails to remove bumps, holes, washouts and other irregularities that pose public safety hazards or contribute to soil erosion. Erosion control features (berms, waterbars) are maintained using both a grader and hand tools.

BLM and Friends of Jawbone also conduct restoration in the project area. In 2012, BLM proposed to restore approximately 18,000 square meters using both active (i.e., vertical mulch and re-vegetation through seeding and transplanting) and passive (i.e., interior of polygon restores naturally due to protection from the outer active restoration) restoration techniques (BLM, RFO 2012). Restoration work includes the following tasks (BLM, RFO 2012):

- Restoration and camouflaging of designated closed routes in limited use areas using vertical mulching, horizontal mulching, and seed pits
- Construction of erosion control structures, such as water bars and check dams on slopes of greater than 30 degrees and other areas as needed
- Construction of hard barriers and installation of signs to negate illegal OHV use, define camping areas, and protect recently restored areas
- Photo documentation and data collection to assess the efficacy of arid lands restoration in OHV recreation areas
- Archaeological and biological inventories prior to site restoration
- Conduct outreach events to inform the OHV riding community and public about restoration projects and the regulations of operating an OHV on public lands

8.3 PROJECT IMPACTS

8.3.1 Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in CEQA Guidelines Appendix G, to determine if a project could potentially have a significant adverse effect on geology and soils. A project would have a significant adverse effect on geology and soils if it:

- Exposes people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving:

  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault,
  - Strong seismic ground shaking,
  - Seismic-related ground failure, including liquefaction, or
  - Landslides.
- Results in substantial soil erosion or the loss of topsoil;
- Is located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- Is located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or
- Has soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.

As presented in Chapter 2.0, Project Description, the proposed land acquisition does not include the development of infrastructure requiring the use of septic tanks or alternative wastewater disposal systems. As such, there is no chance that septic tanks or other wastewater disposal systems would be affected by geologic hazards. Therefore this issue is not further analyzed in this chapter.

8.3.2 Proposed Geology and Soils Management Measures

Under public agency ownership, the ongoing OHV and other recreation would be more fully managed to protect geologic and soil resources (Project Description, Section 2.3). The OHMVR Division would be required to implement the 2008 Soil Conservation Standard (Section 8.1.5) on all its lands. Upon acquisition, the OHMVR Division will need to prepare a soil conservation plan for the parcels; see Section 8.1.5 for a description of the program. The first step will be an evaluation of the erosion hazard along the trail system by a soils conservation specialist. The evaluation would be done by overlaying the trail system on the Erosion Hazard Rating map at a high resolution to identify where the use is occurring in high erosion zones; those areas would be the highest priority for checking in the field. The evaluation process will likely consist of the following:

Assess Erosion Conditions. All water crossings that intersect designated routes will be checked to determine whether they are contributing sediment load. Ideally LIDAR (optical remote sensing technology that uses laser) and aerials would be used to identify where the actual use occurs. Hillclimbs will be evaluated by assessing gullying on the slopes and examining where eroded soils are being deposited. If eroded soil is still available to be replaced (i.e., is not being transported off-site), then the soil loss is not considered to not exceed restorability. However, if the eroded soils are flowing into a drainage swale or otherwise being transported offsite, then the site is not sustainable, and action must be taken.

Address Erosion Issues. Any areas found to be out of compliance with the 2008 Soil Conservation Standard would be remedied first. The process for repairing areas that are out of compliance must take into account the nature of the OHV recreation experience that is customarily carried out in the area. Simply shutting everything down often leads to illegal use. For example, in an area like the Jawbone Canyon Open Area, OHV recreationists come for the challenging hillclimbs. Simply closing all hillclimbs would likely lead to management problems

in the project area or in adjacent lands. Instead, the hillclimbs will be evaluated, and a sustainable plan for the climbs will be prepared. The plan will consider two key factors: 1) which areas can handle the activity from an erosion standpoint, and 2) which areas are located in places where crews can easily get in maintenance equipment. A goal is to reduce the number of individual, redundant climbs. For example, if 20 hillclimb routes exist, then perhaps 15 would be closed, with the remaining 5 kept open. The use could then be rotated to other climbs when the first five need restoring. At some sites, the landform would be recontoured and restored to a new, stable contour.

Recreationists would be directed to designated areas and prohibited from using lands that are more susceptible to erosion. This would be through:

- Education: use brochures and signs to explain to recreationists why a particular area is off limits
- Engineering and design: create a network of sustainable trails that can be maintained and are enjoyable to recreationists so riders will stay within authorized areas
- Enforcement: ultimately enforcement is necessary to ensure compliance for some visitors

Prepare Trail Maintenance Plan. The trails will be subject to the requirements in Sections 1.3.1 and 1.3.2 of the 2008 Soil Conservation Standard. Per Section 1.3.1, staff will prepare: 1) a protocol for assessing and maintaining trails consistent with the Soil Conservation Standard, 2) a protocol for monitoring the trails, and 3) a compliance report. Trail maintenance procedures will be laid out in a trail maintenance plan. Finally, monitoring of soils conditions will be conducted per established schedule; the minimum requirement is annual monitoring.

8.3.3 Exposure of People or Structures to Substantial Adverse Effects

The proximity of existing active faults to the project area presents the potential for people or structures to be exposed to substantial adverse effects involving fault rupture and seismic shaking. Strong ground shaking generated by an earthquake could also cause landslide movement and other ground collapse, especially in steeper areas. These are ongoing occurrences within the project area, and the hazards and risks involved with these circumstances would not change due to the land acquisition, other than a negligible potential 1% increase in visitation (1,800 additional visits). Since vault toilets are the most substantial structures that would possibly be developed as part of the proposed project, and such toilets are designed per current building standards, there is no potential for injury or death from structural collapse. There would be no conflicts with applicable requirements of the Uniform Building Code, California Building Code or Kern County Building Code. Therefore, impacts related to fault rupture and seismic shaking are considered less than significant.

8.3.4 Substantial Soil Erosion and Loss of Topsoil

As shown on Figure 8-3, portions of designated routes traversing acquisition parcels have soils with high and moderate erosion potential. In particular, five parcels are entirely or partly included in the Jawbone Open Area where the most moderate and high erosion potential exists. There is anecdotal evidence that areas within the acquisition parcels are either prone to erosion, or have been disturbed by ongoing activities such that that they are experiencing erosion.

The proposed land acquisition would not include the expansion of existing OHV trail use within the project area. An additional 1,800 visits would not significantly increase erosion potential. Some existing trails, including non-motorized trails, could require recontouring or minor trail realignments to address localized erosion. Measures to protect sensitive cultural and biological

resources will be taken as needed. These measures may include erecting fences around the sensitive resources, installing signs, and minor reroutes.

As described in Section 8.3.2, the OHMVR Division would implement geology and soils management measures, including a soil conservation plan. The plan would address all trails, routes, and open areas on the acquired parcels. The existing soil erosion conditions would be improved after property acquisition. In accordance with OHMVR Division protocols, any measures taken to protect resources would be reviewed and signed off by a soil resource specialist prior to implementation. These impacts related to soils erosion and loss of topsoil are considered less than significant.

8.3.5 Unstable Geologic Unit or Soil

As shown in Figure 8-2, the areas of higher relief within the project area are primarily underlain by granitic and metamorphic rocks. Although soil erosion is possible, the potential for landslides in this geomorphic and geologic environment is considered low. Alluvium and other sedimentary geologic units, which are more susceptible to landslides, are located within the project area in areas with lower relief and very gently dipping slopes.

Alluvial soils in arid and semi-arid environments have the tendency to possess characteristics that make them prone to subsidence and collapse with increase in moisture content and without increase in external loads. The project is located in a geologic environment where the potential exists for collapsible soils.

The proposed land acquisition does not include the development of any structures or infrastructure or alteration of shallow soils that would be susceptible to unstable geologic units found within the project area. Additionally, measures to protect sensitive cultural and biological resources (such as erecting fencing and installing signs), and to manage soil resources, would cause only minor disturbance that would not trigger movement of unstable geologic formations or soils. Therefore, the proposed project would have no impact related to unstable geologic units or soil.

8.3.6 Expansive Soils

As presented in the Preliminary Assessment of Erosion Hazard Potential for Eastern Kern County Acquisition (CGS 2012), numerous different types of soil, including expansive soils, are located within the project area. Since building structures other than potential installation of vault toilets, fences, and informational kiosks is not part of the proposed project, no new structures would be located on expansive soils and there would be no conflicts with applicable requirements of the Uniform Building Code, California Building Code or Kern County Building Code. Additionally, there is no risk to life or property related to geologic hazards associated with building on expansive soils.

8.4 CUMULATIVE IMPACTS

The list of cumulative projects is presented in Table 13-1. For the most part, geologic impacts are site specific and are not made more severe by implementation of another project. The exception is seismic events that would all have varying degrees of vulnerability, with the severity of impact directly related to site-specific conditions such as location of faults, location of structures, areas of potential liquefaction, subsidence, and unstable slopes. Cumulative impacts could occur in a seismic event if a potential hazard, such as a power plant, were located near a populated area. However, no such facilities are planned within or in the vicinity of the project area. All planned projects in the vicinity of the proposed project are subject to review in separate environmental documents that will require conformance with the Kern County General Plan, which requires the

mitigation of seismic hazards and engineering to ensure slope stability. The proposed land acquisition would not contribute to any cumulative impacts for seismic hazards or related seismic events, including liquefaction, subsidence, or unstable slopes.

8.5 MITIGATION MEASURES

Implementation of Geology and Soils Management Measures would adequately address any ongoing erosion on the ReNu parcels, and no significant geology or soils impacts have been identified for the project based on the analysis contained in Sections 8.2.5.4 and 8.4 above. No mitigation is required.

Figure 8-1. Geologic Features

Figure 8-2. Soil Survey

Figure 8-3. Erosion Hazard Rating

CHAPTER 9 GREENHOUSE GAS EMISSIONS

This chapter summarizes relevant GHG literature and current GHG regulations and evaluates the GHG emissions impacts of the proposed acquisition project and the project's consistency with relevant GHG emission reduction plans and programs. This facility maintenance accommodates recreation use, so visitors' travel to and from the trailhead and OSV use on trails are indirect mobile air emissions sources. All of these mobile sources consume energy as petroleum based fuels and consequently emit carbon dioxide, which is a greenhouse gas associated with global climate change.

9.1 REGULATORY SETTING

The State of California has begun a series of legislative and regulatory approaches to dealing with global climate change in recognition of the fact that California is vulnerable to the effects of global climate change, and, that despite its global nature, action to curb GHG emissions is needed on a statewide level.

9.1.1 California Global Warming Solutions Act – AB32

The California Global Warming Solutions Act of 2006 (AB32) requires CARB to reduce GHG emissions to 1990 levels by 2020. CARB identified 427 million metric tons of carbon dioxide equivalent (MMTCO2e) as the total statewide GHG 1990 emissions level and adopted this level as the 2020 GHG emissions limit (CARB 2007). CARB estimates 2020 GHG emission levels will reach approximately 600 MMTCO2e if no actions are taken under a "business-as-usual" scenario.

The 1990 California GHG inventory includes the following gases: carbon dioxide CO_2, methane (CH_4), nitrous oxide N_2O, sulfur hexafluoride (SF_6), hydrofluorocarbons (HFC), and perfluorocarbons (PFC). Each GHG has a different capacity to trap heat in the atmosphere by absorbing infrared radiation. Almost 90% of the total GHG identified in the inventory is CO_2 (CARB 2007). The majority of 1990 emissions are tied to fuel use activities such as electrical generation, transportation, and industrial operations (CARB 2007).

CARB approved the Climate Change Scoping Plan on December 11, 2008. Key elements of the plan include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
- Achieving a statewide renewables energy mix of 33 percent
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation

9.1.2 Senate Bill 375

In SB375, California enacted several measures to reduce vehicular emissions through land-use planning. CARB will develop GHG emission reduction targets for the automobile and light truck sector for each metropolitan planning organization. Currently no GHG plans apply to recreational travel and fuel use outside of metropolitan areas.

9.1.3 Assembly Bill 1493

On July 22, 2002, Governor Gray Davis signed AB 1493, also known as the Pavley Regulations or the Clean Car Standards. AB 1493 required the state to develop and adopt regulations to achieve the maximum feasible and cost-effective reduction in GHG emissions emitted by passenger vehicles and light-duty trucks. Subsequent regulations were adopted by CARB in September 2004. Although EPA initially denied implementation of GHG standards for passenger vehicles, EPA granted California the authority to implement GHG emissions reduction standards for new passenger cars, pickup trucks, and sport utility vehicles on June 30, 2009. On September 24, 2009, CARB adopted amendments to the Pavley Regulations that will reduce GHG emissions in new passenger vehicles between 2009 and 2016.

9.1.4 Executive Order S-01-07

Executive Order S-01-07 was enacted by then-Governor Arnold Schwarzenegger on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. It also requires that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California. In April 2010, CARB adopted a final set of regulations for the LCFS that is now codified at California Code of Regulations. Title 17, sections 95480-95490. The implementation of the LCFS will reduce greenhouse gas emissions by reducing the full fuel-cycle, carbon intensity of the transportation fuel pool used in California, pursuant to the California Global Warming Solutions Act of 2006 – AB32.

9.2 ENVIRONMENTAL SETTING

GHGs are chemical compounds that trap heat in the Earth's atmosphere and contribute to the regulation of the Earth's climate. Unlike air quality, which is influenced by local and regional factors and is therefore considered on the local or regional scale, GHGs influence global climate patterns and are best considered on a broader state, national, or global scale.

Many chemical compounds found in the Earth's atmosphere act as 'greenhouse' gases. These gases allow sunlight to enter the atmosphere freely. When sunlight strikes the Earth's surface, some of it is reflected back towards space as infrared radiation (heat). GHGs absorb this infrared radiation and trap the heat in the atmosphere. Many gases exhibit these "greenhouse" properties. Some of them occur in nature (water vapor, carbon dioxide, methane, and nitrous oxide), while others are exclusively human-made (like gases used for aerosols). The most relevant GHGs are water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), Sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs). These gases prevent heat from escaping to space.

The four gases, CO_2, CH_4, N_2O, and SF_6 and two groups of gases, HFCs and PFCs, are the primary contributors to climate change and are described below.

Carbon Dioxide (CO_2). CO_2 is released to the atmosphere when fossil fuels (oil, gasoline, diesel, natural gas, and coal), solid waste, and wood or wood products are burned.

Methane (CH_4). CH_4 is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from the decomposition of organic waste in municipal solid waste landfills and the raising of livestock.

Nitrous oxide (N_2O). N_2O is emitted during agricultural and industrial activities, as well as during combustion of solid waste and fossil fuels.

Sulfur hexafluoride (SF_6). SF_6 is commonly used as an electrical insulator in high voltage electrical transmission and distribution equipment such as circuit breakers, substations, and transmission switchgear. Releases of SF_6 occur during maintenance and servicing as well as from leaks of electrical equipment.

Hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs). HFCs and PFCs are generated in a variety of industrial processes. Although these gases are small in terms of their absolute mass, they are potent agents of climate change due to their high global warming potential.

GHGs can remain in the atmosphere long after they are emitted. The potential for a GHG to absorb and trap heat in the atmosphere is considered its global warming potential (GWP). The reference gas for measuring GWP is CO_2, which has a GWP of one. By comparison, CH_4 has a GWP of 21, which means that one molecule of CH_4 has 21 times the effect on global warming as one molecule of CO_2. Multiplying the estimated emissions for non-CO_2 GHGs by their GWP determines their carbon dioxide equivalent (CO_2e), which enables a project's combined global warming potential to be expressed in terms of mass CO_2 emissions. Table 9-1 below presents the GWPs and estimated atmospheric lifetimes of the common GHGs.

Table 9-1. GHG Global Warming Potentials

GHG	GWP	GHG	GWP
Carbon Dioxide (CO_2)	1	Perfluorocarbons (PFCs)	
Methane (CH_4)	21	CF_4	6,500
Nitrous Oxide (N_2O)	310	C_2F_6	9,200
Hydrofluorocarbons (HFCs)		C_4F_{10}	7,000
HFC-23	11,700	C_6F_{14}	7,400
HFC-134a	1,300	Sulfur Hexafluoride (SF_6)	23,900
HFC-152a	140		
HCFC-22	1,700		

Source: CARB 2009

Greenhouses gases, in most cases, have both natural and anthropogenic sources. Natural mechanisms already exist as part of the 'carbon cycle' for removing GHGs from the atmosphere (often called land or ocean sinks). The amount of energy sent from the sun to the Earth's surface should be about the same as the amount of energy radiated back into space, leaving the temperature of the Earth's surface roughly constant. Levels of GHGs, due to the increase in anthropogenic sources, have exceeded the normal rates of natural absorption. This has resulted in increased atmospheric concentrations of GHGs and potentially human-induced global warming.

California is a major consumer of energy due to its large population, industry, and commerce. Because California is physically large and has developed sprawling metropolitan areas, the state has a historical dependence on transportation using petroleum-based fuel. Fuel use rises and falls slightly with economic conditions, but annual consumption of gasoline and diesel motor fuels is

roughly 20 billion gallons per year (CEC 2007). Transportation fuel use is a large component of GHG emissions. The statewide 2009 GHG inventory was 452.97 MMT (million metric tons), of which 38.2% is attributed to transportation (CARB 2011; Appendix D).

9.2.1 Kern County GHG Emissions

The project area is located in Eastern Kern County under the jurisdiction of the EKAPCD. Table 9-2 below presents the GHG emissions emitted by Kern County for the base year 2005 and forecast for year 2020. The fossil fuels industry (40 percent) and transportation (17 percent) account for the most GHG emissions in the county (SJVAPCD 2012).

Table 9-2. 2005 Kern County (baseline) and 2020 (forecast) GHG Emissions

Year	Total MMTCO2e
2005	27,045,617
2020	27,272,709

Source: SJVAPCD 2012.

9.3 PROJECT IMPACTS

9.3.1 Thresholds of Significance

CEQA Guidelines Appendix G identifies the following thresholds for assessing GHG emission impacts:

"Would the project:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?"

In determining the significance of impacts from greenhouse gas emissions, CEQA Guidelines section 15064.4(a) states that such a determination calls for careful judgment and provides the lead agency with the discretion to determine, in the context of a particular project, whether to use a model or methodology to quantify GHG emissions or to rely on a qualitative analysis or performance based standards. CEQA Guidelines section 15064.4(b) states that the "lead agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions."

The OHMVR Division has not adopted its own quantitative standards of significance for GHG emissions and potential global climate change impacts. For informational purposes, the OHMVR Division reviewed the standards maintained by other agencies as guidance on the scale of GHG emissions that rise to significance in California land planning.

The EKAPCD, for example, uses the following process for determining whether a project's GHG emissions are individually and cumulatively significant, as outlined in its "Addendum to CEQA Guidelines Addressing GHG Emission Impacts for Stationary Source Projects when Serving as Lead CEQA Agency" (EKAPCD 2012b):

- A project subject to a CEQA statutory exemption or subject to a CEQA categorical exemption that does not otherwise have significant individual and cumulative effects on GHG emissions would not require further CEQA review.
- A project that is not exempt from CEQA would require quantification of Project Specific GHG Emissions to determine annual GHG emissions.
- A project that emits less than 25,000 tons per year (tpy) of GHGs would be determined to have a less than significant individual or cumulatively considerable impact on GHG emissions and would not require further CEQA review.

In addition to this EKAPCD guidance, several metropolitan air districts have begun to set quantitative thresholds for GHG. The South Coast Air Quality Management District adopted an interim CEQA GHG significance threshold of 10,000 $MTCO_2e$ per year for stationary/industrial projects and 3,000 $MTCO_2e$ per year for commercial or residential projects. The San Joaquin Valley Air Pollution Control District (APCD) adopted a performance-based approach that emphasizes land use planning and equipment efficiency to achieve AB32 GHG reduction goals. The Bay Area Air Quality Management District (BAAQMD) CEQA guidelines set a threshold of 10,000 $MTCO_2e$ per year for industrial stationary sources. For residential, commercial, and public land use projects, the BAAQMD has set a mass threshold of 1,100 MTCO2e per year and an efficiency-based threshold of 4.6 $MTCO_2e$ per service population per year. The BAAQMD, however, is currently not recommending use of these thresholds due to court actions. The San Luis Obispo County APCD's CEQA Guidelines also set a stationary source threshold of 10,000 $MTCO_2e$ and, similar to the BAAQMD, set a mass threshold of 1,150 $MTCO_2e$ per year for land use.

9.3.2 Proposed Greenhouse Gas Management Measures

By bringing private property under public agency management, the proposed acquisition project would allow the OHMVR Division to better manage OHV recreation and steward greenhouse gas resources (Project Description, Section 2.3).

Strategic Plan Objective 1.3, Reduce Carbon Footprint. OHMVR Division ownership would result in management in accordance with the OHMVR Division's Strategic Plan. This plan describes five guiding principles and adopts a framework of six goals for the OHMVR Division to meets its legislative mandates (OHMVR Division 2009). The OHMVR Division will adhere to the guiding principles outlined in its Strategic Plan during management and operation of the acquired lands, including the principles of sustainability, transparency in decision making, and use of sound data for management decision making. Specifically, as outlined in Objective 1.3 of the Strategic Plan, this would include a goal, by 2020, to reduce the carbon footprint associated with SVRA management by 25% below 2009/2012 fiscal year levels.

9.3.3 Project Greenhouse Gas Emissions

Direct GHG emissions consist of emissions from the combustion of fuel in stationary sources of equipment (e.g., a furnace or boiler) as well as mobile sources (e.g., visitor trips and OHV use). Indirect GHG emissions generally consist of emissions occurring off-site as a result of the project, such as emissions generated from the project's electricity and water use, and wastewater and solid waste generation. The proposed project would not involve the construction of new

stationary sources of equipment or the modification of existing facilities that use or generate electricity, water, or wastewater. The project would not alter grazing activities or otherwise affect livestock management and would therefore not result in changes to emissions from enteric fermentation. Thus the project's GHG emissions sources are limited to operational mobile sources that combust gasoline and diesel fuel – visitor vehicle trips, visitor OHV use, and vehicle use associated with park management operations.

As described in Chapters 2 and 5, the number of visitors travelling to and from the project area as well as the amount of OHV use occurring in the project area would not significantly increase as changes to designated routes and the amount of open areas available for OHV or other recreational uses would not change. However, OHMVR Division ownership of the project parcels would slightly increase maintenance and operations activities such as garbage pick-up, facilities maintenance, signing, fencing, and ongoing maintenance of trails and access corridors. General park operations, which include public safety and law enforcement patrols, medical aid, and emergency response to law enforcement and medical aid calls, would also increase. Of these three activities, visitor vehicle trips to and from the project area are considered to be the greatest source of GHG emissions because the distance traveled to reach the project area (assumed to be 50 miles one-way) would require the highest amount of fuel combustion.

As presented in Chapter 5.0, Air Quality, a 1% increase in visitors to the project area would result in 2,160 more visitor trips per year. As estimated using URBEMIS 2007, Version 9.2.4, this increase in visitor trips would result in approximately 162 metric tons of CO_2 per year (179 tons of CO_2; Appendix D). Based on 2009 CARB GHG Inventory data for on-road transportation, emissions of CH_4 and N_2O would add approximately 2.3 % in CO2 equivalents, resulting in a total GHG emissions increase of approximately 166 MTCO2e (CARB 2011). Even if GHG emissions from OHV use and park management operations were equivalent to the emissions generated by visitor vehicle trips (which they would not be because fuel combustion from OHV use and park management operations is expected to be less than that associated with visitor vehicle trips), the combined emissions from all three sources would be lower than all stationary source and land use development mass thresholds of significance adopted by various AQMDs and APCDs, including the EKAPCD. The project's potential increase in GHG emissions would be less than significant.

The proposed project comprises the acquisition of the ReNu parcels. As discussed in Chapter 5.0, Air Quality, the project does not have the potential for short-term air quality impacts because the project does not propose construction of significant new facilities to support the existing land uses, although minor projects are foreseeable, such as fence and sign installation, adding or modifying vault toilets, and road maintenance including possible minor reroutes, etc. Some management changes may occur due to operational, resource, or other management needs, but no changes significantly affecting the amount or location of use are anticipated. The historical and ongoing OHV activity constitutes the baseline for assessing the physical changes in the GHG environment that would occur as a result of the project. The amount of OHV use occurring in the project area would not significantly increase as changes to designated routes and the amount of open areas available for OHV or other recreational uses would not change. However, the increase in amount of land managed by OHMVR Division management and/or BLM would slightly increase maintenance and operations activities such as garbage pick-up, facilities maintenance, signing, fencing, and ongoing maintenance of trails and access corridors. General park operations include patrols, public safety and law enforcement, medical aid, and emergency response to law enforcement and medical aid calls. The impact is less than significant.

9.3.4 Conflicts with GHG Reduction Plans, Policies, and Regulations

The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Current California emission reduction strategies to reduce greenhouse gases focus on the effects and impacts of vehicle emissions, hydroflurocarbon reduction, alternative fuels, recycling programs, landfill methane mitigation, urban forestry, and water and energy efficiency standards. The vehicle Climate Change Standards, AB 1493 (Pavley), required the State to develop and adopt regulations to achieve the most feasible and cost-effective reduction in climate change emissions emitted by passenger vehicles and light duty trucks. These regulations were adopted by CARB in September 2004 and amended in 2009 to further reduce GHG emissions in passenger vehicles through 2016. Other light duty vehicle technology standards are being adopted and would be phased in beginning in the 2017 models. These are CARB enforced standards, and model year vehicles 2009 and later that would access the project area would meet these adopted standards and thus comply with California emission reduction strategies. Other GHG strategies would not be applicable as new facilities, stationary sources, or buildings that would need to achieve recycling and energy efficiency standards are not included in the proposed project.

The DRECP is expected to provide binding, long-term endangered species permit assurances while facilitating the review and approval of renewable energy projects in the Mojave and Colorado deserts in California. It is still in the planning stage. The proposed acquisition parcels are not currently identified as areas targeted for renewable energy project development and would therefore not conflict with the DRECP as currently drafted.

Therefore, the proposed project would not conflict with any applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions. The impact is less than significant.

9.4 CUMULATIVE IMPACTS

As discussed in Section 9.3 above, the project's potential increase in GHG emissions would be less than significant and the project would not conflict with any applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions. In developing its CEQA significance thresholds, air districts generally consider the emission levels at which a project's individual emissions would be cumulatively considerable. The EKAPCD considers projects that result in emissions that exceed its CEQA significance thresholds to result in individual impacts that are cumulatively considerable and significant. Since the proposed project would not individually increase GHG emissions, the proposed project would result in less than significant cumulative GHG impacts.

9.5 MITIGATION MEASURES

The above analysis identifies that direct and indirect emissions associated with the project conditions would not result in any individual or cumulatively significant impacts. No mitigation measures are required.

CHAPTER 10 HAZARDS, HAZARDOUS MATERIALS, AND PUBLIC SAFETY

This chapter addresses potential hazards and safety risks occurring on the acquisition property including open pits and a shaft and the possibility of *coccidioides* fungus, which causes valley fever.

10.1 REGULATORY SETTING

10.1.1 Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act (CERCLA)

CERCLA, commonly known as Superfund, provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment (42 USC §103 et seq.). CERCLA establishes requirements concerning closed and abandoned hazardous waste sites; provides for liability of persons responsible for releases of hazardous waste at these sites; and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enables the revision of the National Contingency Plan (40 CFR §300 et seq.), which provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The National Contingency Plan also established the National Priorities List, which guides the EPA in determining which sites warrant further investigation.

10.1.2 Federal Aviation Administration (FAA)

The FAA regulates aviation at regional, public, private, and military airports. The FAA regulates objects affecting navigable airspace and structures taller than 200 feet (14 CFR §77.13). The U.S. and California Departments of Transportation also require the proponent to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration for any structures exceeding that threshold. Notification allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing any adverse impacts on the safe and efficient use of navigable airspace. Any structure that would constitute a hazard to air navigation, as defined in FAA Part 77, requires issuance of a permit from the California Department of Transportation's Aeronautics Program. The permit is not required if the FAA aeronautical study determines that the structure has no impact on air navigation.

10.1.3 California Department of Toxic Substance Control (DTSC)

The DTSC is a department of Cal/EPA and is the primary agency in California that regulates hazardous waste, cleans-up existing contamination, and looks for ways to reduce the hazardous waste produced in California. The DTSC regulates hazardous waste in California primarily under the authority of the federal Resource Conservation and Recovery Act and the California Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

Government Code section 65962.5 (commonly referred to as the Cortese List) includes DTSC listed hazardous waste facilities and sites, the Department of Health Services lists of contaminated drinking water wells, sites listed by the SWRCB as having underground storage tank leaks and which have had a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites that have had a known migration of hazardous waste/material.

10.1.4 California Department of Forestry and Fire Protection (CAL FIRE)

Part of CAL FIRE's mission is to prevent fires. The department's Fire Prevention Program consists of multiple different activities including fire engineering, vegetation management, fire planning, education and law enforcement. Common projects include fire break construction and other fire fuel reduction activities that lessen the risk of wildfire to communities and evacuation routes. This may include brush clearance around communities, along roadways and evacuation routes. Other activities include defensible space inspections, emergency evacuation planning, fire prevention education, fire hazard severity mapping, implementation of the State Fire Plan, and fire-related law enforcement activities such as arson investigation.

10.1.5 Kern County Wildland Fire Management Plan

The Kern County Wildland Fire Management Plan (2009) documents the assessment of wildland fire situations within the county. The Kern County Fire Department's Wildland Fire Management Plan provides for systematically assessing the existing levels of wildland protection services and identifying high-risk and high value areas that are potential locations for costly and damaging wildfires. The goal of the plan is to reduce costs and losses from wildfire by protecting assets at risk through focused pre-fire management prescriptions and increasing initial attack success. Based on this assessment, preventive measures are implemented, including the creation of wildfire protection zones. The acquisition parcels are in the Kern River Valley Management area and within "moderate" hazard severity zone.

10.2 ENVIRONMENTAL SETTING

10.2.1 Phase 1 Site Assessment

In 2011, CDPR contracted with Geocon Consultants, Inc. (Geocon) to prepare a Phase I ESA for the 59 parcels of land proposed for purchase from ReNu (Geocon 2011). The parcels total approximately 28,000 acres. According to the report "the site is predominately undeveloped land; however, improvements on the site include: two Los Angeles Aqueduct pipelines, overhead electrical transmission lines, abandoned mine prospects; pave and unimproved roads, old windmills and stock corrals, and livestock grazing/ranching land." The full report is available upon request from the OHMVR Division.

In 2008, Kennedy/Jenks Consultants (Kennedy/Jenks) prepared a Phase I ESA (Kennedy/Jenks 2008) on 188 parcels encompassing approximately 67,000 acres of land situated in the Kelso Valley and Lake Isabella areas in eastern Kern County, California. The parcels were owned by the Rudnick Estates Trust (the Trust) at the time of the assessment and have since been sold to ReNu. A limited Phase II Site Assessment (soil investigation) was subsequently performed on two parcels identified during the Kennedy/Jenks Phase I ESA as potentially containing hazardous substances (Kennedy/Jenks 2008). Those parcels are at the original Onyx Ranch, near Onyx, and are not part of the OHMVR Division's proposed acquisition. The full report is available upon request from the OHMVR Division.

The purpose of both Phase I ESAs was to identify recognized environmental conditions (RECs) in connection with the subject properties that may potentially impact intended plans for the area and to characterize the nature and general magnitude of impacts associated with each REC. As defined by the American Society of Testing and Materials, a REC is "the presence or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substance or petroleum products into the structure, on the property, or into the ground, groundwater, or surface water of the property." The term historical REC means an environmental

condition which in the past would have been considered a REC, but which may or may not be considered as a REC currently.

The 59 project parcels proposed for acquisition by OHMVR Division were included in both Phase I ESAs. Neither of the reports identified RECs or historical uses that would include use or storage of hazardous materials, such as ranches, stores, and mines on the project parcels. Geocon (2011) clarified that lack of access to the ranch operations/residence area on parcel 153-100-10 in Kelso Valley did not allow them to make detailed observations of potential areas of concern. The Phase I ESA recommended that access be gained on this parcel for observation of any areas of concern (Geocon 2011).

The Kennedy/Jenks Phase I ESA identified two open pits and one unprotected shaft on three of the project parcels during the Phase I ESA helicopter reconnaissance. Parcel 153-150-02 contains a small, empty pit about four feet deep. Parcel 153-170-01 contains an approximately 15-foot deep mine shaft filled with wood and debris. Parcel 444-070-05 has open pits (possible mine prospects). The Kennedy/Jenks Phase I ESA recommends securing these locations to ensure they do not become illegal dump sites or a risk to public safety (KJC 2008).

10.2.2 Air Space

Three approximately 60-meter tall meteorological towers occur on the ReNu parcels (see V-1, V-11b, and V-12 on Figure 2-3). The towers are installed and operated on behalf of the City of Vernon. No airstrips are on the ReNu parcels, although two dirt landing strips are in the project area on BLM land, one in Kelso Valley and one near Dove Springs Open Area (see Figure 2-3). Rough 1, a DOD low-level flight path, overlies many of the eastern ReNu parcels (Figure 3-1).

10.2.3 Valley Fever

Coccidioidomycosis (valley fever) is caused by a fungus residing in soil called *coccidioides*. When soil containing *coccidioides* is disturbed, fungal spores are released into the surrounding air, and valley fever can be contracted if spore contaminated dust is inhaled. In California, the fungus is found in many parts of the San Joaquin Valley, west of the project area (California Department of Public Health 2013). In Kern County, the highest rate occurs in the San Joaquin Valley while lower rates occur in the Ridgecrest, California City, and Mojave areas. The *coccidioides* fungus moves around a lot and may be in one area one year and not there the next. As a result, soil testing is impractical, especially in large areas (Emory 2013).

Sixty percent of valley fever symptoms are asymptomatic and most people who get it do not see a doctor. About thirty percent of cases are moderate in severity causing an illness similar to pneumonia, and ten percent are considered severe. In rare instances, severe cases (less than one percent of cases), can be debilitating, infecting the skin, bones, joints, meninges, and organs (KCPHS 2013). There is no vaccine for valley fever (Emory 2013).

Kern County recommends educating people on the potential risk of contracting valley fever and ways to take precautions to avoid contracting it. Visitors should be aware that if they contract symptoms of valley fever, they should make their doctor aware that they visited an area that may support the *coccidioides* fungus (K. Emory, pers. comm.).

10.3 PROJECT IMPACTS

10.3.1 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally be considered to have a significant adverse impact on the environment if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands

To address the significance of other potential public safety risks on the project site, the following threshold was used in addition to the CEQA Guidelines thresholds identified above. The project would have a significant adverse impact on the environment if it would:

- Expose people to risk of injury from other public safety hazards occurring in the project area

There are no schools within one-quarter mile of the project area, and none of the project parcels are on the Cortese list. Therefore these issues are not further analyzed in this chapter. (California Government Code section 65962.5.).

There are no adopted emergency response plans or emergency evacuation plans in effect for the project parcels. The project would not impair implementation or interfere with an adopted emergency response plan or emergency evacuation plan. Therefore this issue is not further analyzed in this chapter.

10.3.2 Proposed Hazards and Public Safety Management Measures

OHMVR Division ownership would result in OHMVR Division staff (Environmental Scientists and Law Enforcement Officers) taking steps to protect the public from potential hazards. The Hazards and Public Safety Management Program would address existing conditions, ensuring that resources are adequately protected, existing conditions that currently pose a public hazard are remedied, and new adverse effects do not arise from project activity.

Specifically, OHMVR Division would implement the following Management Measures:

Provide Educational Material to Visitors Regarding Valley Fever. Public Health Services of the County of Kern prepared a flyer for visitors to Kern County that explains information about

valley fever in the County. CDPR would disseminate this flyer or prepare one of its own. The flyer will explain the fungus that causes valley fever, how it is contracted, and health risks,

Supplemental Phase I ESA. Geocon was unable to gain access to one parcel (K-13; Figure 2-4) to determine if there were any areas with hazardous materials of concern. CDPR will coordinate with its Phase I ESA consultant to visit parcel K-13 and determine the status of RECs on the property. If it is determined that RECs are present on that parcel, appropriate steps will be taken by OHMVR Division Environmental Scientists to remove and/or remedy the materials.

Closure of Open Pits and Shaft. Three parcels (A-2, A-7, and B-10) contain pits and a shaft that pose a danger to the public if left open. CDPR shall secure the pits and shaft by filling in the pits with earth and filling in or fencing and signing the shaft to prevent injury and ensuring that the pits and shaft no longer pose a safety hazard to the public.

10.3.3 Transport, Use, and Disposal of Hazardous Materials or Release of Hazardous Materials through Upset and Accident Conditions

Other than the gasoline and diesel in fuel tanks of visitors and public agency vehicles, no transport, use, or disposal of hazardous materials occurs on the project property and none is proposed by the project. Any handling of hazardous materials on OHMVR Division land requires special permits. OHMVR Division ownership and management of the property for continued vehicle recreation would not introduce the transport, use, or disposal of hazardous materials to the project properties. Neither the 1% increase in visitation nor the anticipated increase in maintenance and operations vehicles poses a significant risk of any vehicle-related upset or accident releasing large amounts of fuel. Occasionally small amounts of gasoline or oil may be released from recreational vehicles, but such small releases would not pose a safety hazard.

The project area has the potential to support the *coccidioides* fungus. Although the chance of contracting valley fever in the area is considered remote, it is a possibility. The OHMVR Division acquisition and property management activities would not alter the risk of public exposure to the *coccidiodes* fungus. Visitors to the project property have no higher risk of exposure to the *coccidioides* fungus than elsewhere in the project region. As such, a 1% increase in visitation to the project site would not increase the amount of public exposed to fungus and, therefore, the impact is not significant. Management Measures (Section 10.3.2) would inform the public of the potential presence of the *coccidioides* fungus in the area, the chances of contracting valley fever, and ways to prevent exposure to the fungus.

10.3.4 Airport and Airstrip Hazards

There are no public airports within two miles of the project site, and the project does not propose any changes in activities or facilities that would pose a danger to users of the airstrips. Similarly, neither airstrip is a hazard to ongoing recreational and maintenance uses in the project area. OHMVR Division acquisition of the private parcels will also ensure the continuance of land uses that are compatible with Rough 1, the DOD low-level flight path that overlies many of the eastern ReNu parcels (Figure 3-1).

10.3.5 Exposure to Wildland Fires

The property acquisition does not involve the construction of residences or other major structures that could be vulnerable to wildland fires. At most, shade ramadas and vault toilets may be installed in open areas and major gathering points. These facilities would be sited away from areas of thick vegetation that may be susceptible to wildland fires. The impact is less than significant.

10.3.6 Exposure to Other Public Safety Hazards

The acquisition project does not propose any changes in use or operations that would create a new risk of exposure to safety hazards. Three project parcels (A-2, A-7, and B-10; Figure 2-4) were identified in the Kennedy/Jenks Phase I ESA as having open pits or shafts, which may become dump sites or safety hazards if accessed by the public through either legal or illegal access. A 1% increase in visitor use could result in minor increased public exposure to an existing safety hazard. Filling the open pits and closing or fencing the shaft as proposed by the above Management Measures (Section 10.3.2) would prevent public injury and eliminate the safety hazard. The project would not cause a significant impact from exposure to safety hazards.

10.4 CUMULATIVE IMPACTS

Existing roadways on the project parcels are used to access other properties and utility easements such as wind turbines and the LADWP's aqueducts. Use of existing roads on the project parcels to access adjacent properties would not contribute cumulatively to hazards, hazardous material, or public safety related impacts as the transport of hazardous materials across parklands would not be allowed, and no hazardous materials are known to exist on the properties that could be upset by park related vehicle travel. The acquisition of the ReNu properties and management of those properties along with cumulative projects in the project vicinity would not create significant cumulative impacts related to hazards, hazardous materials, or public safety.

10.5 MITIGATION MEASURES

No significant impacts have been identified for the project based on the analysis contained in Sections 10.3 and 10.4 above, which includes the OHMVR Division's implementation of the Management Measures described in Section 10.3.2. No mitigation is required.

CHAPTER 11 RECREATION

This chapter describes the recreational opportunities in the project area and the potential conflicts between motorized and non-motorized uses created by the project. Changes in recreational opportunities are also discussed.

11.1 REGULATORY SETTING

11.1.1 Bureau of Land Management

The project area is governed by the California Desert Conservation Act, which states that "the use of all California desert resources can and should be provided for in a multiple use and sustained yield management plan to conserve these resources for future generations, and to provide present and future use and enjoyment, particularly outdoor recreation uses, including the use, where appropriate, of off-road recreational vehicles (BLM 1980)." The Jawbone-Butterbredt ACEC Management Plan describes the use philosophy for the area, which addresses the need for recreation uses, especially casual vehicle use and camping, to not degrade cultural resources and wildlife habitat (BLM 1982). To accomplish this, the Management Plan recommends that vehicle use be restricted to approved routes of travel, and overnight camping is restricted in certain areas such as near riparian habitat and springs (BLM 1982).

Rockhounding (recreational gathering of stones and minerals) and recreational mining are permitted activities on BLM lands as described in BLM's collection guidelines (BLM, CA 2013a). The "usual" rockhound materials, including agates and stones, may be collected in reasonable quantities for hobby use. Of note, the BLM's collection guidelines include the caveat to "Get permission when collecting on private property and mining claims." BLM policy is to allow the use of firearms on public lands, as provided for in state law, and to cooperate with state authorities in the enforcement of firearms regulations. Hunting and target shooting are permitted uses on as described in BLM's hunting and target shooting guidelines (BLM, CA 2013b). State of California hunting and firearms regulations must be followed on federal lands, and it is illegal to deface or destroy trees, signs, outbuildings, or other objects. Shooters must remove their debris when leaving, including targets, gun shells, clay pigeons, and any other items used for target shooting. Additional BLM regulatory setting information with relevance to recreation, including OHV routes, is provided in Chapter 3, Section 3.1.1.

11.1.2 Sequoia National Forest

Three of the Eastern Kern County Acquisition parcels (L-1, L-2, and L-3) are located within the Sequoia National Forest (Figure 2-4). In 2009 the Sequoia National Forest finalized a Motorized Travel Management Program that "creates a manageable transportation system protecting resource values for wildlife such as the California condor, and provides a fun and challenging road and trail system for local residents and other visitors to the area" (USFS 2009). As a result of a major fire and subsequent erosion in the Piute Mountains, however, the area was removed from the forest's Motorized Travel Management Program. Only the prohibition of cross-country travel in the Piute Mountains was addressed (USFS, SNF 2011a).

More recently, the Sequoia National Forest has initiated a travel management plan for the Piute Mountains, which includes the Landers Meadow parcels (L-1 – L-3) in the proposed acquisition project. The proposed federal action would add approximately 125 miles of existing roads and trails to the National Forest Transportation System (i.e., authorize motorized travel on existing roads that are not formally designated as open) and close approximately 5 miles of existing roads, 4.5 miles of which are currently open only to motorcycles. The proposed action includes an amendment to the Sequoia National Forest LRMP that would change approximately 7,175

acres of semi-primitive non-motorized recreation land to semi-primitive motorized (USFS, SNF 2011c). It would not curtail motorized recreation in the acquisition project vicinity.

Hunting and target shooting is allowed in the Sequoia National Forest, consistent with all state laws regarding the use of firearms while hunting, including CDFW regulations. The USFS prohibits discharging a weapon within 150 yards of any structure/development or occupied area, within or into a cave, across or on a road or body of water, or in any manner that endangers a person (USFS 2013a). Target shooting outside a designated shooting range must avoid damaging any facilities or natural resources, disrupting other uses, or endangering public safety, and any targets, wads, shells, brass and other refuse must be removed. Additional USFS regulatory setting information with relevance to recreation, including OHV routes, is provided in Chapter 3, Section 3.1.2.

11.1.3 California Department of Parks and Recreation, OHMVR Division

The OHMVR Division promotes managed, environmentally responsible, and sustainable OHV use. OHMVR Division programs are funded through OHV gasoline taxes, OHV registration (green and red sticker) fees, and entrance fees at the SVRAs. The OHMVR Division provides education, training, and information to promote safe and environmentally responsible OHV recreation. The public safety program assists organizations providing OHV-related public safety to identify issues, encourage cooperation, and facilitate solutions. The OHMVR Division is responsible for providing law enforcement on its property. Should the OHMVR Division complete the acquisition, recreational activities occurring on the ReNu parcels would be subject to California state laws pertaining to vehicle use, firearms, and protection of natural and cultural resources.

Firearms are strictly regulated within CDPR units:

> No person shall carry, possess, or discharge across, in or into any portion of any [Park] unit any weapon, firearm, bow and arrow, trap, net, or device capable of injuring, or killing any person or animal, or capturing any animal, or damaging any public or private property, except where the Department of Parks and Recreation finds that it is in its best interests. Nothing herein contained shall be construed in derogation of the use of weapons permitted by law or regulation and to be used for hunting in a unit, or portion thereof, open to hunting. (14 CCR §4213)

The following code and regulations govern rockhounding on CDPR lands:

- The taking of mineral specimens for recreational purposes from state beaches, state recreation areas, or state vehicular recreation areas is permitted upon receiving prior approval of the Director (PRC §5001.65).
- Rockhounding is the recreational gathering of stones and minerals found occurring naturally on the undisturbed surface of the land, including panning for gold in the natural water-washed gravel of streams (14 CCR §4301(v)).
- Units and portions thereof open for rockhounding will be posted in accordance with section 4301(i), collection is limited to no more than 15 pounds per day per person (or not more than one specimen plus 15 pounds of mineralogical material), tools, other than goldpans, may not be used, and collection shall not be for commercial purposes (14 CCR §4611).

Additional OHMVR Division regulatory setting information with relevance to recreation, including SVRAs and the Grants Program, is provided in Chapter 3, Section 3.1.3. Department-wide, California's Recreation Policy (CDPR 2005) broadly addresses the full range of indoor and

outdoor recreation activities throughout the state. This comprehensive policy is directed at recreation providers at all levels: federal, state, and local agencies, as well as private and nonprofit suppliers. Of particular relevance to the project are the policy's emphasis on opportunity and access for all recreation activities and populations, while preserving natural and cultural resources.

11.2 ENVIRONMENTAL SETTING

11.2.1 Jawbone-Butterbredt Area of Critical Environmental Concern

Most of the ReNu acquisition parcels are located within the Jawbone-Butterbredt ACEC, which contains an extensive network of OHV roads and trails. Many of the project parcels are crossed by designated OHV routes, and five are located entirely or partially within the Jawbone Canyon Open Area (Figure 2-3). The Jawbone-Butterbredt ACEC is described in greater detail in Chapter 3, Section 3.1.1.3. The local road and OHV trail systems provide access to public lands for recreationists to enjoy activities such as camping, hiking, and wildlife viewing, and to a lesser extent in the project area, rockhounding, horseback riding, and mountain biking. Hunting and target shooting also take place within the Jawbone-Butterbredt ACEC. BLM lands in the project area are open to primitive camping; popular sites are identified by signs (see Figure 2-3). Many of these primitive camping sites occur within Jawbone Canyon Open Area, along with OHV staging/off-loading areas and vault toilets. Most of the sites within the OHV area are accessible by 2-wheel drive vehicles with trailers. Since property boundary markers are largely non-existent in the Jawbone-Butterbredt ACEC, many of the ReNu parcels are already used by the public for OHV recreation, camping, and possibly for other recreation.

11.2.2 Sequoia National Forest

A small portion of the Sequoia National Forest within the Kern River Ranger District surrounds all or part of the three ReNu parcels in Landers Meadow (L-1 – L-3; Figure 2-4). The portion of the Sequoia National Forest near the project parcels is within the Piute Mountain Range. The Piute Mountains include approximately 64 miles of single track motorcycle trails and two miles of 4WD trails. Vehicle travel within this area is restricted to designated routes. Piute Mountain Road crosses through acquisition parcels L-1 and L-2 (Figure 2-4). A USFS camping area is located north of the project area, near Landers Meadow off of USFS Road 29S05.

11.2.3 Pacific Crest Trail

As described in Chapter 3, Section 3.2.2, the Pacific Crest Trail occurs on USFS and BLM lands. The trail crosses acquisition parcel K-4 and skirts the western border of L-1 and the northwestern corner of B-1 (Figure 2-4).

11.2.4 Red Rock Canyon State Park

Red Rock Canyon State Park features scenic desert cliffs, buttes, and dramatic rock formations. The park attracts campers, hikers, and equestrians. Red Rock Canyon State Park is situated next to the Dove Springs Open Area on BLM land and allows OHV recreation on its primitive road network. Two acquisition parcels (S-3 and S-6) are located immediately adjacent to the state park (Figure 2-4).

11.3 PROJECT IMPACTS

11.3.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, a project would have a significant environmental impact related to recreation resources if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

To address the significance of the change in recreational opportunities created by the change in property ownership from private to public land, the following thresholds were used in addition to the CEQA thresholds identified above. Would the project:

- Significantly displace or reduce an existing recreational opportunity
- Create conflicts between motorized and non-motorized recreation uses

11.3.2 Proposed Recreation Resources Management Measures

Upon acquisition of the project parcels, the OHMVR Division would implement a number of management measures aimed at ensuring recreational use of its property complies with relevant regulations. The following Recreation Resources Management Measures would be implemented as part of the acquisition project.

Firearms. The OHMVR Division recognizes that firearm use is a legal and popular form of recreation in the area. The OHMVR Division will assess the extent of hunting and shooting on the acquired parcels during post-acquisition planning, and develop standards and policies accordingly. Management actions to control firearm use may include such measures as posting signage at trailhead and campsite locations throughout park property for safety and compliance with state laws, restricting shooting in areas with a high concentration of public presence and recreation (campgrounds), and providing public outreach to educate visitors of CDPR policy on firearms. The OHMVR Division will monitor property for evidence of firearm use such as signage damaged by target shooting and discarded ammunition casings.

Rockhounding. Rockhounding within the project property will only occur with approval from the Parks Director. Individuals collecting rock material will be subject to the limits in the Department Operations Manual, currently no more than five pounds per day. To the extent necessary to address concerns, the OHMVR Division will post signage at trailhead locations throughout park property and at campsites educating visitors of state park policy on rockhounding. Such information will also be made available at contact locations, such as Jawbone Station.

Law Enforcement and Education Program. The OHMVR Division will staff the project area with peace officers who can educate the public on appropriate recreation, and where necessary cite illegal uses, including vehicle trespass in unauthorized areas, drunk driving, disorderly conduct, improper vehicle equipment, vandalism, and inappropriate use of firearms.

Special Events. Special events may take place on park property subject to a special event permit. Permits issued for special events must identify conditions including participant limits, number of concessions, need for safety personnel and facilities such as portable toilets, and identification of specific event routes, staging areas, etc. A fee may also be required to pay for cost of peace officers or other OHMVR Division personnel to further assure public safety and sensitive resource protection.

11.3.3 Physical Deterioration of Facilities or Adverse Environmental Effects from Expanded Recreational Facilities

OHMVR Division acquisition of the ReNu parcels is not expected to change the recreational use patterns or intensities within the project area. No changes in use of recreational facilities would occur on adjoining public lands (Sequoia National Forest, Jawbone-Butterbredt ACEC, and Red Rock Canyon State Park). No expansion or reduction in the existing OHV designated route system crossing the acquisition project parcels or dispersed camping areas that occur on the ReNu parcels is proposed. Future changes in recreational use of the property, if proposed, would be determined through a park general plan process subsequent to the acquisition project.

Although not expected, the proposed acquisition could result in a 1% increase of 1,800 visitors to the project area. Any increase in visitor use would result in a proportional increase in the need for facility maintenance such as trails, signage, fencing, vault toilets, etc. A 1% increase would not result in a concentration of visitor usage in one area such that the existing facilities would no longer be adequate to serve visitor demand. The increase in visitor use would thus not cause a deterioration of existing facilities or necessitate expanded recreational facilities. The impact is less than significant.

The extent to which the project could contribute to OHV use in unauthorized areas (e.g., Red Rock Canyon State Park and Pacific Crest Trail) is addressed in Chapter 3.0, Section 3.3.

11.3.4 Significantly Displace or Reduce an Existing Recreational Opportunity

Existing legal recreational opportunities occurring in the project area would remain the same after OHMVR Division acquisition of the project parcels. The OHMVR Division would implement Management Measures such as signage, fencing, or minor trail reroutes to protect biological resources (Section 6.3.2) or cultural sites (Section 7.3.2), or to address the 2008 Soil Standard (Section 8.3.2). Implementation of these Management Measures may occur in recreational areas such as along OHV trail routes or in dispersed camping areas. OHV routes, non-motorized trails, and dispersed camping areas presently occurring on the acquisition parcels would not be eliminated by these proposed resource protection Management Measures. Therefore, implementation of these measures would not substantially interfere with the recreational uses occurring on the property or cause displaced recreationists to seek opportunities in other areas.

OHMVR Division acquisition of project parcels would not impede authorized access to adjoining public lands or otherwise reduce or displace recreational opportunities available on those lands. Therefore, the impact on the recreational opportunities offered in or along the Sequoia National Forest, Jawbone-Butterbredt ACEC, Pacific Crest Trail, and Red Rock Canyon State Park is less than significant.

The OHMVR Division would develop standards addressing the use of firearms on the acquisition parcels (see Section 11.3.2). Hunting and target shooting are legal activities occurring on BLM property. Because ReNu acquisition parcels are interspersed with BLM land and the property boundaries are unmarked, hunting and shooting may occur on the ReNu parcels but are not authorized by ReNu. The standards to be developed may curtail firearm use on OHMVR Division property but would not result in the loss of legal firearm recreation on federal property. It could reduce unauthorized firearm recreation occurring on private property. Because the project would not reduce legal firearm recreation, the impact is less than significant.

Rockhounding may presently occur on the ReNu property but is not authorized by ReNu. Upon acquisition, rockhounding activities would be subject to OHMVR Division regulation. The OHMVR Division would implement management measures as described in Section 11.3.2. A

limit on the quantity of material removed provides natural resource protection, and, since rockhounding is not currently authorized on ReNu lands, would not significantly displace or reduce this type of recreation on the acquisition parcels. The project impact on rockhounding is less than significant.

11.3.5 Conflicts between Motorized and Non-motorized Use

Motorized recreation has the potential to conflict with non-motorized recreation in a number of ways. OHV use can be loud or disruptive depending upon the engine type and riding habits of the OHV operator. OHV riding occurs on dirt trails or in open riding areas, which can kick up dust. OHVs move at high speeds, which can create safety conflicts with non-motorized uses if occurring in the same recreation area or sharing trails. OHV use can also intrude into areas reserved for non-motorized recreation as discussed in Chapter 3, Section 3.3.4.

No expansion of OHV recreation opportunities is proposed by the project; therefore, the project would not result in new OHV disruption of non-motorized recreation activities such as hiking, horseback riding, and camping. Any future changes in the use of the state park property would be determined by a park general plan developed in a separate process subsequent to this project. Although not expected to occur, the EIR analysis assumes the proposed acquisition could result in a 1% increase in annual visitation (1,800 visitors). This increase would include visitors engaging in both motorized and non-motorized recreational activities. The annual increase would occur throughout the year and is the equivalent of 35 visitors per weekend. Given the scale of the project area (28,275 acres), the increase in visitation is unlikely to result in increased interaction between motorized and non-motorized user groups. Any increase in conflicts above baseline conditions would be considered negligible and therefore less than significant.

11.4 CUMULATIVE IMPACTS

The acquisition of the ReNu properties and interim management of those properties would not contribute to cumulative impacts on recreational facilities in the project area and vicinity. As explained above, the project will not impact adjacent recreational areas, including Red Rock Canyon State Park, Sequoia National Forest, or BLM lands. Cumulative projects are listed in Section 13.4 of the EIR. The project, in conjunction with USFS planning efforts in the Piute Mountains, would not cause deterioration of facilities, lead to the creation or expansion of recreational facilities, or increase user conflicts. By transferring a large extent of private land to public, recreation-oriented ownership, the project would protect recreation opportunity and avoid conflicts that can occur when public access is curtailed on private lands.

11.5 MITIGATION MEASURES

No significant impacts have been identified for the project based on the analysis contained in Sections 11.3 and 11.4 above, which includes the OHMVR Division's implementation of the Management Measures described in Section 7.3.2. No mitigation is required.

CHAPTER 12 ALTERNATIVES

CEQA Guidelines section 15126.6 states that an EIR shall describe a range of reasonable alternatives to a project or location of the project which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project. The discussion of alternatives is to focus on alternatives that are capable of avoiding or substantially reducing any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives. Factors that may be taken into account when considering feasibility include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site. Four alternatives are discussed in detail below. An impact comparison of the four alternatives and the proposed project is contained in Table 12-1.

12.1 CONSIDERED AND REJECTED ALTERNATIVES

The range of potentially feasible project alternatives that could meet at least some of the project objectives is limited due to the large landscape nature of the project requirements and the checkerboard nature of land ownership in southern California desert, including the project area. Two alternatives have been identified and rejected from further consideration in the Project Alternative analysis due to infeasibility, not achieving project objectives, or not avoiding or substantially lessening an environmental impact. These alternatives are described below.

12.1.1 Alternative Project Locations

In response to a recognized need for OHV recreation opportunities in Southern California, it is the objective of the OHMVR Division to provide a desert destination-oriented OHV recreation area that offers a broad spectrum of experiences and skill levels. Further, it is an objective to broaden public land ownership around an existing OHV recreation area to facilitate OHV recreation opportunities (Project Description, Section 2.3).

OHV recreation in the desert tends to destination oriented. Visitors travel to the recreation site from a several-hour driving distance and stay for several days. The destination is used as a base camp from to explore other recreational opportunities without repeating the same experience. While there is no minimum size requirement for a SVRA, the desert location necessitates a park large enough to provide destination opportunities rather than a quick single day visit.

The OHMVR Division attempted establishing an SVRA near Bakersfield in 2006 to meet this objective but the attempt was unsuccessful. The OHMVR Division has since searched for alternative project locations. Land in the Mojave Desert region is divided into a checkerboard pattern of ownership resulting in only smaller tracts of land for sale by any owner at a given location; there are no alternative sites providing the acreage capable of supporting the inherent large-scale nature of desert recreation. It is an additional objective of OHMVR Division to provide public land ownership in an area where existing OHV recreation already occurs. There are no alternate project locations available that meet these two project objectives.

Furthermore, establishing OHV use in new regions not already having OHV recreation could introduce new environmental impacts to those areas. This would be inconsistent with the purpose of project alternatives under CEQA, which is to reduce or avoid significant environmental effects of the project.

12.1.2 Consolidated Land Ownership or Management with Federal Agencies

As shown in Figure 2-1, the BLM and USFS have substantial land holdings in the project region both of which support OHV recreation. The Sequoia National Forest has designated OHV trails throughout the Piute Mountains and BLM has designated OHV routes plus the open riding areas of Jawbone and Dove Springs. The OHMVR Division has considered the feasibility of trading the project parcels for ownership or management rights of federal land used for OHV recreation. A land trade would allow OHMVR Division to apply its resources to better manage existing OHV recreation occurring on federal land. If pursued with BLM, the alternative would have the benefit of reducing the agency's checkerboard land ownership pattern by consolidating land tracts. Such an alternative would require a land transfer or other form of agreement with BLM and/or USFS. Similarly, the OHMVR Division considered but rejected the idea of proposing modifications to travel routes in this project. These actions would require long-range planning and NEPA compliance, for actions affecting federal land, both of which are beyond the scope of the current project and not necessary to meet the project objectives; neither alternative would reduce adverse project effects. Further consideration of consolidated land ownership/land management or route changes was rejected for the current project.

12.2 NO PROJECT

Under the No Project Alternative, the OHMVR Division would not acquire the 59 private parcels from ReNu. The parcels would remain in private ownership. Presumably, the landowner would maintain the parcels for sale until a buyer is found. The anticipated 1% increase in annual visitation to the project area due to OHMVR Division ownership would not occur. Management Measures proposed by CDPR to limit the effects of OHV recreation and to provide resource protection, public safety, and law enforcement on the project property would not be implemented.

Grazing and recreational activities presently occurring on the project properties would continue at current levels. Where these uses have resulted in degraded natural or cultural resources, the resources would likely continue to be impaired due to lack of protective management. Several important cultural resource sites and sensitive biological resources including springs supporting riparian habitat, high quality desert tortoise and Mojave ground squirrel habitat, and populations of special status plants could be at risk from vehicle trespass or cattle grazing. Potential safety hazards identified on project parcels (open pits and mine shaft) would remain unchanged. Existing incidents of unauthorized OHV use on public land or private property which may originate from the project parcels would continue unchanged.

Under the No Project Alternative, visitor use would remain at current levels. There would be no increase in air quality emissions or GHG from vehicle exhaust or fugitive dust emissions from vehicle travel on unpaved surfaces. The potential for soil erosion from OHV use would remain unchanged from existing conditions. Trail maintenance on the project property presently only occurs as BLM or Friends of Jawbone has available funding and staffing. Trail maintenance on the property would remain uncertain under the No Project Alternative.

It is difficult to find sites that are suited to OHV use. This site is uniquely suited to and currently used for OHV recreation. If the property is not purchased by the state, an opportunity to improve management of an established OHV recreation and to secure new property for future enhancement of OHV recreation would be lost. The opportunity for creating a more consolidated pattern of land ownership in an OHV area would also be lost.

12.3 REDUCED ACQUISITION AREA

Under the Reduced Acquisition Area Alternative, the OJHMVR Division acquisition would be limited to the 30 parcel located within the existing OHV use areas of Jawbone Canyon, Sugar Loaf, Dove Springs, Butterbredt, and Alphie Canyon as shown on Figure 12-1. The 29 parcels west of Butterbredt Road (Butterbredt (3); Kelso Valley (20); Caliente Creek (3); and Landers Meadow (3) would remain in private property. The Reduced Acquisition Area Alternative would remove 12,543 acres from the 28,275-acre proposal resulting in a new acquisition area of 15,372 acres. All Property Management Activities proposed as part of the project (Project Description, Section 2.5.2) would be implemented within this reduced area. Similar to the proposed project, existing land use activities occurring in the Reduced Acquisition Area would continue until CDPR prepares a general plan for the property. Future changes in land use are undetermined at this time and cannot be speculated. The purpose of this alternative would be to concentrate future OHV recreation opportunities in existing OHV managed areas and preserve cattle grazing as the primary land use in the Kelso Valley area.

All Management Measures proposed by CDPR would be applied to the project parcels within the Reduced Acquisition Area. Rangeland, sensitive habitats and special-status species, cultural resources, and soil resources within the Reduced Acquisition Area would all come under protective management of CDPR. The open pits and shaft identified as public safety hazards occur within the Reduced Acquisition Area and would still be addressed by CDPR Management Measures. Project Management Measures would not be applied to the 29 ReNu parcels outside the Reduced Acquisition Alternative Area west of Butterbredt Canyon Road. The natural and cultural resources contained on them would not receive the benefit of protective management by CDPR similar to the No Project Alternative.

Incidents of unauthorized OHV use on public land or private property originating from within the Reduced Acquisition Area would likely be reduced by CDPR Management Measures such as signage, vehicle barriers, public education, and enforcement patrols. Incidents of OHV trespass which may be presently occurring or originating in Kelso Valley or other project parcels outside of the Reduced Acquisition Area would likely be unchanged by this alternative.

Under the Reduced Acquisition Area Alternative, it is assumed that a 1% increase in annual visitor use could still occur. The corresponding increase in air quality emissions or GHG from vehicle exhaust or fugitive dust emissions from vehicle travel on unpaved surfaces would be the same as for the proposed project. The increase in motorized recreation could result in an increased risk of collision with desert tortoise. The desert tortoise is most likely to occur in the Jawbone Canyon area which is included within the Reduced Acquisition Area due to existing OHV recreation in the area. As a result, this alternative would not reduce the potential project effects on desert tortoise. The impact would remain significant and unavoidable.

Since primary objectives of the acquisition include establishing broader public land ownership in and around an existing large-scale OHV recreation area in Southern California, reducing OHV conflicts with incompatible land uses, and protecting habitat, removal of the parcels outside the active OHV area from the purchase would meet some of the project's objectives. It would not, however, allow the OHMVR Division to work with the BLM and USFS to provide and manage a comprehensive recreation opportunity in the greater project area, such as helping to protect the Pacific Crest Trail from trespass, or to maintain public land corridors that avoid crossing private lands. Securing these parcels also provides the State with potential mitigation lands that could help offset future impacts associated with any changes in recreational use. As a result, this alternative was not selected.

12.4 EXPANDED ACQUISITION AREA

Under the Expanded Acquisition Area Alternative, the OHMVR Division acquisition area would be expanded to include additional private properties south, east and west of the current acquisition area boundary as shown in Figure 12-1. The purpose of this alternative would be to expand the scope of uninterrupted public lands in the area to preserve opportunities for future recreation, whether for additional OHV use or other less intensive recreation. All Property Management Activities proposed as part of the project (Project Description, Section 2.5.2) would be implemented within this expanded area. Similar to the proposed project, existing land use activities occurring in the Expanded Acquisition Area would continue until CDPR prepares a general plan for the property. Future changes in land use are undetermined at this time and cannot be speculated.

None of the parcels in the Expanded Acquisition Alternative Area were subject to resource surveys or Phase 1 Site Assessments for hazardous materials as part of this EIR. Future site investigations would be required in order to inventory physical conditions and environmental resources on the additional parcels. All rangeland, sensitive habitats and special-status species, cultural resources, and soil resources within the Expanded Acquisition Area would come under protective management of CDPR. Any safety hazards identified in the Expanded Acquisition Area would be addressed by CDPR Management Measures. Incidents of unauthorized OHV use on public or private land originating from within the Expanded Acquisition Alternative Area would likely be reduced similar to the proposed project. To the degree that the additional lands under this alternative have resources that are impaired by existing activities occurring on the property, the application of CDPR management measures under this alternative would have an increased range of beneficial effect.

Under the Expanded Acquisition Area Alternative, it is assumed that a 1% increase in annual visitor use could still occur. The corresponding increase in air quality emissions or GHG from vehicle exhaust or fugitive dust emissions from vehicle travel on unpaved surfaces would be the same as for the proposed project. The increase in motorized recreation could result in an increased risk of collision with desert tortoise. The impact would remain significant and unavoidable.

The feasibility of this alternative depends on the willingness of property owners within the Expanded Acquisition Area to sell their land. This is beyond OHMVR Division's control. The alternative also requires the OHMVR Division to secure additional funds to purchase the land; these funds are not presently available. The Expanded Acquisition Alternative would meet the project objectives as defined in Project Description (Section 2.3), but without willing sellers and available funding it is not immediately feasible.

12.5 EXCLUSIONS FOR RESOURCE PROTECTION

Under the Exclusions for Resource Protection Alternative, a two mile section of Road SC262, between Power Line Road and SC175, would be closed off and nine parcels (4,318 acres) with high resource values would be fenced in order to secure the boundaries of the parcels and prevent visitor access from damaging the resources. Cattle grazing would also be excluded from these parcels prior the 2018 expiration of the livestock operator's grazing permit. The alternative would require as much as 20 miles of wildlife safe fencing and possibly cattle guards. The nine resource sensitive parcels are shown in Figure 12-1 and include:

- Parcel D-2 (west ½): next to Dove Springs Open Area; important area for cultural resources (grinding rocks); ¼ mile of desert riparian habitat; good Mohave ground squirrel. Fencing is in place on west side of SC103. Parcel acreage is 320.
- Parcels B-9 and B-10: Contains Butterbredt Spring and lengthy corridor of desert riparian habitat; good potential for rare plants; important for cultural resources (grinding rocks). Some fencing is in place. Combined parcel acreage is 720.
- A-4, A-6, and A-7: around Alphie Spring; parcels have no designated trails; good tortoise area; good potential for rare plants. Some fencing is in place. Combined parcel acreage is 1,717.
- S-3, S-4, and S-6: Next to Red Rock Canyon State Park; good tortoise area; Mohave ground squirrel present; cultural resources; good potential for rare plants. Combined parcel acreage is 1,561.

All property management actions proposed as part of the project (Project Description, Section 2.5) is included in this alternative. With the exception of eliminated visitor use and cattle grazing operations on these nine parcels, all other land use activities presently occurring throughout the project parcels would continue the same as for the proposed project.

The removal of the two mile segment of SC262 would not eliminate access to destination areas such as Dove Springs Open Area or Red Rock Canyon State Park and would not substantially interfere with OHV travel patterns or recreational opportunities (Figure 12-1).

The exclusion of the nine parcels would remove 4,318 acres of grazing land used by BLM permittee (Hafenfeld Ranch) as part of its livestock operation on the RCA. The exclosure would not affect the permittee's right to graze cattle on the adjacent BLM lands, although fencing could interfere with the grazing permittee's movement of cattle in the broader area. Existing cattle improvements found within the parcels including corrals and water sources would have to be relocated out of the protected parcels. OHMVR Division would work with the grazing permittee and BLM to determine where to relocate any grazing related infrastructure.

The Exclusions for Resource Protection Alternative would not increase or reduce the project's environmental impacts described for consistency with land use plans and policies, air quality, geology, greenhouse gases, or hazards and public safety. The alternative would increase protection of desert tortoise, Mohave ground squirrel, desert riparian habitat and cultural resources above project levels. Given that OHV recreation would still continue in desert tortoise habitat, that annual ridership in habitat areas would increase by 1%, and that proposed Biological Management Measures could not fully offset the effects of increased OHV recreation on the desert tortoise, the project impact to desert tortoise remains significant and unavoidable under this alternative.

After OHMVR Division acquisition, more extensive studies on the project parcels would be conducted to inventory resources and assess field conditions. Implementing the intrusive extensive fencing and route closure would be premature until these studies are completed and an area wide resource protection program can be formulated as part of a general plan. Other more effective resource protection strategies may ultimately be proposed once sufficient data has been gathered.

12.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Typically the environmentally preferred alternative is the No Project Alternative as it leaves the project site undeveloped or with no change in land use. In the case of the OHMVR Division

acquisition of the ReNu property, the Exclusions for Resource Protection Alternative is the environmentally preferred alternative.

With the exception of the No Project Alternative, all project alternatives would accomplish many of the project objectives. Acquisition of the ReNu parcels under all project alternatives would provide better overall management of the lands by allowing land managers access to these currently private lands that support recreational uses and sensitive biological and cultural resources. The Exclusions for Resource Protection Alternative has specifically identified parcels that would remove 4,318 acres from effects of existing and future recreation and grazing uses. This alternative would result in a higher level of protection to cultural and biological resources and for this reason is considered the environmentally superior alternative. It would also not eliminate the significant unavoidable impact to desert tortoise. Given that the OHMVR Division would only be able to establish an extensive data gathering and management program after acquisition, and that the acquisition would bring OHMVR Division resources into an existing popular OHV recreation area, the proposed project was selected.

Table 12-1. Comparison of Alternatives

	Proposed Project	No Project	Reduced Acquisition Area	Expanded Acquisition Area	Exclusions for Resource Protection
Land Use Plans and Policies	Does not conflict with existing plans and policies or cause increased vehicle trespass on public or private property. Implementation of CDPR management measures would have a beneficial effect of reducing existing unauthorized OHV use.	Unauthorized OHV use on private property and public land is an existing condition that would continue unmitigated without the project	Does not conflict with existing plans and policies or cause increased vehicle trespass on public or private property. Implementation of CDPR management measures would have a beneficial effect of reducing existing unauthorized OHV use.	Does not conflict with existing plans and policies or cause increased vehicle trespass on public or private property. Implementation of CDPR management measures would have a beneficial effect of reducing existing unauthorized OHV use.	Does not conflict with existing plans and policies or cause increased vehicle trespass on public or private property. Implementation of CDPR management measures would have a beneficial effect of reducing existing unauthorized OHV use.

Table 12-1. Comparison of Alternatives

	Proposed Project	No Project	Reduced Acquisition Area	Expanded Acquisition Area	Exclusions for Resource Protection
Agricultural and Forestry	Grazing would continue at near present levels to at least 2018 when existing BLM permit expires. Implementation of Grazing Management Measures would have a beneficial effect on rangeland health on project property.	Grazing would continue at present levels to at least 2018 when existing BLM permit expires.	Grazing would continue at near present levels to at least 2018 when existing BLM permit expires. Implementation of Grazing Management Measures would have a beneficial effect on rangeland health on project property.	Grazing would continue at near present levels to at least 2018 when existing BLM permit expires. Implementation of Grazing Management Measures would have a beneficial effect on rangeland health on project property.	Grazing would be removed from 4,318 of the 28,275 project acres to protect resources. Number of head of cattle on property would remain the same as for the proposed project. Implementation of Grazing Management Measures would have a beneficial effect on rangeland health on project property.
Air Quality and GHG	Air quality and GHG emissions would occur from CDPR maintenance vehicles and a 1% growth in annual park visitation. No significant AQ or GHG impacts would result. Project emissions would be reduced by implementation of CDPR Air Quality Management Measures.	Air quality and GHG emissions from existing activities would continue to occur. No change from existing condition.	Air quality and GHG emissions would occur from CDPR maintenance vehicles and a 1% growth in annual park visitation. No significant AQ or GHG impacts would result. Project emissions would be reduced by implementation of CDPR Air Quality Management Measures.	Air quality and GHG emissions would occur from CDPR maintenance vehicles and a 1% growth in annual park visitation. No significant AQ or GHG impacts would result. Project emissions would be reduced by implementation of CDPR Air Quality Management Measures.	Air quality and GHG emissions would occur from CDPR maintenance vehicles and a 1% growth in annual park visitation. No significant AQ or GHG impacts would result. Project emissions would be reduced by implementation of CDPR Air Quality Management Measures.

Table 12-1. Comparison of Alternatives

	Proposed Project	No Project	Reduced Acquisition Area	Expanded Acquisition Area	Exclusions for Resource Protection
Biological Resources	Effects to resources from existing activities would be reduced by implementation of CDPR Biological Resource Management Measures. Impacts to desert tortoise from 1% growth in OHV recreation would be a significant unavoidable impact.	Effects to resources from existing activities would continue to occur. Desert tortoise would continue to be at risk from OHV use and cattle grazing.	Effects to resources from existing activities would be reduced by implementation of CDPR Biological Resource Management Measures. Impacts to desert tortoise from 1% growth in OHV recreation would be a significant unavoidable impact.	Effects to resources from existing activities would be reduced by implementation of CDPR Biological Resource protection Management Measures. Impacts to desert tortoise from 1% growth in OHV recreation would be a significant unavoidable impact.	Effects to resources from existing activities would be further reduced above project levels by exclosure of resources on 4,318 acres in addition to implementation of Biological Resource Management Measures. Impacts to desert tortoise from 1% growth in OHV recreation would be a significant unavoidable impact
Cultural Resources	Effects to resources from existing activities would be reduced by implementation of CDPR Cultural Resource Management Measures.	Effects to resources from existing activities would continue to occur. Existing cultural resource sites would continue to be at risk.	Effects to resources from existing activities would be reduced by implementation of CDPR Cultural Resource Management Measures.	Effects to resources from existing activities would be reduced by CDPR implementation of Cultural Resource Management Measures.	Effects to resources from existing activities would be further reduced above project levels by exclosure of resources on 4,318 acres in addition to implementation of Cultural Resource Management Measures.
Geology and Soils	Effects to resources from existing activities would be reduced by CDPR implementation of Geology and CDPR Soils Management Measures.	Effects to resources from existing activities would continue to occur.	Effects to resources from existing activities would be reduced by implementation of CDPR Geology and Soils Management Measures.	Effects to resources from existing activities would be reduced by implementation of CDPR Geology and Soils Management Measures.	Effects to resources from existing activities would be reduced by implementation of CDPR Geology and Soils Management Measures.

Table 12-1. Comparison of Alternatives

	Proposed Project	No Project	Reduced Acquisition Area	Expanded Acquisition Area	Exclusions for Resource Protection
Hazards, Hazardous Materials, and Public Safety	Public safety hazards (open pits and shaft) present on the site would be remedied by implementation of CDPR Hazards and Public Safety Management Measures.	No change to existing conditions. Exposed pits and shaft would continue to be a public safety hazard.	Public safety hazards (open pits and shaft) present on the site would be remedied by implementation of CDPR Hazards and Public Safety Management Measures.	Public safety hazards (open pits and shaft) present on the site would be remedied by implementation of CDPR Hazards and Public Safety Management Measures.	Public safety hazards (open pits and shaft) present on the site would be remedied by implementation of CDPR Hazards and Public Safety Management Measures.
Recreation	Existing recreational opportunities would be maintained and managed on the project parcels. No change would occur to authorized recreational activities. Firearm use, if occurring on the project property, would be prohibited. Rockhounding would be regulated to limit material collected.	No change to existing conditions.	Existing recreational opportunities would be maintained and managed on the project parcels. No change would occur to authorized recreational activities. Firearm use, if occurring on the project property, would be prohibited. Rockhounding would be regulated to limit material collected.	Existing recreational opportunities would be maintained and managed on the project parcels. No change would occur to authorized recreational activities. Firearm use, if occurring on the project property, would be prohibited. Rockhounding would be regulated to limit material collected.	Existing recreational opportunities would be reduced by exclosure of 4,318 acres and closure of a two-mile trail segment. Firearm use, if occurring on the project property, would be prohibited. Rockhounding would be regulated to limit material collected.
Meet Project Objectives?	Yes	No	Partial	Yes	Yes

Figure 12-1. Project Alternatives

CHAPTER 13 CEQA REQUIRED ASSESSMENTS

13.1 POTENTIALLY UNAVOIDABLE SIGNIFICANT IMPACTS

All potentially significant impacts of the project are identified in Chapters 3.0 through 11.0 of this EIR along with mitigation measures that would reduce or avoid these impacts. There are two unavoidable significant impacts associated with the ReNu property acquisition.

Take Of Desert Tortoise From OHV Recreation. The federally listed desert tortoise is a slow moving animal that is particularly vulnerable to collisions with vehicles. Desert tortoises are already subject to potential take from existing OHV recreation. This potential for take is part of the baseline condition of the ReNu parcels as they are currently being used. Should the acquisition be approved, the OHMVR Division will consult with the USFWS and CDFW regarding desert tortoise management on the acquisition parcels.

If visitation increases by 1% as contemplated by this EIR, then the potential for take of desert tortoise would likewise increase, albeit at an unknown rate. Furthermore, should the OHMVR Division permit special events that include high speeds or other components that pose risk of tortoise collisions, then such take would be a new, significant project impact. In order to reduce the incidence of vehicle collisions, Mitigation Measure BIO-1 is recommended. This measure prohibits high speed, competitive special events outside of the Jawbone Canyon Open Area or courses dedicated to such use in the CDCA Plan. Organized trail-riding events shall only be allowed on designated routes from November 1 to March 1, with the application of standard protection measures, such as use of specified parking, staging, and concession areas, and placement of monitors throughout the course. Additionally, the OHMVR Division shall step up enforcement of off- route travel and provide educational materials to visitors regarding tortoise presence.

However, even with this mitigation measure in place, the potential for take of desert tortoise from project sponsored OHV recreation cannot be eliminated. The species' population and distribution in the project area is not well studied, and the extent of potential take, while presumed low, is not known. Given that desert tortoise is state and federally listed, this unknown potential for increased take of desert tortoise is considered an unavoidable, significant adverse impact. Refer to Chapter 6 for additional discussion.

13.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA requires that an EIR assess whether a project will result in significant irreversible changes in the environment. The CEQA Guidelines provide examples of significant irreversible environmental changes in the following text: "uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified." (14 CCR §15126.2 (c))

13.2.1 Changes in Land Use Which Commit Future Generations

The property acquisition itself would not involve any near-term changes in land use or permanent changes in the character of the project area. No new permanent facilities are proposed

for construction. Maintenance of trails and existing facilities, ongoing restoration, and protection of sensitive resources would involve minor grading for trail maintenance and for installation of fencing and signs, which would not change the character of the area. None of these activities would irreversibly change the land.

After acquisition, the OHMVR Division, working in a collaborative process would initiate the process of creating a general plan for the acquired lands. At that time, the trail system may be expanded, reduced, or otherwise modified, and new or upgraded campgrounds, staging areas, etc. could be added, but any such changes are speculative at this acquisition phase.

13.2.2 Irreversible Damage from Environmental Accidents

The proposed project would not involve the use or transport of hazardous materials in substantial quantities, nor would it indirectly increase the potential for environmental accidents. Some OHV users may refuel their equipment at campgrounds or at trailhead parking lots, which could result in occasional spills of small amounts of fuel. Similarly, maintenance equipment may be refueled on site. Such occurrences would be infrequent and any resulting damage would not be irreversible.

13.2.3 Consumption of Natural Resources

Examples of consumption of non-renewable resources include increased energy consumption, conversion of agricultural lands to urban uses, and loss of access to mining reserves. The project would not involve the irreversible conversion of agricultural land to another use or the loss of access to important mineral reserves. The proposed project would facilitate consumption of non-renewable fossil fuel resources by providing continued opportunity for OHV recreation, which involves the operation of various vehicles types including passenger, recreational, and OHVs. Through the Off-Highway Motor Vehicle Recreation Act of 2003, the Legislature has recognized the popularity of OHV recreation and charged the OHMVR Division with supporting both motorized recreation and motorized off-highway access to non-motorized recreation. Considering this statutory mandate to support OHV recreation, the project's facilitation of continued OHV recreation would not result in energy consumption that is inefficient, wasteful, or unnecessary as identified in CEQA Guidelines Appendix F. Therefore, the project effect on energy resources is considered less than significant.

13.3 GROWTH INDUCEMENT

A project is considered to be growth-inducing if it fosters economic or population growth beyond the boundaries of the project site by, for example, the extension of urban services or transportation infrastructure to an underserved area, or by the removal of major constraints to development. The proposed Project involves acquisition of properties for recreational use; however, the only change in activities that would take place on the properties after acquisition, and before any changes to existing use are contemplated, are increased resource protection, management, and law enforcement, plus a possible 1% growth in visitation (1,800 additional visitors). Resource management includes debris removal, installation of fencing and/or signs to protect resources, and weed control. The project does not involve the provision of new infrastructure nor remove any existing constraints to development. Rather, by converting private land that could be sold for development to public ownership, the project reduces the potential for growth in the area. The recreational opportunities represent a continuation of historic and existing operations and would not in themselves attract new residents or employees or provide infrastructure needed to support developmental growth. Thus, the project is not considered to be growth inducing.

13.4 CUMULATIVE PROJECTS AND IMPACTS

CEQA requires that an EIR evaluate a project's cumulative impacts. Cumulative impacts are the project's impacts combined with the impacts of other related past, present, and reasonably foreseeable future projects. As set forth in the CEQA Guidelines, the discussion of cumulative impacts must reflect the severity of the impacts, as well as the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. As stated in CEQA, "a project may have a significant effect on the environment if the possible effects of a project are individually limited but cumulatively considerable." (Public Resources Code §21083(b))

According to the CEQA Guidelines:

> "Cumulative impacts refer to two or more individual effects which, when considered together, are considerable and which compound or increase other environmental impacts.
>
> a. The individual effects may be changes resulting from a single project or a number of separate projects.
>
> b. The cumulative impact from several projects is the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (14 CCR §15355).

In addition, as stated in CEQA Guidelines, it should be noted that:

> "The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable" (14 CCR §15064(h)(4)).

A list of other major proposed projects proximal to the Eastern Kern County Acquisition Parcels was developed through gathering publically available lists from the USFS, BLM, and Kern County. The USFS lists proposed actions through its "Schedule of Proposed Actions (SOPA) quarterly web-list, specific to the National Forest (USFS, SNF 2012c), through the National Forest's proposed project list (USFS, SNF 2012b), through planning actions for the forest (USFS, SNF 2012a), and through the CDPR OHMVR Division On-line Grant Application program for projects submitted by the Sequoia National Forest in May 2012. BLM lists consulted included the BLM's Active Priority Renewable Energy Projects (BLM 2013) and the BLM Ridgecrest Field Office's listing of NEPA documents (BLM, RFO 2013a). Kern County Planning and Community Development provides numerous resources for locating proposed, approved and future projects and their environmental documentation, particularly renewable energy projects through their website (KCPCDD 2012b, 2012c, 2013). Project locations proximal to the acquisition parcels were added to Figure 13-1. Most of these projects are related to energy production, primarily wind and solar power projects.

Cumulative impact analyses are provided for each environmental discipline in their respective EIR chapters. The EIR has determined that the project would not result in any incremental effect that is cumulatively significant when considered with other projects. This conclusion is based on the following:

- Acquisition of the private parcels would not significantly change the existing and ongoing use of the parcels. OHV use will still occur on the designated trails; the parcels located in the Jawbone Canyon Open Area would still be subject to open riding; other recreational uses and grazing would largely continue on all parcels where they presently

occur, with the possible exception of a few locations where sensitive resources need to be protected.

- Management of the parcels would become the responsibility of the OHMVR Division. Existing resource protection regulations would require that any sensitive cultural and historic resources, special-status species and/or habitat, be protected and managed. The state must adhere to soil conservation guidelines to minimize soil erosion and prevent sedimentation of waters and waterways.
- Enforcement of state laws and regulations pertaining to OHV recreation within the parcels would become the responsibility of the OHMVR Division.

Table 13-1. Proposed Projects in the Project Vicinity

Project Name	Project Location	Agency Action	Description	Acreage
Proposed Alternative Energy Project				
Barren Ridge Renewable Transmission Project (LADWP)	Southeast of project area	USFS Special Use permit; BLM ROW grant	Expansion of Barren Ridge Switching Station and construction of new Transmission Line; Final EIR/EIS ROD issued August 2012 for joint NEPA/CEQA document; (CEQA for direct undertaking of a governmental action)	N/A
Proposed Wind Projects				
North Sky River Wind Energy Project	Abutting project parcels (South and West)	ZCC, CUP	CUP and zone change for the commercial production of 339 Megawatts (MW) of electricity from wind turbine generators (WTGs); (Draft CEQA EIR)	12,781 acres (510 acres disturbed)
Jawbone Wind Energy Project	Abutting project parcels (South and West)	ZCC, CUP	CUP and zone change for the commercial production of 339 Megawatts (MW) of electricity from wind turbine generators (WTGs); (Draft CEQA EIR)	754 acres
Windstar I	West of the project area		Project funded by Western Wind, LLC. Unknown progress in process (Tracked by the Renewal Energy Action Team)	
Proposed Solar Projects				

Table 13-1. Proposed Projects in the Project Vicinity

Project Name	Project Location	Agency Action	Description	Acreage
RE Barren Ridge (Distributed parcels)	North of California City; South of project area	ZCC, CUP	Final CEQA EIR January 2012 for ZCC, CUP, SPA and GPA for the construction of distributed solar facilities.	588 acres
Beacon Solar Energy Project	On Highway 14; East of the project near the town of Cantil	CUP	CUP for the construction of 250 MW facility (CEQA Draft EIR, 2012)	2,300 acres
Fremont Valley Preservation Water Bank and Solar Project (AquaHelio)	East of the project near the town of Cantil and Rancho Seco	GPA, ZCC, CUP	CUP for a 9,000 MW solar facility and a water banking project (Has not yet been analyzed—EIR expected in 2013, application is complete)	4,806 acres
Desert Solar Projects by enXco (Cal City Solar, Barren Ridge Solar)	Southeast of the project area, across State Route14, south of Red Rock Canyon State Park		CEQA NOP, 2010	1,200 acres
Ridge Rider solar park	East of the project area		32 MW Solar Project funded by Global Real Estate Investment, LLC. Unknown progress in process (Tracked by the Renewal energy action team).	
Proposed Other Projects				
Lower Kern Canyon and Greenhorn Mountains OHV Restoration Project	Near Highway 178, south of Lake Isabella	USFS NEPA EA	Environmental Assessment for Restoring dispersed OHV areas in Lower Kern Canyon and Greenhorn Mountains	Unknown
Piute Mountain Travel Management Project	Abutting/surrounding project parcels in the west of the project area in the Sequoia National Forest	USFS NEPA EIS	Environmental Impact Statement analyzing the impact of Travel Management Planning (road designations in the Sequoia National Forest near the project area)	
Excavation of bulk sample (BLM Ridgecrest)	El Paso Mountains, 1 mile north of Red Rock Canyon State Park	BLM EA (pending in 2009)	Unknown	Unknown
Renewable Energy Projects Under Development				

Table 13-1. Proposed Projects in the Project Vicinity

Project Name	Project Location	Agency Action	Description	Acreage
Pine Canyon Wind Project	Adjacent to Pine Tree Wind Project	Unknown status	150 MW wind project expected to be constructed (LADWP)	12,000 acres

CUP = Conditional Use Permit
EA = Environmental Assessment
EIS = Environmental Impact Statement
GPA = General Plan Amendment
ROW = Right of Way
ZCC = Zone Class Change

Sources: USFS, SNF 2012a, 2012b, and 2012c; BLM 2013; BLM, RFO 203a; KCPCDD 2012b, 2012c, 2013

13.5 IMPACTS FOUND TO BE NOT SIGNIFICANT

13.5.1 Aesthetics

The project area consists of a vast expanse of primarily desert habitat that is crossed with roads and trails. Two parcels, or portions thereof, are contained with an open riding area. Fences and signs are placed throughout the project area to direct users to designated routes and to prevent access to outside of designated areas. No additional roads, trails, or buildings are proposed, other than possibly vault toilets, shade ramadas, or similar. Operation of the area for public recreation would remain similar to what it is currently. Fences and signs may be repaired or replaced. In a few instances new fencing may be installed to protect sensitive resources. Unauthorized routes may be obliterated to prevent continued use. As a result, the acquisition would not substantially degrade the existing visual character or quality of the project area or its vicinity. Furthermore, sensitive scenic resources such as trees, rock outcroppings, historic buildings, etc. within a state scenic highway corridor would not be affected. No scenic vistas would be impacted nor would the project create new sources of light or glare that would adversely affect day or nighttime views in the area.

13.5.2 Hydrology and Water Quality

Most of the project area experiences an arid to semi-arid high desert climate. Most precipitation falls in the winter; however, in the summer, monsoonal storms can occasionally trigger flash floods in the area. Low humidity, high temperatures, and low pressure draw in moisture from the Gulf of Mexico creating thunderstorms across the desert southwest known as the North American monsoon. Monsoon weather is usually characterized by several small, intense storms. During the monsoons, creeks and intermittent drainages may flood.

Perennial streams in the project area include: Landers Creek, Cottonwood Creek, and Caliente Creek. In addition to the streams and creeks, several named and un-named springs are scattered in the area including Alphie Spring, Butterbredt Spring, Dove Spring, Green Spring, and Quail Spring.

The westernmost portion of the project area is located within the Tulare Lake Hydrologic Region, while the central and eastern portions are located within the South Lahontan Hydrologic Region (Geocon 2011). Recharge of groundwater is primarily from percolation of runoff from the surrounding watershed through alluvial fan deposits. Groundwater moves to the south toward Jawbone Canyon. The Department of Water Resources ranked the area's groundwater as marginal for domestic use due to elevated fluoride concentrations (Geocon 2011).

There would be no impact to hydrology and water quality related to placement within a mapped 100-year flood hazard area as housing is not part of the project. There would be no exposure of people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of a failure of a levee or dam. No new permanent structures would be built as part of the project and there are no levees or dams that could break in the project vicinity. There is no danger of inundation by a seismic seiche or tsunami. Flash flooding may occur during the monsoon seasons which could trigger mud flows; however, users are mobile, and the project would only cause a 1% increase in visitation (1,800 visitors).

None of the project activities would affect groundwater, alter the existing drainage patterns in the project area, or change the rate or amount of surface runoff.

Soil-disturbing activities will occur on the parcels in areas where OHVs are allowed. These activities would be limited to designated routes. Routes would be maintained, possibly by a combination of OHMVR Division, Friends of Jawbone, or other partner organization staff. The adjoining BLM lands, which have been receiving Grant Program funds, are already subject to the 2008 Soil Conservation Standard. After acquisition, the 2008 Soil Conservation Standard would apply to almost all parcels in the OHV area.

Additionally, after acquisition, sensitive riparian areas and perennial waterways would be protected from OHV activities and cattle grazing through signing, fencing, and law enforcement. These measures would reduce sedimentation of the waterways, leading to a net improvement in site and water quality conditions.

13.5.3 Mineral Resources

The project would not result in the loss of availability of known mineral resources of state, regional, or local importance (as delineated on a local-general plan, specific plan or other land use plan) as the project does not involve the removal of material resources from the area. Recreational rockhounding would possibly occur in the area, similar to current conditions other than being subject to CDPR regulations, which limit the amount of material that can be taken (see Chapter 11).

Furthermore, the Project would not result in the establishment of land uses that would preclude mineral extraction in the event that important mineral resources are considered for removal in the future. Potential deposits would not be covered or modified by the proposed project activities. Therefore the acquisition would not impact mineral resources.

13.5.4 Noise

The project area is in a remote location where only a few scattered residences and businesses occur. The area has been long been used by OHV enthusiasts for recreation, with several hundred and even thousands of recreationists gathering in the area during most holiday weekends. The presence of OHV use in the area creates one of the characteristic noise elements in the area. During the cooler months (October through April) OHVs can be heard occasionally during the weekdays, more frequently on the weekends, and quite frequently during holiday weekends. The degree to which OHVs can be heard depends on the proximity to the user and the type of the intervening terrain. As stated throughout this document, operation of the area for public recreation would remain similar to what it was prior to acquisition. With 1% growth in visitation, approximately 1,800 additional visits would occur, mostly on weekends; this negligible increase would not substantially increase noise in the project area. The OHMVR Division would also enforce current California OHV sound restrictions. As a result, the noise character of the project area would remain the same. No increase in permanent and temporary noise levels would result from the property acquisition.

The existing noise condition does not expose persons to noise levels in excess of standards established in the local general plan noise ordinance (Kern County). Currently no persons are exposed to excessive groundborne vibrations from ongoing activities on the properties. Finally, the project area is not within two miles of a public airport. One private airstrip is found at the Kelso Valley Ranch, and another to the east; however, these rarely used landing strips do not expose people to excessive noise levels. The acquisition would not have an impact related to the noise environment.

13.5.5 Population/Housing

The Project would not induce substantial population growth in the area that would trigger the construction of new homes or businesses. There are only a few scattered residences in the project area, and these residences would not be displaced by any of the project activities upon acquisition. Long term plans for the Kelso Valley residence will be evaluated during the general planning process. The project would have no impact on population and housing.

13.5.6 Public Services/Utilities

Since the project is only acquisition of property and the operation and management of existing facilities, it would not directly or indirectly result in an increased risk of fire or in an increased demand for fire protection or need for additional fire protection facilities, equipment, or personnel.

BLM and USFS law enforcement officers currently provide police service on their respective BLM and national forests lands. Medical Aid throughout the area is provided by several First Responder Agencies that include BLM Fire, BLM Rangers, Kern County Fire, Kern County Sheriffs, and CDPR (Red Rock Canyon State Park Rangers). Evacuation medical events are provided by either Halls Ambulance or private medical Helicopters. All medical responses trigger an automatic helicopter launch due to the remoteness of the area (Pistone 2013).

Law enforcement on the private lands is under the jurisdiction of Kern County. Presumably, BLM has the greatest presence in the area since most lands are within their jurisdiction. After acquisition, the state owned lands would be subject to OHMVR Division law enforcement. The OHMVR Division would assign law enforcement personnel to the acquisition properties as needed to effectively operate and manage the properties. These emergency medical responders would adequately handle an additional 1,800 annual visitors.

The project would not directly or indirectly result in an increase in the resident population of the area and thus would not generate any need for new or altered school, park, or other public facilities related to population growth.

The project would not require the expansion of water, gas, electric, sanitary sewer (wastewater), or solid waste services. No structure would be built that would require expansion of utilities. Any additional restroom facilities would be self-contained vault type toilets that would be pumped into a tanker truck and hauled off-site. Solid waste would be picked up by OHMVR Division staff or under contract with a disposal company.

13.5.7 Traffic and Transportation

The project area is most easily accessed off of State Route 14 and Jawbone Canyon Road. Jawbone Canyon Road is eastern Kern County's most significant gateway to back country recreation. Jawbone Canyon Road provides connectivity to several national, state, and regional trail systems, such as the State Motorized Trail System and the Pacific Crest Trail for non-motorized use. State Route 14 is maintained by Caltrans, and Jawbone Canyon Road is maintained by Kern County.

Other trail systems that connect to this network are those of Sequoia National Forest; the West Mojave Plan, as administered by the Ridgecrest Field Office and including the El Paso Mountains and Rand Mountains; Red Rock Canyon State Park; and OHV Open Areas including Jawbone Canyon, Dove Springs, and Spangler Hills. The Doves Springs Open Area is directly accessed by a dirt road off of State Route 14 (via Route SC94).

Many other dirt roads cross through the area, some designated for OHV use and others that are not. These roads are not only used for OHV recreation, but are used by utility companies to service facilities and by wranglers for herding cattle and maintaining infrastructure. Designated OHV routes are shown in Figure 2-2. The LADWP has a vast system of utilities in the area, including the Los Angeles Aqueduct, that are serviced by these roads.

Some of the major access points served by these networks are: U.S. Highway 395 between Kramer Junction and Ridgecrest; State Route 178 along Walker Pass; State Route 58 serving California City and Bakersfield; State Route 14 between Jawbone Canyon and Walker Pass; the Red Rock-Randsburg, and the Garlock roads connecting Jawbone Canyon to the tri-community area of Randsburg, Johannesburg, and Red Mountain.

Jawbone Station is located at the entrance into the Jawbone Canyon OHV Area off State Route 14, twenty miles north of the town of Mojave.

The project is the acquisition of lands by the State of California which are important to securing recreational access and in protecting natural resources. The project would not increase traffic on local roads and will not affect the existing level of service on local roads. The project would not result in the creation of any new roads in the project area. Some access roads currently located on private property may be improved when the lands become public. It is expected traffic patterns similar to those described above would be maintained after acquisition. The project would not affect the circulation system and would have no effect on mass transit or any applicable congestion management program as it would cause a negligible increase of only 1% in visitation (1,800 visitors).

There would be no effect on air traffic. By bringing the private lands into OHMVR Division control, the project would eliminate the potential for wind energy development, and thus reduce the potential for future conflict with the Rough 1 low-level training flight corridor. None of the roads in the project area mentioned above would be affected by the acquisition; therefore, there will be no effect on emergency access or any increase in hazards due to design features.

The lands that would be acquired by the OHMVR Division are located in a remote region of the California Desert. There are no policies regarding alternative transportation applicable to the project area. By transferring the lands into public ownership, the project would preserve access to the lands for motorized and non-motorized recreation, including hiking, equestrian uses, and mountain biking.

Figure 13-1. Cumulative Projects

CHAPTER 14 REFERENCES

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