IV.8 CULTURAL RESOURCES

The analysis in this chapter addresses potential impacts to cultural resources from implementing the Covered Activities of the Desert Renewable Energy Conservation Plan (DRECP or Plan). These activities include renewable energy and transmission development, the reserve design, the (BLM) Land Use Plan Amendments (LUPA), the U.S. Fish and Wildlife Service (USFWS) General Conservation Plan (GCP), and the California Department of Fish and Wildlife Natural Community Conservation Plan (NCCP) that are defined for each alternative (see Volume II for description of Development Focus Areas [DFAs], Reserve Design Lands, and Study Area Lands). The primary consideration in quantifying impacts to cultural resources at this programmatic level of analysis is the extent to which cultural resources (see Volume III, Chapter III.8, Cultural Resources) intersect with and are affected by the proposed DFAs, transmission, and conservation lands within the reserve design.

Appendix R2.8 includes 41 tables supporting this chapter. The tables present data that estimates the number of archaeological and built-environment resources that might be impacted by the different components and technology types for each alternative. These tables present the estimated number of resources by ecoregion subarea per alternative and the number of acres impacted by technology type (solar, wind, geothermal, and transmission). The tables also identify the number of estimated resources in DRECP component lands (conservation lands, DFAs [Available Development Areas for No Action Alternative], and BLM Land Use Plan Amendment areas). Specific tables are referenced throughout the following analysis.

IV.8.1 Approach to Impact Analysis

As described in Chapter III.8, a cultural resource is an object or definite location of human activity, occupation, use, or significance identifiable through field inventory, historical documentation, or oral evidence. Cultural resources include prehistoric and historic sites, districts, areas, cultural landscapes, and locations of traditional cultural or religious importance to specified social and/or cultural groups. Cultural resources include the entire spectrum of objects and places, from artifacts to cultural landscapes (Parker and King 1998).

Historically, cultural resources analyses have focused on sites; however, large-scale, landscape-focused analyses for cultural resources have been supported by recent federal and state policies. Department of the Interior (DOI) Secretary Sally Jewell issued Secretarial Order No. 3330 on October 31, 2013, which directed DOI agencies to "avoid potential environmental impacts from projects through steps such as advanced landscape-level planning that identifies areas suitable for development because of relatively low natural or cultural resource conflicts" (SO 3330 2013). In April 2014 the Energy and Climate Change Task Force issued their report, *A Strategy for Improving the Mitigation Policies and Practices of*

the Department of the Interior (Clement et al. 2014). This report highlights the challenges and opportunities associated with developing and implementing an effective mitigation policy. It also describes the key principles and actions necessary to successfully shift from project-by-project management to consistent, landscape-scale, science-based management of DOI lands and resources. Similarly, the California Office of Historic Preservation has specifically called out a need for cultural resources professionals to work on renewable energy projects to shift focus from the site level to the landscape level of assessment (OHP 2013). The landscape approach is particularly appropriate for programmatic documents. The current programmatic analysis acknowledges the challenges in such an approach and uses select existing data to formulate an initial framework that will facilitate transitioning to a comprehensive, detailed use of project-specific quality data at a regional scale in the future.

IV.8.1.1 General Methods

In analyzing potential impacts of concern to cultural resources, this chapter utilizes information presented in Chapter III.8 and Appendix R2.8. Only a small percentage of the Plan Area has been subjected to pedestrian survey; therefore, the total number and type of cultural resources is unknown. Existing data were used to estimate the number of archaeological and built-environment resources that might be impacted. The number of possible traditional cultural properties (TCPs) or presence and size of any landscapes was not estimated as these types of resources are not part of the dataset used to quantify cultural resources. However, both types of resources are likely to be impacted by project activities and larger DFA footprints will likely affect a greater number of TCPs and cultural landscapes through impacts to access and viewshed as well as ground disturbance. Impacts to these resources are therefore characterized in a qualitative manner. To estimate the number of potentially impacted archaeological and built-environment resources, the BLM Cultural Resources Geodatabase (CRG) for the Plan Area was overlaid with the DFAs and Conservation Planning Areas for each alternative. The CRG, compiled through December 2012 by BLM, contains archaeological and built-environment resource locations as well as survey information, but lacks data on cultural landscapes or TCPs.

These data were used to determine both archaeological and built-environment resource density for the overall Plan Area and for each of the 10 ecoregion subareas. Density was calculated from the number of known archaeological and built-environment resources (Volume III, Table III.8-4), divided by the number of acres surveyed within each ecoregion subarea for tables analyzing by ecoregion subarea. For tables with analysis at the Plan Area level, the resource density was calculated using the known resources divided by the number of acres surveyed in the entire Plan Area. All ecoregion subareas and the Plan Area have a resource density of less than one, with the exception of the Owens River Valley. As a final step for analysis, resource densities were multiplied by the number of acres within the

different land types to arrive at an estimate of the number of resources within DFAs and the Conservation Planning Areas. These estimates were used for the following analyses.

Because the DFAs only identify where future projects can be built, and because the exact locations of the projects within the DFA footprints are unknown, the analysis of direct impacts emphasizes a maximum development scenario (i.e., that projects could be built anywhere within a DFA), so the entire area of each DFA is considered to be the potential impact area. Indirect impacts are discussed more generally since they can extend beyond the boundaries of DFA footprints. The analysis describes common impacts to cultural resources from solar, wind, and geothermal projects and their associated transmission lines. The general discussion includes TCPs and landscapes as well as archaeological and built-environment resources. The more specific analysis defines both the impacts that could occur to all types of cultural resources within each alternative and the potential number of archaeological and built-environment resources that exist within areas designated as reserves.

Over 50 renewable energy projects already exist or are under construction in the Plan Area. Five are on BLM lands and 47 are on private or non-BLM public lands. These projects have impacted resources within their boundaries; this chapter only considers impacts from future renewable energy development (Appendix O).

IV.8.1.2 CEQA Standards of Significance

CEQA has established the following significance standards to determine the significance of impacts to cultural resources from a proposed action or project. Impacts would be significant if the project would:

- Cause a substantial adverse change in the significance of a historical resource or unique archaeological resource (14, California Code of Regulations [CCR] Section 15064.[a][5] and California Public Resources Code [PRC] Section 21083.2).
- Disturb any human remains, including those interred outside of formal cemeteries.

IV.8.2 Typical Impacts Common to All Alternatives

Impacts to cultural resources would be addressed on a project-specific basis in supplemental California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), and National Historic Preservation Act (NHPA) processes for the evaluation of renewable energy and transmission projects. These projects require project-specific environmental review that addresses project-specific impacts to cultural resources as part of the approval process. Some of these impacts would be consulted about in government-to-government consultations between lead agencies and tribal governments. Impact analyses

to cultural resources are based on typical impacts from renewable energy developments and can be described as:

- Physical damage or alteration to all or part of a cultural resource.
- Isolation of the cultural resource or alteration of the character of the resource's setting when that character contributes to the resource's significance for the National Register of Historic Places/California Register of Historical Resources (NRHP/CRHR).
- Introduction of visual, auditory, olfactory, or atmospheric elements that are out of character with the resource or cause changes that may alter its setting.

While impacts to cultural resources would be determined on a project-specific basis, the development of solar, wind, and geothermal projects and their associated transmission lines share many of the same types of impacts. Certain activities associated with energy development have a greater potential for adversely affecting cultural resources than others. Ground-disturbing activities (e.g., grading and digging) have the highest potential for disturbing cultural resources; however, pedestrian and vehicular traffic and the indirect impacts of earth-moving activities (e.g., soil erosion), may also have an adverse effect. Visual, olfactory, and auditory changes can affect the integrity of setting and feeling associated with cultural resources. Cultural resources are nonrenewable and, once damaged, cannot be recovered.

Short-term impacts would occur for only short periods of time during and after proposed actions (e.g., construction noise). Long-term impacts would occur for extended periods of time after development and construction are complete. All ground disturbances are considered long-term impacts. Many long-term impacts are, however, not permanent and may ultimately be reversed during project decommissioning. This is especially true with impacts to setting.

IV.8.2.1 Impacts of Renewable Energy and Transmission Development

Utility-scale renewable energy and transmission development has the potential to impact all types of cultural resources (see Chapter III.8). The activities associated with this development include site characterization, construction and decommissioning, and operations and maintenance. Examples of activities performed during each of these development phases include:

- Site reconnaissance and surveys if they result in a major disturbance of a resource
- Ground-disturbing activities
- Structure installation

- Structure removal
- Restoration and revegetation
- Structure interference
- General maintenance activities

While impacts to cultural resources differ in important aspects, based on the particular technologies employed, many impacts are common to all technologies and development approaches.

IV.8.2.1.1 Impacts of Site Characterization

Activities associated with preconstruction site characterization for all renewable energy technologies could physically damage cultural resources if ground disturbance is required (e.g., grading for new roads). During initial preconstruction activities for wind energy development, impacts include geotechnical borings, installation of temporary meteorological stations, and access roads and staging areas for each of these. Drilling temperature gradient wells during the exploration phase are impacts specific to geothermal projects. Shallow core sampling may also occur for solar projects during facility siting investigations.

Site characterization activities associated with site reconnaissance and surveys generally involve conducting site-specific surveys for various resources, including biological species and cultural resources. There is little potential for the damage of cultural resources during surveys unless sub-surface testing is required to assess the potential NRHP/CRHR eligibility of a resource, as this testing would result in a major disturbance of the resource. Methods employed to identify cultural resources within an undertaking's or project's Area of Potential Effects (APE)/project area of analysis may include:

1. Contacting regional Information Centers of the California Historical Resource Information System (CHRIS) for information on previously recorded sites and surveys conducted in or near the APE/project area of analysis.
2. Conducting research at local historical societies and museums or other repositories of historical information.
3. Contacting the Native American Heritage Commission (NAHC) to identify properties in the NAHC Sacred Lands File and the Native American groups with which to consult.
4. Consulting with the appropriate Native American groups to identify important cultural resources and traditional places (consultation efforts should also focus on those issues and resources identified in Volume III, Section III.9.4).

5. Geological and geomorphological characterizations of the APE/project area of analysis (which can include backhoe trenching).
6. Conducting pedestrian field surveys to identify any existing cultural resources.
7. Failure to make a good faith effort to identify cultural resources within the APE/project area of analysis could result in noncompliance with federal or state laws and guidelines and the degradation of these resources during ground-disturbing activities.

Geological and geomorphological characterization can support site reconnaissance efforts by identifying the potential for surficial and buried cultural resources; however, there is the potential to damage cultural resources from trenches or other ground disturbance.

Ground-disturbing activities during site reconnaissance and surveys would result from installing temporary meteorological stations or creating temporary access roads for geotechnical borings/trenching or meteorological stations. These activities may damage or materially alter cultural resources, particularly archaeological sites. Vibrations caused by the borings might cause structural damage to historic buildings, and could also impact rock art sites.

Increased access to previously inaccessible areas by way of new access roads could result in undisturbed lands located adjacent to access roads becoming disturbed by unauthorized off-road use adjacent to the roads, and provide opportunities to loot or vandalize cultural resource areas. Fugitive dust from vehicle traffic can degrade the research value and condition of rock art by adversely affecting the patina/petroglyph contrast or degrading the pictograph pigments. Temporary impacts to the visual integrity of cultural resources can also result from site characterization activities if the visual setting is an important characteristic of the resource's significance such as cultural landscapes, TCPs, and trails.

IV.8.2.1.2 Impacts of Construction and Decommissioning

Physical impacts to cultural resources would result from the large amount of ground-disturbing activities necessary for the construction and decommissioning of renewable energy projects. Additionally, vegetation clearing and dust generated during the construction phase would result in temporary impacts to the visual setting of cultural resources. The permanent presence of renewable energy structures, ancillary facilities, and associated transmission lines would result in long-term visual impacts to cultural resources whose significance is tied to its visual setting.

Construction

The construction of renewable energy facilities affects cultural resources primarily during two broad categories of activity: ground disturbance and structure installation.

Ground Disturbance. Examples of ground-disturbing activities include (1) the construction of staging areas and access roads, (2) grading and vegetation clearing, (3) foundation excavations, and (4) building fences and drainage ditches. These activities could result in the alteration or degradation of cultural resources described below.

- Temporary impacts to the visual setting of buildings and structures, trails, cultural landscapes, TCPs, and sacred sites could result from the use of large-scale machinery, equipment, and vehicles. Increased dust could also be generated.
- Construction-generated noise could also impact the setting of cultural resources, particularly TCPs or sacred sites.
- Increases in human access and subsequent disturbance of cultural resources could result from the establishment of corridors or facilities in otherwise intact and inaccessible areas. Increased human access could expose these resources to a variety of stressors including trampling artifacts, creating tracks and dust from recreational vehicles, illegally collecting artifacts, and inadvertently damaging unrecognized resources.
- Vibration from construction vehicles and activities could damage historic buildings and rock art sites.
- Fugitive dust from construction vehicles and heavy equipment could degrade research value and condition of rock art by adversely affecting the patina/petroglyph contrast or damaging the pictograph pigments. Grading and vegetation clearing could cause long-term changes to the visual setting of cultural landscapes, trails, TCPs, and sacred sites.
- Erosion of soils, project runoff, and oil or other contaminant spills could cause damage to cultural resources located both within the project footprint and in areas either downslope or downstream.

Structure Installation. Examples of activities related to structure installation include erecting transmission line towers, wind turbines, solar towers and troughs, and steam turbines. Additional activities related to structure installation include pulling and stringing transmission lines and building permanent security fencing. Impacts to cultural resources from structure installation would be similar to those described for ground disturbance. Each activity results in surface and subsurface disturbance, with potential to damage cultural resources.

Additionally, long-term impacts can result from the permanent presence of renewable energy structures. These changes to the visual setting can affect the value of buildings and structures, trails, cultural landscapes, TCPs, sacred sites, and other cultural resources for which the visual setting is an important component of a site's significance.

Decommissioning

Similar to construction activities, decommissioning of a renewable energy project can be divided into two broad categories: removal of structures and restoration and revegetation. Site decommissioning, reclamation, and abandonment would create the least ground disturbance by confining those activities to the original area affected during construction. If additional work areas are needed beyond those disturbed during construction, there would potentially be new impacts similar to those occurring during project construction ground disturbances. At times, these impacts may be transitory as the removal of structures may be considered a positive effect on the setting for cultural resources.

Removal of Structures. The removal of renewable energy project structures would involve removal of all aboveground facilities (e.g., wind turbines, solar power towers, heliostats, and solar photovoltaic arrays) as well as graveled or paved work pads and roads. Cultural resources could be affected by the removal of subsurface facilities (e.g., grounding rods and grids, tower and building foundations, natural gas pipelines). These components may be removed to a minimum depth of 3 feet from the surface and otherwise abandoned in place.

Laydown areas would be established for decommissioning. Impacts to cultural resources from the removal of structures would be similar to those described earlier, as long as laydown areas and other decommissioning activities are not located within the original project footprint.

If access roads are left in place, impacts to cultural resources from increased human access would be similar to those described for the creation of new access roads. The damage to these resources may increase during this phase because the area would no longer be periodically monitored by either an operator or a lead agency through mitigation monitoring.

Visual impacts to cultural resources may be mostly removed after decommissioning, assuming the site can be restored to its preconstruction state. However, effective restoration is difficult in the desert environment and a scarred environment could be permanently visible to cultural resources. However, it is important to note that despite the usually temporary nature of visual impacts to cultural resources these impacts can be significant and should require mitigation if the visual impact is permanent.

Restoration and Revegetation. Examples of activities related to restoration and revegetation include remediation of spills and contaminated soils, reseeding of the project site, and removal of all gravel packs and paving. Impacts to cultural resources from the restoration and revegetation of a project site are unlikely because resources in the areas slated for restoration and revegetation would have been accounted for during the earlier phases of project development. However, any cultural resources situated in close proximity to restoration and revegetation areas could be adversely affected in an unanticipated manner.

Restoration could create long-term visual impacts to buildings and structures, trails, cultural landscapes, TCPs, and sacred sites if the contours of restored areas are not identical to pre-project conditions. Additionally, invasive species may re-colonize reclaimed areas, causing contrasts in color and texture, and potentially impact culturally sensitive plants that are part of a cultural landscape or traditional cultural property.

IV.8.2.1.3 Impacts of Operations and Maintenance

Fewer physical impacts to cultural resources would occur from the operation and maintenance of renewable energy projects, although the duration of visual, auditory, and olfactory effects can be long lasting. Visual degradation of settings associated with cultural resources could result from renewable energy development and its associated land disturbances and ancillary facilities.

Maintenance activities that could potentially impact cultural resources include (1) fire and fuel management, (2) cleaning and maintenance of roads and facilities (including buried facilities such as pipelines and drainages), and (3) night lighting. Vegetation management undertaken to reduce fire risk within transmission rights-of-way (ROWs) could impact cultural resources, particularly if the area had not been properly surveyed for cultural resources prior to construction. Cleaning and maintaining roads and facilities, particularly with the use of water, could impact cultural resources if such resources were to be uncovered by erosion from water for cleaning, or if ground-disturbing activities were to somehow impact unknown buried resources. For visual cultural resources, night lighting could impact these resources by disrupting the overall view of a landscape, in addition to night-sky viewing.

IV.8.2.2 Impacts of the Reserve Design

No renewable energy development would be permitted in Reserve Design Lands. Impacts to cultural resources resulting from Reserve Design Lands could be beneficial if resources are preserved, and to some extent could offset the adverse effects of renewable energy development. However, allowable activities that require ground-disturbing activities, like digging holes for plants, could adversely impact cultural resources.

IV.8.2.3 Impacts of BLM Land Use Plan Decisions

IV.8.2.3.1 Impacts of Renewable Energy Development and Transmission on BLM Lands

The typical impacts from the various renewable energy and transmission technologies on BLM lands would be the same as those described in Section IV.8.2.1. However, the specific locations in which energy and transmission development would be allowed would be driven by LUPA decisions, which may encourage or restrict development in some areas with high cultural resources sensitivity.

IV.8.2.3.2 Impacts of BLM Land Designations and Management Actions

Because the BLM LUPA land designations would be managed to protect ecological, historic, cultural, scenic, scientific, and recreation resources and values, they would also confer general protection for cultural resources. While other land uses are allowed within these areas, other uses must be compatible with the resources and values that the land designation is intended to protect.

Impacts to cultural resources resulting from Areas of Critical Environmental Concern (ACECs), National Landscape Conservation System (NLCS) lands (also referred to interchangeably as National Conservation Lands), and wildlife allocations would likely be beneficial since disturbance caps in these areas conserve and protect resource values. These disturbance caps and other management actions would minimize soil disturbance, erosion, and other adverse impacts, providing protection for cultural resources. However, some habitat conservation and other biological actions could create ground disturbance and damage cultural resources.

Details on allowable uses and management actions within NLCS lands are presented in the proposed LUPA description in Volume II. Details on the goals, objectives, allowable uses, and management actions for each ACEC and Special Recreation Management Area (SRMA) are presented in the BLM LUPA worksheets in Appendix L. To the extent SRMAs are designated, increased accessibility to areas with cultural resources could lead to looting or vandalism.

For cultural resources, a major difference between DRECP alternatives is in the Plan-wide Conservation and Management Actions (CMAs) proposed for each alternative.

IV.8.2.4 Impacts of Natural Community Conservation Plan and General Conservation Plan

The NCCP would be administered by the California Department of Fish and Wildlife (CDFW), and would be applicable to the entire Plan Area. The GCP would be administered

by the U.S. Fish and Wildlife Service (USFWS) and would be applicable to nonfederal lands, a subset of the entire Plan Area; however, renewable energy impacts under the GCP would be limited to nonfederal lands within the DFAs.

IV.8.2.4.1 Natural Community Conservation Plan

The impacts of renewable energy development permitted under the NCCP would be the same as those defined for the Plan-wide impacts, including the typical impacts described in Section IV.8.2 and for each alternative described below.

IV.8.2.4.2 General Conservation Plan

The types of impacts resulting from renewable energy development permitted under the GCP would be the same as those defined for the Plan-wide impacts, including the typical impacts described in Section IV.8.2. However, the locations where these impacts would occur would vary by alternative. Any differences in these impacts that result from the locational differences are described for each alternative.

IV.8.3 Impact Analysis by Alternative

The following sections present the cultural resources impact analysis for the No Action Alternative, the Preferred Alternative, and Alternatives 1 through 4. Each alternative is compared to the Preferred Alternative. The percent difference between the number of estimated archaeological and built-environment resources in different land designations is used in some analyses. For example, to compare how many archaeological and built-environment resources are estimated within the DFAs for the Plan-wide area between the Preferred Alternative and Alternative 1, the difference between total estimated archaeological and built-environment resources would be divided by the lower total and multiplied by 100 to get the percent difference. The number of cultural resources estimated for the entire Plan Area does not change per alternative but rather the boundaries and acreages change. Therefore, the higher the acreage, the more cultural resources are estimated to be impacted or conserved.

IV.8.3.1 No Action Alternative

The No Action Alternative assumes the state's renewable energy goals would be achieved absent the DRECP and EIR/EIS, and that renewable energy, transmission development, and mitigation for projects in the Plan Area would proceed on a project-by-project basis in a pattern consistent with past and ongoing renewable energy and transmission projects.

Any areas currently excluded from development by statute, regulation, or proclamation would retain those exclusions. On BLM land, any areas administratively excluded would

continue to be assessed based on management guidance within BLM local field office land use plans. Without the DRECP, renewable energy development would likely continue to be patchy and fragmented, ultimately resulting in the increased likelihood of cumulative impacts to significant cultural resources within the Plan Area.

Under the No Action Alternative, the USFWS would not propose to develop a General Conservation Plan (GCP) to streamline future permitting of incidental take of Endangered Species Act (ESA)-listed species on nonfederal lands resulting from renewable energy projects and associated transmission in the California deserts. In the absence of a federal nexus, project proponents desiring incidental take authorization from USFWS would need to develop General Conservation Plans (GCPs) for their individual permit applications. Similarly, under the No Action Alternative, the USFWS would not propose to issue incidental take permits to California Energy Commission (CEC) or California State Lands Commission (CSLC) under the GCP.

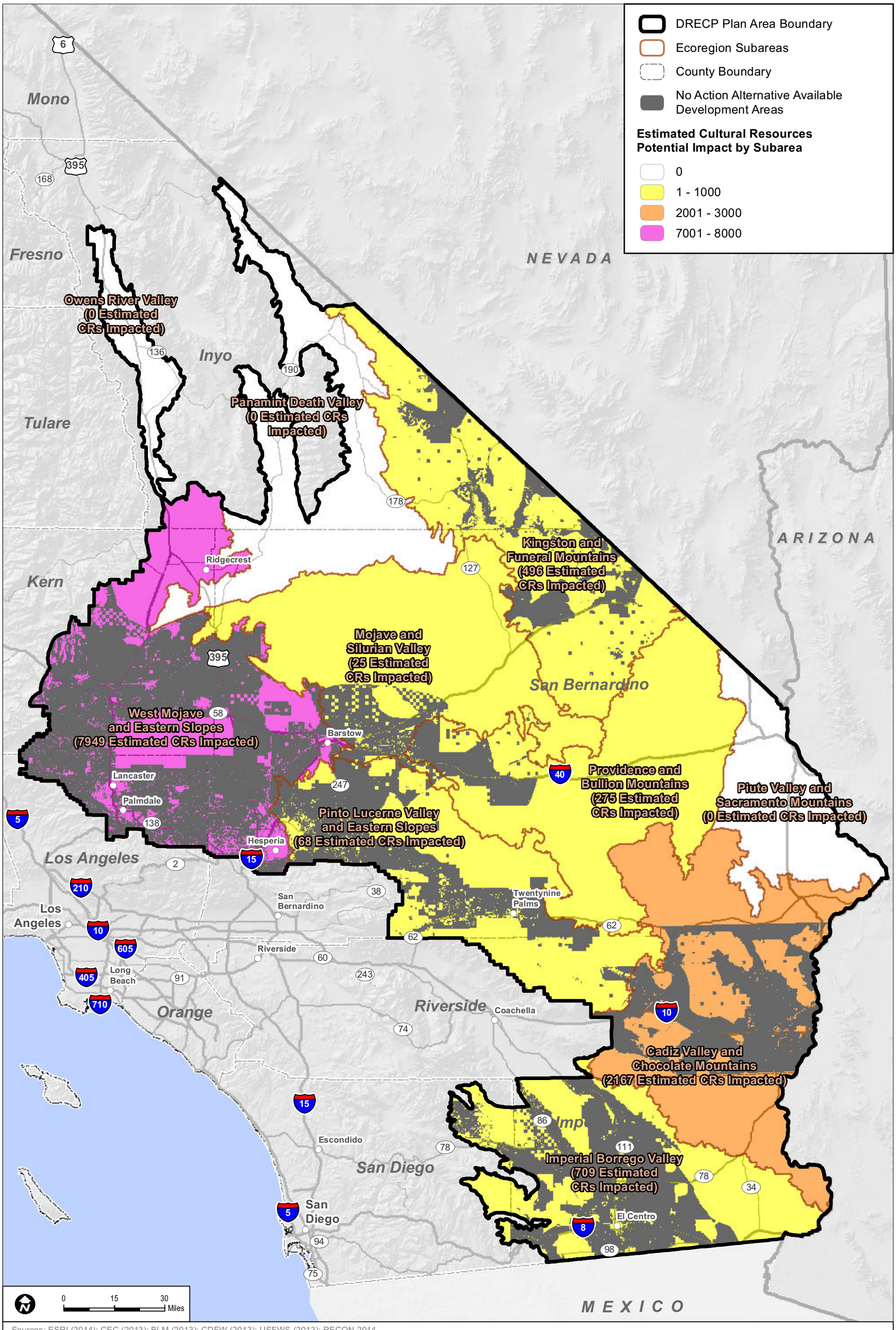
IV.8.3.1.1 Impacts within the Entire Plan Area in No Action Alternative

IV.8.3.1.1.1 Impacts and Mitigation for Renewable Energy and Transmission Development in No Action Alternative

Impact Assessment

Approximately 9,781,700 acres of Available Development Areas (ADAs) are available in the Plan Area that could be developed under the No Action Alternative. This includes both federal and nonfederal lands and represents nearly half the entire Plan Area. Impacts to cultural resources on this scale would be substantial and dispersed across the Plan Area.

As described in Section IV.8.1.1, an estimated 11,689 archaeological and built-environment resources could be affected within the developable area of the No Action Alternative (Appendix R2.8, Table R2.8-1). The density of these resources by ecoregion is shown in Figure IV.8-1. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. While current to December 2012, it is important to note that this data has varying degrees of completeness, with information on some resources more detailed than others. In addition, NRHP/CRHR eligibility was not available as a resource attribute, which is an important factor as knowing the significance under applicable regulatory standards is critical to determining the severity of impacts to these resources. The identification, evaluation, and treatment of cultural resources would have to be conducted on a project-specific level to ensure that as-yet-unidentified cultural resources are taken into account. The impacts to cultural resources under the No Action Alternative follow.



Sources: ESRI (2014); CEC (2013); BLM (2013); CDFW (2013); USFWS (2013); RECON 2014

FIGURE IV.8-1

Estimated Number of Cultural Resources within ADA by Ecoregion Subarea – No Action Alternative

Draft DRECP and EIR/EIS

August 2014

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Impact CR-1: Plan components could affect historic period built-environment resources.

Section III.8.2.1 defines historic period built-environment resources. These resources can be contributors to landscapes and TCPs.

Site Characterization. Damage or alteration of historic period built-environment resources could result from ground-disturbing activities and site characterization activities such as geotechnical borings, installation of meteorological stations, and establishment of temporary access roads for borings or meteorological stations. Temporary impacts to the visual setting, could result from construction vehicles and increased dust generated during ground disturbances. Long-term impacts to the visual setting of historic period built-environment resources could occur from the permanent presence of project structures.

Construction and Decommissioning. Damage or alteration of historic period built-environment resources could result from ground-disturbing activities such as the construction of staging areas and access roads, grading and vegetation clearing, and foundation excavations. Site decommissioning would have the fewest impacts if ground disturbance was confined to the original project area footprint. Temporary impacts to the visual setting, could result from construction vehicles and increased dust generated during ground disturbances. Long-term impacts to the visual setting of historic period built-environment resources could occur from the permanent presence of project structures. Visual impacts to historic period built-environment resources would mostly be removed after decommissioning, as long as the site was properly restored to its preconstruction state.

Operations and Maintenance. The fewest physical impacts to historic period built-environment resources could occur from operations and maintenance since ground disturbance would be limited to vegetation clearance and to cleaning, maintaining, and repairing roads and facilities. Damage or alteration of historic period built-environment resources could occur if these ground-disturbing activities take place in areas that have not been properly surveyed before construction. Vibration generated from operations and maintenance could result in long-term impacts to the structural integrity of built-environment resources. Long-term visual and sensory impacts to historic period built environment resources could therefore result from renewable energy projects and their associated land disturbances and ancillary facilities.

Impact CR-2: Plan components could affect prehistoric and historic period archaeological resources.

(See Section III.8.2.1 for definition of prehistoric and historic period archaeological resources. Note that these resources can be contributors to landscapes and TCPs.)

Site Characterization. Damage or alteration of prehistoric and historic period archaeological resources could result from ground-disturbing activities such as geotechnical borings, installation of meteorological stations, and establishment of temporary access roads for borings or meteorological stations. Temporary and occasionally long-term impacts to the visual setting could result from construction vehicles and increased dust generated during ground disturbances.

Construction and Decommissioning. Damage or alteration of prehistoric and historic period archaeological resources could result from ground-disturbing activities in a project-specific area such as the construction of staging areas and access roads, grading and vegetation clearing, and foundation excavations. Site decommissioning would have the fewest impacts to prehistoric and historic period archaeological resources if ground disturbance was confined to the original project area. Temporary impacts to the visual setting of prehistoric and historic period archaeological resources, such as trails and rock art sites, could result from construction vehicles and increased dust generated during ground disturbance. Long-term impacts to the visual setting of prehistoric and historic period archaeological resources could occur from the permanent presence of renewable energy structures. Visual impacts to prehistoric and historic period archaeological resources would mostly be removed after decommissioning, as long as the site was properly restored to its preconstruction state.

Operations and Maintenance. Few physical impacts to known and managed prehistoric and historic period archaeological resources could occur from the operation and maintenance of renewable energy projects since ground-disturbance activities would be limited to vegetation clearance and the cleaning and maintaining of roads and facilities. Damage or alteration of prehistoric and historic period archaeological resources could occur if these ground-disturbing activities took place in areas that had not been properly surveyed for cultural resources prior to construction. However, it is important to note that even if areas are surveyed prior to construction, there is still the potential for inadvertent damage to known sites or for activities to uncover buried resources during later stages of ground disturbance; there are often no surface indications of a site. Soil erosion from water used to clean roads and facilities could expose buried prehistoric and historic period archaeological resources. Long-term visual and sensory impacts to prehistoric and historic period archaeological resources, such as trails, could therefore occur from renewable energy development and its associated land disturbances and ancillary facilities.

Impact CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony.

Section III.8.2.1 defines human remains and cultural items. These can contribute to landscapes and TCPs.

Site Characterization. The disturbance of human remains or cultural items, including associated funerary objects, sacred objects, and objects of cultural patrimony is unlikely to occur during site characterization activities because site surveys should identify these cultural items before site characterization begins. Moreover, ground-disturbing activities during site characterization are limited in their depth and total disturbance, and therefore have low potential for disturbing human remains and other cultural items.

Construction and Decommissioning. Disturbance of human remains or cultural items, including associated funerary objects, sacred objects, and objects of cultural patrimony could result from construction-related ground disturbance. Ground-disturbing activities such as grading, vegetation clearing, and foundation excavations, could lead to the unintentional discovery of burials and cultural items, including associated funerary objects, sacred objects, and objects of cultural patrimony, which are typically unmarked. Decommissioning is unlikely to cause disturbance of these cultural items, however, if ground disturbance is confined to the original project area footprint.

Operations and Maintenance. Disturbance of human remains or cultural items, including associated funerary objects, sacred objects, and objects of cultural patrimony is unlikely to occur from operations and maintenance since ground-disturbance activities would be limited to clearing vegetation and cleaning and maintaining roads and facilities. Disturbance of these cultural items could occur in areas that are not properly surveyed for cultural resources. However, it is important to note that even if areas are surveyed before construction, there is still the potential to uncover these types of cultural items during later stages of ground disturbance since there are often no surface indications of them.

Impact CR-4: Plan Components Could Affect Cultural Landscapes.

Section III.8.2.1 defines cultural landscapes. TCPs, archaeological resources and built environment resources may contribute to cultural landscapes and cultural landscapes may be considered TCPs.

Site Characterization. Damage or alteration of cultural landscapes could result from ground-disturbing activities and site characterization activities such as geotechnical borings, installation of meteorological stations, and establishment of temporary access roads for borings or meteorological stations. Access roads and meteorological stations could also result in impacts to the visual setting of cultural landscapes.

Construction and Decommissioning. Damage or alteration of cultural landscapes could result from ground-disturbing activities such as the construction of staging areas and access roads, grading and vegetation clearing, and foundation excavations. Site decommissioning would have the fewest impacts if ground disturbance was confined to the original project area footprint. Construction vehicles and increased dust generated during ground disturbances and other construction activities could temporarily impact the visual setting of the cultural landscapes. Noise generated by construction could temporarily impact the auditory environment of cultural landscapes. Long-term impacts to the visual setting of cultural landscapes could occur from the presence of project structures during the length of the project. Visual impacts to cultural landscapes would mostly be removed after decommissioning, as long as the site was properly restored to its preconstruction state.

Operations and Maintenance. The fewest physical impacts to cultural landscapes could occur from operations and maintenance since structures would already be in place and ground disturbance would be limited to vegetation clearance and to cleaning, maintaining, and repairing roads and facilities. Damage or alteration of cultural landscapes could occur if these ground-disturbing activities take place in areas that have not been properly surveyed for cultural resources before construction. Soil erosion from water used to clean roads and facilities and vegetation clearance could impact the visual setting of cultural landscapes. Long-term visual and sensory impacts to cultural landscapes could therefore result from renewable energy projects and their associated land disturbances and ancillary facilities.

Laws and Regulations

Existing laws and regulations related to the identification, protection, and preservation of cultural resources are described in Volume III, Section III.8.1, Regulatory Setting. These laws may aid in reducing impacts of renewable energy development projects in the absence of the DRECP, but are not mitigation measures. Note that because this EIR/EIS addresses amendments to BLM's land use plans, these plans are addressed separately and are not included in this section.

Design Features from the Solar Programmatic Environmental Impact Statement

In addition to the regulations described earlier, several design features identified in the BLM Solar PEIS are in effect now within the Plan Area on BLM managed land for solar projects. These design features are presented here as defined in that document (Sections 5.15.1 and 5.15.2 for cultural resources and Sections 5.16.1 and 5.16.2 for Native American concerns). The design features are also presented in full in Appendix W to this EIR/EIS.

The design features would help avoid or minimize impacts to cultural resources prior to the development of project-specific mitigation measures. They are presented by project phase or

activity: (1) general design features; (2) site characterization, siting and design, and construction; (3) operations and maintenance; and (4) reclamation and decommissioning.

General Design Features

CR1-1 Project developers shall coordinate with BLM early in the planning process to identify and minimize cultural resource impacts; BLM will consult with other federal, tribal, state, and local agencies as appropriate.

a) Determining cultural resource impacts shall include, but is not limited to, the following:

- Initiating Section 106 consultations between BLM, SHPOs, Indian tribes, and other consulting parties early in the project planning process. Thresholds for the involvement of and review by the Advisory Council on Historic Preservation (ACHP) include nonroutine interstate and/or interagency projects or programs; undertakings adversely affecting National Historic Landmarks; undertakings that BLM determines to be highly controversial; and undertakings that will have an adverse effect and with respect to which disputes cannot be resolved through formal agreement between BLM and the SHPO, such as a Memorandum of Agreement (MOA).
- Conducting site-specific Section 106 review for individual projects. BLM will require the completion of inventory, evaluation, determinations of effect, and treatment in accordance with the Solar PA. This Solar PA is titled "Programmatic Agreement among the United States Department of the Interior, Bureau of Land Management, the Arizona State Historic Preservation Officer, the California State Historic Preservation Officer, the Colorado State Historic Preservation Officer, the New Mexico State Historic Preservation Officer, the Nevada State Historic Preservation Officer, the Utah State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Solar Energy Development on Lands Administered by the Bureau of Land Management."

b) General methods to minimize cultural resource impacts may include, but are not limited to, the following:

- If historic properties that could be adversely affected are present in the project location, developing an MOA tiered to the Solar PA to

address the mitigation steps that will be followed to avoid, minimize, or mitigate adverse effects on historic properties.

- Where BLM determines that a specific proposed solar energy project has the potential to adversely affect historic properties but those effects cannot be determined prior to its approval, BLM may elect to review a proposed solar energy project using an undertaking-specific PA executed pursuant to 36 Code of Federal Regulations (CFR) 800.6, instead of following the procedures outlined in the overarching Solar PA.
- Using training/educational programs for solar company workers to reduce occurrences of disturbances, vandalism, and harm to nearby historic properties. The specifics of these sensitivity training programs shall be established in project-specific consultations between the applicant, BLM, the SHPO, and affected Indian tribes, and will be articulated in a WEAP [worker environmental awareness program]. Such education and awareness plans will incorporate adaptive management protocols for addressing changes over the life of the project, should they occur.
- Securing a performance and reclamation bond for all solar energy generation facilities to ensure compliance with the terms and conditions of the ROW authorization. When establishing bond amounts and conditions, the BLM authorized officer shall require coverage of all expenses tied to cultural resources identification, protection, and mitigation. These may include, but are not limited to, costs for ethnographic studies, inventory, testing, geomorphological studies, data recovery, curation, monitoring, treatment of damaged sites, and generation and submission of reports (see ROW authorization policies, Section 2.2.1.1 of the Final Solar PEIS).

Site Characterization, Siting and Design, Construction

CR2-1 Solar facilities shall be characterized, sited, and designed, and constructed in coordination with BLM to minimize cultural resource impacts.

a) Methods to minimize impacts to cultural resources shall include but are not limited to, the following:

- BLM determining the APE for each proposed solar energy project, to include a review of existing information, and efforts to seek information from and views of tribes and other parties likely to

have knowledge of or concerns with historic properties in the APE. This information will be supplemented by discussions at pre-application meetings with the solar energy project applicant, the SHPO, and affected tribes regarding project designs, sacred sites, traditional cultural properties (TCPs), and proposed cultural resource inventory strategies.

- BLM consulting the SHPO, affected tribes (regarding the treatment of adverse effects for those property types on which the tribes indicate at pre-application or other meetings they wish to provide input), and any other consulting parties, if National Register of Historic Places (NRHP)-eligible properties are present at the site and would be adversely affected. BLM will seek agreement to avoid, minimize, or mitigate adverse effects on historic properties. BLM will execute an MOA with the SHPO to conclude the Section 106 process and will file a copy with the ACHP. Where BLM and the SHPO are unable to execute an MOA, BLM will invite the ACHP to participate in an undertaking-specific MOA. The MOA will specify the treatment for which BLM will be responsible, and which will be implemented by the solar applicant.
- Undertaking a Class III inventory of the APE. If BLM decides to require less than a Class III inventory for the entire APE, BLM will seek additional views of the SHPO, affected tribes, and other parties and determine the final inventory strategy that best represents a reasonable and good-faith effort to carry out appropriate identification efforts.
- Conducting inventories according to the standards set forth in the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 Federal Register [FR] 44716); BLM Handbook H-8110 (Handbook for Identifying Cultural Resources); revised BLM Manual 8110; and applicable BLM or SHPO survey, site record, or reporting standards. All inventory data must be provided to BLM in digitized or paper format that meets BLM accuracy standards, including shape files for surveyed areas.
- Bringing any unexpected discovery of cultural resources during any phase of development (construction, operations and maintenance, or decommissioning) to the attention of the responsible BLM authorized officer immediately, as specified in

the PA. Work shall be halted in the vicinity of the find. The area of the find shall be protected to ensure that the resources are not removed, handled, altered, or damaged while they are being evaluated and to ensure that appropriate mitigative or protective measures can be developed and implemented.

b) Methods to minimize cultural resource impacts may include, but are not limited to, the following:

- Including in the MOAs measures for management of historic properties, in situations where historic properties require management or monitoring for avoidance and protection within or near a project's boundaries. Such measures will specify the preparation and implementation of steps to lessen the adverse effects of the undertaking upon those aspects of NRHP eligibility criteria that make the historic properties eligible for nomination to the NRHP.
- Requiring that surface disturbance be restricted or prohibited within the viewshed of such property types when their eligibility is tied to their visual setting to protect NRHP-eligible traditional cultural properties, sacred sites, or historic trails from visual intrusion and to maintain the integrity of their historic setting unless acceptable mitigation is proposed.
- Employing cultural field monitors (appropriate for the resource anticipated) to monitor ground-disturbing activities (for example in geomorphic settings, such as in shifting sands, where buried deposits may be present) in cases where there is a probability of encountering cultural resources during construction that could not be detected during prior Class III inventories. Monitoring plans shall be specified within MOAs.
- Encouraging the use of previously disturbed lands and lands determined by archeological inventories to be devoid of historic properties.

Reclamation and Decommissioning

CR3-1 Prior to reclamation activities, BLM may require further planning for treatment of historic properties or planning for mitigation addressing reclamation activities.

CR3-2 BLM shall be notified prior to the demolition or substantial alteration of any building or structure. If judged necessary by BLM, the developer will be required to evaluate the structures for their significance employing professionally qualified architects or historic architects. If structures slated for demolition are found to be eligible for listing on the NRHP, they will be recorded to Historic American Building Survey and/or Historic American Engineering Record standards before alteration or removal.

CR3-3 Project developers shall confine soil-disturbing reclamation and decommissioning activities to previously disturbed areas. Known historic properties will be avoided during these activities.

Mitigation

Adverse effects to historic properties (NRHP eligible cultural resources) and historical resources (CRHP eligible cultural resources) would be resolved on a project-specific level. As part of this process, resource identification efforts including pedestrian surveys, formal government-to-government tribal consultation for both state and federal lead agencies, and engagement with Native American communities would be necessary. Under the No Action Alternative these project-specific efforts would occur as they have in the past, but without the guidance provided in the DRECP. Examples of ways to resolve adverse effects applicable to any project implemented in the absence of a Plan approval include the following:

- Develop a treatment plan for the unanticipated discovery of cultural resources during all phases of project development, including procedures for work to be halted in the vicinity of the find. The area of the find would then be protected to ensure that resources are not removed, handled, altered, or damaged while they are evaluated and until the adverse effects are resolved.
- Develop a treatment plan for the inadvertent discovery of human remains or suspected human remains, cultural items, including associated funerary objects, sacred objects, and objects of cultural patrimony in accordance with applicable laws and regulations (e.g., Native American Graves Protection and Repatriation Act [NAGPRA]) on federal lands. On nonfederal lands, those plans shall follow appropriate required regulations (California Public Resources Code [PRC] Section 5097.98; State Health and Safety Code Section 7050.5).
- Train project personnel on the importance of cultural resources and implement procedures for avoiding cultural resources and reporting any culturally sensitive resources.
- Employ cultural resource and tribal monitors during ground-disturbing activities when field conditions merit.

- Follow the best management practices (BMPs) outlined in Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands (USDOI 2013). Some of which include:
    - Use of surface treatments of introduced materials to reduce the visual impact of such materials.
    - Use of specific lighting design and operations to reduce impacts to night-sky viewing.
- Implement construction standards that would prevent toxic chemicals from entering waterways, minimize the chance of hazardous spills, and implement measures to prevent excessive and man-made soil deposition and erosion.
- Create data recovery plans that would resolve adverse effects to those NRHP/CRHR-eligible cultural resources that would be impacted by the project by requiring some level of extracting the scientific value and analysis of the deposited cultural material prior to development.
- Implement construction standards to reduce the amount of fugitive dust generated during project construction.
- Conduct analyses to determine the impact of vibration from ground-disturbance activities (such as geotechnical boring) on the structural integrity of built-environment resources and prehistoric resources such as rock art.
- Record information on building or structures in a Historic American Building Survey/Historic American Engineering Record (HABS/HAER) at a level compatible with National Park Service (NPS) standards. Adequate recordation of a built-environment resource shall include:
    - Site-specific history and appropriate contextual information regarding the particular resource, in addition to archival research and comparative studies.
    - Accurate mapping of the noted resources, scaled to indicated size and proportion of the structures.
    - Architectural descriptions of the structures.
    - Photographic documentation of designated resources.
    - Recordation using measured architectural drawings.
- Require the preservation or reuse of an eligible structure to follow the DOI's *Standards and Guidelines for Archeology and Historic Preservation*. If the building is considered a historical resource under CEQA, the local building inspector must grant code alternatives under the State Historic Building Code.

- In a case where HABS/HAER documentation does not provide adequate mitigation to reduce impacts to a less than significant level, projects would normally be required to take additional steps to capture the history and memory of the resource and share this information with the public using various methods such as Web media, static displays, interpretive signs, use of on-site volunteer docents, or informational brochures.
- Develop measures to address impacts to cultural resources during operation and maintenance activities.
- Establish conservation easements where individual resources could be preserved.
- Require that staff who write and implement the required plans meet the U.S. Secretary of Interior's Professional Qualifications Standards, as published in 36 CFR 61 for the relevant cultural resources specialty.
- Require technical reports to meet the requirements outlined in California Office of Historic Preservation's Archaeological Resource Management Reports: Recommended Contents and Format.
- Address impacts to cultural resources at a landscape scale following the guidance in *A Strategy for Improving Mitigation Policies and Practices of the Department of the Interior (*Interior 2014*)*, including but not limited to:
    - Compensatory mitigation.
    - Coordination with other agencies.
    - Measures to monitor and evaluate the progress of long-term mitigation.
    - Geospatial information systems developed and maintained for use in identifying existing and potential conservation strategies and development opportunities.

IV.8.3.1.1.2 Impacts from Reserve Design in the No Action Alternative

The No Action Alternative has no reserve design, but even without approval of an alternative, there would be continued protection of existing Legislatively and Legally Protected Areas (LLPAs) such as wilderness areas. In addition, under the No Action Alternative, renewable energy projects would continue to be evaluated and approved with project-specific mitigation requirements.

Currently, approximately 42% of the Plan Area is within existing BLM protected lands or BLM land designations (Appendix R2.8, Table R2.8-2). Renewable energy development in these land designations, and any resultant impacts to cultural resources, would be reviewed on a project-by-project basis. If individual projects approved under the No Action

Alternative resulted in the establishment of new conservation lands, cultural resources in those areas likely would be protected from disturbance.

IV.8.3.1.2 Impacts to BLM Lands of Existing BLM Land Use Plans in No Action Alternative

Under the No Action Alternative, the existing land management plans within the Plan Area (California Desert Conservation Area [CDCA] Plan, as amended; Caliente Resource Management Plan [RMP], and Bishop RMP) would continue to allow for renewable energy and transmission development within certain land designations, including Solar Energy Zones (SEZs) and Solar Variance Lands. Individual projects would continue to require individual land use plan amendments prior to their approval if they are sited outside of SEZ and Solar Variance Lands.

Table R2.8-3 presents the estimated number of archaeological and built-environment resources within the No Action Alternative's available development areas on BLM lands. The largest number of (1,961) archaeological and built-environment resources could be affected by solar energy projects. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

Table R2.8-4 presents the estimated number of archaeological and built-environment resources within existing ACECs and SRMAs. The model shows 52,426 resources within existing SRMAs and 87,881 resources within existing ACECs. Existing ACECs and wildlife allocations would continue to protect all types of cultural resources because of their disturbance limitations.

IV.8.3.1.3 Impacts of Natural Community Conservation Plan in No Action Alternative

The NCCP would apply to all lands within the Plan Area. In the absence of Plan implementation, the NCCP would not be approved and no incidental take permits would be issued under the NCCP. Projects would continue to be considered by the appropriate lead agency on an individual basis. The impacts that would occur in the absence of the NCCP would be the same as those described in Section IV.8.3.1.1.1 (Plan-wide analysis).

IV.8.3.1.4 Impacts of General Conservation Plan in No Action Alternative

As described in Appendix M, the GCP would apply to certain nonfederal lands in the Plan Area. In the absence of Plan implementation, the GCP would not be approved and no incidental take permits would be issued under the GCP. Projects would continue to be considered by the USFWS on an individual basis. The impacts that would occur in the absence of

the GCP would be the same as those described in Section IV.8.3.1.1.1 (Plan-wide analysis), but would be specific to nonfederal lands within the Plan Area.

IV.8.3.1.5 Impacts Outside the Plan Area in No Action Alternative

Outside the Plan Area, additional transmission lines would be needed to deliver the additional renewable energy to load centers (areas of high demand). It is assumed that new transmission lines outside the Plan Area would use existing transmission corridors between the Plan Area and existing substations in the more populated coastal areas of the state. The Outside the Plan Areas through which new transmission lines might be constructed are San Diego, Los Angeles, North Palm Springs–Riverside, and Central Valley. These areas and their cultural resources are described in Volume III, Section III.8.7.

IV.8.3.1.5.1 Impacts of Transmission Outside the Plan Area

The application of mitigation measures and CEC cultural resources Conditions of Certification developed in consultation under Section 106 of the NHPA and the CEC siting process would avoid, reduce, or mitigate the potential for adverse impacts of transmission line development on significant cultural resources. Section 106 and CEC siting process consultations between BLM, CEC, SHPOs, appropriate tribes, and other consulting parties would be required. Ongoing tribal consultation, in accordance with NHPA/CEQA and other relevant state legislation, would help determine areas of sensitivity, appropriate survey and mitigation needs, and other issues of concern such as access rights or disruption of cultural practices.

Impact CR-1: Plan components could affect historic period built-environment resources.

Damage or alteration of historic period built-environment resources could result from all phases of transmission line development outside the Plan Area. Ground disturbance and site characterization activities would cause the most impacts to buried historical archaeological sites. Geotechnical boring and drilling vibrations could damage the structural integrity of built-environment resources. Construction vehicles and the generation of fugitive dust would temporarily impact the visual integrity of historic period built-environment resources. Long-term impacts would result from the presence of transmission infrastructure and other linear facilities. Increased pedestrian and vehicular access to historical archaeological sites could lead to artifact trampling and looting.

Impact CR-2: Plan components could affect prehistoric and historic period archaeological resources.

Damage or alteration of prehistoric and historic period archaeological resources could result from all phases of transmission line development outside the Plan Area. Ground dis-

turbance and site characterization activities would cause the most impacts to buried prehistoric archaeological sites. Geotechnical boring and drilling vibrations could damage rock art sites. Access roads constructed on a bajada (slope) or pediment landscape perpendicular to braided drainage networks could by design or natural causes result in the formation of deep-cut drainages that could expose and carry downstream cultural resources and modify the landscape and the distribution of vegetation. Construction vehicles and the generation of fugitive dust would temporarily impact the visual integrity of prehistoric and historic period archaeological resources such as trails, hunting blinds, or rock art sites. Long-term impacts would result from the presence of transmission infrastructure and other linear facilities. Increased pedestrian and vehicular access to prehistoric archaeological sites could lead to artifact trampling and looting, and ongoing use of roads for maintenance and by the public could generate fugitive dust that over time would adversely affect petroglyphs and pictographs.

Impact CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony.

Disturbance of human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony could result from construction-related ground-disturbance activities during transmission line development outside the Plan Area. Ground-disturbance activities such as grading, vegetation clearing, and foundation excavations could lead to the unintentional discovery of burials and other cultural items, which are typically unmarked.

Impact CR-4: Plan components could affect cultural landscapes.

Site Characterization. Damage or alteration of cultural landscapes could result from ground-disturbing activities and site characterization activities such as geotechnical borings, installation of meteorological stations, and establishment of temporary access roads for borings or meteorological stations.

Construction and Decommissioning. Damage or alteration of cultural landscapes could result from ground-disturbing activities such as the construction of staging areas and access roads, grading and vegetation clearing, and foundation excavations. Site decommissioning would have the fewest impacts if ground disturbance was confined to the original project area footprint. Construction vehicles and increased dust generated during ground disturbances could temporarily impact the visual setting of the cultural landscapes. Long-term impacts to the visual setting of cultural landscapes could occur from the permanent presence of project structures. Visual impacts to cultural landscapes would mostly be removed after decommissioning, as long as the site was properly restored to its preconstruction state.

Operations and Maintenance. The fewest physical impacts to cultural landscapes could occur from operations and maintenance since ground disturbance would be limited to vegetation clearance and to cleaning, maintaining, and repairing roads and facilities. Damage or alteration of cultural landscapes could occur if these ground-disturbing activities take place in areas that have not been properly surveyed for cultural resources before construction. Soil erosion from water used to clean roads and facilities could impact the visual setting of cultural landscapes. Long-term visual and sensory impacts to cultural landscapes could therefore result from renewable energy projects and their associated land disturbances and ancillary facilities.

IV.8.3.1.5.2 Impacts of Existing BLM Land Use Plans Outside the Plan Area

Under the No Action Alternative, the existing BLM land use plans would continue to be implemented on CDCA lands, both within and outside the Plan Area. Under the No Action Alternative, renewable energy projects would still be developed through BLM's existing policies. Impacts to cultural resources outside the Plan Area would be of the types described in Section IV.8.2.1, with similar mitigation measures being included on a case-by-case basis. The existing land designations, including existing protected areas, ACECs, and National Scenic and Historic Trails, would continue to be managed by BLM to protect their associated values and resources.

Under the No Action Alternative, cultural resources found within BLM LUPA lands outside the Plan Area are shown in Table R2.8-5. The model shows that 13,206 archaeological and built-environment resources are estimated to be within SRMAs and 2,760 archaeological and built-environment resources within ACECs in BLM LUPA lands outside the Plan Area, but within the CDCA. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. Impacts to cultural resources on BLM-administered lands under existing land use plans outside the Plan Area would be the same as discussed in Section IV.8.3.1.1.1.

IV.8.3.1.6 CEQA Significance Determination: No Action Alternative

An estimated 11,689 archaeological and built-environment resources are located within the ADAs of the No Action Alternative. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. It is important to note, however, that large areas of the Southern California desert have never been surveyed, so these data are incomplete. The identification, evaluation, and treatment of cultural resources would need to be conducted on a project-specific level in

supplemental project-specific CEQA documents to ensure that as-yet-unidentified cultural resources are taken into account.

Impact CR-1: Plan components could affect historic period built-environment resources.

Damage or alteration of historic period built-environment resources could result from all phases of renewable energy development under the No Action Alternative. Ground disturbance and site characterization activities would cause the most impacts to buried historical archaeological sites. Geotechnical boring and drilling vibrations could damage the structural integrity of built-environment resources. Construction vehicles and personnel and the generation of fugitive dust would temporarily impact the visual integrity of historic period built-environment resources. Long-term impacts would result from the presence of transmission infrastructure and other linear facilities. Increased pedestrian and vehicular access to historical archaeological sites could lead to artifact trampling and looting. No new conservation lands would be defined in the No Action Alternative.

Implementation of typical mitigation measures for historic period built-environment resources presented in Section IV.8.3.1.1.1 would normally reduce impacts to these resources to less than significant levels.

Impact CR-2: Plan components could affect prehistoric and historic period archaeological resources.

Damage or alteration of prehistoric and historic period archaeological resources could result from all phases of renewable energy development under the No Action Alternative. Ground disturbance and site characterization activities would cause the most impacts to buried prehistoric and historic period archaeological sites. Geotechnical boring and drilling vibrations could damage rock art sites. Construction vehicles and personnel and the generation of fugitive dust would temporarily impact the visual integrity of prehistoric and historic period archaeological resources such as trails, hunting blinds, or rock art sites. Long-term impacts would result from the presence of transmission infrastructure and other linear facilities. Increased pedestrian and vehicular access to prehistoric archaeological sites could lead to artifact trampling and looting.

Typical mitigation measures for prehistoric and historic period archaeological resources are listed in Section IV.8.3.1.1.1. Depending on the resource, implementation of these measures could reduce impacts to a less than significant level. However, the majority of the impacts to prehistoric and historic period archaeological resources from renewable energy development would be significant and unavoidable. On a project-by-project basis, determinations could be different and impacts may be less than significant.

Impact CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony.

Disturbance of human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony could result from construction-related ground-disturbance activities under the No Action Alternative. Ground-disturbance activities such as grading, vegetation clearing, and foundation excavations could lead to the unintentional discovery of burials and other cultural items, which are typically unmarked.

Typical mitigation measures for human remains and cultural items appear in Section IV.8.3.1.1.1. However, even with the implementation of these mitigation measures the impacts to human remains or cultural items would be significant and unavoidable.

Impact CR-4: Plan components could affect cultural landscapes.

Disturbance or alteration to cultural landscapes could result from all phases of renewable energy development under the No Action Alternative. Ground disturbance and site characterization activities could cause damage to cultural or natural features of a cultural landscape. Construction vehicles and increased dust generated during ground disturbances could temporarily impact the visual setting of the cultural landscapes. Long-term impacts to the visual setting of cultural landscapes could occur from the permanent presence of project structures. Soil erosion from water used to clean roads and facilities during operations and maintenance activities could impact the visual setting of cultural landscapes. Visual impacts to cultural landscapes would mostly be removed after decommissioning, as long as the site was properly restored to its preconstruction state.

Typical mitigation measures for cultural landscapes are listed in Section IV.8.3.1.1.1. Depending on the resource, implementation of these measures could reduce impacts to a less than significant level. However, the majority of the impacts to cultural landscapes from renewable energy development would be significant and unavoidable.

IV.8.3.2 Preferred Alternative

IV.8.3.2.1 Plan-Wide Impacts of Implementing the DRECP: Preferred Alternative

IV.8.3.2.1.1 Plan-Wide Impacts and Mitigation Measures from Renewable Energy and Transmission Development

Impact Assessment

Renewable energy development activities covered by the DRECP would be confined to DFAs. Under the Preferred Alternative, an estimated 12,543 archaeological and built-environment resources would occur within DFAs (see Appendix R2.8, Table R2.8-6). The density of these resources by ecoregion is shown in Figure IV.8-2. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

Impact CR-1: Plan components could affect historic period built-environment resources.

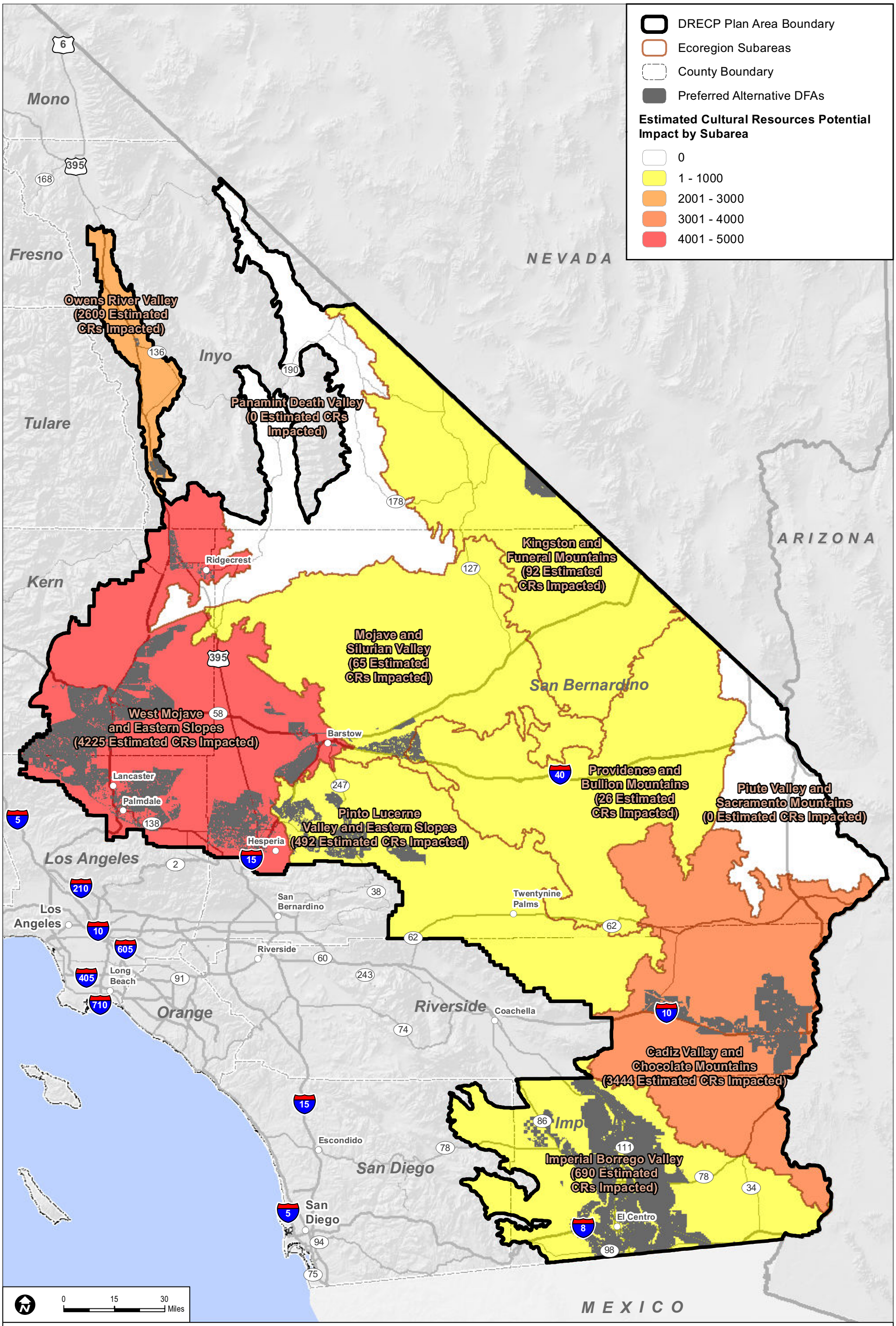
As described in more detail in Section IV.8.2, all phases of renewable energy development under all of the alternatives have the potential to impact historic period built-environment resources.

Impact CR-2: Plan components could affect prehistoric and historic period archaeological resources.

As described in more detail in Section IV.8.2, all phases of renewable energy development under all of the alternatives have the potential to impact prehistoric and historic period archaeological resources.

Impact CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony.

As described in more detail in Section IV.8.2, disturbance of human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony could result from construction-related ground-disturbance activities. Ground-disturbance activities such as grading, vegetation clearing, and foundation excavations could lead to the unintentional discovery of these types of cultural items, which are typically unmarked.



Sources: ESRI (2014); CEC (2013); BLM (2013); CDFW (2013); USFWS (2013); RECON 2014

FIGURE IV.8-2

Estimated Number of Cultural Resources within DFAs by Ecoregion Subarea – Preferred Alternative

Draft DRECP and EIR/EIS

August 2014

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Impact CR-4: Plan components could affect cultural landscapes.

As described in more detail in Section IV.8.2, all phases of renewable energy development under all of the alternatives have the potential to impact cultural landscapes.

Impacts in Study Area Lands

Study Area Lands refer to three categories of lands: Future Assessment Areas (FAAs), Special Analysis Areas (SAAs) and DRECP Variance Lands. Development in any of the Study Area Lands could adversely impact resources important to tribes and other communities.

Future Assessment Areas (FAAs). Lands within FAAs are neither reserve lands nor DFAs; they are simply areas that are deferred for future assessment. The future assessment will determine suitability for renewable energy development or for ecological conservation. If renewable energy development occurs on FAA lands, a Land Use Plan Amendment would not be required. FAAs for each alternative are included and located as shown in Volume II, Figure II.3-1 and in Chapter IV.1, Table IV.1-2. The FAAs represent areas where renewable energy development or inclusion to the reserve design could be implemented through an amendment to the DRECP but additional assessment would be needed.

Because most of the FAAs are presented as "undesignated areas" in the action alternatives, there would be no difference between the FAAs in the Preferred Alternative except that renewable development in an FAA would not require a BLM Land Use Plan Amendment so the environmental review process would be somewhat simpler than if the location were left undesignated.

There are 128,000 acres of FAAs in the Preferred Alternative (Table IV.1-2). A total of 2,560 archaeological and built-environment resources are estimated within these FAAs. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

Special Analysis Areas (SAAs). Two areas are defined as SAAs in the Preferred Alternative, representing areas subject to ongoing analysis. These areas (located in the Silurian Valley and just west of U.S Route 395 in Kern County) cover 42,000 acres (Chapter IV.1, Table IV.1-3) and have high value for renewable energy development, high value for ecological and cultural conservation, and high value for recreation. SAA lands are expected to be designated in the final EIR/EIS as either DFAs or included in the reserve design/Conservation Designation. Under the Preferred Alternative, 840 archaeological and built-environment resources are estimated within SAAs. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

DRECP Variance Lands. These lands represent the BLM Solar PEIS Variance Lands as screened for the DRECP and EIR/EIS based on BLM screening criteria. Covered Activities could be permitted for NCCP purposes only through an NCCP Plan amendment. However, development of renewable energy on Variance Lands would not require a BLM Land Use Plan Amendment so the environmental review process would be somewhat simpler than if the location were left undesignated (for further information refer to Section II.3.1.1, Overview of the Preferred Alternative).

Under the Preferred Alternative there would be 13,000 acres of Variance Lands (Chapter IV.1, Table IV.1-4). An estimated 260 archaeological and built-environment resources are present on Variance Lands in this alternative. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

Impact Reduction Strategies and Mitigation

The implementation of the Plan under the Preferred Alternative would result in conservation of some desert lands as well as the development of renewable energy generation and transmission facilities on other lands. The impacts of the renewable energy development covered by the Plan would be lessened in several ways. First, the Plan incorporates CMAs for each alternative (listed below), including specific biological reserve design components and LUPA components. Also, the implementation of existing laws, orders, regulations and standards would reduce the impacts of project development. If significant impacts would still result after implementation of CMAs and compliance with applicable laws and regulations, then specific mitigation measures are recommended below in this chapter.

Although land would be conserved under the Preferred Alternative, and some of these conserved lands would contain known cultural resources, there would still be damage or alteration to as-yet unknown cultural resources. Because the traditional tribal world-view typically values cultural and spiritual resources holistically, the conservation of some cultural resources would not mitigate the damage or alteration of other cultural resources in DFAs.

Conservation and Management Actions

The conservation strategy for the Preferred Alternative (presented in Volume II, Section II.3.1.1) defines specific actions that would reduce the impacts of this alternative. The conservation strategy includes definitions of the reserve design and specific CMAs for the Preferred Alternative. While the CMAs were developed for BLM lands only, this analysis assumes that all CMAs would also be applied to nonfederal lands. As such, the details of these CMAs would be modified to meet the requirements of state law, the CEC, or other appropriate state lead agencies. However, those modifications are not presented here.

CMAs are not mitigation measures. However, many CMAs would help reduce impacts to cultural resources; they are presented below. It is important to note that cultural resources CMAs and National Scenic and Historic Trails CMAs associated with National Landscape Conservation System Lands and Areas of Critical Environmental Concern vary significantly by alternative.

Planning Area–Wide National Conservation Land Management Direction

- **Cultural Resources** – With the exception of research, no actions that would result in adverse effects to historic properties, as defined under Section 106 of National Historic Preservation Act and the implementing regulations at 36 CFR Part 800, will be authorized.

National Trails

DRECP will make decisions for three National Trails (Pacific Crest National Scenic Trail, Old Spanish National Historic Trail and the Juan Bautista de Anza National Historic Trail) to designate the National Trail Management Corridors and management actions

Conservation and Management Actions for National Trails

- **Management Corridor Width** (see also maps): Establish a National Trail Management Corridor width generally 5 miles from the centerline of the trail.
- **Management of Trail Corridors** – Manage National Trails as components of BLM's NLCS. Where National Trails overlap other National Conservation Lands, the more protective CMAs or land use allocations will apply.
- **Lands and Realty**
    - **Land Use Authorizations**
        - **Site Authorization –** NSHT Management Corridors would be avoidance areas. Sites authorizations would require mitigation/compensation resulting in net benefit to the NSHT.
        - **Linear Rights-of-Way –** NSHT Management Corridors would be avoidance areas except in designated transmission corridors. Exclude cultural landscapes, high potential historic sites, and high potential route segments identified along historic trails corridors from transmission except in approved transmission corridors. Where development affects trail management corridors, an analysis must be performed to ensure that it does not substantially interfere with the nature and purposes of the trail, and that mitigation/compensation results in a net benefit to the trail.

        - **Renewable Energy Rights-of-Way** – Exclude cultural landscapes, high potential historic sites, and high potential route segments identified along historic trails corridors from transmission except in approved DFAs and transmission corridors. Where development affects trail management corridors, an analysis must be performed to ensure that it does not substantially interfere with the nature and purposes of the trail, and that mitigation/compensation results in a net benefit to the trail.
    - **Land Tenure**
        - Exchange would be permitted if it results in net benefit to NSHT values.
        - Purchase and donations would be also be permitted to acquire lands within NSHT.
- **Minerals**
    - **Locatable Minerals** – For the purposes of locatable minerals, National Trail corridors would be treated as "controlled" or "limited" use areas in the CDCA, requiring a Plan of Operations for greater than casual use under 43 CFR 3809.11.
    - **Saleable Minerals** – NSHT Management Corridors would be available for saleable mineral development if it does not substantially interfere with nature and purpose of NSHT, and would require mitigation/compensation must result in net benefit to NSHT values
    - **Leasable Minerals** – NSHT Management Corridors would be available for leasing with a No Surface Occupancy stipulation. Surface coal mining would not be allowed within the NSHT Management Corridors.
- **Recreation and Visitor Services –** Commercial and competitive Special Recreation Permits would be considered on a case-by –case basis for activities consistent with the values of the National Conservation lands unit.
- **Cultural Resources**
    - Undertakings that result in adverse effects to NHTs and NSTs that are historic properties as defined under Section 106 of National Historic Preservation Act and the implementing regulations at 36 CFR Part 800 will not be authorized.
    - All NHT segments will be assumed to contain remnants, artifacts and other properties eligible for the National Register of Historic Places, pending evaluation.
- **Visual Resources Management –** All NSHT Management Corridors will be designated as VRM class II, except within approved transmission corridors (VRM Class III) and DFAs (VRM Class IV). However, state of the art VRM BMPs for renewable energy will be employed commensurate with the protection of nationally significant

scenic resources and cultural landscapes to minimize the level of intrusion and protect trail settings.

- **Mitigation Requirements –** If a segment of a National Trail or proposed NHT traverses a DFA, it will be subject to mitigation for impacts to trail features, including, but not limited to, and not in priority order: avoidance, the cost of trail relocation, on-site mitigation and off-site mitigation. Compensation can include acquisition or restoration of corridor features and landscapes will be at a minimum of 2:1, and must result in a net benefit to the overall trail corridor. Development of high potential route segments must not substantially interfere with the nature and purposes of the National Trail.

BLM-Specific Conservation and Management Actions

Cultural and Tribal CMAs for the Entire Planning Area

- Continue working with the California Office of Historic Preservation to develop and implement a program for record keeping and tracking agency actions that meets the needs of BLM and OHP organizations pursuant to existing State and National agreements and regulation (BLM State Protocol Agreement; BLM National Programmatic Agreement).
- Using relevant archaeological and environmental data, identify priority geographic areas for new field inventory, based upon a probability for unrecorded significant resources and other considerations.
- Identify places of traditional cultural and religious importance to federally recognized tribes and maintain access to these locations for traditional use.
- Design BLM actions and authorizations to minimize impacts on cultural resources including places of traditional cultural and religious importance to federally recognized tribes.
- Develop interpretive material to correspond with recreational uses to educate the public about protecting cultural resources and avoiding disturbance of archaeological sites.
- Develop partnerships to assist in the training of groups and individuals to participate in site stewardship programs.
- Coordinate with visual resources staff to ensure VRM classes consider cultural resources and tribal consultation to include landmarks of cultural significance to Native Americans (TCPs, trails, etc.).
- Conduct regular contact and consultation with federally recognized Tribes and individuals, consistent with statute, regulation and policy.

- Promote desert vegetation communities by compensatory mitigation, off-site mitigation, and other means for Native American vegetation collection.
- Promote and protect desert fan palm oasis communities by compensatory mitigation, off-site mitigation, and other means for Native American cultural values.
- Promote and protect desert microphyll woodland communities by compensatory mitigation, off-site mitigation, and other means for Native American cultural values.

Other CMAs for the Entire Planning Area

- **Biological Resources.** CMAs developed for biological resources that could reduce impacts to cultural resources from soil erosion, project runoff, oil or other contaminant spill, and the introduction of invasive species during restoration and revegetation. The CMAs would apply to all action alternatives (Preferred, Alternatives 1 through 4).
- **Air Resources.** Implementation of CMAs related to air quality could reduce temporary impacts to the visual setting of cultural resources from fugitive dust by requiring that air quality standards for fugitive dust exceed local standards and apply seven days a week. In addition, these CMAs would require the development of a fugitive dust control plan (Section II.3.2.3.1.2).
- **Comprehensive Trails and Travel Management.** Implementation of CMAs related to maintaining and managing adequate roads and trails could reduce impacts to trails and trail segments important to Native Americans by prohibiting large-scale disturbance within 0.5 mile of the centerline of Tier 2 roads/primitive roads and 300 feet from the centerline of Tier 3 primitive roads/trails. In addition, this would require the management of road, primitive road, and trail access to and within SRMAs, Extensive Recreation Management Areas, Off-Highway Vehicle Open Areas, and Tier 1, 2, and 3 roads.
- **Visual Resources.** Implementation of CMAs related to visual resources would reduce impacts to the visual setting of resources of Native American concern, including traditional cultural properties and sacred sites, landscapes, and archaeological resources, by ensuring that (1) development within each VRM Class polygon meets the VRM objectives as measured through a visual contrast rating process and (2) transmission facilities are designed to create the least amount of visual contrast.
- Cultural and Tribal CMAs in Development Focus Areas and DRECP Study Areas, and Transmission Corridors

The following CMAs will apply to renewable energy and transmission ROWs:

BLM developed and maintains a geodatabase for Cultural Resources and Cultural Resources investigations in a Geographic Information System (GIS). The geodatabase is regularly updated with newly recorded and re-recorded resource and investigation data. However, while the geodatabase includes location information (feature classes or shapefiles), the associated information about each resource or investigation (attribute data) is limited or inconsistent. As it exists now, the geodatabase cannot be used for predictive analyses like those recommended in A Strategy for Improving Mitigation Policies and Practices of the Department of the Interior (Interior 2014). However, with some updates, the geodatabase would be a powerful tool for identifying potential conservation priorities as well as development opportunities. Many of the CMAs below are intended to facilitate the update of BLMs geodatabase, and require its use when the updates are complete.

- Require the applicant to pay all appropriate costs associated with the following processes, through the appropriate BLM funding mechanism:
    - All appropriate costs associated with BLM's analysis of the DRECP geodatabase and other sources for cultural resources sensitivity;
    - All appropriate costs associated with preliminary sensitivity analysis;
    - All appropriate costs associated with the Section 106 process including the identification and defining of cultural resources. These costs may also include logistical, travel, and other support costs incurred by tribes in the consultation process.
    - All appropriate costs associated with updating the DRECP cultural resources geodatabase with project specific results.
- A management fee, defined at a per-acre rate and annual escalation provision for the life of the grant, will paid to BLM as partial mitigation for the cumulative effects on cultural resources across the DRECP area and may be used to develop regional research designs and other forms of off-site and compensatory mitigation.
- The management fee rate will be determined through the programmatic Section 106 consultation process that will be completed as part of the DRECP land use plan amendment.
- Demonstrate that results of cultural resources sensitivity, based on the DRECP geodatabase, and other sources, are used as part of the initial planning pre-application process and to select of specific footprints for further consideration.
- Provide a statistically significant sample survey as part of the pre-application process, unless BLM determines the DRECP geodatabase and other sources are adequate to assess cultural resources sensitivity of specific footprints.

- Provide justification in the application why the project considerations merit moving forward if the specific footprint lies within an area identified or forecast as sensitive for cultural resources by BLM.
- Complete the Section 106 Process as specified in 36 CFR Part 800, or via an alternate procedure, allowed for under 36 CFR Part 800.14 prior to issuing a ROD or ROW grant on any utility-scale renewable energy or transmission project. For utility-scale solar energy developments, BLM may follow the Solar PA.
- The Ford Dry Lake Basin and surrounding shoreline up to the 380 foot contour comprises mitigation agreed upon earlier by the Genesis project owners, BLM, CEC, the Colorado River Indian Tribes, and the Ft. Mojave tribe as the proposed Ford Dry Lake National Register Archaeological District and may not be developed.

Cultural and Tribal CMAs for National Conservation Lands and Areas of Critical Environmental Concern

- Survey, identify and record new cultural resources within ACEC boundaries.
- Update records for existing cultural resources within ACECs.
- Develop baseline assessment of specific natural and man-made threats to cultural resources in ACECs (i.e., erosion, looting and vandalism, grazing, OHV).
- Provide on-going monitoring for cultural resources based on the threat assessment.
- Identify, develop or incorporate standard protection measures and best management practices to address threats.
- Where specific threats are identified, implement protection measures consistent with agency Section 106 responsibilities.

Laws and Regulations

Similar to the No Action Alternative, implementation of existing laws and regulations would reduce certain impacts of Plan implementation. Relevant regulations are presented in the Regulatory Setting in Volume III. The requirements of relevant laws and regulations are summarized for the No Action Alternative in Section IV.8.3.1.1.1.

Mitigation Measures

After implementation of the CMAs and existing laws and regulations, mitigation measures are recommended to further reduce some of the DRECP's impacts to cultural resources, as outlined below. Some of these mitigation measures may be included in Section 106 agreement documents (such as programmatic agreements) or CEC Conditions of Certification for specific resources impacted by specific projects or for the Plan Area as a whole. Differences

between state and federal legal requirements may result in differences between mitigation measures for resources located on federal land as opposed to those located on other lands, and may require close coordination between state and federal lead agencies.

Mitigation Measures for Impact CR-1: Plan components could affect historic period built-environment resources.

One comprehensive mitigation measure is recommended to protect historic period built-environment resources.

CR-1a **Protect Historic Period Built-Environment Resources.** The following requirements shall be implemented:

a) Develop a treatment plan for the unanticipated discovery of cultural resources during all phases of project development, including procedures for work to be halted in the vicinity of the find. The area of the find would then be protected to ensure that resources are not removed, handled, altered, or damaged while they are evaluated and until the adverse effects are resolved.

b) Train project personnel on the importance of cultural resources and follow procedures for avoiding cultural resources and reporting any culturally sensitive resources.

c) Require that surface disturbances be restricted or prohibited within the viewshed of an NRHP/CRHR-eligible resource if the eligibility of that resource is based upon its visual setting.

d) Hire professionals that meet U.S. Secretary of Interior's Professional Qualifications Standards, as published in 36 CFRFR 61 for architectural history as appropriate, to write any required plans and to implement all plans and mitigation measures.

e) Employ the use of cultural resource monitors during ground-disturbing activities when field conditions merit.

f) Create data recovery plans that would address NRHP/CRHR-eligible cultural resources that would be impacted by the project by requiring some level of extracting the scientific value and analysis of the resource prior to development.

g) Record building or structures in HABS/HAER at a level compatible with NPS standards. Adequate recordation of a built-environment resource shall include the following:

- Site-specific history and appropriate contextual information regarding the particular resource, in addition to archival research and comparative studies.
- Accurate mapping of the noted resources, scaled to indicated size and proportion of the structures.
- Architectural descriptions of the structures.
- Photographic documentation of designated resources.
- Recordation using measured architectural drawings.

h) Require the preservation or reuse of an eligible structure to follow the DOI's *Standards and Guidelines for Archeology and Historic Preservation*. If the building is considered a historical resource under CEQA, the local building inspector must grant code alternatives under the State Historic Building Code.

i) Take additional steps, where HABS/HAER documentation does not provide adequate mitigation, to reduce impacts to a less than significant level, implement mitigation that captures the history and memory of the resource, and share this information with the public using various methods such as Web media, static displays, interpretive signs, on-site volunteer docents, or informational brochures.

Mitigation Measures for Impact CR-2: Plan components could affect prehistoric and historic period archaeological resources.

One comprehensive mitigation measure is recommended to protect prehistoric and historic period archaeological resources.

CR-2a **Protect Prehistoric and Historic period Archaeological Resources.** The following requirements shall be implemented:

a) Develop a treatment plan for the unanticipated discovery of cultural resources during all phases of project development, including procedures for work to be halted in the vicinity of the find. The area of the find would then be protected to ensure that resources are not removed, handled, altered, or damaged while they are evaluated and until the adverse effects are resolved.

b) Train project personnel on the importance of cultural resources and follow procedures for avoiding cultural resources and reporting any culturally sensitive resources.

c) Employ Native American and/or cultural resource monitors during ground-disturbing activities when field conditions merit.

d) Require that surface disturbance be restricted or prohibited within the viewshed of an NRHP/CRHR-eligible resource if the eligibility of that resource is based upon its visual setting.

e) Hire professionals that meet the U.S. Secretary of Interior's Professional Qualifications Standards, as published in 36 CFR 61 for prehistoric archaeology to write any required plans and to implement all plans and mitigation measures.

f) Conduct analyses to determine the impact of vibration from ground-disturbance activities (such as geotechnical boring) on the structural integrity of built-environment resources and prehistoric resources such as rock art.

g) Create data recovery plans that would address NRHP/CRHR-eligible cultural resources that would be impacted by the project by requiring some degree of extracting the scientific value and analysis of the deposited cultural material prior to development.

h) Establish conservation easements where individual resources could be preserved.

i) Require technical reports to meet the requirements outlined in *California Office of Historic Preservation's Archaeological Resource Management Reports: Recommended Contents and Format* and in the Secretary of the Interior's Standards for Archeological Documentation.

Mitigation Measures for Impact CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony.

One comprehensive mitigation measure is recommended to protect these cultural items.

CR-3a **Protect human remains and cultural items, including funerary objects, sacred objects, and objects of cultural patrimony.** The following requirements shall be implemented:

a) Develop and implement a treatment plan for the inadvertent discovery of human remains or suspected human remains, cultural items

including funerary objects, sacred objects, and objects of cultural patrimony for all phases of development in accordance with applicable laws and regulations (e.g., NAGPRA) on federal lands. On nonfederal lands, those plans shall follow appropriate required regulations (PRC Section 5097.98; State Health and Safety Code Section 7050.5).

b) Employ the use of cultural resource monitors, including Native Americans, during ground-disturbing activities when field conditions merit it.

c) Hire relevant specialists that meet the U.S. Secretary of Interior's Professional Qualifications Standards, as published in 36CFR 61 to write and implement plans.

d) Assure that all bone is subject to inspection by a qualified osteologist.

Mitigation Measures for Impact CR-4: Plan components could affect cultural landscapes.

One comprehensive mitigation measure following the guidance in *A Strategy for Improving Mitigation Policies and Practices of the Department of the Interior* (Interior 2014) is recommended to protect cultural landscapes.

CR-4a **Protect Cultural Landscapes.** The following requirements shall be implemented:

a) Document the individual landscape characteristics and features in the context of the landscape as a whole. This should list contributing versus noncontributing features. The following provide guidance for documentation and treatment of cultural landscapes.

1. NPS uses a cultural landscape report (CLR) as a guide for treatment and use of the cultural lands. This report is the principle treatment document for cultural landscapes and the main tool for long-term management of those landscapes.

2. Any treatment listed should be based on the Secretary of the Interior's Standard for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes.

3. NPS also provides guidance in Preservation Brief 36; Protecting Cultural Landscapes: Planning, Treatment and Management of Historic Landscapes.

4. For landscapes with built-environment features, documentation of the landscape should follow the guidelines from NPS for Historic American Landscapes Survey (HALS).

b) Minimize effect of the proposed project by:

1. Minimize impacts to contributing landscape characteristics and features.
2. Minimize development within the viewshed of a cultural landscape.
3. Implementing standard noise mitigation measures (as required in Chapter IV.21, Noise and Vibration) when a renewable energy facility would be near cultural landscapes to minimize the impacts of noise on the pristine and natural setting of the landscape.

c) Monitor and limit access to the cultural landscape to prevent damage from human use.

d) Restore the feel and significant characteristics of the cultural landscape. One example is to replant native plants if those are contributing elements to the cultural landscape.

e) Prepare interpretive information such as booklets, interpretive panels, exhibits, or videos, for the public to understand the significance of the landscape and get a better feel for it.

f) Evaluate the effects of proposed project on individual landscape features and the landscape as a whole.

IV.8.3.2.1.2 Impacts from the Reserve Design

Under the Preferred Alternative, cultural resources would be protected from disturbance by establishing conservation areas. Proposed new ACEC and NLCS designations would protect cultural resources. This would occur partly because of disturbance caps designed to conserve and protect the resource values, and renewable energy development would be prohibited in these designations. Development in NLCS lands would be limited to 1% of total authorized disturbance, or to the level allowed by collocated ACEC/wildlife allocations, whichever is more restrictive. These disturbance caps and other management actions would minimize surface disturbance and provide protection for cultural resources.

Under the Preferred Alternative, an estimated 576,735 resources (or 45% of all known archaeological and built-environment resources) would occur within Reserve Design Lands (see Appendix R2.8, Table R.8-8). TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. Due to their

location within the conservation reserve system, resources in these areas would not be subject to impacts from renewable energy development.

IV.8.3.2.2 Impacts of DRECP Land Use Plan Amendment on BLM Land: Preferred Alternative

This section addresses two components of effects of the BLM LUPA: the streamlined development of renewable energy and transmission on BLM land under the LUPA, and the impacts of the amended land use plans themselves.

IV.8.3.2.2.1 Impacts from Renewable Energy and Transmission Development on BLM Land

Under the Preferred Alternative, an estimated 6,855 archaeological and built-environment resources are within DFA footprints on the BLM LUPA lands shown in Table R2.8-9 (Appendix R2.8). Overall, approximately 1.2% (6,855) of the estimated 586,141 archaeological and built-environment resources within BLM LUPA lands are within DFAs under the Preferred Alternative. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

IV.8.3.2.2.2 Impacts of Changes to BLM Land Designations

Proposed ACEC and NLCS designations on BLM lands could provide benefits to cultural resources by establishing disturbance caps, which are designed to conserve and protect resource values, and renewable energy development would be prohibited in these designations. Development on NLCS lands would be limited to 1% of total authorized disturbance, or to the level allowed by collocated ACEC/wildlife allocations, whichever is more restrictive. These disturbance caps and other management actions would minimize surface disturbance and provide protection for cultural resources.

Under the Preferred Alternative, cultural resources found within BLM land designations on BLM LUPA lands are shown in Table R2.8-10 (Appendix R2.8). The majority of the estimated archaeological and built-environment resources (176,810) occur within the NLCS lands. In the Preferred Alternative, the National Trail Management Corridor is 5 miles on either side of the trail's centerline. As a result, an estimated 28,437 cultural resources would be protected. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

IV.8.3.2.3 Impacts of Natural Community Conservation Plan: Preferred Alternative

The analysis of Covered Activities under the NCCP is equivalent to the Plan-wide analysis of the interagency alternatives. Reserve design features and other conservation actions under the NCCP alternatives represent more detailed categories of the reserve design under the interagency Plan-wide alternatives. These NCCP differences in reserve design features do not affect nonbiological resources analyzed in this document, and the analysis of reserve design and conservation and management actions under the NCCP is therefore equivalent to the Plan-wide analysis of the interagency alternatives, as described in Section IV.8.3.2.1.

IV.8.3.2.4 Impacts of General Conservation Plan

The impacts of the GCP for the Preferred Alternative would be similar to those defined in Section IV.8.3.2.1 for the Plan-wide analysis, but they would occur on nonfederal lands only.

Under the Preferred Alternative, cultural resources found within DFA footprints on GCP lands are shown in Table R.8-11 (Appendix R2.8). For GCP lands under the Preferred Alternative, an estimated 5,662 archaeological and built-environment resources could occur within the technology footprints in the DFAs. This is 1% of the total archaeological and built-environment resources within the GCP lands. This number was produced based on the estimated number of cultural resources per acre and the number of acres in the DFA footprints. Under the BLM Cultural Resources Geodatabase, non-Federal lands had a survey coverage of 10.6% (see Section III.8.3.3) and so without a full cultural resources inventory, an accurate number of cultural resources cannot be determined. Under the Preferred Alternative, archaeological and built-environment resources found within GCP Reserve Design Lands are shown in Table R2.8-12. Of the total GCP lands, approximately 13% would be within conservation areas. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

IV.8.3.2.5 Impacts Outside the Plan Area

IV.8.3.2.5.1 Impacts of Transmission Outside the Plan Area

The impacts of Outside the Plan Area transmission on cultural resources would be the same under all alternatives. These impacts are as described for the No Action Alternative in Section IV.8.3.1.5.

IV.8.3.2.5.2 Impacts of BLM LUPA Decisions Outside the Plan Area

Under the Preferred Alternative, cultural resources found within BLM land designations outside the Plan Area are shown in Table R2.8-13 (Appendix R2.8). There are 4,635 archaeological and built-environment resources on proposed NLCS lands, 5,758 on existing and proposed ACEC lands, and 1,843 within NSHT Management Corridors. The width of these corridors is particularly important as they vary by alternative. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. Impacts of BLM land designations outside the Plan Area to cultural resources would be the same as those described under Section IV.8.3.2.1.2.

IV.8.3.2.6 CEQA Significance Determination for the Preferred Alternative

The model defines an estimated 11,642 archaeological and built-environment resources within the DFA footprints of the Preferred Alternative. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. It is important to note, however, that many portions of the Southern California Desert remain unsurveyed and the identification, evaluation, and treatment of cultural resources would need to be conducted on a project-specific level to ensure that as-yet unidentified cultural resources are taken into account.

Implementation of the Plan would result in conservation of some desert lands as well as the development of renewable energy generation and transmission on other lands. The impacts of the renewable energy development covered by the Plan would be lessened in several ways. First, the Plan incorporates CMAs for each alternative, including specific biological reserve design components and LUPA components. Also, the implementation of existing laws, orders, regulations and standards would reduce the impacts of project development. Under the Preferred Alternative, an estimated 794,095 archaeological and built-environment resources located on 13,730,325 acres of Reserve Design Lands would be conserved. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. Conservation actions in the Plan would protect all types of cultural resources by setting aside land for conservation. However, the designation of Reserve Design Lands does not guarantee that cultural resources would be protected, because unless management decisions provide different direction, federal and state regulations currently only require that impacts to cultural resources be considered, not necessarily prevented.

CR-1: Plan components could adversely affect historic period built-environment resources. CEQA significance determinations for impacts to historic period built-environment resources from the Preferred Alternative are the same as those described for the No Action Alternative. Implementation of Mitigation Measure CR-1a for historic period built-environment resources would reduce impacts to these resources to less than significant.

CR-2: Plan components could adversely affect prehistoric and historic period archaeological resources. The CEQA significance determinations for the impacts to prehistoric and historic period archaeological resources from the Preferred Alternative are the same as those described for the No Action Alternative. Mitigation Measure CR-2a for prehistoric and historic period archaeological resources is recommended; depending on the resource, implementation of these measures could reduce impacts to a less than significant level. However, the majority of the impacts to prehistoric and historic period archaeological resources from renewable energy development would be significant and unavoidable, even with mitigation.

CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony. The CEQA significance determinations for the impacts to human remains or cultural items from the Preferred Alternative are the same as those described for the No Action Alternative. Mitigation Measure CR-3a is recommended to protect human remains and cultural items. However, even with the implementation of these mitigation measures the impacts to human remains or cultural items would be significant and unavoidable even with mitigation.

CR-4: Plan components could affect cultural landscapes. The CEQA significance determinations for the impacts to cultural landscapes from the Preferred Alternative are the same as those described for the No Action Alternative. Mitigation Measure CR-4a for cultural landscapes is recommended; depending on the resource, implementation of these measures could reduce impacts to a less than significant level. However, the majority of the impacts to cultural landscapes from renewable energy development would be significant and unavoidable, even with mitigation.

IV.8.3.2.7 Comparison of Preferred Alternative with No Action Alternative

Chapter IV.27 presents a comparison of all alternatives and the No Action Alternative across all disciplines. This section summarizes the comparison of the Preferred Alternative with the No Action Alternative.

IV.8.3.2.7.1 Preferred Alternative Compared with No Action Alternative for Plan-Wide DRECP

Cultural resources vary by alternative in five main ways: (1) the estimated number of resources potentially impacted in DFAs, (2) the estimated number of resources conserved

in Reserve Design Lands, (3) the cultural resources CMAs for NCLS lands, (4) the CMAs for National Historic Trails on NCLS lands, and (5) the NHT corridor width and the number of resources conserved within the corridor.

Table IV.8-1
Comparison of Preferred Alternative with the No Action Alternative for Plan-Wide DRECP

	Preferred Alternative	No Action
Number of resources in DFAs	12,543	11,689
Number of resources conserved in Reserve Design Lands or BLM protected lands	576,735	543,265
Plan-wide CMAs (general)	Reduce impacts cultural resources	Adverse effects will be addressed only through existing laws, regulations, and typical mitigation
Cultural resources CMAs for NLCS lands only.	With exception of research, no adverse effects to historic properties authorized.	Adverse effects to historic properties addressed through Section 106.
National Historic Trails CMAs within NCLS lands	No adverse effects to NHT and NHT/historic properties authorized. All NHT segments assumed to be eligible for NRHP pending evaluation.	Adverse effects to NHT addressed through NEPA or Section 106 process as appropriate.
NHT corridor width and number of resources conserved	5 miles on either side of centerline 28,437	None

The Preferred Alternative would impact more cultural resources in the DFA footprints as compared to the No Action Alternative. However, significantly more resources would be conserved in Reserve Design Lands and in NHT corridors. In addition, the CMAs for these resources are significantly more protective than for the No Action Alternative.

Overall, the Preferred Alternative is more protective to cultural resources than the No Action Alternative.

Geographic Distinctions

As this is a programmatic analysis, no particularly sensitive cultural resources have been identified in any particular location within the DRECP Study Area. However, different Eco-region Subareas have different estimated cultural resources densities and some location types are known to be sensitive for cultural resources.

Under the Preferred Alternative, the Silurian Valley would be an SAA. Under the No Action Alternative this location would be undesignated. In each alternative this location could either be developed or conserved, therefore there is no difference between the alternatives for cultural resources.

Under the Preferred Alternative, the Hidden Hills area of Inyo County would be a DFA. Under the No Action Alternative, this location would be undesignated. Based on previous studies associated with a proposed solar project in this location, the Hidden Hills area is known to be very culturally sensitive because of the presence of a segment of the Salt Song Trail, Route 66 and a National Historic Trail. Under the No Action Alternative, this location might be conserved; therefore, the No Action Alternative would be more protective of cultural resources than the Preferred Alternative.

Under the Preferred Alternative, the Notch in the Park, the Area north of Tehachapi and the area east of Twentynine Palms would be FAAs. Under the No Action Alternative, these locations would be undesignated. In each alternative these locations could either be developed or conserved, therefore there is no difference between the alternatives for cultural resources.

Under the Preferred Alternative, the Owens Valley Dry Lake would be a BLM conservation allocation. Under the No Action Alternative, this location would be undesignated. Dry lakes in this part of California are known to be very culturally sensitive. In addition, the Owens River Valley ecoregion subarea has the highest density of cultural resources of all of the DRECP ecoregion subareas (1.76 resources per acre). Therefore, the Preferred Alternative would protect more cultural resources in this location than the No Action Alternative.

Under the Preferred Alternative, Searles Lake between Ft. Irwin and China Lake would be undesignated. Under the No Action Alternative, this location would be undesignated. In each alternative this location could either be developed or conserved, therefore there is no difference between the alternatives for cultural resources.

Under the Preferred Alternative, the area along U.S. 395 north of Edwards Air Force Base would be an SAA. Under the No Action Alternative, this location would be undesignated. In each alternative this location could either be developed or conserved, therefore there is no difference between the alternatives for cultural resources.

IV.8.3.2.7.2 Preferred Alternative Compared with No Action Alternative for the BLM Land Use Plan Amendment

This section distinguishes alternatives by comparing the number of estimated cultural resources that would be conserved in BLM land designations (Tables R2.8-4 and R2.8-10) and the resources in BLM land designations that are also in DFAs and therefore might be impacted by development.

Table IV.8-2
Comparison of Preferred Alternative with the
No Action Alternative for the BLM Land Use Plan Amendment

Land Classifications	Preferred Alternative Estimated # of Resources	No Action Estimated # of Resources
SRMA	68,801	52,426
NLCS	176,810	N/A
Existing and Proposed ACEC	84,542	87,881
Wildlife Allocation	742	N/A
LWCs	11,237	N/A
Trail Management Corridors	28,437	N/A
BLM LUPA Land in DFA Footprint	6,855	N/A

While the number of resources conserved vary by each type of BLM land designation, cultural resources CMAs apply to NLCS, ACECs and Trail Management Corridors and so the importance of those designations are emphasized here. Overall, a larger number of resources would be protected more effectively by the Preferred Alternative as compared to the No Action Alternative.

IV.8.3.2.7.3 Preferred Alternative Compared with No Action Alternative for NCCP

The impacts of the NCCP for the Preferred Alternative are the same as those defined in Section IV.8.3.2.1 for the Plan-wide analysis. As a result, the comparison of the Preferred Alternative with the No Action Alternative for the NCCP is the same as described for Plan-wide DRECP.

IV.8.3.2.7.4 Preferred Alternative Compared with No Action Alternative for the GCP

There would not be a GCP under the No Action Alternative. The No Action Alternative assumes that renewable energy and transmission development and mitigation for such projects in the Plan Area would occur on a project-by-project basis in a pattern consistent with past and ongoing renewable energy and transmission projects.

IV.8.3.3 Alternative 1

IV.8.3.3.1 Plan-Wide Impacts of Implementing the DRECP: Alternative 1

IV.8.3.3.1.1 Plan-Wide Impacts and Mitigation Measures from Renewable Energy and Transmission Development

Impact Assessment

Renewable energy development activities covered by the DRECP would be confined to DFAs. Under Alternative 1, an estimated 18,928 archaeological and built-environment resources would occur within DFAs (see Appendix R2.8, Table R2.8-14). The density of these resources by ecoregion is shown in Figure IV.8-3. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. Each impact is described below.

Impact CR-1: Plan components could affect historic period built-environment resources.

As described in more detail in Section IV.8.2, all phases of renewable energy development under all of the alternatives have the potential to impact historic period built-environment resources.

Impact CR-2: Plan components could affect prehistoric and historic period archaeological resources.

As described in more detail in Section IV.8.2, all phases of renewable energy development under all of the alternatives have the potential to impact prehistoric and historic period archaeological resources.

Impact CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony.

As described in more detail in Section IV.8.2, disturbance of human remains or cultural items could result from construction-related ground-disturbance activities. Ground-disturbing activities such as grading, vegetation clearing, and foundation excavations could lead to the unintentional discovery of burials and cultural items, which are typically unmarked.

Impact CR-4: Plan components could affect cultural landscapes.

As described in more detail in Section IV.8.2, all phases of renewable energy development under all of the alternatives have the potential to impact cultural landscapes.

Impacts in Study Area Lands

Study Area Lands refer to three categories of lands: Future Assessment Areas (FAAs), Special Analysis Areas (SAAs) and DRECP Variance Lands. Development in any of the Study Area Lands could adversely impact resources important to tribes and other communities.

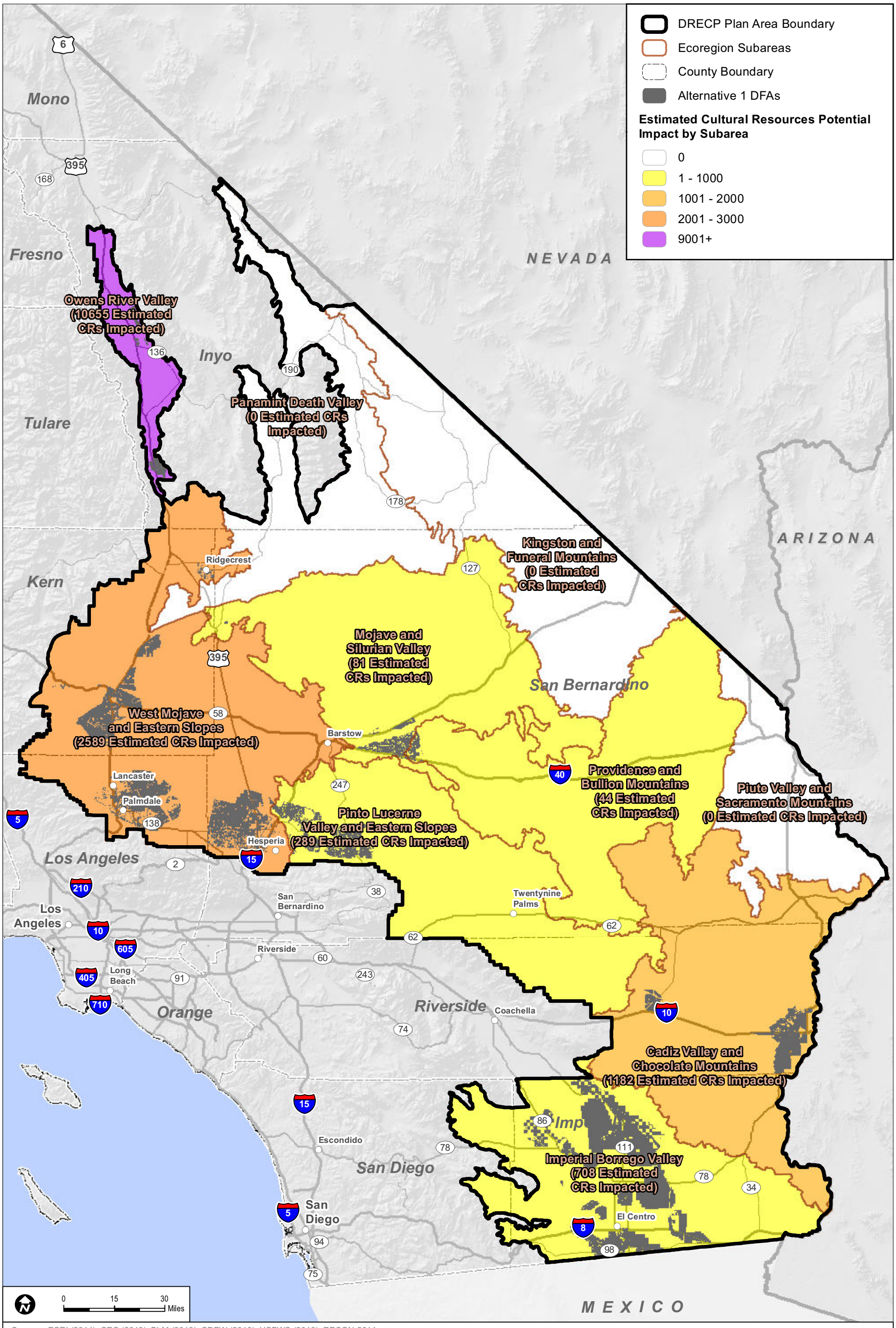
Future Assessment Areas. No FAAs were defined for Alternative 1.

Special Analysis Areas (SAAs). In Alternative 1 the two SAAs defined in the Preferred Alternative, would be conservation lands. These 42,000 acres (Table IV.1-3) are predicted to contain a total of 840 archaeological and built-environment resources. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

DRECP Variance Lands. Under Alternative 1 there would be 37,000 acres of Variance Lands (Table IV.1-4). An estimated 740 archaeological and built-environment resources are present. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

Impact Reduction Strategies and Mitigation

The implementation of the Plan would result in conservation of some desert lands as well as the development of renewable energy generation and transmission facilities on other lands. The impacts of the renewable energy development covered by the Plan would be lessened in several ways. First, the Plan incorporates CMAs for each alternative, including specific biological reserve design components and LUPA components. Also, the implementation of existing laws, orders, regulations, and standards would reduce the impacts of project development. If significant impacts would still result after implementation of CMAs and compliance with applicable laws and regulations, then specific mitigation measures are recommended.



Sources: ESRI (2014); CEC (2013); BLM (2013); CDFW (2013); USFWS (2013); RECON 2014

FIGURE IV.8-3

Estimated Number of Cultural Resources within DFAs by Ecoregion Subarea – Alternative 1

Draft DRECP and EIR/EIS

August 2014

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Conservation and Management Actions

The conservation strategy for Alternative 1 (see Volume II, Section II.3.1.1) defines specific actions that would reduce the impacts of this alternative. The conservation strategy includes definition of the reserve design and specific CMAs (as defined for the Preferred Alternative) as well as those specific to Alternative 1. While the CMAs were developed for BLM lands only, this analysis assumes that all CMAs would be applied also to nonfederal lands. As such, the details of these CMAs would be modified to meet the requirements of state law, the CEC or other appropriate state lead agencies. However, those modifications are not presented here. It is important to note that cultural resources CMAs and National Scenic and Historic Trails CMAs associated with National Landscape Conservation System Lands and Areas of Critical Environmental Concern vary significantly by alternative.

Except for the following CMAs specific to Alternative 1 relating to cultural resources, all CMAs are the same as the Preferred Alternative.

Planning Area–Wide National Conservation Land Management Direction

- **Cultural Resources –** Any adverse effect to historic properties resulting from allowable uses will be addressed through the Section 106 process of the NHPA and the implementing regulations at 36 CFR Part 800.

Development Focus Areas

- **Soil, Water, and Water-Dependent Resources.** Would require that disturbance of sensitive soils be limited to 1% of the sensitive soil areas within a proposed project footprint. In addition, this would limit disturbance of desert pavement so that no more than 5% of the desert pavement within a proposed project footprint shall be disturbed for construction.

National Trails

- **Management corridor width (see also maps)**: Establish a National Trail Management Corridor, width generally ¼ mile from centerline. It is important to note these widths vary by alternative, resulting in varying amounts of conserved land.
- **Management of Trail Corridors:** Manage National Trails as components of BLM's National Landscape Conservation System. Where National Trails overlap other National Conservation Lands, the more protective CMAs or land use allocations would apply.

- Lands and Realty
  - Rights-of-Way
    - **Site Authorizations**: NSHT Management Corridors would be avoidance areas. Sites' ROW would require mitigation/compensation resulting in net benefit to the NSHT.
    - **Linear ROWs:** NSHT Management Corridors would be avoidance areas. Exclude cultural landscapes, high-potential historic sites, and high-potential route segments identified along historic trails corridors from transmission. Where development affects NSHT Management Corridors, an analysis must be performed to ensure that it does not substantially interfere with the nature and purposes of the trail, and that mitigation/compensation results in a net benefit to the trail.
    - **Renewable Energy ROW:** Exclude cultural landscapes, high-potential historic sites, and high-potential route segments identified along NSHT Management Corridors from transmission except in approved DFAs. Where development affects NSHT Management Corridors, an analysis must be performed to ensure that it does not substantially interfere with the nature and purposes of the trail, and that mitigation/compensation results in a net benefit to the trail.
  - **Land tenure:** Exchange or disposal must result in net benefit to trail values through acquisition or other compensation. Disposal of lands containing NSHT would not occur.
- Minerals
  - **Locatable minerals**: Locatable Minerals would be treated the same as limited or controlled use areas and a Plan of Operations would be required for greater than casual use as identified in 43 CFR 3809.11.
  - **Saleable minerals**: NSHT Management Corridors would be unavailable for saleable mineral development.
  - **Leasable minerals**: NSHT Management Corridors would be available for leasing with a No Surface Occupancy stipulation. Surface coal mining would not be allowed within the NSHT Management Corridors.
- **Recreation:** Competitive and Commercial SRPs permitted if they do not interfere with the nature and purposes of trail.
- **Cultural Resources:** This CMA would also be applied to nonfederal lands but modified to meet the requirements of state law and the CEC or other state lead agencies. This CMA also varies by alternative.

  - Any adverse effects to historic properties resulting from allowable uses would be addressed through the Section 106 process of the NHPA and the implementing regulations at 36 CFR Part 800.

- **Visual Resources Management –** All NSHT Management Corridors would be designated as VRM Class II, except within approved transmission corridors (VRM Class III) and DFAs (VRM Class IV). However, state-of-the-art VRM BMPs for renewable energy would be employed commensurate with the protection of nationally significant scenic resources and cultural landscapes to minimize the level of intrusion and protect trail settings.
- **Mitigation Requirements**
  - If a segment of a National Scenic or Historic Trail or trail under study for possible designation traverses a DFA, it will be subject to mitigation for impacts to trail resources, qualities, values, and associated settings, and primary use or uses, including, but not limited to, and not in priority order: avoidance, the cost of trail relocation, on-site mitigation and off-site mitigation. Compensation can include acquisition or restoration of corridor features and landscapes will be at a minimum of 2:1, and must result in a net benefit to the overall national trail management corridor. Covered Activity development within high potential route segments must not substantially interfere with the nature and purposes of the National Trail.

Laws and Regulations

Similar to the No Action Alternative, existing laws and regulations would reduce certain impacts of Plan implementation. Relevant regulations are presented in the Regulatory Setting in Volume III. The requirements of relevant laws and regulations are summarized for the No Action Alternative in Section IV.8.3.1.1.1.

Mitigation Measures

After implementation of the CMAs and existing laws and regulations, mitigation measures would be applied to further reduce some of the DRECP's adverse impacts. Recommended mitigation measures are detailed for the Preferred Alternative in Section IV.8.3.2.1.1 and summarized below.

Mitigation Measures for Impact CR-1: Plan components could affect historic period built-environment resources. Mitigation CR-1a would protect historic period built-environment resources.

Mitigation Measures for Impact CR-2: Plan components could affect prehistoric and historic period archaeological **resources.** Mitigation CR-2a would protect prehistoric and historic period archaeological resources.

Mitigation Measures for Impact CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony. Mitigation Measure CR-3a is recommended to protect human remains.

Mitigation Measures for Impact CR-4: Plan components could affect cultural landscapes. Mitigation Measure CR-4a is recommended to protect cultural landscapes.

IV.8.3.3.1.2 Impacts from Reserve Design

Under the Preferred Alternative, cultural resources would be protected from disturbance as a result of establishing conservation areas. Proposed new ACEC and NLCS designations would protect cultural resources. This would occur partly as a result of disturbance caps in these areas designed to conserve and protect the resource values, and renewable energy development would be prohibited in these designations. Development in NLCS lands would be limited to 1% of total authorized disturbance, or to the level allowed by collocated ACEC/wildlife allocations, whichever is more restrictive. These disturbance caps and other management actions would minimize surface disturbance and provide protection for cultural resources.

Under Alternative 1, an estimated 724,357 resources (or 56% of all archaeological and built-environment resources) would occur within Reserve Design Lands (see Appendix R2.8, Table R2.8-15). TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. Due to their location, resources in these areas would not be subject to impacts from renewable energy development.

IV.8.3.3.2 Impacts of DRECP Land Use Plan Amendment on BLM Land: Alternative 1

This section addresses two components of effects of the BLM LUPA: the streamlined development of renewable energy and transmission on BLM land under LUPA, and the impacts of the amended land use plans themselves.

IV.8.3.3.2.1 Impacts from Renewable Energy and Transmission Development on BLM Land

Under Alternative 1, an estimated 9,536 archaeological and built-environment resources are within DFA footprints on BLM LUPA lands, shown in Table R2.8-16 (Appendix R2.8). Overall, approximately 1.5% of estimated archaeological and built-environment resources

would occur within DFAs in BLM LUPA lands under Alternative 1. TCPs and cultural landscapes are not included in this calculation.

IV.8.3.3.2.2 Impacts of Changes to BLM Land Designations

Proposed ACEC and NLCS designations on BLM lands could provide benefits to cultural resources by establishing disturbance caps in these areas, which conserve and protect resource values, and renewable energy development would be prohibited in these designations. Development on NLCS lands would be limited to 1% of total authorized disturbance, or to the level allowed by collocated ACEC/wildlife allocations, whichever is more restrictive. These disturbance caps and other management actions would minimize surface disturbance and provide protection for cultural resources.

Under Alternative 1, archaeological and built-environment resources expected within BLM land designations on BLM LUPA lands are shown in Table R2.8-17. The majority of the estimated archaeological and built-environment resources (176,813) occur within ACEC lands. In Alternative 1 the National Trail Management Corridor is 0.25 mile on either side of the centerline. As a result, an estimated 2,019 cultural resources would be protected. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

IV.8.3.3.3 Impacts of Natural Community Conservation Plan: Alternative 1

The impacts of the NCCP for Alternative 1 would be the same as those defined in Section IV.8.3.3.1 for the Plan-wide analysis.

IV.8.3.3.4 Impacts of General Conservation Plan

The impacts of the GCP for Alternative 1 would be similar to those defined in Section IV.8.3.3.1 for the Plan-wide analysis, but they would occur on nonfederal lands only.

Under Alternative 1, archaeological and built-environment resources expected within DFA footprints on GCP lands are shown in Table R2.8-18. For the GCP lands under Alternative 1, an estimated 9,360 archaeological and built-environment resources could occur within the DFA footprints. This is 1.75% of the total archaeological and built-environment resources within the GCP lands. Table R2.8-19 has the number of estimated resources within the GCP Reserve Design Lands under Alternative 1. Of the total GCP lands, approximately 13% would be within conservation acres. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

IV.8.3.3.5 Impacts Outside the Plan Area

IV.8.3.3.5.1 Impacts of Transmission Outside the Plan Area

The impacts of Outside the Plan Area transmission on cultural resources would be the same under all alternatives. These impacts are as described for the No Action Alternative in Section IV.8.3.1.5.

IV.8.3.3.5.2 Impacts of BLM LUPA Decisions Outside the Plan Area

Under Alternative 1, archaeological and built-environment resources expected within BLM land designations outside the Plan Area are shown in Table R2.8-20. An estimated 2,715 archaeological and built-environment resources are on proposed NLCS lands, 3,777 on existing and proposed ACEC lands, and 99 within NSHT Management Corridors. The width of these corridors is notable because they vary significantly by alternative. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. Impacts of BLM land designations outside the Plan Area to all types of cultural resources would be the same as those described under Section IV.8.3.3.1.2.

IV.8.3.3.6 CEQA Significance Determination for Alternative 1

The CEQA significance determinations for the impacts from Alternative 1 are the same as those described for the Preferred Alternative. However, in comparison to the Preferred Alternative, an estimated 15,548 archaeological and built-environment resources are located in the DFAs, and an estimated 573,972 resources located on 13,781,086 acres of Reserve Design Land. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. It is important to note, however, that many portions of the Southern California Desert remain unsurveyed and the identification, evaluation, and treatment of cultural resources would need to be conducted on a project-specific level to ensure that as-yet unidentified cultural resources are taken into account.

CR-1: Plan components could adversely affect historic period built-environment resources. The CEQA significance determinations for the impacts to historic period built-environment resources from Alternative 1 are the same as those described for the No Action Alternative. Implementation of Mitigation Measure CR-1a for historic period built-environment resources could reduce impacts to these resources to less than significant.

CR-2: Plan components could adversely affect prehistoric and historic period archaeological resources. The CEQA significance determinations for the impacts to prehistoric

and historic period archaeological resources from Alternative 1 are the same as those described for the No Action Alternative. Mitigation Measure CR-2a for prehistoric and historic period archaeological resources is recommended; depending on the resource, implementation of these measures could reduce impacts to a less than significant level. However, the majority of the impacts to prehistoric and historic period archaeological resources from renewable energy development would be significant and unavoidable.

CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony. The CEQA significance determinations for the impacts to human remains or cultural items from Alternative 1 are the same as those described for the No Action Alternative. Mitigation Measure CR-3a is recommended to protect human remains and cultural items. However, even with the implementation of these mitigation measures, the impacts to human remains or cultural items would be significant and unavoidable.

CR-4: Plan components could affect cultural landscapes. The CEQA significance determinations for the impacts to cultural landscapes from Alternative 1 are the same as those described for the No Action Alternative. Mitigation Measure CR-4a for cultural landscapes is recommended; depending on the resource, implementation of these measures could reduce impacts to a less than significant level. However, the majority of the impacts to cultural landscapes from renewable energy development would be significant and unavoidable, even with mitigation.

IV.8.3.3.7 Comparison of Alternative 1 with Preferred Alternative

Chapter IV.27 presents a comparison of all alternatives and the No Action Alternative across all disciplines. This section summarizes the comparison of Alternative 1 with the Preferred Alternative.

IV.8.3.3.7.1 Alternative 1 Compared with Preferred Alternative for Plan-Wide DRECP

Cultural resources vary by alternative in five main ways: (1) the estimated number of resources potentially impacted in DFAs, (2) the estimated number of resources conserved in Reserve Design Lands, (3) the cultural resources CMAs for NLCS lands, (4) the CMAs for National Historic Trails on NLCS lands, and (5) the NHT corridor width and the number of resources conserved within the corridor.

Table IV.8-3
Comparison of Preferred Alternative with the Alternative 1 for Plan-Wide DRECP

	Preferred Alternative	Alternative 1
Number of Resources in DFAs	12,543	18,928
Number of Resources Conserved in Reserve Design Lands	576,735	724,357
Plan-wide CMAs (general)	Reduce impacts cultural resources	Adverse effects will be addressed only through existing laws, regulations, and typical mitigation
Cultural Resources CMAs for NCLS lands only	With exception of research, no adverse effects to historic properties authorized.	Adverse effects will be addressed through Section 106.
National Historic Trails CMAs within NCLS lands	No adverse effects to NHT and NHT/historic properties authorized. All NHT segments assumed to be eligible for NRHP pending evaluation.	Adverse effects will be addressed through Section 106.
NHT Corridor Width and Number of Resources Conserved	5 miles on either side of centerline 28,437	¼ mile on either side of centerline 2,019

The Preferred Alternative would impact fewer cultural resources in the DFA footprints as compared to Alternative 1. In contrast, Alternative 1 would conserve more resources in the Reserve Design Lands but conserve fewer resources in the NHT corridors. In addition, the CMAs for the Preferred Alternative are significantly more protective than for Alternative 1.

Overall, although the number of resources conserved by Alternative 1 is larger, the CMAs in the Preferred Alternative are more protective. Therefore, the Preferred Alternative is more protective to cultural resources than Alternative 1.

Geographic Distinctions

As this is a programmatic analysis, no particularly sensitive cultural resources have been identified in any particular location within the Plan Area. However, different ecoregion sub-areas have different estimated cultural resources densities and some location types are known to be sensitive for cultural resources.

Under the Preferred Alternative, the Silurian Valley would be an SAA. Under Alternative 1, this location would be a BLM conservation allocation. Therefore, Alternative 1 would protect more cultural resources in this location than the Preferred Alternative.

Under the Preferred Alternative, the Hidden Hills area would be a DFA. Under Alternative 1, this location would be a CPA and Variance Lands. Based on previous studies associated with a proposed solar project in this location, the Hidden Hills area is known to be very culturally sensitive because of the presence of a segment of the Salt Song Trail, Route 66, and a National Historic Trail. Under Alternative 1, part of this location might be conserved, therefore Alternative 1 would be more protective of cultural resources than the Preferred Alternative.

Under the Preferred Alternative, the Notch in the Park, area north of Tehachapi, and area east of Twentynine Palms would be FAAs. Under Alternative 1, these locations would be undesignated. In each alternative these locations could either be developed or conserved, therefore there is no difference between the alternatives for cultural resources.

Under both the Preferred Alternative and Alternative 1, the Owens Valley Dry Lake would be a BLM conservation allocation. Dry lakes in this part of California are known to be very culturally sensitive. In addition, the Owens River Valley ecoregion subarea has the highest density of cultural resources of all of the DRECP ecoregion subareas (1.76 resources per acre). Therefore, both alternatives would protect cultural resources in this location equally.

Under the Preferred Alternative, Searles Lake between Ft. Irwin and China Lake would be undesignated. Under Alternative 1, this location would be undesignated. In each alternative this location could either be developed or conserved, therefore there is no difference between the alternatives for cultural resources.

Under the Preferred Alternative, the area along U.S. 395 north of Edwards Air Force Base would be an SAA. Under Alternative 1, this location would be a BLM conservation allocation. Therefore, Alternative 1 would protect more cultural resources in this location than the Preferred Alternative.

IV.8.3.3.7.2 Alternative 1 Compared with Preferred Alternative for the BLM Land Use Plan Amendment

In this section alternatives are distinguished through the comparison of the number of estimated cultural resources that would be conserved in BLM land designation (Tables R2.8-10 and R2.8-17) and the resources in BLM land designations that are also in DFAs and therefore might be impacted by development (see Tables R2.8-9 and R2.8-16).

Table IV.8-4
Comparison of Preferred Alternative with
Alternative 1 for the BLM Land Use Plan Amendment

Land Classification	Preferred Alternative Estimated # of Resources	Alternative 1 Estimated # of Resources
SRMA	68,801	69,315
NLCS	176,810	63,863
Existing and Proposed ACEC	84,542	176,813
Wildlife Allocation	742	19,393
LWCs	11,237	0
Trail Management Corridors	28,437	2,019
BLM LUPA Land in DFA Footprint	6,855	9,536

While the number of resources conserved by each type of BLM land designation varies, cultural resources CMAs apply to NLCS, ACECs and Trail Management Corridors and so the importance of those designations are emphasized here. Overall, a larger number of resources would be protected more effectively by the Preferred Alternative as compared to Alternative 1.

IV.8.3.3.7.3 Alternative 1 Compared with Preferred Alternative for NCCP

The impacts of the NCCP for Alternative 1 are the same as those defined in Section IV.8.3.3.1 for the Plan-wide analysis. As a result, the comparison of Alternative 1 with the Preferred Alternative for the NCCP is the same as described for Plan-wide DRECP.

IV.8.3.3.7.4 Alternative 1 Compared with Preferred Alternative for the GCP

In this section alternatives are distinguished through the comparison of the number of estimated cultural resources on GCP Lands that might be impacted by development (Tables R2.8-11 and R2.8-18) and the estimated number of resources that would be conserved (Tables R2.8-12 and R2.8-19).

Table IV.8-5
Comparison of Preferred Alternative with Alternative 1 for the GCP

	Preferred Alternative Estimated # of Resources	Alternative 1 Estimated # of Resources
GCP DFAs	5,662	9,360
Conserved	69,920	69,919

Overall, while both alternatives conserve the same number of resources, Alternative 1 would potentially impact more cultural resources than the Preferred Alternative. Therefore, the Preferred Alternative is more protective of cultural resources than Alternative 1.

IV.8.3.4 Alternative 2

IV.8.3.4.1 Plan-Wide Impacts of Implementing the DRECP: Alternative 2

IV.8.3.4.1.1 Plan-Wide Impacts and Mitigation Measures from Renewable Energy and Transmission Development

Impact Assessment

Renewable energy development activities covered by the DRECP would be confined to DFAs. Under Alternative 2, an estimated 19,925 archaeological and built-environment resources would occur within DFAs (see Table R2.8-21 in Appendix R2.8).The density of these resources by ecoregion is shown in Figure IV.8-4. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. Each impact is described below.

Impact CR-1: Plan components could affect historic period built-environment resources.

As described in Section IV.8.2, all phases of renewable energy development under all of the alternatives have the potential to impact historic period built-environment resources.

Impact CR-2: Plan components could affect prehistoric and historic period archaeological resources.

As described in Section IV.8.2, all phases of renewable energy development under all of the alternatives have the potential to impact prehistoric and historic period archaeological resources.

Impact CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony.

As described in Section IV.8.2, disturbance of human remains or cultural items could result from construction-related ground-disturbance activities. Ground-disturbing activities such as grading, vegetation clearing, and foundation excavations could lead to the unintentional discovery of burials and cultural items, which are typically unmarked.

Impact CR-4: Plan components could affect cultural landscapes.

As described in more detail in Section IV.8.2, all phases of renewable energy development under all of the alternatives have the potential to impact cultural landscapes.

Impacts in Study Area Lands

Study Area Lands refer to three categories of lands: Future Assessment Areas (FAAs), Special Analysis Areas (SAAs) and DRECP Variance Lands. Development in any of the Study Area Lands could adversely impact resources important to tribes and other communities.

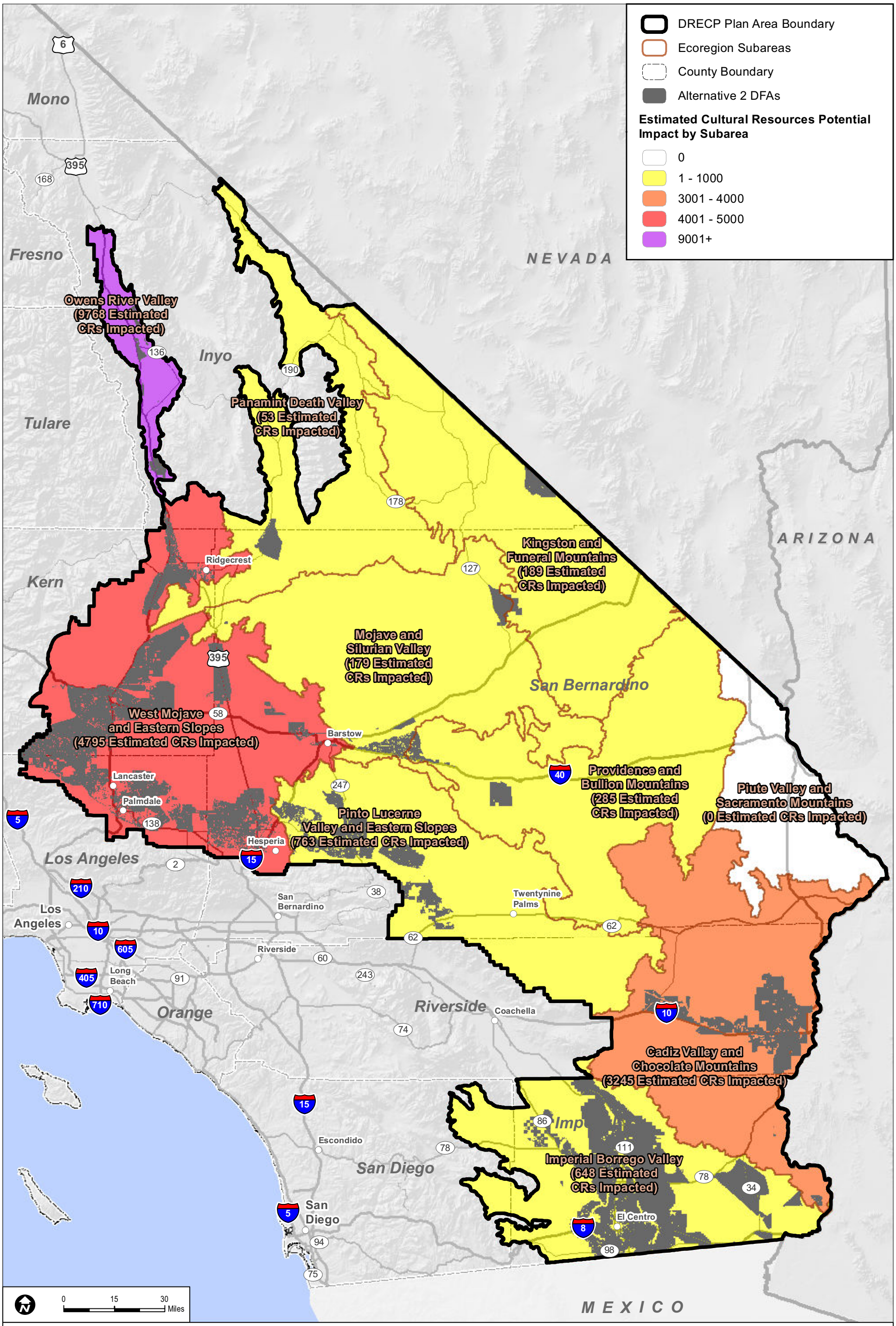
Future Assessment Areas. In Alternative 2 109,000 acres are identified as FAAs (Table IV.1-2). This area is predicted to contain a total of 2,180 archaeological and built-environment resources. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

Special Analysis Areas (SAAs). In Alternative 2 the two SAAs defined in the Preferred Alternative, would be DFAs. These 42,000 acres (Table IV.1-3) are predicted to contain a total of 840 archaeological and built-environment resources. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

DRECP Variance Lands. Under Alternative 2 Variance Lands identified in the Preferred Alternative would be undesignated areas except the lands west of Parker and south of Big Maria Mountain Wilderness Areas, which would become NLCS conservation areas (Table IV.1-3).

Impact Reduction Strategies and Mitigation

The implementation of the Plan would result in conservation of some desert lands as well as the development of renewable energy generation and transmission facilities on other lands. The impacts of the renewable energy development covered by the Plan would be lessened in several ways. First, the Plan incorporates CMAs for each alternative, including specific biological reserve design components and LUPA components. Also, the implementation of existing laws, orders, regulations, and standards would reduce the impacts of project development. If significant impacts would still result after implementation of CMAs and compliance with applicable laws and regulations, then specific mitigation measures are recommended in this section.



Sources: ESRI (2014); CEC (2013); BLM (2013); CDFW (2013); USFWS (2013); RECON 2014

FIGURE IV.8-4

Estimated Number of Cultural Resources within DFAs by Ecoregion Subarea – Alternative 2

Draft DRECP and EIR/EIS

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Conservation and Management Actions

The conservation strategy for Alternative 2 (see Section II.3.1.1) defines specific actions that would reduce the impacts of this alternative. The conservation strategy includes definition of the reserve design and specific CMAs for the Preferred Alternative. While the CMAs were developed for BLM lands only, this analysis assumes that all CMAs would be applied also to nonfederal lands. As such, the details of these CMAs would be modified to meet the requirements of state law, the CEC or other appropriate state lead agencies. However, those modifications are not presented here. It is important to note that cultural resources CMAs and National Scenic and Historic Trails CMAs associated with National Landscape Conservation System Lands and Areas of Critical Environmental Concern vary significantly by alternative.

Except for the following CMAs specific to Alternative 2 and cultural resources, all CMAs are the same as the Preferred Alternative.

Planning Area–Wide National Conservation Land Management Direction

- This CMA would also be applied to nonfederal lands but modified to meet the requirements of state law and the CEC or other state lead agencies. This CMA also varies significantly by alternative.
- **Cultural Resources** -No allowable uses that result in adverse effects to historic properties as defined under Section 106 process of the NHPA and the implementing regulations at 36 CFR Part 800 will be authorized.

Development Focus Areas

- **Soil, Water, and Water-Dependent Resources.** Would require that disturbance of sensitive soils be limited to 20% of the sensitive soil areas within a proposed project footprint. In addition, this would limit disturbance of desert pavement so that no more than 5% of the desert pavement within a proposed project footprint shall be disturbed for construction.

National Scenic and Historic Trails (NSHT)

National Landscape Conservation System Lands.

- **Management Corridor Width (see maps).** Establish a trail management corridor width, generally 10 miles from the centerline. It is important to note these widths vary by alternative, resulting in varying amounts of conserved land.

- **Management of NSHT Management Corridors.** Manage national trails as components of BLM's National Landscape Conservation System. Where NSHT lands overlap NLCS lands, the more protective CMAs or land use allocations apply.
- **Lands and Realty**
  - **Rights-of-Way**
    - **Site authorizations**: NSHT Management Corridors would be exclusion areas.
    - **Linear ROWs:** NSHT Management Corridors would be exclusion areas except in designated transmission corridors. Where development in transmission corridors affects NSHT Management Corridors, an analysis must be performed to ensure that it does not substantially interfere with the nature and purposes of the trail, and that mitigation/compensation results in a net benefit to the trail.
    - **Renewable Energy ROW**: Exclude cultural landscapes, high-potential historic sites, and high-potential route segments identified along NSHT Management Corridors from transmission except in approved DFAs. Where development affects NSHT Management Corridors, an analysis must be performed to ensure that it does not substantially interfere with the nature and purposes of the trail, and that mitigation/compensation results in a net benefit to the trail.
  - **Land tenure:** Exchange, purchase, or donation of lands within NSHT Management Corridors would be allowed; disposal of land within NSHT Management Corridors would not be permitted.
- **Minerals**
  - **Locatable Minerals**: BLM would propose NSHT Management Corridors for withdrawal from mineral entry. Withdrawals would be subject to valid existing rights.
  - **Saleable Minerals**: NSHT Management Corridors would be unavailable for saleable mineral development.
  - **Leasable Minerals**: NSHT Management Corridors would be unavailable for mineral leasing.
- **Recreation:** Competitive Special Recreation Permits would not be permitted. Commercial Special Recreation Permits would be limited to those uses that provide for enjoyment and appreciation of NSHT values, resources, qualities, and associated settings, and the primary use or uses.
- **Cultural Resources:** No allowable uses that result in adverse effects to historic properties as defined under Section 106 of NHPA and the implementing regulations at 36 CFR Part 800 will be authorized.

- **Visual Resources Management:** All NSHT Management Corridors would be designated as VRM Class II, except within approved transmission corridors (VRM Class III) and DFAs (VRM Class IV). However, state of the art VRM BMPs for renewable energy would be employed commensurate with the protection of nationally significant scenic resources and cultural landscapes to minimize the level of intrusion and protect trail settings.
- **Mitigation Requirements**
    - If a segment of an NSHT or Historic Trail or trail under study for possible designation traverses a DFA, it would be subject to mitigation for impacts to trail resources, qualities, values, and associated settings, and the primary use or uses, including, but not limited to, and not in priority order: avoidance, the cost of trail relocation, on-site mitigation, and off-site mitigation. Compensation can include acquisition or restoration of corridor features and landscapes at a minimum of 2:1, and must result in a net benefit to the overall trail corridor. Development of Covered Activities in high-potential route segments must not substantially interfere with the nature and purposes of the NSHT.

Laws and Regulations

Similar to the No Action Alternative, existing laws and regulations would reduce certain impacts of Plan implementation. Relevant regulations are presented in the Regulatory Setting in Volume III. The requirements of relevant laws and regulations are summarized for the No Action Alternative in Section IV.8.3.1.1.1.

Mitigation Measures

After implementation of the CMAs and existing laws and regulations, mitigation measures will be applied to further reduce some of the DRECP's adverse impacts. Recommended mitigation measures are detailed for the Preferred Alternative in Section IV.8.3.2.1.1, and summarized below.

Mitigation Measures for Impact CR-1: Plan components could affect historic period built-environment resources. Mitigation CR-1a would reduce impacts on historic period built-environment resources.

Mitigation Measures for Impact CR-2: Plan components could affect prehistoric and historic period archaeological resources**.** Mitigation CR-2a would reduce impacts on prehistoric and historic period archaeological resources.

Mitigation Measures for Impact CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of

cultural patrimony. Mitigation Measure CR-3a is recommended to reduce impacts on human remains.

Mitigation Measures for Impact CR-4: Plan components could affect cultural landscapes. Mitigation Measure CR-4a is recommended to reduce impacts on cultural landscapes.

IV.8.3.4.1.2 Impacts from Reserve Design

Under Alternative 2, cultural resources would be protected from disturbance by establishing conservation areas. Proposed new ACEC and NLCS designations would reduce impacts on cultural resources. This would occur partly as a result of disturbance caps designed to conserve and protect the resource values, and renewable energy development would be prohibited in these designations. Development in NLCS lands would be limited to 1% of total authorized disturbance, or to the level allowed by collocated ACEC/wildlife allocations, whichever is more restrictive. These disturbance caps and other management actions would minimize surface disturbance and provide protection for cultural resources.

Under Alternative 2, an estimated 750,227 resources (58% of all estimated archaeological and built-environment resources) would occur within Reserve Design Lands (see Appendix R2.8, Table R2.8-22). TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. Due to their location within the conservation reserve system, resources in these areas would not be subject to impacts from renewable energy development.

IV.8.3.4.2 Impacts of DRECP Land Use Plan Amendment on BLM Land: Alternative 2

This section addresses two components of effects of the BLM LUPA: the streamlined development of renewable energy and transmission on BLM land under LUPA, and the impacts of the amended land use plans themselves.

IV.8.3.4.2.1 Impacts from Renewable Energy and Transmission Development on BLM Land

Under Alternative 2, an estimated 7,815 archaeological and built-environment resources are within DFA footprints on the BLM LUPA lands as shown in Table R2.8-23 (Appendix R2.8). Overall, approximately 0.6% of estimated archaeological and built-environment resources occur within DFAs in BLM LUPA lands under Alternative 2. TCPs and cultural landscapes are not included in this calculation.

IV.8.3.4.2.2 Impacts of Changes to BLM Land Designations

Proposed ACEC and NLCS designations on BLM lands could provide benefits to cultural resources by establishing disturbance caps in these areas, which are designed to conserve and protect resource values, and renewable energy development would be prohibited in these designations. Development on NLCS lands would be limited to 1% of total authorized disturbance, or to the level allowed by collocated ACEC/wildlife allocations, whichever is more restrictive. These disturbance caps and other management actions would minimize surface disturbance and provide protection for cultural resources.

Under Alternative 2, cultural resources found within BLM land designations on BLM LUPA lands are shown in Table R2.8-24. The majority of the estimated archaeological and built-environment resources (225,006) occur within NLCS lands, with 42,307 on existing and proposed ACEC lands. In Alternative 2, the National Trail Management Corridor is 10 miles on either side of the centerline. As a result, an estimated 215,632 cultural resources would be protected. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

IV.8.3.4.3 Impacts of Natural Community Conservation Plan: Alternative 2

The impacts of the NCCP for Alternative 2 would be the same as those defined in Section IV.8.3.4.1 for the Plan-wide analysis.

IV.8.3.4.4 Impacts of General Conservation Plan

The impacts of the GCP for Alternative 2 would be similar to those defined in Section IV.8.3.4.1 for the Plan-wide analysis, but they would occur on nonfederal lands only.

Under Alternative 2, archaeological and built-environment resources expected within DFA footprints on GCP lands are shown in Table R2.8-25. For the GCP lands under Alternative 2, an estimated 13,135 archaeological and built-environment resources could occur within the technology footprints in the DFA footprints. This is 2.4% of the total resources within the GCP lands. Under Alternative 2, resources found within GCP Reserve Design Lands are shown in Table R2.8-26. Of the total GCP lands, approximately 28% would be within conservation acres.

IV.8.3.4.5 Impacts Outside the Plan Area

IV.8.3.4.5.1 Impacts of Transmission Outside the Plan Area

The impacts of transmission outside the Plan Area on cultural resources would be the same under all alternatives. These impacts are as described for the No Action Alternative in Section IV.8.3.1.5.

IV.8.3.4.5.2 Impacts of BLM LUPA Decisions Outside the Plan Area

Under Alternative 2, archaeological and built-environment resources expected within BLM land designations outside the Plan Area are shown in Table R2.8-27. There are 21,338archaeological and built-environment resources on BLM LUPA lands outside the Plan Area. Of those resources, 8,522 cultural resources occur on proposed NLCS lands with 5,381 resources on existing and proposed ACEC lands. There are 3,763 resources within NSHT Management Corridors. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. Impacts of BLM land designations outside the Plan Area to cultural resources would be the same as those described under Section IV.8.3.4.1.2.

IV.8.3.4.6 CEQA Significance Determination for Alternative 2

The CEQA significance determinations for the impacts from Alternative 2 are the same as those described for the Preferred Alternative. However, in comparison to the Preferred Alternative, an estimated 19,925 archaeological and built-environment resources are located in the DFAs, and an estimated 776,113 resources are located on 13,871,383 acres of Reserve Design Land. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. It is important to note, however, that many portions of the Southern California Desert remain unsurveyed and the identification, evaluation, and treatment of cultural resources would need to be conducted on a project-specific level to ensure that as-yet unidentified cultural resources are taken into account.

CR-1: Plan components could adversely affect historic period built-environment resources. CEQA significance determinations for impacts to historic period built-environment resources from Alternative 2 are the same as those described for the No Action Alternative. Implementation of Mitigation Measure CR-1a for historic period built-environment resources could reduce impacts to these resources to less than significant.

CR-2: Plan components could adversely affect prehistoric and historic period archaeological resources. The CEQA significance determinations for the impacts to prehistoric and historic period archaeological resources from Alternative 2 are the same as those described for the No Action Alternative. Mitigation Measure CR-2a for prehistoric and historic period archaeological resources is recommended; depending on the resource, implementation of these measures could reduce impacts to a less than significant level. However, the majority of the impacts to prehistoric and historic period archaeological resources from renewable energy development would be significant and unavoidable.

CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony. The CEQA significance determinations for the impacts to human remains or cultural items from Alternative 2 are the same as those described for the No Action Alternative. Mitigation Measure CR-3a is recommended to protect human remains and cultural items. However, even with the implementation of these mitigation measures the impacts to human remains or cultural items would be significant and unavoidable.

CR-4: Plan components could affect cultural landscapes. The CEQA significance determinations for the impacts to cultural landscapes from Alternative 2 are the same as those described for the No Action Alternative. Mitigation Measure CR-4a for cultural landscapes is recommended; depending on the resource, implementation of these measures could reduce impacts to a less than significant level. However, the majority of the impacts to cultural landscapes from renewable energy development would be significant and unavoidable, even with mitigation.

IV.8.3.4.7 Comparison of Alternative 2 with Preferred Alternative

Chapter IV.27 presents a comparison of all action alternatives and the No Action Alternative across all disciplines. This section summarizes the comparison of Alternative 2 with the Preferred Alternative.

IV.8.3.4.7.1 Alternative 2 Compared with Preferred Alternative for Plan-Wide DRECP

Cultural resources vary by alternative in five main ways: (1) the estimated number of resources potentially impacted in DFAs, (2) the estimated number of resources conserved in Reserve Design Lands, (3) the cultural resources CMAs for NCLS lands, (4) the CMAs for National Historic Trails on NCLS lands, and (5) the NHT corridor width and the number of resources conserved within the corridor.

Table IV.8-6
Comparison of Preferred Alternative with Alternative 2 for Plan-Wide DRECP

	Preferred Alternative	Alternative 2
Number of Resources in DFAs	12,543	19,925
Number of Resources Conserved in Reserve Design Lands	576,735	750,227
Plan-wide CMAs (general)	Reduce impacts cultural resources	Adverse effects addressed only through existing laws, regulations, and typical mitigation
Cultural Resources CMAs for NCLS lands only	With exception of research, no adverse effects to historic properties authorized.	No adverse effects to historic properties authorized.
National Historic Trails CMAs within NCLS land	No adverse effects to NHT and NHT/historic properties authorized. All NHT segments assumed to be eligible for NRHP pending evaluation.	No adverse effects to historic properties authorized.
NHT Corridor Width and Number of Resources Conserved	5 miles on either side of centerline 28,437	10 miles on either side of centerline 215,632

The Preferred Alternative would impact fewer cultural resources in the DFA footprints as compared to Alternative 2. However Alternative 2 would conserve more resources in the Reserve Design Lands and significantly more resources in the NHT corridors. In addition, the CMAs for Alternative 2 are more protective than for the Preferred Alternative.

Overall, Alternative 2 is more protective to cultural resources than the Preferred Alternative and is the most protective of all of the alternatives.

Geographic Distinctions

As this is a programmatic analysis, no particularly sensitive cultural resources have been identified in any particular location within the Plan Area. However, different Ecoregion Subareas have different estimated cultural resources densities and some location types are known to be sensitive for cultural resources.

Under the Preferred Alternative, the Silurian Valley would be an SAA. Under Alternative 2, this location would be a DFA. Therefore, the Preferred Alternative could potentially protect more cultural resources than Alternative 2 because this location could become a conservation allocation.

Under both the Preferred Alternative and Alternative 2, the Hidden Hills area would be a DFA. Based on previous studies associated with a proposed solar project in this location, the Hidden Hills area is known to be very culturally sensitive because of the presence of a segment of the Salt Song Trail, Route 66, and a National Historic Trail. Therefore, both alternatives could have similar potential negative impacts to cultural resources.

Under the Preferred Alternative, the Notch in the Park and area north of Tehachapi would be FAAs. Under Alternative 2, these locations would be undesignated. In each alternative this location could either be developed or conserved, therefore there is no difference between the alternatives for cultural resources.

Under the Preferred Alternative, the area east of Twentynine Palms would be an FAA. Under Alternative 2, this location would be a BLM conservation allocation. Therefore, Alternative 2 would be more likely to conserve cultural resources than the Preferred Alternative.

Under both the Preferred Alternative and Alternative 2 the Owens Valley Dry Lake would be a BLM conservation allocation. Dry lakes in this part of California are known to be very culturally sensitive. In addition, the Owens River Valley ecoregion subarea has the highest density of cultural resources of all of the DRECP ecoregion subareas (1.76 resources per acre). Therefore both alternatives would protect cultural resources in this location equally.

Under the Preferred Alternative, Searles Lake between Ft. Irwin and China Lake would be undesignated. Under Alternative 2, this location would be a DFA. Therefore, the Preferred Alternative would be more likely to preserve cultural resources in this location than Alternative 2.

Under the Preferred Alternative, the area along U.S. 395 north of Edwards Air Force Base would be an SAA. Under Alternative 2, this location would be a DFA. Therefore, the Preferred Alternative would be more likely to preserve cultural resources in this location than Alternative 2.

IV.8.3.4.7.2 Alternative 2 Compared with Preferred Alternative for the BLM Land Use Plan Amendment

In this section alternatives are distinguished through the comparison of the number of estimated cultural resources which would be conserved in BLM land designation (Tables R2.8-10 and R2.8-24) and the resources in BLM land designations that are also in DFAs and therefore might be impacted by development (Tables R2.8-9 and R2.8-16).

Table IV.8-7
Comparison of Preferred Alternative With
Alternative 2 for the BLM Land Use Plan Amendment

	Preferred Alternative Estimated # of Resources	Alternative 2 Estimated # of Resources
SRMA	68,801	66,058
NLCS	176,810	225,006
Existing and Proposed ACEC	84,542	42,307
Wildlife Allocation	742	30
LWCs	11,237	25,435
Trail Management Corridors	28,437	215,632
BLM LUPA Land in DFA Footprint	6,855	7,815

While the number of resources conserved by each type of BLM land designation varies, cultural resources CMAs apply to NLCS, ACECs and Trail Management Corridors and so the importance of those designations are emphasized here. Overall, a larger number of resources would be protected more effectively by Alternative 2 as compared to the Preferred Alternative.

IV.8.3.4.7.3 Alternative 2 Compared with Preferred Alternative for NCCP

The impacts of the NCCP for Alternative 2 are the same as those defined in Section IV.8.3.4.1 for the Plan-wide analysis. As a result, the comparison of Alternative 2 with the Preferred Alternative for the NCCP is the same as described for Plan-wide DRECP.

IV.8.3.4.7.4 Alternative 2 Compared with Preferred Alternative for the GCP

In this section alternatives are distinguished through the comparison of the number of estimated cultural resources on GCP lands that might be impacted by development (Tables R2.8-11 and R2.8-18) and the estimated number of resources that would be conserved (Tables R2.8-12 and R2.8-19).

Table IV.8-8
Comparison of Preferred Alternative with Alternative 2 for the GCP

	Preferred Alternative Estimated # of Resources	Alternative 2 Estimated # of Resources
GCP DFAs	5,662	13,135
Conserved	69,920	150,595

Overall, Alternative 2 potentially impacts more cultural resources, but it also conserves significantly more resources than the Preferred Alternative. Therefore, Alternative 2 is more protective of cultural resources than the Preferred Alternative.

IV.8.3.5 Alternative 3

IV.8.3.5.1 Plan-Wide Impacts of Implementing the DRECP: Alternative 3

IV.8.3.5.1.1 Plan-Wide Impacts and Mitigation Measures from Renewable Energy and Transmission Development

Impact Assessment

Renewable energy development activities covered by the DRECP would be confined to DFAs. Under Alternative 3, an estimated 13,265 archaeological and built-environment resources would occur within DFAs (see Appendix R2.8, Table R2.8-28). The density of these resources by ecoregion is shown in Figure IV.8-5. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. Each impact is described below.

Impact CR-1: Plan components could affect historic period built-environment resources.

As described in Section IV.8.2, all phases of renewable energy development under all of the alternatives have the potential to impact historic period built-environment resources.

Impact CR-2: Plan components could affect prehistoric and historic period archaeological resources.

As described in Section IV.8.2, all phases of renewable energy development under all of the alternatives have the potential to impact prehistoric and historic period archaeological resources.

Impact CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony.

As described in Section IV.8.2, disturbance of human remains or cultural items could result from construction-related ground-disturbance activities. Ground-disturbing activities such as grading, vegetation clearing, and foundation excavations could lead to the unintentional discovery of burials and cultural items, which are typically unmarked.

Impact CR-4: Plan components could affect cultural landscapes.

As described in more detail in Section IV.8.2, all phases of renewable energy development under all of the alternatives have the potential to impact cultural landscapes.

Impacts in Study Area Lands

Study Area Lands refer to three categories of lands: Future Assessment Areas (FAAs), Special Analysis Areas (SAAs) and DRECP Variance Lands. Development in any of the Study Area Lands could adversely impact resources important to tribes and other communities.

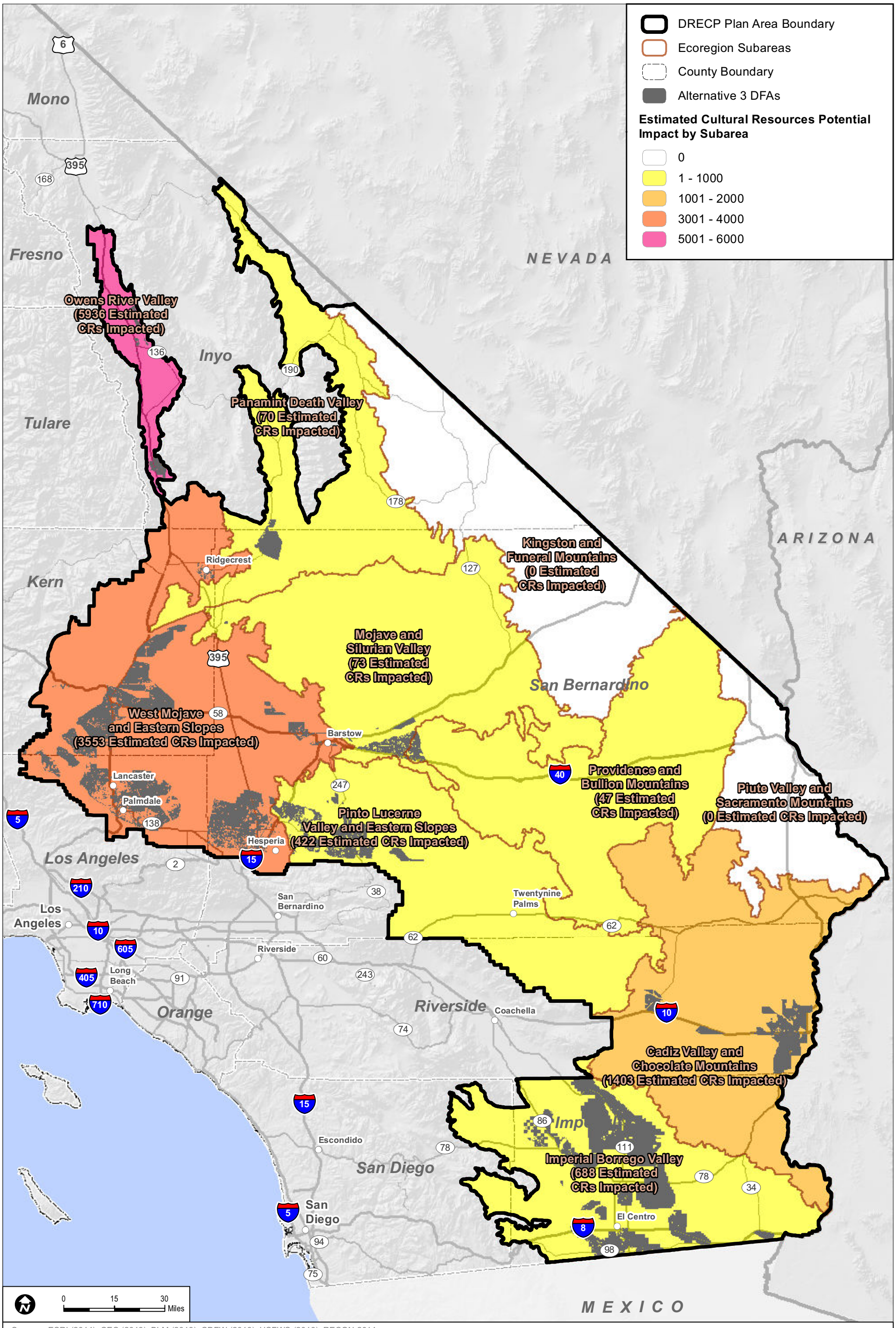
Future Assessment Areas. In Alternative 3 11,000 acres are identified as FAAs (Table IV.1-2). This area is predicted to contain 220 archaeological and built-environment resources. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

Special Analysis Areas (SAAs). In Alternative 3 the two SAAs defined in the Preferred Alternative, would be conservation lands. These 42,000 acres (Table IV.1-3) are predicted to contain 840 archaeological and built-environment resources. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

DRECP Variance Lands. Under Alternative 3 Variance Lands identified in the Preferred Alternative would be undesignated areas (Table IV.1-3).

Impact Reduction Strategies and Mitigation

The implementation of the Plan would result in conservation of some desert lands as well as the development of renewable energy generation and transmission facilities on other lands. The impacts of the renewable energy development covered by the Plan would be lessened in several ways. First, the Plan incorporates CMAs for each alternative, including specific biological reserve design components and LUPA components. Also, the implementation of existing laws, orders, regulations, and standards would reduce the impacts of project development. If significant impacts would still result after implementation of CMAs and compliance with applicable laws and regulations, then specific mitigation measures are recommended in this section.



Sources: ESRI (2014); CEC (2013); BLM (2013); CDFW (2013); USFWS (2013); RECON 2014

FIGURE IV.8-5

Estimated Number of Cultural Resources within DFAs by Ecoregion Subarea – Alternative 3

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Conservation and Management Actions

The conservation strategy for Alternative 3 (see Section II.3.1.1) defines specific actions that would reduce the impacts of this alternative. The conservation strategy includes definition of the reserve design and specific CMAs that apply to all alternatives and some that are specific to each alternative. While the CMAs were developed for BLM lands only, this analysis assumes that all CMAs would be applied also to nonfederal lands. As such, the details of these CMAs would be modified to meet the requirements of state law, the CEC or other appropriate state lead agencies. However, those modifications are not presented here. It is important to note that cultural resources CMAs and National Scenic and Historic Trails CMAs associated with National Landscape Conservation System Lands and Areas of Critical Environmental Concern vary significantly by alternative.

Except for the following CMAs specific to Alternative 3 relating to cultural resources, all CMAs are the same as the Preferred Alternative.

Planning Area–Wide National Conservation Land Management Direction

This CMA would also be applied to nonfederal lands but modified to meet the requirements of state law and the CEC or other state lead agencies. This CMA also varies significantly by alternative.

Cultural Resources – Any adverse effect to historic properties resulting from allowable uses will be addressed through the Section 106 process of the NHPA and the implementing regulations at 36 CFR Part 800. Resolution of adverse effects will in part be addressed via alternative mitigation that includes regional synthesis and interpretation of existing archaeological data in addition to mitigation measures determined through the Section 106 government-to-government consultation process.

Development Focus Areas

- **Soil, Water, and Water-Dependent Resources.** Would require that disturbance of sensitive soils be limited to 1% of the sensitive soil areas within a proposed project footprint. In addition, this would limit disturbance of desert pavement so that no more than 5% of the desert pavement within a proposed project footprint shall be disturbed for construction.

National Trails

- **Management Corridor Width (see also maps)**: Establish a National Trail Management Corridor, width generally 5 miles from centerline for the Pacific Crest Trail, and for high potential route segments and other known historically significant

segments on the National Historic trails. Additional segments of the NHTs may be added to the management corridor as information becomes available on their qualifications as high potential route segments. It is important to note these widths vary by alternative, resulting in varying amounts of conserved land.

- **Management of Trail Corridors:** Manage National Trails as components of BLM's National Landscape Conservation System. Where National Trails overlap other National Conservation Lands, the more protective CMAs or land use allocations will apply.
- **Lands and Realty**
  - **Rights-of-Way**
    - **Site authorizations**: NSHT Management Corridors would be exclusion areas.
    - **Linear ROWs:** NSHT Management Corridors would be exclusion areas, except in designated transmission corridors. Exclude cultural landscapes, high-potential historic sites, and high-potential route segments identified along historic trails corridors from transmission except in approved transmission corridors. Where development affects NSHT management Corridors, an analysis must be performed to ensure that it does not substantially interfere with the nature and purposes of the trail and that mitigation/compensation results in a net benefit to the trail.
    - **Renewable Energy ROWs:** Exclude cultural landscapes, high-potential historic sites, and high-potential route segments identified along historic trails corridors from transmission except in approved DFAs. Where development affects trail management corridors, an analysis must be performed to ensure that the development does not substantially interfere with the nature and purposes of the trail, and that mitigation/compensation results in a net benefit to the trail.
  - **Land tenure:**
    - Exchange, purchase, or donation of lands in NSHT Management Corridors would be allowed. Disposal of lands in NSHT Management Corridors would not be permitted.
- **Minerals**
  - **Locatable Minerals:** BLM would propose NSHT Management Corridors for withdrawal from mineral entry. Withdrawals would be subject to valid existing rights.
  - **Saleable Minerals**: Saleable mineral development in NSHT Management Corridors would be limited to use on local public works projects. Mitigation/compensation must result in net benefit to NSHT values.

- **Leasable Minerals**: NSHT Management Corridors would be unsuitable for all leasing.

- **Recreation:** Competitive Special Recreation Permits would not be permitted. Commercial Special Recreation Permits would be limited to those uses that provide for enjoyment/appreciation of NSHT values, qualities, values, and associated settings and the primary use or uses.
- **Cultural Resources:** This CMA would also be applied to nonfederal lands but modified to meet the requirements of state law and the CEC or other state lead agencies. This CMA also varies by alternative.
  - Any adverse effects to historic properties resulting from allowable uses would be addressed through the Section 106 process of the NHPA and the implementing regulations at 36 CFR Part 800.

Laws and Regulations

Similar to the No Action Alternative, existing laws and regulations would reduce certain impacts of Plan implementation. Relevant regulations are presented in the Regulatory Setting in Volume III. The requirements of relevant laws and regulations are summarized for the No Action Alternative in Section IV.8.3.1.1.1.

Mitigation Measures

After implementation of the CMAs and existing laws and regulations, mitigation measures would be applied to further reduce some of the DRECP's adverse impacts. Recommended mitigation measures are detailed for the Preferred Alternative in Section IV.8.3.2.1.1, and summarized below.

Mitigation Measures for Impact CR-1: Plan components could affect historic period built-environment resources. Mitigation CR-1a would protect historic period built-environment resources.

Mitigation Measures for Impact CR-2: Plan components could affect prehistoric and historic period archaeological **resources.** Mitigation CR-2a would protect prehistoric and historic period archaeological resources.

Mitigation Measures for Impact CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony. Mitigation Measure CR-3a is recommended to protect human remains.

Mitigation Measures for Impact CR-4: Plan components could affect cultural landscapes. Mitigation Measure CR-4a is recommended to protect cultural landscapes.

IV.8.3.5.1.2 Impacts from Reserve Design

Under Alternative 3, cultural resources would be protected from disturbance by establishing conservation areas. Proposed new ACEC and NLCS designations would protect cultural resources. This would occur partly from disturbance caps designed to conserve and protect the resource values, and renewable energy development would be prohibited in these designations. Development in NLCS lands would be limited to 1% of total authorized disturbance, or to the level allowed by collocated ACEC/wildlife allocations, whichever is more restrictive. These disturbance caps and other management actions would minimize surface disturbance and thereby provide protection for cultural resources.

Under Alternative 3, an estimated 737,263 resources (or 57% of all known archaeological and built-environment resources) would occur within Reserve Design Lands (see Table R2.8-29 in Appendix R2.8). TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. Due to their location within the conservation reserve system, resources in these areas would not be subject to impacts from renewable energy development.

IV.8.3.5.2 Impacts of DRECP Land Use Plan Amendment on BLM Land: Alternative 3

This section addresses two components of effects of the BLM LUPA: the streamlined development of renewable energy and transmission on BLM land under the LUPA, and the impacts of the amended land use plans themselves.

IV.8.3.5.2.1 Impacts from Renewable Energy and Transmission Development on BLM Land

Under Alternative 3, an estimated 5,751 archaeological and built-environment resources are within DFA footprints on the BLM LUPA lands as shown in Table R2.8-30 (Appendix R2.8). Overall, approximately 1% of estimated archaeological and built-environment resources occur within DFAs in BLM LUPA lands under Alternative 3. TCPs and cultural landscapes are not included in this calculation.

IV.8.3.5.2.2 Impacts of Changes to BLM Land Designations

Proposed ACEC and NLCS designations on BLM lands could provide benefits to cultural resources by establishing disturbance caps, which are designed to conserve and protect resource values, and renewable energy development would be prohibited in these designations. Development on NLCS lands would be limited to 1% of total authorized disturbance, or to the level allowed by collocated ACEC/wildlife allocations, whichever is more

restrictive. These disturbance caps and other management actions would minimize surface disturbance and provide protection for cultural resources.

Under Alternative 3, cultural resources found within BLM land designations are shown in Table R2.8-31. The majority of the estimated archaeological and built-environment resources (171,472) occur within the NLCS lands. In Alternative 3, the National Trail Management Corridor is 5 miles on either side of the centerline. As a result, an estimated 215,632 cultural resources would be protected. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

IV.8.3.5.3 Impacts of Natural Community Conservation Plan: Alternative 3

The impacts of the NCCP for Alternative 3 would be the same as those defined in Section IV.8.3.5.1 for the Plan-wide analysis.

IV.8.3.5.4 Impacts of General Conservation Plan: Alternative 3

The impacts of the GCP for Alternative 3 would be similar to those defined in Section IV.8.3.5.1 for the Plan-wide analysis, but they would occur on nonfederal lands only.

Under Alternative 3, archaeological and built-environment resources found within GCP lands are shown in Table R2.8-32. For the GCP lands under Alternative 3, an estimated 7,485 archaeological and built-environment resources could occur within the DFA footprints. This is 1.4% of the total resources within the GCP lands. Table R2.8-33 has the number of estimated archaeological and built-environment resources within the GCP Reserve Design Lands under Alternative 3. Of the total GCP lands, approximately 13% would be within conservation acres. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

IV.8.3.5.5 Impacts Outside the Plan Area

IV.8.3.5.5.1 Impacts of Transmission Outside the Plan Area

The impacts of transmission outside the Plan Area on cultural resources would be the same under all alternatives. These impacts are as described for the No Action Alternative in Section IV.8.3.1.5.

IV.8.3.5.5.2 Impacts of BLM LUPA Decisions Outside the Plan Area

Under Alternative 3, archaeological and built-environment resources expected within BLM land designations outside the Plan Area are shown in Table R2.8-34. There are 21,338 archaeological and built-environment resources on BLM LUPA lands outside the Plan Area. Of those resources, 3,434 occur on proposed NLCS lands, with 5,380 on existing and proposed ACEC lands and 1,224 within NSHT Management Corridors. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. Impacts of BLM land designations outside the Plan Area to cultural resources would be the same as those described under Section IV.8.3.5.1.2.

IV.8.3.5.6 CEQA Significance Determination for Alternative 3

The CEQA significance determinations for the impacts from Alternative 3 are the same as those described for the Preferred Alternative. However, in comparison to the Preferred Alternative, an estimated 12,193 archaeological and built-environment resources are located in the DFAs, and an estimated 773,112 resources located on 13,925,540 acres of Reserve Design Land. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. It is important to note, however, that many portions of the Southern California Desert remain unsurveyed and the identification, evaluation, and treatment of cultural resources would need to be conducted on a project-specific level to ensure that as-yet unidentified cultural resources are taken into account.

CR-1: Plan components could adversely affect historic period built-environment resources. The CEQA significance determinations for the impacts to historic period built-environment resources from Alternative 3 are the same as those described for the No Action Alternative. Implementation of Mitigation Measure CR-1a for historic period built-environment resources could reduce impacts to these resources to less than significant.

CR-2: Plan components could adversely affect prehistoric and historic period archaeological resources. The CEQA significance determinations for the impacts to prehistoric and historic period archaeological resources from Alternative 3 are the same as those described for the No Action Alternative. Mitigation Measure CR-2a for prehistoric and historic period archaeological resources is recommended; depending on the resource, implementation of these measures could reduce impacts to a less than significant level. However, the majority of the impacts to prehistoric and historic period archaeological resources from renewable energy development would be significant and unavoidable.

CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony. The CEQA significance determinations for the impacts to human remains or cultural items from Alternative 3 are the same as those described for the No Action Alternative. Mitigation Measure CR-3a is recommended to protect human remains and cultural items. However, even with the implementation of these mitigation measures the impacts to human remains or cultural items would be significant and unavoidable.

CR-4: Plan components could affect cultural landscapes. The CEQA significance determinations for the impacts to cultural landscapes from the Preferred Alternative are the same as those described for the No Action Alternative. Mitigation Measure CR-4a for cultural landscapes is recommended; depending on the resource, implementation of these measures could reduce impacts to a less than significant level. However, the majority of the impacts to cultural landscapes from renewable energy development would be significant and unavoidable, even with mitigation.

IV.8.3.5.7 Comparison of Alternative 3 with Preferred Alternative

Chapter IV.27 presents a comparison of all action alternatives and the No Action Alternative across all disciplines. This section summarizes the comparison of Alternative 3 with the Preferred Alternative.

IV.8.3.5.7.1 Alternative 3 Compared With Preferred Alternative for Plan-Wide DRECP

Cultural resources vary by alternative in five main ways: (1) the estimated number of resources potentially impacted in DFAs, (2) the estimated number of resources conserved in Reserve Design Lands, (3) the cultural resources CMAs for NCLS lands, (4) the CMAs for National Historic Trails on NCLS lands and (5) the NHT corridor width and the number of resources conserved within the corridor.

Table IV.8-9
Comparison of Preferred Alternative with the Alternative 3 for Plan-Wide DRECP

	Preferred Alternative	Alternative 3
Number of resources in DFAs	12,543	13,265
Number of resources conserved in Reserve Design Lands	576,735	737,263
Plan-wide CMAs (general)	Reduce impacts cultural resources	Adverse effects addressed only through existing laws, regulations, and typical mitigation

Table IV.8-9
Comparison of Preferred Alternative with the Alternative 3 for Plan-Wide DRECP

	Preferred Alternative	Alternative 3
Cultural Resources CMAs for NCLS lands only.	With exception of research, no adverse effects to historic properties authorized.	Adverse effects to historic properties resolved through Section 106 and regional synthesis and interpretation.
National Historic Trail CMAs within NCLS lands	No adverse effects to NHT and NHT/historic properties authorized. All NHT segments assumed to be eligible for NRHP pending evaluation.	Adverse effects to historic properties resolved through Section 106.
NHT corridor width and number of resources conserved	5 miles on either side of centerline 28,437	5 miles on either side of centerline 18,052

The Preferred Alternative would impact fewer cultural resources in the DFA footprints as compared to Alternative 3. In contrast, Alternative 3 would conserve more resources in the Reserve Design Lands and more resources in the NHT corridors. In addition, the CMAs for the Preferred Alternative are significantly more protective than for Alternative 3.

Overall, although the number of resources conserved by Alternative 3 is larger, the CMAs in the Preferred Alternative are more protective. Therefore, the Preferred Alternative is more protective to cultural resources than Alternative 3.

Geographic Distinctions

As this is a programmatic analysis, no particularly sensitive cultural resources have been identified in any particular location within the Plan Area. However, different Ecoregion Subareas have different estimated cultural resources densities and some location types are known to be sensitive for cultural resources.

Under the Preferred Alternative, the Silurian Valley would be an SAA. Under Alternative 3 this location would be a BLM conservation allocation. Therefore, Alternative 3 would protect more cultural resources than the Preferred Alternative.

Under the Preferred Alternative, the Hidden Hills area would be a DFA. Under Alternative 3 this location would be a CPA. Based on previous studies associated with a proposed solar project in this location, the Hidden Hills area is known to be very culturally sensitive because of

the presence of a segment of the Salt Song Trail, Route 66, and a National Historic Trail. Therefore, Alternative 3 would protect more cultural resources than the Preferred Alternative.

Under the Preferred Alternative, the Notch in the Park, the area north of Tehachapi, and the area east of Twentynine Palms would be FAAs. Under Alternative 3, these locations would be undesignated. In each alternative these locations could either be developed or conserved, therefore there is no difference between the alternatives for cultural resources.

Under both the Preferred Alternative and Alternative 3, the Owens Valley Dry Lake would be a BLM conservation allocation. Dry lakes in this part of California are known to be very culturally sensitive. In addition, the Owens River Valley ecoregion subarea has the highest density of cultural resources of all of the DRECP ecoregion subareas (1.76 resources per acre). Therefore, both alternatives would protect cultural resources in this location equally.

Under the Preferred Alternative, Searles Lake between Ft. Irwin and China Lake would be undesignated. Under Alternative 3, this location would be a DFA. Therefore, the Preferred Alternative would be more likely to preserve cultural resources in this location than Alternative 3.

Under the Preferred Alternative, the area along U.S. 395 north of Edwards Air Force Base would be an SAA. Under Alternative 3, this location would be a BLM conservation allocation. Therefore, Alternative 3 would be more likely to preserve cultural resources in this location than the Preferred Alternative.

IV.8.3.5.7.2 Alternative 3 Compared with Preferred Alternative for the BLM Land Use Plan Amendment

In this section alternatives are distinguished through the comparison of the number of estimated cultural resources that would be conserved in BLM land designation (Tables R2.8-10 and R2.8-31) and the resources in BLM land designations that are also in DFAs and therefore might be impacted by development (Tables R2.8-9 and R2.8-30).

Table IV.8-10
Comparison of Preferred Alternative with
Alternative 3 for the BLM Land Use Plan Amendment

	Preferred Alternative Estimated # of Resources	Alternative 3 Estimated # of Resources
SRMA	68,801	69,111
NLCS	176,810	171,472
Existing and Proposed ACEC	84,542	93,324
Wildlife Allocation	742	526

Table IV.8-10
Comparison of Preferred Alternative with
Alternative 3 for the BLM Land Use Plan Amendment

	Preferred Alternative Estimated # of Resources	Alternative 3 Estimated # of Resources
LWCs	11,237	21,605
Trail Management Corridors	28,437	215,632
BLM LUPA Land in DFA Footprint	6,855	5,751

While the number of resources conserved by each type of BLM land designation vary, cultural resources CMAs apply to NLCS, ACECs, and trail management corridors and so the importance of those designations are emphasized here. Overall, while a larger number of resources would be protected by Alternative 3, the Preferred Alternative protects them more effectively through CMAs.

IV.8.3.5.7.3 Alternative 3 Compared with Preferred Alternative for NCCP

The impacts of the NCCP for Alternative 3 are the same as those defined in Section IV.8.3.5.1 for the Plan-wide analysis. As a result, the comparison of Alternative 3 with the Preferred Alternative for the NCCP is the same as described for Plan-wide DRECP.

IV.8.3.5.7.4 Alternative 3 Compared with Preferred Alternative for the GCP

In this section alternatives are distinguished through the comparison of the number of estimated cultural resources on GCP lands that might be impacted by development (Tables R2.8-11 and R2.8-18) and the estimated number of resources that would be conserved (Tables R2.8-12 and R2.8-19).

Table IV.8-11
Comparison of Preferred Alternative with Alternative 3 for the GCP

	Preferred Alternative Estimated # of Resources	Alternative 3 Estimated # of Resources
GCP DFAs	5,662	7,485
Conserved	69,920	69,920

Overall, while both alternatives conserve the same number of resources, Alternative 3 would potentially impact more cultural resources than the Preferred Alternative. Therefore, the Preferred Alternative is more protective of cultural resources than Alternative 3.

IV.8.3.6 Alternative 4

IV.8.3.6.1 Plan-Wide Impacts of Implementing the DRECP: Alternative 4

IV.8.3.6.1.1 Plan-Wide Impacts and Mitigation Measures From Renewable Energy and Transmission Development

Impact Assessment

Renewable energy development activities covered by the DRECP would be confined to DFAs. Under Alternative 4, an estimated 15,787 archaeological and built-environment resources would occur within DFAs (see Appendix R2.8, Table R2.8-35). The density of these resources by ecoregion is shown in Figure IV.8-6. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. Each impact is described below.

Impact CR-1: Plan components could affect historic period built-environment resources.

As described in Section IV.8.2, all phases of renewable energy development under all of the alternatives have the potential to impact historic period built-environment resources.

Impact CR-2: Plan components could affect prehistoric and historic period archaeological resources.

As described in Section IV.8.2, all phases of renewable energy development under all of the alternatives have the potential to impact prehistoric and historic period archaeological resources.

Impact CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony.

As described in Section IV.8.2, disturbance of human remains or cultural items could result from construction-related ground-disturbance activities. Ground-disturbing activities such as grading, vegetation clearing, and foundation excavations could lead to the unintentional discovery of burials and cultural objects, which are typically unmarked.

Impact CR-4: Plan components could affect cultural landscapes.

As described in more detail in Section IV.8.2, all phases of renewable energy development under all of the alternatives have the potential to impact cultural landscapes.

Impacts in Study Area Lands

Study Area Lands refer to three categories of lands: Future Assessment Areas (FAAs), Special Analysis Areas (SAAs) and DRECP Variance Lands. Development in any of the Study Area Lands could adversely impact resources important to tribes and other communities.

Future Assessment Areas. In Alternative 4, all FAAs identified in the Preferred Alternative would be undesignated areas except that portions of the FAA south of Historic Route 66 would become DRECP Variance Lands (Table IV.1-2).

Special Analysis Areas (SAAs). In Alternative 4, portions of SAAs identified in the Preferred Alternative would be DRECP Variance Lands as described below, but the majority of these areas would be conservation lands (near U.S. 395) and undesignated areas (near Ft. Irwin) (Table IV.1-3).

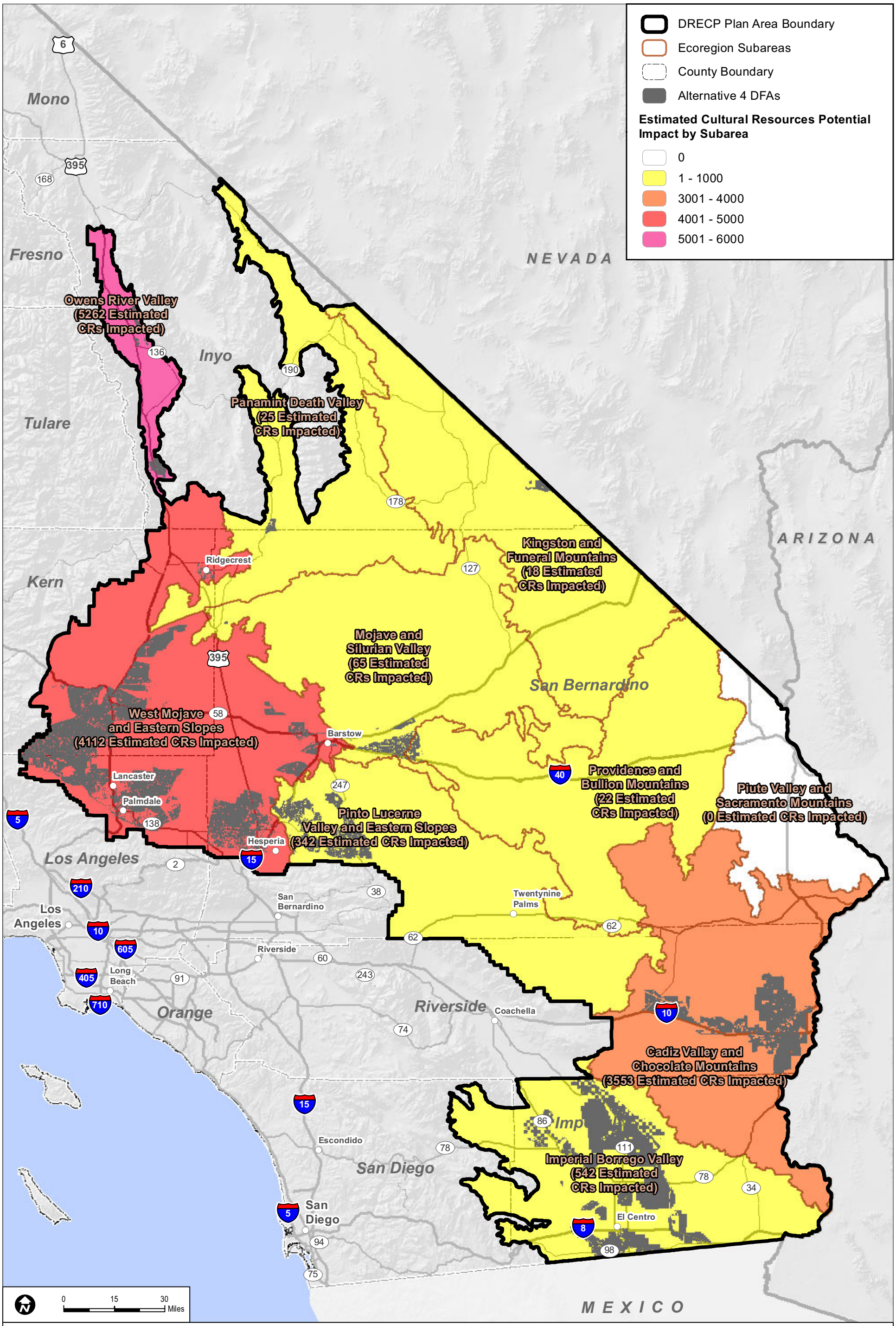
DRECP Variance Lands. Under Alternative 4, a total of 588,000 acres would be Variance Lands. This area is predicted to contain a total of 11,760 archaeological and built-environment resources (Table IV.1-4).

Impact Reduction Strategies and Mitigation

The implementation of the Plan would result in conservation of some desert lands as well as the development of renewable energy generation and transmission facilities on other lands. The impacts of the renewable energy development covered by the Plan would be lessened in several ways. First, the Plan incorporates CMAs for each alternative, including specific biological reserve design components and LUPA components. Also, the implementation of existing laws, orders, regulations, and standards would reduce the impacts of project development. If significant impacts would still result after implementation of CMAs and compliance with applicable laws and regulations, then specific mitigation measures are recommended in this section.

Conservation and Management Actions

The conservation strategy for Alternative 4 (see Section II.3.1.1) defines specific actions that would reduce the impacts of this alternative. The conservation strategy includes definition of the reserve design and specific CMAs that apply to all alternatives and some that are specific to each alternative. While the CMAs were developed for BLM lands only, this analysis assumes that all CMAs would be applied also to nonfederal lands. As such, the details of these CMAs would be modified to meet the requirements of state law, the CEC or other appropriate state lead agencies. However, those modifications are not presented here. It is important to note that cultural resources CMAs and National Scenic and Historic Trails CMAs associated with National Landscape Conservation System Lands and Areas of Critical Environmental Concern vary significantly by alternative.



Sources: ESRI (2014); CEC (2013); BLM (2013); CDFW (2013); USFWS (2013); RECON 2014

FIGURE IV.8-6

Estimated Number of Cultural Resources within DFAs by Ecoregion Subarea – Alternative 4

Draft DRECP and EIR/EIS

August 2014

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Except for the following CMAs specific to Alternative 4 relating to cultural resources, all CMAs are the same as the Preferred Alternative.

Planning Area–Wide National Conservation Land Management Direction

This CMA would also be applied to nonfederal lands but modified to meet the requirements of state law and the CEC or other state lead agencies. This CMA also varies significantly by alternative.

- **Cultural Resources –** Any adverse effect to historic properties resulting from allowable uses will be addressed through the Section 106 process of the NHPA and the implementing regulations at 36 CFR Part 800. Resolution of adverse effects will in part be addressed via alternative mitigation that includes either protection of resources of importance to tribes or acquisition of comparable sites into public ownership similar to those that are going to be destroyed.

Development Focus Areas.

- **Soil, Water, and Water-Dependent Resources.** Would require that disturbance of sensitive soils be limited to 20% of the sensitive soil areas within a proposed project footprint. In addition, this would limit disturbance of desert pavement so that no more than 5% of the desert pavement within a proposed project footprint shall be disturbed for construction.

Conservation and Management Actions for National Trails

- **Management corridor width (see also maps)**: Establish a National Trail Management Corridor, width generally 1 mile from centerline of the trail. It is important to note these widths vary by alternative, resulting in varying amounts of conserved land.
- **Management of Trail Corridors:** Manage National Trails as components of BLM's National Landscape Conservation System. Where National Trails overlap other National Conservation Lands, the more protective CMAs or land use allocations would apply.
- **Lands and Realty**
    - **Rights-of-Way**
        - **Site Authorizations**: NSHT Management Corridors would be avoidance areas. Sites' rights-of-way would require mitigation/compensation resulting in net benefit to the NSHT.
        - **Linear ROWs:** NSHT Management Corridors would be avoidance areas except in designated transmission corridors. Exclude cultural landscapes,

high-potential historic sites, and high-potential route segments identified along historic trails corridors from transmission except in approved transmission corridors. Where development affects national scenic or historic trail management corridors, an analysis must be performed to ensure that the development does not substantially interfere with the nature and purposes of the trail, and that mitigation/compensation results in a net benefit to the trail

        - **Renewable Energy ROWs**: Exclude cultural landscapes, high-potential historic sites, and high-potential route segments identified along historic trails corridors from transmission except in approved DFAs. Where development affects NSHT Management Corridors, an analysis must be performed to ensure that it does not substantially interfere with the nature and purposes of the trail and that mitigation/compensation results in a net benefit to the trail.

    - **Land Tenure**

        - Exchange, purchase, donation would be permitted to acquire lands within NSHT. Disposal would be permitted if it results in net benefit to trail values through acquisition or other compensation. Lands within the National Trail Management Corridors would be retained.

- **Minerals**

    - **Locatable Minerals**: For the purposes of locatable minerals, National Trail corridors would be treated as "controlled" or "limited" use areas in the CDCA, requiring a Plan of Operations for greater than casual use under 43 CFR 3809.11.

    - **Saleable Minerals**: NSHT Management Corridors would be available for saleable mineral development.

    - **Leasable Minerals**: NSHT Management Corridors may be available for geothermal leasing; however, these lands may only be offered for lease with a special stipulation to protect the appropriate resources as defined in the 2008 PEIS for Geothermal Leasing in the Western United States (Geothermal PEIS). Special stipulations which provide protections greater than the standard lease terms may include Timing Limitations (TL), Controlled Surface Use (CSU), or No Surface Occupancy (NSO) Lease Stipulations. National Conservation Lands values must be protected or enhanced through mitigation/compensation.

- **Recreation and Visitor Services:** Competitive and Commercial SRPs permitted if they do not interfere with the nature and the purposes of the trail.

- **Cultural Resources:** This CMA would also be applied to nonfederal lands but modified to meet the requirements of state law and the CEC or other state lead agencies. This CMA also varies by alternative.

- Any adverse effects to historic properties resulting from allowable uses would be addressed through the Section 106 process of the NHPA and the implementing regulations at 36 CFR Part 800.

Laws and Regulations

Similar to the No Action Alternative, existing laws and regulations would reduce certain impacts of Plan implementation. Relevant regulations are presented in the Regulatory Setting in Volume III. The requirements of relevant laws and regulations are summarized for the No Action Alternative in Section IV.8.3.1.1.1.

Mitigation Measures

After implementation of the CMAs and existing laws and regulations, mitigation measures would be applied to further reduce some of the DRECP's adverse impacts. Recommended mitigation measures are detailed for the Preferred Alternative in Section IV.8.3.2.1.1, and summarized below.

Mitigation Measures for Impact CR-1: Plan components could affect historic period built-environment resources. Mitigation CR-1a would protect historic period built-environment resources.

Mitigation Measures for Impact CR-2: Plan components could affect prehistoric and historic period archaeological **resources.** Mitigation CR-2a would protect prehistoric and historic period archaeological resources.

Mitigation Measures for Impact CR-3: Plan components could disturb human remains or cultural items, including associated funerary objects, sacred objects, and objects of cultural patrimony. Mitigation Measure CR-3a is recommended to protect human remains.

Mitigation Measures for Impact CR-4: Plan components could affect cultural landscapes. Mitigation Measure CR-4a is recommended to protect cultural landscapes.

IV.8.3.6.1.2 Impacts from Reserve Design

Under Alternative 4, cultural resources would be protected from disturbance by establishing conservation areas. Proposed new ACEC and NLCS designations would protect cultural resources. This would occur partly from disturbance caps designed to conserve and protect the resource values, and renewable energy development would be prohibited in these designations. Development in NLCS lands would be limited to 1% of total authorized disturbance, or to the level allowed by collocated ACEC/wildlife allocations,

whichever is more restrictive. These disturbance caps and other management actions would minimize surface disturbance and provide protection for cultural resources.

Under Alternative 4, an estimated 698,487 resources (or 54% of all known archaeological and built-environment resources) would occur within Reserve Design Lands (see Table R2.8-36 in Appendix R2.8). TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. Due to their location within the conservation reserve system, resources in these areas would not be subject to impacts from renewable energy development.

IV.8.3.6.2 Impacts of DRECP Land Use Plan Amendment on BLM Land: Alternative 4

This section addresses two components of effects of the BLM LUPA: the streamlined development of renewable energy and transmission on BLM land under the LUPA, and the impacts of the amended land use plans themselves.

IV.8.3.6.2.1 Impacts from Renewable Energy and Transmission Development on BLM Land

Under Alternative 4, an estimated 7,901 archaeological and built-environment resources are within DFA footprints on the BLM LUPA lands as shown in Table R2.8-37 (Appendix R2.8). Overall, approximately 1.4% of estimated cultural resources occur within DFAs in BLM LUPA lands under Alternative 4. TCPs and cultural landscapes are not included in this calculation.

IV.8.3.6.2.2 Impacts of Changes to BLM Land Designations

Proposed ACEC and NLCS designations on BLM lands could provide benefits to cultural resources by establishing disturbance caps designed to conserve and protect resource values, and renewable energy development would be prohibited in these designations. Development on NLCS lands would be limited to 1% of total authorized disturbance, or to the level allowed by collocated ACEC/wildlife allocations, whichever is more restrictive. These disturbance caps and other management actions would minimize surface disturbance and provide protection for cultural resources.

Under Alternative 4, archaeological and built-environment resources expected within BLM land designations on BLM LUPA lands are shown in Table R2.8-38. The majority of the estimated archaeological and built-environment resources (127,563) occur within the NLCS lands. In Alternative 4, the National Trail Management Corridor is 1 mile on either side of the centerline. As a result, an estimated 7,164 cultural resources would be protected. TCPs and cultural landscapes are not included in this calculation.

IV.8.3.6.3 Impacts of Natural Community Conservation Plan: Alternative 4

The impacts of the NCCP for Alternative 4 would be the same as those defined in Section IV.8.3.6.1 for the Plan-wide analysis.

IV.8.3.6.4 Impacts of General Conservation Plan: Alternative 4

The impacts of the GCP for Alternative 4 would be similar to those defined in Section IV.8.3.6.1 for the Plan-wide analysis, but they would occur on nonfederal lands only.

Under Alternative 4, archaeological and built-environment resources found within GCP lands are shown in Table R2.8-39. For the GCP lands under Alternative 4, an estimated 7,863 archaeological and built-environment resources could occur within the technology footprints in the DFA footprints. This is 1.5% of the total archaeological and built-environment resources within the GCP lands. Table R2.8-40 has the number of estimated archaeological and built-environment resources within the GCP Reserve Design Lands under Alternative 4. Of the total GCP lands, approximately 11% would be within conservation acres. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner.

IV.8.3.6.5 Impacts Outside the Plan Area

IV.8.3.6.5.1 Impacts of Transmission Outside the Plan Area

The impacts of Outside the Plan Area transmission on cultural resources would be the same under all alternatives. These impacts are as described for the No Action Alternative in Section IV.8.3.1.5.

IV.8.3.6.5.2 Impacts of BLM LUPA Decisions Outside the Plan Area

Under Alternative 4, archaeological and built-environment resources expected within BLM land designations outside the Plan Area are shown in Table R2.8-41. There are 21,338 archaeological and built-environment resources on BLM LUPA lands outside the Plan Area. Of those resources, 3,304 are on proposed NLCS lands, with 5,379 on existing and proposed ACEC lands, and 338 within NSHT Management Corridors. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. Impacts of BLM land designations outside the Plan Area on all types of cultural resources would be the same as those described in Section IV.8.3.6.1.2.

IV.8.3.6.6 CEQA Significance Determination for Alternative 4

The CEQA significance determinations for the impacts from Alternative 4 are the same as those described for the Preferred Alternative. However, in comparison to the Preferred Alternative, an estimated 13,941 archaeological and built-environment resources are located in the DFAS, and an estimated 756,856 resources located on 13,279,016 acres of Reserve Design Land. TCPs and landscapes are not included in this calculation as these types of resources are not part of the dataset used to quantify cultural resources. Impacts to these resources are therefore characterized in a qualitative manner. It is important to note, however, that many portions of the Southern California Desert remain unsurveyed and the identification, evaluation, and treatment of cultural resources would need to be conducted on a project-specific level to ensure that as-yet unidentified cultural resources are taken into account.

CR-1: Plan components could adversely affect historic period built-environment resources. The CEQA significance determinations for the impacts to historic period built-environment resources from Alternative 4 are the same as those described for the No Action Alternative. Implementation of Mitigation Measure CR-1a for historic period built-environment resources could reduce impacts to these resources to less than significant.

CR-2: Plan components could adversely affect prehistoric and historic period archaeological resources. The CEQA significance determinations for the impacts to prehistoric and historic period archaeological resources from Alternative 4 are the same as those described for the No Action Alternative. Mitigation Measure CR-2a for prehistoric and historic period archaeological resources is recommended; depending on the resource, implementation of these measures could reduce impacts to a less than significant level. However, the majority of the impacts to prehistoric and historic period archaeological resources from renewable energy development would be significant and unavoidable.

CR-3: Plan components could disturb human remains or cultural items, including associated funerary objects, sacred objects, and objects of cultural patrimony. The CEQA significance determinations for the impacts to human remains or cultural items from Alternative 4 are the same as those described for the No Action Alternative. Mitigation Measure CR-3a is recommended to protect human remains and cultural items. However, even with the implementation of these mitigation measures the impacts to human remains or cultural items would be significant and unavoidable.

CR-4: Plan components could affect cultural landscapes. The CEQA significance determinations for the impacts to cultural landscapes from Alternative 4 are the same as those described for the No Action Alternative. Mitigation Measure CR-4a for cultural landscapes is recommended; depending on the resource, implementation of these measures could reduce

impacts to a less than significant level. However, the majority of the impacts to cultural landscapes from renewable energy development would be significant and unavoidable, even with mitigation.

IV.8.3.6.7 Comparison of Alternative 4 with Preferred Alternative

Chapter IV.27 presents a comparison of all action alternatives and the No Action Alternative across all disciplines. This section summarizes the comparison of Alternative 4 with the Preferred Alternative.

IV.8.3.6.7.1 Alternative 4 Compared With Preferred Alternative for Plan-Wide DRECP

Cultural resources vary by alternative in five main ways: (1) the estimated number of resources potentially impacted in DFAs, (2) the estimated number of resources conserved in Reserve Design Lands, (3) the cultural resources CMAs for NCLS lands, (4) the CMAs for National Historic Trails on NCLS lands, and (5) the NHT corridor width and the number of resources conserved within the corridor.

Table IV.8-12
Comparison of Preferred Alternative with Alternative 4 for Plan-Wide DRECP

	Preferred Alternative	Alternative 4
Number of resources in DFAs	12,543	15,787
Number of resources conserved in Reserve Design Lands	576,735	698,487
Plan-wide CMAs (general)	Reduce impacts cultural resources	Adverse effects will be addressed only through existing laws, regulations, and typical mitigation
Cultural Resources CMAs for NCLS lands only.	With exception of research, no adverse effects to historic properties authorized.	Adverse effects to historic properties resolved through Section 106 and compensatory mitigation.
National Historic Trails CMAs within NCLS lands	No adverse effects to NHT and NHT/historic properties authorized. All NHT segments assumed to be eligible for NRHP pending evaluation.	Adverse effects to historic properties resolved through Section 106
NHT corridor width and number of resources conserved	5 miles on either side of centerline 28,437	1 mile on either side of centerline 7,164

The Preferred Alternative would impact fewer cultural resources in the DFA footprints as compared to Alternative 4. In contrast, Alternative 4 would conserve more resources in the Reserve Design Lands but conserve less resources in the NHT corridors. In addition, the CMAs for the Preferred Alternative are significantly more protective than for Alternative 4.

Overall, although the number of resources conserved by Alternative 4 is larger, the CMAs in the Preferred Alternative are more protective. Therefore the Preferred Alternative is more protective to cultural resources than Alternative 4.

Geographic Distinctions

As this is a programmatic analysis, no particularly sensitive cultural resources have been identified in any particular location within the Plan Area. However, different Ecoregion Subareas have different estimated cultural resources densities and some location types are known to be sensitive for cultural resources.

Under the Preferred Alternative, the Silurian Valley would be an SAA. Under Alternative 4 this location would be Variance Lands. In each alternative this location could either be developed or conserved, therefore there is no difference between the alternatives for cultural resources.

Under the Preferred Alternative, the Hidden Hills area would be a DFA. Under Alternative 4, this location would be a DFA and Variance Lands. Based on previous studies associated with a proposed solar project in this location, the Hidden Hills area is known to be very culturally sensitive because of the presence of a segment of the Salt Song Trail, Route 66, and a National Historic Trail. Both of these alternatives have the potential to impact cultural resources negatively, therefore there is no difference between the alternatives for cultural resources.

Under the Preferred Alternative, the Notch in the Park, the area east of Twentynine Palms, and the area east of Tehachapi would be FAAs. Under Alternative 4, the first two locations would be undesignated and the third would be Variance Lands. In each alternative this location could either be developed or conserved, therefore there is no difference between the alternatives for cultural resources.

Under both the Preferred Alternative, the Owens River Valley Dry Lake would be a BLM conservation allocation. Under Alternative 4 this location would be Variance Lands. Dry lakes in this part of California are known to be very culturally sensitive. In addition, the Owens River Valley ecoregion subarea has the highest density of cultural resources of all of the DRECP ecoregion subareas (1.76 resources per acre). Therefore, the Preferred Alternative would be more protective of cultural resources in this location.

Under the Preferred Alternative, Searles Lake between Ft. Irwin and China Lake would be undesignated. Under Alternative 4, this location would be undesignated. In each alternative

this location could either be developed or conserved, therefore there is no difference between the alternatives for cultural resources.

Under the Preferred Alternative, the area along U.S. 395 north of Edwards Air Force Base would be an SAA. Under Alternative 4, this location would be a BLM conservation allocation. Therefore, Alternative 4 would protect more cultural resources in this location than the Preferred Alternative.

IV.8.3.6.7.2 Alternative 4 Compared with Preferred Alternative for the BLM Land Use Plan Amendment

In this section alternatives are distinguished through the comparison of the number of estimated cultural resources that would be conserved in BLM land designation (Tables R2.8-10 and R2.8-38) and the resources in BLM land designations that are also in DFAs and therefore might be impacted by development (Tables R2.8-9 and R2.8-37).

Table IV.8-13
Comparison of Preferred Alternative with
Alternative 4 for the BLM Land Use Plan Amendment

	Preferred Alternative Estimated # of Resources	Alternative 4 Estimated # of Resources
SRMA	68,801	70,676
NLCS	176,810	127,563
Existing and proposed ACEC	84,542	92,960
Wildlife allocation	742	10,193
LWCs	11,237	10,338
Trail management corridors	28,437	7,164
BLM LUPA land in DFA footprint	6,855	7,901

While the number of resources conserved by each type of BLM land designation vary, cultural resources CMAs apply to NLCS, ACECs, and trail management corridors and so the importance of those designations are emphasized here. Overall, a larger number of resources would be protected more effectively by the Preferred Alternative as compared to Alternative 4.

IV.8.3.6.7.3 Alternative 4 Compared with Preferred Alternative for NCCP

The impacts of the NCCP for Alternative 4 are the same as those defined in Section IV.8.3.6.1 for the Plan-wide analysis. As a result, the comparison of Alternative 4 with the Preferred Alternative for the NCCP is the same as described for Plan-wide DRECP.

IV.8.3.6.7.4 Alternative 4 Compared with Preferred Alternative for the GCP

In this section alternatives are distinguished through the comparison of the number of estimated cultural resources on GCP Lands that might be impacted by development (Tables R2.8-11 and R2.8-39) and the estimated number of resources that would be conserved (Tables R2.8-12 and R2.8-40).

Table IV.8-14
Comparison of Preferred Alternative with Alternative 4 for the GCP

	Preferred Alternative Estimated # of Resources	Alternative 4 Estimated # of Resources
GCP DFAs	5,662	7,863
Conserved	69,920	59,164

Overall, Alternative 4 would both conserve fewer resources and would potentially impact more cultural resources than the Preferred Alternative. Therefore, the Preferred Alternative is more protective of cultural resources than Alternative 4.