

## Desert Renewable Energy Conservation Plan

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### IV CONSERVATION STRATEGY (FRAMEWORK LEVEL)

Chapter IV provides a framework for the DRECP conservation strategy. An introduction and approach to the conservation strategy for this framework report is provided in Section IV.A. Framework level biological goals and objectives are described in Section IV.B. Section IV.C provides a framework level summary of the types of conservation measures and actions that could be employed to meet the biological goals and objectives for the DRECP.

The goals and objectives provided in this section establish the framework for goals and objectives to be included in the DRECP. They are based on information assembled to date for the DRECP regarding landscape, natural community and species-specific considerations. They do not represent a specific DRECP conservation strategy since that strategy has not yet been developed. For example, if subareas are identified as part of the DRECP conservation strategy, goals and objectives may reflect subarea considerations. Likewise, species models have not yet been developed for the DRECP; once such models are developed, model results may inform DRECP goals and objectives.

DRECP objectives will be measurable. In some cases, the framework level goals and objectives presented in this section reflect metrics that may be used for DRECP goals and objectives. Metrics will be refined as the DRECP conservation strategy is developed.

#### IV.A Introduction and Approach

A conservation strategy is the collection of all conservation actions employed to meet established goals and objectives. The overall conservation strategy for the DRECP will ultimately consist of multiple components such as reserve design and assembly processes, protection and management elements, funding assurances, monitoring, and adaptive management. For the purposes of this framework conservation strategy report, the focus was to develop framework-level biologically-based goals and objectives at the landscape, natural community and species level. As the conservation strategy evolves, the goals and objectives likely will be refined and the suite of conservation actions necessary to meet the defined goals and objectives will be identified.

Biological goals provide the guiding principles for the overall conservation strategy. Biological goals describe the broad biological vision and are typically qualitative in nature. Biological objectives describe the conservation target or desired condition to meet the specific biological goal. Biological objectives are directly measurable, quantitative when possible, and clearly state the desired result. There are often multiple biological objectives associated with each biological goal. Conservation actions are specific actions implemented

## Desert Renewable Energy Conservation Plan

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to meet each of the defined biological objectives, which, when met, achieve the biological goals.

The biological goals and objectives provided in this framework report were developed from the information in the existing setting described in Chapter II and the framework conservation planning process components described in Chapter III. The biological goals and objectives are organized in a narrative format for the purposes of this Framework Conservation Strategy Report. The goals and objective will likely be converted to a matrix format as the refined objectives and conservation actions are developed in order to provide a more efficient tracking of the relationships among each; e.g., explicitly showing the relationship between certain natural communities conservation actions that also help meet species objectives.

### IV.B Biological Goals and Objectives

The biological goals and objectives for the DRECP are expressed at three levels:

- Landscape
- Natural community
- Species.

The following describes the framework level biological goals and objectives developed for the landscape-level processes and functions as identified in Chapter II, for the natural communities as identified in Chapter II, and for 5 of the initial list of 14 DRECP species. Goals and objectives for the remaining 9 species on the initial list will be provided in future submittals. As these goals and objectives are developed, it will become clear that these three levels of organization – landscape, natural community, and species – are not mutually exclusive.

#### IV.B.1 Landscape-Level Goals and Objectives

Landscape-level goals are those that address broad, ecosystem processes and functions and maintain biological diversity and species richness. The following landscape-level biological goals and objectives have been developed for the DRECP.

## Desert Renewable Energy Conservation Plan

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### **Goal 1-1. Protect and maintain natural and semi-natural landscapes so as to maintain biological diversity.**

**Objective 1-1.1.** Establish through fee-title property acquisition unprotected areas identified in the DRECP conservation strategy as high priority to contribute to the establishment of a network of core conservation areas and habitat linkages connecting core conservation areas in the Plan Area of at least \_\_\_ acres, and that capture the diversity of natural communities and environmental gradients in the Plan Area.

**Objective 1-1.2.** Apply avoidance and minimization measures to the design and siting of renewable energy projects to avoid or minimize impacts to the most sensitive natural communities and species habitats.

**Objective 1-1.3.** Protect broad, unfragmented environmental gradients within DRECP conservation areas to maximize habitat heterogeneity for diverse species and allow for range shifts, contractions, and expansions in response to climate change, including temperature and precipitation gradients, elevation gradients, and geological substrate gradients.

### **Goal 1-2. Protect and maintain ecosystem processes so as to maintain ecological functionality.**

**Objective 1-2.1.** Protect and maintain processes important for formation of surficial geology, including wind (eolian) transport and deposition of sands that maintain dune systems; wind transport and deposition of sands and silts important for the formation of desert pavement; fluvial debris flows; lacustrine deposition and sedimentation; and mass wasting.

**Objective 1-2.2.** Maintain natural surface water and ground water hydrologic processes, including runoff regimes, percolation, storage, and recharge, that serve to maintain healthy natural vegetation communities and habitat for Covered Species and other wildlife.

### **Goal 1-3. Maintain or improve opportunities for movement and genetic exchange of native organisms within and between natural communities inside and connecting to areas outside the Plan Area.**

## Desert Renewable Energy Conservation Plan

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**Objective 1-3.1.** Protect and maintain identified landscape habitat linkages in a configuration that allows multiple, low cost movement and dispersal routes for wildlife species of various guilds and plants between identified core habitat areas within the DRECP Plan Area.

**Objective 1-3.2.** Protect and maintain identified landscape habitat linkages in a configuration that allows multiple, low cost movement and dispersal routes for wildlife species of various guilds and plants between identified core habitat areas adjacent to the DRECP Plan Area.

### **Goal 1-4. Enhance or restore natural and semi-natural landscapes to maintain or increase native biological diversity.**

**Objective 1-4.1.** Enhance or restore \_\_\_ acres of quality habitat for covered and other native species within areas identified in the DRECP conservation strategy as high conservation priority.

**Objective 1.4.2.** Eradicate or reduce the cover, biomass, and distribution of existing target non-native plants and reduce the number and distribution of non-native invasive animals to enhance natural communities and covered species habitat within areas identified in the DRECP conservation strategy as high conservation priority.

**Objective 1.4.3.** Design habitat enhancement or restoration projects to include opportunities for natural disturbance regimes including natural fire and flood regimes, which enhance the natural process of community regeneration, improve structural diversity, and covered species germination and recruitment.

### **IV.B.2 Natural Community-Level Goals and Objectives**

Natural community-level goals and objectives are those that address the conservation of natural communities to maintain the biological diversity, species richness, and ecological function of the area. The following natural community-level biological goals and objectives have been developed for the DRECP.

## Desert Renewable Energy Conservation Plan

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### ***Forest Community***

**Goal 2-1. Protect and maintain the forest community to benefit Covered Species, promote biodiversity, and maintain ecological functionality.**

**Objective 2-1.1.** Protect \_\_ acres of forest community that include a full range of forest community vegetation types (California montane Jeffrey pine/ponderosa pine woodland, harvested forest-shrub regeneration, harvested forest-tree regeneration, Mediterranean California red fir forest, rocky mountain subalpine dry-mesic spruce-fir forest and woodland, rocky mountain subalpine mesic spruce-fir forest and woodland, and sierra-intermontane desert western white pine-white fir woodland) within areas identified in the DRECP conservation strategy as high conservation priority, and along environmental gradients.

**Objective 2-1.2.** Reduce cover and biomass of non-native plants by implementing weed and non-native species abatement projects in priority conservation areas of the forest community.

**Objective 2-1.3.** Enhance native forest cover in disturbed areas by promoting recruitment, regeneration and succession to sustain appropriate stand structure and density, natural processes, and native species diversity found in these communities in the Plan Area.

### ***Woodland Community***

**Goal 2-2. Protect and maintain the woodland community to benefit Covered Species, promote biodiversity, and maintain ecological functionality.**

**Objective 2-2.1.** Protect \_\_ acres of oak woodland in the woodland community that include a full range of oak woodland vegetation types (California central valley mixed oak savanna, California lower montane blue oak-foothill pine woodland and savanna, and Mediterranean Californian mixed oak woodland) within areas identified in the DRECP conservation strategy as high conservation priority, and along environmental gradients.

**Objective 2-2.2.** Protect \_\_ acres of other woodland in the woodland community that include a full range of other woodland community vegetation types (central and southern California mixed evergreen woodland, great basin pinyon-juniper woodland, inter-mountain basins juniper savanna, inter-mountain basins subalpine

## Desert Renewable Energy Conservation Plan

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limber-bristlecone pine woodland, Mediterranean California dry-mesic mixed conifer forest woodland, Mediterranean California mesic mixed conifer forest and woodland, Mediterranean California subalpine woodland, northern California mesic subalpine woodland and rocky mountain aspen forest and woodland) within areas identified in the DRECP conservation strategy as high conservation priority, and along environmental gradients.

**Objective 2-2.3.** Reduce cover and biomass of non-native plants by implementing weed and non-native species abatement projects in priority conservation areas of the woodland community.

**Objective 2-2.4.** Enhance native woodland cover in disturbed areas by promoting recruitment, regeneration and succession to sustain appropriate stand structure and density, natural processes, and native species diversity found in the woodland community vegetation types in the Plan Area.

### ***Scrub and Chaparral Community***

**Goal 2-3. Protect and maintain the scrub and chaparral community to benefit Covered Species, promote biodiversity, and maintain ecological functionality.**

**Objective 2-3.1.** Protect \_\_ acres of scrub and chaparral community vegetation types (California mesic chaparral, California montane woodland and chaparral, great basin semi-desert chaparral, great basin xeric mixed sagebrush shrubland, inter-mountain basins big sagebrush shrubland, inter-mountain basins big sagebrush steppe, inter-mountain basins greasewood flat, inter-mountain basins mixed salt desert scrub, inter-mountain basins semi-desert shrub steppe, Mogollon chaparral, Mojave mid-elevation mixed desert scrub, northern and central California dry-mesic chaparral, recently burned shrubland, Sonora-Mojave creosote bush-white bursage desert scrub, Sonora-Mojave mixed salt desert scrub, Sonora-Mojave semi-desert chaparral, Sonoran palo verde-mixed cacti desert scrub, southern California coastal scrub, southern California dry-mesic chaparral) within areas identified in the DRECP conservation strategy as high conservation priority, and along environmental gradients.

**Objective 2-3.2.** Reduce cover and biomass of non-native plants by implementing weed and non-native species abatement projects in priority conservation areas of the scrub and chaparral community.

## Desert Renewable Energy Conservation Plan

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### ***Grassland and Other Herbaceous Vegetation Community***

**Goal 2-4. Protect and maintain the grassland and other herbaceous vegetation community to benefit Covered Species, promote biodiversity, and maintain ecological functionality.**

**Objective 2-4.1.** Protect \_\_ acres of native grassland community vegetation types (California central valley and southern coastal grassland, California mesic serpentine grassland, inter-mountains basins semi-desert grassland, north American warm desert playa, north pacific montane grassland, and temperate pacific montane wet meadow) within areas identified in the DRECP conservation strategy as high conservation priority, and along environmental gradients.

**Objective 2-4.2.** Protect \_\_ acres of non-native grassland community vegetation types (introduced upland vegetation-forbland) within areas identified in the DRECP conservation strategy as high conservation priority, and along environmental gradients.

**Objective 2-4.3.** Reduce cover and biomass of non-native plants by implementing weed and non-native species abatement projects in priority conservation areas of the grassland and other herbaceous vegetation community.

**Objective 2-4.4.** Enhance native herbaceous cover in disturbed areas by promoting regeneration of native species to sustain the natural processes and native species diversity found in these communities in the Plan Area.

### ***Riparian Community***

**Goal 2-5. Protect and maintain the riparian community to benefit Covered Species, promote biodiversity, and maintain ecological functionality.**

**Objective 2-5.1.** Protect \_\_ acres of riparian community vegetation types (Great Basin foothill and lower montane riparian woodland and shrubland, introduced riparian and wetland vegetation, Mediterranean California foothill and lower montane riparian woodland, north American warm desert riparian mesquite bosque, and north American warm desert riparian woodland and shrubland) within areas identified in the DRECP conservation strategy as high conservation priority, and along environmental gradients.

## Desert Renewable Energy Conservation Plan

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**Objective 2-5.2.** Protect and maintain the headwaters of important rivers, streams, and creeks in the Plan Area.

**Objective 2-5.3.** Protect and maintain river, streams, creeks, and associated important tributaries to promote habitat function, wildlife movement and dispersal within the beyond the Plan Area.

**Objective 2-5.4.** Reduce cover and biomass of non-native plants, such as tamarisk, by implementing weed and non-native species abatement projects in priority conservation areas of the riparian community.

**Objective 2-5.5.** Enhance native riparian cover in disturbed areas by promoting regeneration and succession to sustain the natural processes and native species diversity found in these communities in the Plan Area.

**Objective 2-5.6.** Restore riparian connectivity and natural hydrology, where disturbed, to the extent feasible and practicable.

**Objective 2-5.7.** Maintain or restore sediment sources and transport equilibrium in important rivers, streams, creeks, and tributaries in the Plan Area.

**Objective 2-5.8.** Maintain adequate buffers for the protection of riparian zones.

**Objective 2-5.9.** Maintain or restore floodplain connections.

### ***Wetland Community***

**Goal 2-6. Protect and maintain the wetland community to benefit Covered Species, promote biodiversity, and maintain ecological functionality.**

**Objective 2-6.1.** Protect \_\_ acres of wetland community vegetation types (north American arid west emergent marsh, open water, temperate Pacific freshwater emergent marsh, and temperate Pacific freshwater mudflat within areas identified in the DRECP conservation strategy as high conservation priority, and along environmental gradients.

**Objective 2-6.2.** Protect and maintain seeps, springs, and pools.

**Objective 2-6.3.** Reduce cover and biomass of non-native plants such, as tamarisk, by implementing weed and non-native species abatement projects in priority conservation areas of the wetland community..

## Desert Renewable Energy Conservation Plan

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**Objective 2-6.4.** Enhance native wetland cover in disturbed areas by promoting regeneration and succession to sustain the natural processes and native species diversity found in these communities in the Plan Area.

**Objective 2-6.5.** Restore wetland connectivity and natural hydrology, where disturbed, to the extent feasible and practicable.

**Objective 2-6.6.** Maintain or restore fluvial and eolian processes important for wetland community sediment sources and transport equilibrium in the Plan Area.

**Objective 2-6.7.** Maintain adequate buffers for the protection of wetlands zones.

### ***Dune Community***

**Goal 2-7. Protect and maintain the dune community and ecological processes to benefit Covered Species, promote biodiversity, and maintain ecological functionality.**

**Objective 2-7.1.** Protect and maintain areas with Mediterranean California northern coastal dunes and North American warm desert active and stabilized dunes within areas identified in the DRECP conservation strategy as high conservation priority, and along environmental gradients.

**Objective 2-7.2.** Maintain eolian conditions to sustain the dune community.

### ***Rocky, Barren, and Unvegetated Community***

**Goal 2-8. Protect and maintain the rocky, barren, and unvegetated community, habitat features, and ecological processes that are important for sustaining biological diversity and provide essential habitat for Covered Species.**

**Objective 2-8.1.** Protect and maintain areas with inter-mountain basins playa, inter-mountain basins shale badland, Mediterranean California alpine bedrock and scree, North American warm desert badland, North American warm desert, bedrock cliff and outcrop, North American warm desert pavement, North American warm desert volcanic rockland, North American warm desert wash, North Pacific volcanic rock and cinder land, North Pacific wooded volcanic flowage, Southern California Coast Ranges cliff and canyon, and undifferentiated barren land vegetation types within areas identified in the DRECP conservation strategy as high conservation priority, and along environmental gradients.

## Desert Renewable Energy Conservation Plan

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**Objective 2-8.2.** Protect and maintain alluvial fans and associated alluvial and fluvial processes.

**Objective 2-8.3.** Protect cliffs, caves, and mines to the extent feasible.

**Objective 2-8.4.** Protect and maintain bare exposed rock in a diversity of regions and other environmental gradients in the Plan Area that provide refuge, foraging, perching, and roosting habitat for Covered Species.

### ***Agriculture***

**Goal 2-9. Protect and maintain habitat conditions in agricultural areas that benefit Covered Species.**

**Objective 2-9.1.** Maintain agricultural (cultivated cropland) lands that provide foraging habitat for Covered Species.

**Objective 2-9.2.** Maintain streams and canals within agricultural lands that provide nesting and foraging habitat for Covered Species.

**Objective 2-9.3.** Maintain permanently flooded lacustrine habitat in a diversity of regions and other environmental gradients in the Plan Area that provides foraging and resting habitat for Covered Species.

### **IV.B.3 Species-Level Goals and Objectives**

Species-level goals and objectives are those that address the conservation of targeted species and species populations to maintain self-sustaining levels and contribute to the recovery of species.

## Desert Renewable Energy Conservation Plan

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### *Desert Bighorn Sheep*

#### **Goal 3-10.1 Avoid and minimize impacts to desert bighorn sheep individuals and their habitat associated with Covered Activities**

**Objective 3-10.1.1** Site facilities outside of the known occupied desert bighorn sheep habitat to the extent feasible and practicable, including the various occupied mountain ranges in the Mojave Desert and Peninsular mountain ranges.

**Objective 3-10.1.2** Site facilities to the extent feasible and practicable that modeled suitable habitat and non-traditional movement habitat (e.g., between occupied mountain ranges) for the desert bighorn sheep is avoided.

**Objective 3-10.1.3** Provide for adequate buffers between facilities and operations and occupied desert bighorn sheep habitat to avoid and minimize adverse edge effects, with buffer size to be determined by site-specific conditions such as type of resource (e.g., water sources, escape terrain, mineral licks, movement corridors).

**Objective 3-10.1.4** Implement project design features and BMPs to avoid and minimize impacts to desert bighorn sheep at facilities, including: control of invasive plant species around facilities; prohibition on potentially toxic landscaping such as oleander (*Nerium oleander*) and laurel cherry (*Prunus laurocerasus*); prohibition on potentially toxic pesticides; minimal fencing and use of wildlife-friendly fencing where necessary; and use of lighting for safety and security purposes only and directed away from adjacent habitat.

**Objective 3-10.1.5** Implement worker education programs to avoid and minimize impacts to desert bighorn sheep and its habitat during project construction, operation and maintenance, and decommission.

**Objective 3-10.1.6** Implement biological monitoring for all activities during project construction, operation and maintenance, and decommission that may disturb desert bighorn sheep, including ground and vegetation disturbances, activities at parking and staging sites, and helicopter overflights.

**Objective 3-10.1.7** Conduct construction, operations and maintenance, and decommission activities in occupied areas during time periods least likely to affect important life history periods (e.g., lambing, breeding, seasonal movement and

## Desert Renewable Energy Conservation Plan

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resource use) to maximize the chance of successful breeding and recruitment of individuals into the population.

**Objective 3-10.1.8** Maintain work sites such that desert bighorn sheep and their predators are not attracted to the sites, such as preventing the collection of standing water, and removal or securing of all trash and garbage at the end of a work day.

**Objective 3-10.1.9** Control unauthorized public access to areas occupied by desert bighorn sheep through methods such as regular patrols and physical impediments to trespass such as boulder piles, k-rails, and gates.

**Objective 3-10.1.10** Develop habitat restoration/enhancement for desert bighorn habitat degraded by temporary impacts associated with construction and operations and maintenance activities that result in ground and/or vegetation disturbances.

### Goal 3-10.2 Contribute to recovery of desert bighorn sheep

**Objective 3-10.2.1** Acquire \_\_ acres of modeled suitable habitat for desert bighorn sheep through fee title of unprotected areas identified in the DRECP conservation strategy as high priority to contribute to the establishment of permanent core reserves or linkage areas for the species.

**Objective 3-10.2.2** Contribute funds for adaptive management of core reserves and linkage areas, and/or research on such activities, for desert bighorn sheep, including, but not limited to: creation of water sources; invasive species removal from critical sites (e.g., *Tamarix* spp. at water sources); retrofitting of underpasses or construction of wildlife overpasses; translocation of individuals to reestablish or augment existing populations; and studies on and/or treatment for pathogens and contaminants.

## Desert Renewable Energy Conservation Plan

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### *Mohave Ground Squirrel*

#### **Goal 3-11.1 Avoid and minimize impacts to important Mohave ground squirrel individuals and their habitat associated with Covered Activities**

**Objective 3-11.1.1** Site facilities outside of the four core areas identified by Leitner (2008) to the extent feasible and practicable, including the Coso Range-Olancha Core Area, the Little Dixie Wash Core Area, the Edwards Air Force Base Core Area, and the Coolgardie Mesa-Superior Valley Core Area.

**Objective 3-11.1.2** Site facilities outside of areas known to be occupied by the Mohave ground squirrel based on recent or future field studies to the extent feasible and practicable.

**Objective 3-11.1.3** Site facilities so that modeled suitable habitat for the Mohave ground squirrel is avoided to the extent feasible and practicable.

**Objective 3-11.1.4** Provide for adequate buffers between facilities and operations and occupied Mohave ground squirrel habitat to avoid and minimize adverse edge effects, with buffer size to be determined by site-specific conditions (e.g., vegetation communities, soils, topography, etc.).

**Objective 3-11.1.5** Implement project design features and Best Management Practices to avoid and minimize impacts to Mohave ground squirrel at facilities, including: controlling of invasive plant species around facilities; prohibition on potentially toxic pesticides including rodenticides and herbicides that affect native plants used for forage; and minimal fencing and use of wildlife-friendly fencing where necessary.

**Objective 3-11.1.6** Implement worker education programs to avoid and minimize impacts to Mohave ground squirrel and its habitat during project construction, operation and maintenance, and decommission.

**Objective 3-11.1.7** Implement biological monitoring of ground- and vegetation-disturbing activities during project construction, operation and maintenance, and decommission and remove individuals from harm's way to the extent feasible and practicable.

**Objective 3-11.1.8** Conduct ground- and vegetation-disturbing construction, operations and maintenance, and decommission activities during time periods least

## Desert Renewable Energy Conservation Plan

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likely to affect reproductive activities of the Mohave ground squirrel (February-May) to maximize the chance of successful breeding and recruitment of individuals into the population.

**Objective 3-11.1.9** Maintain work sites such that predators of Mohave ground squirrels (e.g., coyotes, feral dogs) are not attracted to the sites, such as removal or securing of all trash and garbage at the end of a work day.

**Objective 3-11.1.10** Control unauthorized public access to areas occupied by Mohave ground squirrel or modeled suitable habitat through methods such as regular patrols and physical impediments such as boulder piles, k-rails, and gates.

**Objective 3-11.1.11** Develop habitat restoration/enhancement for Mohave ground squirrel habitat degraded by temporary impacts associated with construction and operations and maintenance activities that result in ground and/or vegetation disturbances.

### **Goal 3-11.2 Contribute to recovery of Mohave ground squirrel.**

**Objective 3-11.2.1** Acquire \_\_ acres of modeled suitable habitat for Mohave ground squirrel through fee title of unprotected areas identified in the DRECP conservation strategy as high priority to contribute to the establishment of permanent core reserves or linkage areas for the species.

**Objective 3-11.2.2** Contribute funds for adaptive management of core reserves and linkage areas, and/or research on such activities, for Mohave ground squirrel, including, but not limited to, habitat restoration and enhancement and population expansions.

### ***Desert Cymopterus***

#### **Goal 3-12.1 Avoid and minimize impacts to important desert cymopterus associated with Covered Activities**

**Objective 3-12.1.1** Site facilities to the extent feasible and practicable to avoid and minimize impacts to desert cymopterus documented populations and modeled habitat.

**Objective 3-12.1.2** Provide minimum 500-foot buffer between facilities and documented population habitat to avoid and minimize adverse edge effects, unless

## Desert Renewable Energy Conservation Plan

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size can be reduced due to other factors (e.g., type of use) and site-specific conditions (e.g., vegetation communities, soils, topography, etc.).

**Objective 3-12.1.3** Implement project design features and BMPs to avoid and minimize impacts to desert cymopterus near facilities, including control of invasive plant species around facilities, maintaining natural hydrologic conditions, and avoiding use of pesticides that may affect plants directly or indirectly via pollinators and dispersers.

**Objective 3-12.1.4** Implement worker education programs to avoid and minimize impacts to desert cymopterus and its habitat during project construction, operation and maintenance, and decommission.

**Objective 3-12.1.5** Conduct ground- and vegetation-disturbing construction, operations and maintenance, and decommission activities during time periods least likely to affect reproductive activities of the desert cymopterus (blooming period is early March to mid-May).

**Objective 3-12.1.6** Implement preconstruction surveys and biological monitoring of ground- and vegetation-disturbing activities during project construction, operation and maintenance, and decommission, as appropriate.

**Objective 3-12.1.7** Develop habitat restoration/enhancement for desert cymopterus populations and/or habitat degraded by temporary impacts associated with construction and operations and maintenance activities that result in ground and/or vegetation disturbances.

### Goal 3-12.2 Contribute to recovery of desert cymopterus

**Objective 3-12.2.1** Protect \_\_ documented localities of desert cymopterus, including localities at xxx, xxx... through fee title of unprotected areas identified in the DRECP conservation strategy as high priority to contribute to the establishment of permanent core reserves or linkage areas for the species. (Note: quantities and specific localities will be added when more information is available)

**Objective 3-12.2.2** Implement experimental salvage and population enhancement program to determine feasibility of expanding documented populations of desert cymopterus.

## Desert Renewable Energy Conservation Plan

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**Objective 3-12.2.3** Contribute funds for adaptive management of core reserves and linkage areas, and/or research on such activities, for desert cymopterus, including, but not limited to habitat correlations, growth habits, pollination and dispersal mechanisms, environmental drivers (e.g., amount and timing of precipitation), ecological relationships (e.g., herbivory by native species), populations trends, and threat and stressors.

### ***Barstow Woolly Sunflower***

#### **Goal 3-13.1 Avoid and minimize impacts to important Barstow woolly sunflower associated with Covered Activities**

**Objective 3-13.1.1** Site facilities to the extent feasible and practicable to avoid and minimize impacts to Barstow woolly sunflower documented populations and modeled habitat.

**Objective 3-13.1.2** Provide minimum 500-foot buffer between facilities and documented population habitat to avoid and minimize adverse edge effects, unless size can be reduced due to other factors (e.g., type of use) and site-specific conditions (e.g., vegetation communities, soils, topography, etc.).

**Objective 3-13.1.3** Implement project design features and BMPs to avoid and minimize impacts to Barstow woolly sunflower near facilities, including control of invasive plant species around facilities, maintaining natural hydrologic conditions, and avoiding use of pesticides that may affect plants directly or indirectly via pollinators and dispersers.

**Objective 3-13.1.4** Implement worker education programs to avoid and minimize impacts to Barstow woolly sunflower and its habitat during project construction, operation and maintenance, and decommission.

**Objective 3-13.1.5** Implement preconstruction surveys and biological monitoring of ground- and vegetation-disturbing activities during project construction, operation and maintenance, and decommission, as appropriate.

**Objective 3-13.1.6** Conduct ground- and vegetation-disturbing construction, operations and maintenance, and decommission activities during time periods least likely to affect reproductive activities of the Barstow woolly sunflower (blooming period is March to May)

## Desert Renewable Energy Conservation Plan

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**Objective 3-13.1.7** Develop habitat restoration/enhancement for Barstow woolly sunflower populations and/or habitat degraded by temporary impacts associated with construction and operations and maintenance activities that result in ground and/or vegetation disturbances.

### **Goal 3-13.2 Contribute to recovery of Barstow woolly sunflower**

**Objective 3-13.2.1** Protect \_\_ documented localities of Barstow woolly sunflower, including localities at xxx, xxx... through fee title of unprotected areas identified in the DRECP conservation strategy as high priority to contribute to the establishment of permanent core reserves or linkage areas for the species. (Note: quantities and specific localities will be added when more information is available)

**Objective 3-13.2.2** Implement experimental salvage and population enhancement program to determine feasibility of expanding documented populations of Barstow woolly sunflower.

**Objective 3-13.2.3** Contribute funds for adaptive management of core reserves and linkage areas, and/or research on such activities, for Barstow woolly sunflower, including including, but not limited to habitat correlations, growth habitats, pollination and dispersal mechanisms, environmental drivers (e.g., amount and timing of precipitation), ecological relationships (e.g., herbivory by native species), populations trends, and threat and stressors.

### ***Mojave Monkeyflower***

#### **Goal 3-14.1 Avoid and minimize impacts to important Mohave monkeyflower associated with Covered Activities**

**Objective 3-14.1.1** Site facilities to the extent feasible and practicable to avoid and minimize impacts to Mojave monkeyflower documented populations and modeled habitat.

**Objective 3-14.1.2** Provide minimum 500-foot buffer between facilities documented population habitat to avoid and minimize adverse edge effects, unless size can be reduced due to other factors (e.g., type of use) and site-specific conditions (e.g., vegetation communities, soils, topography, etc.).

**Objective 3-14.1.3** Implement project design features and BMPs to avoid and minimize impacts to Mojave monkeyflower near facilities, including control of

## Desert Renewable Energy Conservation Plan

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invasive plant species around facilities, maintaining natural hydrologic conditions, and avoiding use of pesticides that may affect plants directly or indirectly via pollinators and dispersers.

**Objective 3-14.1.4** Implement worker education programs to avoid and minimize impacts to Mohave monkeyflower and its habitat during project construction, operation and maintenance, and decommission.

**Objective 3-14.1.5** Implement preconstruction surveys and biological monitoring of ground- and vegetation-disturbing activities during project construction, operation and maintenance, and decommission, as appropriate.

**Objective 3-13.1.6** Conduct ground- and vegetation-disturbing construction, operations and maintenance, and decommission activities during time periods least likely to affect reproductive activities of the Mojave monkeyflower (blooming period is April to June).

**Objective 3-14.1.7** Develop habitat restoration/enhancement for Mohave monkeyflower populations and/or habitat degraded by temporary impacts associated with construction and operations and maintenance activities that result in ground and/or vegetation disturbances.

### Goal 3-14.2 Contribute to recovery of Mojave monkeyflower

**Objective 3-14.2.1** Protect \_\_ documented localities of Mojave monkeyflower, including localities at xxx, xxx... through fee title of unprotected areas identified in the DRECP conservation strategy as high priority to contribute to the establishment of permanent core reserves or linkage areas for the species. (Note: quantities and specific localities will be added when more information is available)

**Objective 3-14.2.2** Implement experimental salvage and population enhancement program to determine feasibility of expanding documented populations of Mojave monkeyflower.

**Objective 3-14.2.3** Contribute funds for adaptive management of core reserves and linkage areas, and/or research on such activities, for Mohave monkeyflower, including but not limited to habitat correlations, growth habitats, pollination and dispersal mechanisms, environmental drivers (e.g., amount and timing of

## Desert Renewable Energy Conservation Plan

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precipitation), ecological relationships (e.g., herbivory by native species), populations trends, and threat and stressors.

### IV.C Conservation Measures

For each of the biological objectives described at the landscape, natural community, and species level, specific conservation measures will be identified and described in detail. Conservation measures are conservation actions and monitoring/reporting actions that are implemented to meet a biological objective. Conservation measures are considered Covered Activities as described in Section V.C.7. Conservation actions from existing plans in the DRECP Area, as described in Section III.C, will provide a starting point for developing conservation measures for the DRECP. In addition to landscape-level conservation measures, natural community-level conservation measures, and species-level conservation measures, conservation measures will include a description of Project Design Features/Avoidance and Minimization Measures.

Specific conservation measures have not been identified for the Framework Conservation Strategy Report because additional analysis is necessary to develop the specifics of the biological objectives provided in Section IV.B. Many of the conservation actions will be site- and impact-specific (e.g, invasive species controls along access roads, wildlife-friendly fencing around facilities). For the purpose of providing a framework, landscape-level conservation measures are actions that would be undertaken to achieve particular reserve design and configurations or maintain certain physical or ecological processes. Natural community-level conservation measures are actions that would be undertaken to achieve community-specific conservation acreage targets, regional representativeness, and function. Species-level conservation measures are actions that would be undertaken to achieve targets for the conservation of species' habitat and population.

Conservation measures will include a suite of specific actions including, but not limited to, the following types of actions:

- Preserve assembly through permanent protection or acquisition
- Land management and stewardship activities
- Habitat enhancement, restoration, and creation
- Control of introduced predators
- Control of invasive species

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## Desert Renewable Energy Conservation Plan

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- Pre-activity surveys and biological monitoring during construction and certain types of operations and maintenance activities (e.g., regrading access roads)
- Translocation of species under limited circumstances
- Demolition or removal of structures or roads to increase public safety or to restore habitat
- Species monitoring and research related to Covered Activities effects.