Appendix C

BLM Biological Resource Goals and Objectives

C BLM BIOLOGICAL RESOURCE GOALS AND OBJECTIVES

Preface

The BLM biological resource goals and objectives described here are an updated subset of the Biological Goals and Objectives (BGOs) presented in Appendix C in the Draft DRECP. These BLM biological resource goals and objectives apply to the Proposed BLM LUPA for BLM land only and are independent from, yet integral to the larger DRECP biological conservation framework, vision and strategy. The BLM biological resource biological goals and objectives were developed from the process and biological information used to generate the Plan-wide BGOs described in the Draft DRECP, and revised based on public comment on the draft Plan-wide BGOs. The BLM biological resource goals and objectives are broad-based, not regulatory, and do not prescribe specific conservation strategies or implementation programs. See Volume II, conservation and management actions (CMAs) for required actions in the BLM LUPA, based on these biological resource goals and objectives.

C.1 Process for Developing the Biological Resource Goals and Objectives

The process for drafting the Plan-wide BGOs presented in the Draft DRECP remains valid and applicable, and is herein incorporated by reference. The BLM LUPA biological resource goals and objectives are an updated subset of the BGO's from the Draft, but for BLM managed land only.

C.2 BLM Biological Resource Goals and Objectives

Table C-1
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	BLM Biological Resource Goals and Objectives
Landscape and Habitat Connectivity	**Goal 1:** As part of a desert-wide landscape design, on BLM land provide a mosaic of vegetative types with habitat linkages that is adaptive to changing conditions and includes temperature and precipitation gradients, elevation gradients, and a diversity of geological facets that provide for movement and gene flow and accommodate range shifts and expansions in response to climate change. • **Objective 1.1:** Conserve focus and BLM Special Status Species habitat, vegetation types, and ecological processes of the Mojave and Sonoran deserts in each ecoregional subarea in the BLM Decision Area. • **Objective 1.2:** Design landscape linkage corridors to be 3 miles wide where feasible, and at least 1.2 miles wide where a greater width is not feasible. o Within BLM's authority, provide for wildlife crossings (underpasses and land bridges, if feasible) of appropriate size to allow wildlife movement

Table C-1
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	through barriers such as roads and canals that exist within identified corridors. Underpasses or bridges must be designed with behavioral attributes considered, so as to avoid population sink effects and mortalities. The use of fencing, or other structures, may be essential to direct movement and dispersal towards crossing structures. • **Objective 1.3:** Protect and maintain the permeability of landscape connections between neighboring mountain ranges to allow passage of resident wildlife by protecting key movement corridors or reducing barriers to movement within intermountain connections, including: ○ Chuckwalla-Little Chuckwalla-Palen connections ○ Bristol-Marble-Ship-Old Woman connections ○ Old Woman-Turtle-Whipple connections ○ Bullion-Sheephole-Coxcomb connections ○ Clark-Mesquite-Kingston connections ○ Big Maria-Little Maria-McCoy connections ○ Soda-Avawatz-Ord-Funeral connections ○ Clark-Mesquite-Kingston-Nopah-Funeral connections ○ Rosa-Vallecitos-Coyote connections ○ Panamint-Argus connection ○ Palo Verde-Mule-Little Chuckwalla connections ○ Palo Verde-Mule-McCoy connections ○ Chuckwalla-Eagle-Coxcomb connections ○ Eagle-Granite-Palen-Little Maria connections ○ Granite-Iron-Old Woman connections ○ Big Maria-Little Maria-Turtle connections ○ Northeast slope of the San Bernardino Mountains between Arrastre Creek and Furnace Canyon, including Arctic and Cushenbury canyons, Terrace and Jacoby springs, along Nelson Ridge. • **Objective 1.4:** Conserve unique landscape features, important landforms, and rare or unique vegetation types identified within the BLM Decision Area, including: ○ Desert riparian and wetland resources in the planning area, including riparian habitat (including microphyll woodlands), desert playas, and seeps/springs ○ Areas of dense Joshua Tree woodland ○ Areas with unique geological activity and/or paleontological interest ○ Rare vegetation type alliances
Ecological Processes	**Goal 2:** Promote ecological processes in the BLM Decision Area that sustain vegetation types and focus and BLM Special Status Species and their habitat. • **Objective 2.1:** Maintain natural surface- and ground-water processes in the planning area, including runoff regimes, percolation, storage, and

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	recharge that serve to maintain vegetation types and focus and BLM Special Status Species habitat, including riparian, playa, seeps/springs, and desert wash resource elements. • **Objective 2.2**: Maintain hydrogeomorphic processes that create habitat diversity, channel bank habitat and regeneration sites (through sediment transport, incision, and sand/silt deposition) for plants and wildlife, including single-thread channels, compound channels, and distributary networks located on alluvial fans. ○ Protect streams and washes, wetlands, and seasonal wetlands in all watersheds in the planning area. ○ Restore natural flow stream morphology at modified sites that are not in proper functioning condition. • **Objective 2.3:** Conserve floodplain groundwater recharge, input of organic matter, and sediment deposition in the floodplain. Maintain floodplain and flood terrace fluvial processes and protect natural floodplain inundation zones to the 100-year flood plain by insuring ponding or other recharge mechanisms. • **Objective 2.4:** Conserve undeveloped and natural areas within the watersheds of important riverine and drainage systems • **Objective 2.5:** Maintain or reestablish a fire regime that supports vegetation types and focus and BLM Special Status Species. • **Objective 2.6:** Minimize or prevent new infestations and, where feasible in target areas, decrease from existing conditions invasive plant species that negatively affect vegetation types and focus and BLM Special Status Species. Target invasive plant species include tamarisk (*Tamarix* spp.), Sahara mustard (*Brassica tournefortii*), African mustard (*Malcolmia africana*), arundo or giant reed (*Arundo donax*), Russian thistle (*Salsola* spp.), and non-native grasses. • **Objective 2.7:** Conserve the geomorphic (fluvial, alluvial, and Aeolian) processes associated with sand dune formation and the sand transport corridors between the sand dunes and their sand sources. • **Objective 2.8:** Conserve or increase protective management to prevent structures capable of obstructing sand movement, within sand transport areas.
Agassiz's Desert Tortoise – Gopherus agassizii	**Goal 3**: Within each desert tortoise recovery unit (USFWS 2011), on BLM land within the LUPA Decision Area, maintain well-distributed populations through a network of conservation lands that provide sufficient contiguous size and configuration to provide long-term population viability, connectivity, growth in recovery unit population size, and increases in recovery unit population distribution. • **Objective 3.1** (Tortoise Conservation Areas): Maintain no net loss in the quantity of conserved desert tortoise habitat, on BLM land in the LUPA

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	Decision Area, within each Tortoise Conservation Area in support of long-term desert tortoise population viability (Recovery Criterion 3). • **Objective 3.2** (Tortoise Conservation Areas): Contribute to increasing rates of population change (λ) for desert tortoises (i.e., λ>1) over at least 25 years (a single tortoise generation). • **Objective 3.3** (Tortoise Conservation Areas): Increase in the distribution of desert tortoises throughout each Tortoise Conservation Area, on BLM land within the LUPA Decision Area over at least 25 years (i.e., ψ [occupancy] >0) (Recovery Criterion 2). • **Objective 3.4** (Tortoise Conservation Areas): Augment Tortoise Conservation Areas, such as Ord-Rodman, with conservation designations, implementation of the CMAs, restoration and acquisition of high value contiguous habitat to satisfy population viability parameters in the Recovery Plan. **Goal 4 (Desert Tortoise Linkages):** Maintain functional linkages between Tortoise Conservation Areas to provide for long-term genetic exchange, demographic stability, and population viability within Tortoise Conservation Areas. Emphasize inclusion of high value contiguous habitats pursuant to Nussear et al. (2001,) and minimization and avoidance of disturbance in habitat with high desert tortoise habitat potential. • **Objective 4.1** (Desert Tortoise Linkages): Protect, manage, restore and acquire desert tortoise habitat within the following linkages with special emphasis placed on areas of high habitat potential and areas identified as integral to the establishment and protection of a viable linkage network. Ensure the long-term connectivity of Tortoise Conservation Areas by maintaining desert tortoise habitat that is of sufficient size and contiguity for maintenance of viable populations within each linkage. ○ Ord-Rodman to Superior-Cronese to Mojave National Preserve ○ Superior-Cronese to Mojave National Preserve to Shadow Valley to Death Valley National Park Linkage ○ Joshua Tree National Park and Pinto Mountains to Chemehuevi Linkage • **Objective 4.2**(Desert Tortoise Linkages): Protect, maintain, manage, restore and acquire all remaining desert tortoise habitat within severely compromised linkages, specifically the following: ○ Ivanpah Valley Linkage ○ Chemehuevi to Chuckwalla Linkage ○ Pinto Wash Linkage • **Objective 4.3** (Desert Tortoise Linkages): Protect and manage intact habitat on BLM land within the following linkages to enhance the population viability of the Ord-Rodman Tortoise Conservation Area. ○ Ord-Rodman to Joshua Tree Linkage ○ Fremont Kramer to Ord-Rodman Linkage