

4.7 BIOLOGICAL RESOURCES

4.7.1 Introduction and Background

This section of the EIR/EIS analyzes the impacts of the Plan on biological resources in the Plan Area, particularly on the 27 Covered Species and the 27 natural communities included in the Plan. It should be noted that while acquisition of private lands is identified as the primary means of Reserve System Assembly, conservation of lands by other means such as the placement of easements may also be appropriate. Section 3.8 provides general background information on biological resources. For more information on the Covered Species and conserved natural communities discussed below, please see the summary tables in Section 4.6 of the MSHCP and the species accounts in Section 9 of the natural communities accounts in Section 10 of the MSHCP. The natural communities in the Plan Area are also shown on *Exhibit 4-6*.

4.7.2 Thresholds of Significance/Criteria for Determining Significance for CEQA Analysis

The Plan and the Alternatives would have a significant effect on biological resources if they:

- a. Have a substantial adverse effect, either directly or indirectly, or through habitat modifications, on any species identified as a candidate, sensitive, or special status species (including species listed as threatened or endangered) in local or regional plans, policies, or regulations, or by the CDFG or USFWS;
- b. Have a substantial adverse effect on any wetlands, riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or the USFWS;
- c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.)
- d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- f. Conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.
- g. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

4.7.3 Biological-Resources-Related Project Impacts

The Proposed Action/Preferred Alternative would result in a net beneficial impact to the Covered Species and natural communities as the Plan would reduce, fragmentation, shielding of blowsand habitat, and blocked ecological processes. The Plan would establish a Reserve System to conserve, monitor, and manage Core Habitat, Essential Ecological Processes, and Biological Corridors and Linkages needed for the Conservation of the Covered Species and natural communities included in the Plan. It is further the intent of the MSHCP to maintain overall biodiversity and protect functioning ecosystems in the Plan Area. The Plan provides Take Authorization for specified Covered Activities within the Plan Area. The Plan is designed to minimize and mitigate impacts of these Covered Activities.

The large blocks of Forest Service and BLM lands within Conservation Areas would be managed according to separate federal land use plans in a manner consistent with the MSHCP Species and Conservation Goals and Objectives. The BLM has coordinated with CVAG on conservation management for its recent Coachella Valley and Northern and Eastern Colorado Desert Plan Amendments to the California Desert Conservation Area Plan.^{1,2} The Forest Service has revised its management and land use plan for the San Bernardino National Forest. These agencies have also published a Proposed Plan and Final EIS and a Record of Decision for the Santa Rosa and San Jacinto Mountains National Monument.³ Conservation management in Joshua Tree National Park is assumed to be adequate to protect the Covered Species in that area. These federal plans provide Conservation Levels 1 and 2 (See Section 2.4 of the MSHCP for information on Conservation Levels) for most of the federal lands within the Plan Area.

¹ *California Desert Conservation Area Plan Amendment for the Coachella Valley and Final Environmental Impact Report*. Prepared by the United States Department of the Interior, Bureau of Land Management. October 2002.

² Bureau of Land Management 2002b.

³ *Santa Rosa and San Jacinto Mountains National Monument Proposed Resource Management Plan/Final Environmental Impact Statement*. Prepared by the U.S. Department of the Interior, Bureau of Land Management and the U.S. Department of Agriculture, Forest Service, October 2003.

Santa Rosa and San Jacinto Mountains National Monument Final Management Plan and Record of Decision. Prepared by the U.S. Department of the Interior, Bureau of Land Management and the U.S. Department of Agriculture, Forest Service, February 2004.

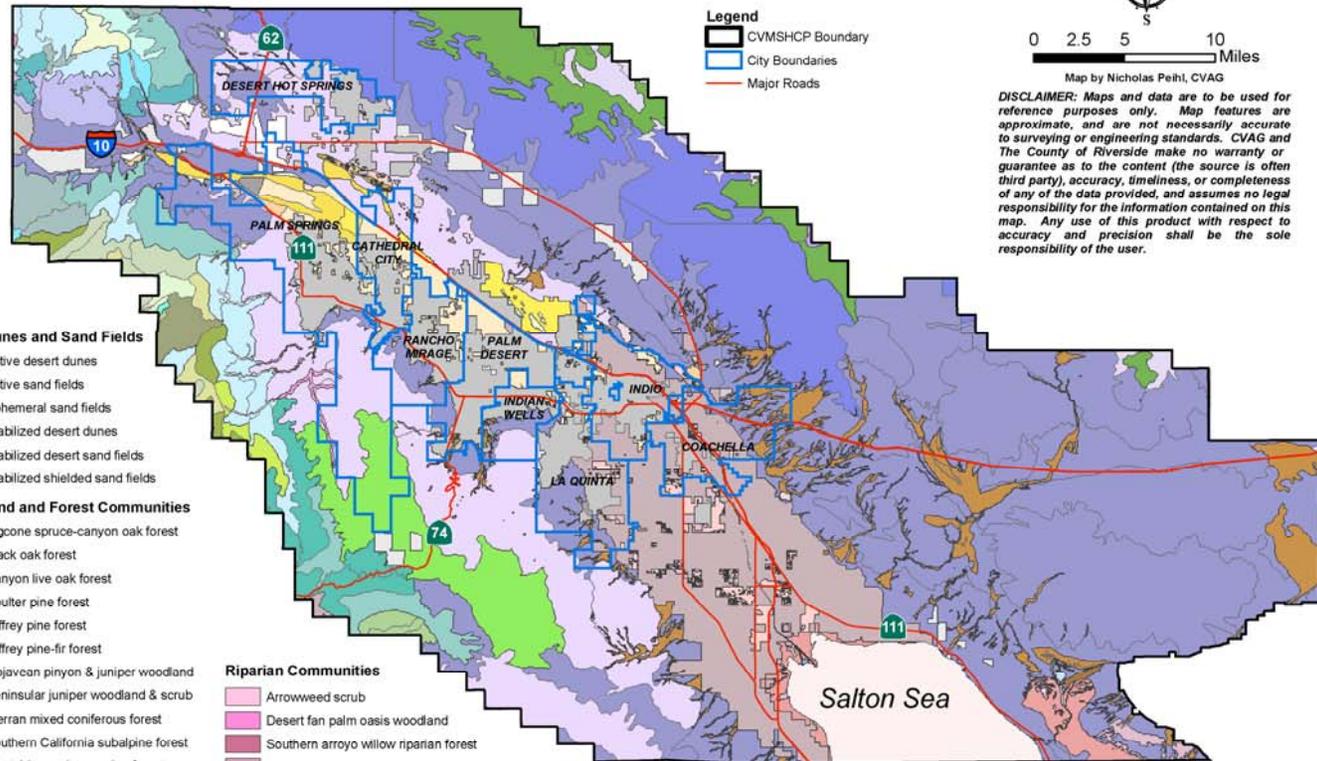
**Recirculated Final Coachella Valley Multiple Species Habitat Conservation Plan
 and
 Natural Community Conservation Plan**

- Chaparral Communities**
- Chamise chaparral
 - Interior live oak chaparral
 - Mixed montane chaparral
 - Northern mixed chaparral
 - Red shank chaparral
 - Scrub oak chaparral
 - Semi-desert chaparral
 - Upper Sonoran manzanita chaparral
 - Upper Sonoran mixed chaparral
- Desert Alkali Scrub Communities**
- Desert saltbush scrub
 - Desert sink scrub
- Desert Scrub Communities**
- Blackbrush scrub
 - Mojave mixed steppe
 - Mojave mixed woody scrub
 - Riversidean desert scrub
 - Sonoran creosote bush scrub
 - Sonoran mixed woody and succulent scrub
- Developed Areas**
- Agriculture
 - Lake
 - Landfill
 - Quarry
 - Reservoir
 - Rural
 - Urban
 - Wind energy
- Dry Wash Woodland and Mesquite Communities**
- Desert dry wash woodland
 - Mesquite bosque
 - Mesquite hummocks
- Marsh Communities**
- Cismontane alkali marsh
 - Coastal and valley freshwater marsh

- Sand Dunes and Sand Fields**
- Active desert dunes
 - Active sand fields
 - Ephemeral sand fields
 - Stabilized desert dunes
 - Stabilized desert sand fields
 - Stabilized shielded sand fields

- Woodland and Forest Communities**
- Bigcone spruce-canyon oak forest
 - Black oak forest
 - Canyon live oak forest
 - Coulter pine forest
 - Jeffrey pine forest
 - Jeffrey pine-fir forest
 - Mojavean pinyon & juniper woodland
 - Peninsular juniper woodland & scrub
 - Sierran mixed coniferous forest
 - Southern California subalpine forest
 - Westside ponderosa pine forest

- Riparian Communities**
- Arrowweed scrub
 - Desert fan palm oasis woodland
 - Southern arroyo willow riparian forest
 - Tamarisk scrub



Map by Nicholas Peihl, CVAG

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Exhibit 4-5: Natural Communities and Development

Exhibit 4-5

The federally listed threatened and endangered species in these approved regional plans, most of which are Covered Species in the MSHCP, have received non-jeopardy Biological Opinions or concurrence letters of “not likely to adversely affect” from USFWS. In addition, new projects that may take place on federal lands and affect listed species would be subject to consultation with USFWS.

Given these federal actions, the Covered Species and natural communities found on lands managed by the three federal agencies are judged to be beneficial and compatible with the Goals and Objectives of the MSHCP. In addition, ongoing management of the Coachella Valley National Wildlife Refuge would complement implementation of the Plan.

The level of habitat conservation and habitat loss for each Covered Species and the Plan’s resulting impacts on each species are discussed below for each Alternative. Following that is a similar discussion for each natural community.

Comparison of Effects on Covered Species by Alternative

The following No Action/No Project Alternative description applies to all Covered Species and natural communities and is being presented once rather than repeated for each.

No Action/No Project Alternative

Under this Alternative, this Plan would not be approved and, hence, no conservation measures for the Covered Species would be implemented. For Non-Listed Species, this Alternative would result in continued loss of habitat and significant adverse impacts would be expected to occur for CEQA analysis purposes. The same would be true for natural communities. For Listed Species, projects would have to obtain Take Authorization through individual HCPs or, where applicable, Section 7 consultation with USFWS.

While this would afford some protection for these species, this project by project approach may be more expensive and time consuming for individual project proponents, sometimes resulting in increased costs to local government or the development community. Additionally, it would be more difficult for incremental project reviews to achieve the landscape level of conservation as provided under the Preferred Alternative, which is a comprehensive, regional conservation plan.

PLANTS

Coachella Valley milkvetch (*Astragalus lentiginosus* var. *coachellae*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to habitat loss, including those occurring on the Big Dune (Palm Springs Sand Ridge). The habitat for this species on the Big Dune is shielded from replenishment by aeolian sand transport. Approximately 15,392 acres (42%) of all habitat and 51% of the non-Federal lands would be subject to habitat loss under the Preferred Alternative. There would be approximately 928 acres (6%) of Core Habitat subject to habitat loss under this alternative. This plant is a Coachella Valley endemic, with the exception of one disjunct population north of Desert Center, outside the Plan Area. Within the Plan Area, the Plan would conserve all remaining populations of this species where Essential Ecological Processes are intact. Though existing occurrences typically are widely scattered, the reserve design would tie different subpopulations together into larger blocks of conserved habitat, often allowing for seed dispersal over long distances by fluvial and Aeolian processes. For example, contiguous habitat would be provided across several Conservation Areas extending from the San Gorgonio Pass to locations east of Gene Autry Trail. Similarly, the milk-vetch populations along Morongo Wash would be connected across several Conservation Areas all the way to the Coachella Valley Preserve, and further east to the extent that suitable habitat may still remain along the base of the eastern Indio Hills. The plant is blowsand dependent, but adaptable to establishment in artificially disturbed situations, such as road edges. The main sand fields in the Coachella Valley (Big Dune) are shielded from replenishment by aeolian sand transport and may not be viable in the long term, though some disagreement remains about the ability of this species to survive in shielded sand fields.⁴

Mesquite hummocks trap sand and therefore may enhance conditions that provide some habitat for milkvetch, including mesquite found along fault-related vegetation scarps associated with the Banning Fault in the Willow Hole Conservation Area. Potential threats to mesquite in this area are associated with drawdown of the water table within the Mission Creek Subbasin. The loss of this mesquite could, to a limited degree, impact milkvetch. However, milkvetch are found in a variety of other substrates, including sandy areas associated with washes and creosote hummocks, which are common throughout the Plan Area.

⁴ Noss RF, A. Allen, G. Ballmer, J. Diffendorfer, M. Soule, R. Tracy, and R. Webb. 2001. *Independent Science Advisors Review: Coachella Valley Multiple Species Habitat Conservation Plan/Natural Communities Conservation Plan*. Unpublished report to The Nature Conservancy. April 13, 2001.

The Plan would conserve all remaining populations of this species where Essential Ecological Processes are intact. It would also conserve large connected habitat (Core Habitat) with the combination of the Cabazon, Snow Creek/Windy Point, and Whitewater Floodplain Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to habitat loss, including those occurring on the Big Dune, Snow Creek, and Willow Hole, south of Desert Hot Springs along Mission Creek and Morongo Wash and Edom Hill. Approximately 30,210 (83%) acres of all habitat would be subject to habitat loss under the Public Lands Alternative. Approximately 9,402 acres (60%) of Core Habitat would be subject to habitat loss under this alternative. All of the habitat loss would be outside of Conservation Areas, since this alternative only conserves existing public lands where there is no habitat loss. Due to reduced reserve size, change in configuration, elimination of Essential Ecological Processes, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the state and federal permit issuance standards for this species would be met. Impacts to this species from this Alternative would be significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to habitat loss, including those occurring on the Big Dune and in the Hwy 111-I/10 Conservation Area. Approximately 16,792 acres (46%) would be subject to habitat loss under the Core Habitat with Ecological Processes Alternative. There would be approximately 1,737 acres outside of Conservation Areas, and 767 acres within Conservation Areas, for a total of 2,504 acres (16%) of Core Habitat subject to Take Authorization under this alternative. Due to reduced reserve size, change in configuration, elimination of Essential Ecological Processes, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the state and federal permit issuance standards for this species would be met. Therefore, in the long-term impacts to this species from this Alternative could be significant for CEQA analysis purposes.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to Take Authorization, including those occurring in the western most portion of the Big Dune east of Gene Autry Trail.

Approximately 7,813 acres (21%) of the non-federal lands would be subject to Take Authorization under the Enhanced Conservation Alternative. There would be approximately 176 acres outside of Conservation Areas, and 923 acres within Conservation Areas, for a total of 1,099 acres (7%) of Core Habitat subject to habitat loss under this alternative. This Alternative would have the least potential for adverse impacts to this species.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over a short period of time, impacts to this species would be significant for CEQA analysis purposes.

Triple-ribbed milkvetch (*Astragalus tricarinatus*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to habitat loss, including those occurring in the vicinity of Bonnie Bell. Approximately 164 acres (5%) of all habitat and 11% of non-federal lands would be subject to habitat loss under the Preferred Alternative. There would be approximately 88 acres (4%) of Core Habitat subject to habitat loss under this alternative.

All known occurrences of triple-ribbed milkvetch are conserved, along with the adjacent lands in Whitewater Canyon and Mission Creek. The Mission Creek population on Wildlands Conservancy holdings is currently conserved but the long-term conservation status is uncertain, considering that the landowner is not signatory to the Plan. As a result, the CVCC would use best efforts to enter into an agreement that affords permanent protection and coordinates management with the monitoring and management provisions under Plan. The upper drainages of Long Canyon, West Wide Canyon and East Wide Canyon are potential places where triple-ribbed milkvetch also may grow but have not yet been found. Overall, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to habitat loss, including those occurring in Whitewater Canyon, Mission Creek and Dry Morongo Canyon. Approximately 1,500 acres (50%) of all lands would be subject to habitat loss under the Public

Lands Alternative. There would be approximately 948 acres (43%) of Core Habitat subject to habitat loss under this alternative.

Few threats now exist for triple-ribbed milkvetch, and impacts to this species under the Public Lands Alternative would be negligible in the short term. However, over the next 75 years, urban encroachment and infrastructure improvements in areas of known habitat (Whitewater Canyon, Mission Creek, Dry Morongo Canyon) could result in loss of some individuals or populations. Because this plant is so few in number and so little known, this impact would be significant and adverse for CEQA analysis purposes. Using today's knowledge of the species distribution, improved management of the existing reserves would not be enough to adequately protect this species.

Due to reduced reserve size, change in configuration, elimination of linkages, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the state and federal permit issuance standards for this species would be met. Therefore, impacts to this species from this Alternative would be significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Impacts to the triple-ribbed milkvetch would be the same as described for the Preferred Alternative. Approximately 32 acres (1%) would be subject to habitat loss under the Core Habitat with Ecological Processes Alternative. There would be approximately 104 acres (5%) of Core Habitat subject to habitat loss under this alternative (10 acres outside and 94 acres inside Conservation Areas). Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

There would only be 6 acres of habitat subject to habitat loss outside the Conservation Areas under the Enhanced Conservation Alternative. There would be approximately 97 acres (5%) of Core Habitat subject to habitat loss under this alternative (2 acres outside and 95 acres inside Conservation Areas). This Alternative would have the least impact on this species. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over a short period of time, impacts to this species would be significant for CEQA analysis purposes.

Little San Bernardino Mountains linanthus (*Linanthus maculatus* (or *Gilia maculata*))

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to habitat loss including those occurring west of Hwy 62. Approximately 429 acres (13%) of all habitat and 16% of the non-Federal lands would be subject to habitat loss under the Preferred Alternative including the small amount of habitat authorized for Take within the Conservation Areas. There would be approximately 175 acres (7%) of Core Habitat subject to habitat loss under this alternative (0 acres outside and 175 acres inside Conservation Areas). The Plan also includes large blocks of habitat for linanthus in the Upper Mission Creek/Big Morongo Canyon Conservation Area totaling 2,410 acres, which has also been designed to preserve the braided streams and associated micro-topographic features to which this plant is adapted. This robust reserve design incorporates large portions of the drainages of Mission Creek, Big Morongo and Dry Morongo Washes. The Plan requires that the fluvial processes that provide habitat for the linanthus be maintained. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate. For more information on the species and natural communities discussed below, please see the summary tables in Section 4.6 of the MSHCP and the species accounts in Section 9 of the MSHCP.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to habitat loss under the Public Lands Alternative, including those occurring in the Whitewater River, Mission Creek, and Morongo Wash. Approximately 3,029 acres (89%) of all habitat would be subject to habitat loss under the Public Lands Alternative. There would be approximately 2,013 acres (75%) of Core Habitat subject to habitat loss under this alternative. All of the habitat loss would be outside of Conservation Areas, since this alternative only conserves existing public lands where there is no habitat loss. Due to reduced reserve size, change in configuration, elimination of an Essential Ecological Processes, and reduction in the amount of Core Habitat for this species under this

alternative, it is unclear if the state and federal permit issuance standards for this species would be met. Therefore, impacts to this species from this Alternative would be significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to habitat loss, including those occurring west of Hwy 62 and east of Mission Lakes Country Club. Approximately 367 acres (10%) would be subject to habitat loss under the Core Habitat with Ecological Processes Alternative. There would be approximately 353 acres (13%) of Core Habitat subject to habitat loss under this alternative (184 acres inside Conservation Areas and 169 acres outside Conservation Areas). Due to reduced reserve size, change in configuration, elimination of an Essential Ecological Processes, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the state and federal permit issuance standards for this species would be met. Impacts to the species from this Alternative would be somewhat less than those associated with the Preferred Alternative and would be less than significant for CEQA analysis purposes.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to habitat loss; although no known populations occur outside of Conservation Areas under the Enhanced Conservation Alternative. Approximately 42 acres (1%) would be subject to habitat loss under the Enhanced Conservation Alternative. There would be a total of 215 acres (8%) of Core Habitat subject to habitat loss under this alternative (15 acres outside of Conservation Areas, and 200 acres within Conservation Areas). This Alternative would have the least impact on the species of all Alternatives. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over a short period of time, impacts to this species would be significant for CEQA analysis purposes.

Mecca aster (*Xylorhiza cognata*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to habitat loss, including those occurring east of the Coachella Canal in the Mecca Hills. Approximately 6,328 acres (10%) of all habitat and 30% of non-federal lands would be subject to habitat loss under the Preferred Alternative. There would be approximately 1,339 acres (2%) of Core Habitat subject to habitat loss under this alternative.

Impacts to Mecca aster would be beneficial, as the plants and the modeled habitat would be protected in five Conservation Areas. Two of these provide Wilderness level protection. The species model is based on maps of surface geology, as these plants favor the Palm Springs and Canebrake formations. Given the many unknowns about this narrow endemic species, the model represents use of the best available science.

The Plan relies on conserving a large acreage of modeled habitat for Mecca aster, a local endemic plant, much of which is on public land. However, the number of locations defining the occupied habitat is not large, and the model may overestimate the actual range of the species. Threats to the species and its remote habitat are few, even within the 75-year time frame of the Plan. Major threats are associated with mining and recreational use of the habitat, rather than Development.

Covered Activities listed in Section 7 of the Plan that may impact this species include facility operation and maintenance by CVWD, IID, and maintenance of County roads, including Box Canyon Road and Painted Canyon Road. Given the limited potential effect of maintenance of these facilities on this species, this activity should not adversely impact Mecca aster.

Take is 9% of all modeled habitat within the Plan Area, but constitutes 30% of the private land total within the modeled habitat. Six percent of the Conservation Areas would be subject to Take. The remote locations and lack of threats make it unlikely that these levels of take would ever be approached. Covered Activities and allowable Development will disturb an insignificant amount of acreage, resulting in enough conserved habitat to maintain the plant in perpetuity. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to habitat loss, including those occurring on private lands within the Mecca and Indio Hills. Approximately 21,070 acres (33%) of all habitat would be subject to habitat loss under the Public Lands Alternative. There would be approximately 13,471 acres (24%) of Core Habitat subject to habitat loss under this alternative. All of the habitat loss would be outside of Conservation Areas, since this alternative only conserves existing public lands where there is no habitat loss.

Most occurrences of this local endemic are on remote public (BLM) lands managed for public use or as Wilderness. The occurrences on private land are not substantially threatened at this time. Due to reduced reserve size, elimination of linkages, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the state and federal permit issuance standards for this species would be met. Therefore, over time impacts to this species from this Alternative could be significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to habitat loss, including those occurring east of Granite mine in the Indio Hills. Approximately 8,121 acres (13%) of all modeled habitat would be subject to habitat loss under the Core Habitat with Ecological Processes Alternative. There would be approximately 4,359 acres (8%) of Core Habitat subject to habitat loss under this alternative (3,346 acres outside and 1,013 acres inside Conservation Areas).

Exclusion of the East Indio Hills Conservation Area would remove 1,540 acres of Core Habitat (See Table 9-2 of the Plan) and sever the continuous linkage of protected land between the Mecca Hills and the Coachella Valley Preserve. Actual take of plants and occupied habitat might be small, but with the few locations known, the impact is judged to be significant and adverse for CEQA analysis purposes.

Due to reduced reserve size, change in configuration, elimination of linkages, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the state and federal permit issuance standards for this species would be met. On an acreage basis, impacts to this species from this Alternative would be greater than under the Preferred Alternative. Given the species distribution, Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Few individuals occurring outside the Conservation Areas would be subject to habitat loss, since this alternative includes most known populations. Approximately 1,153 acres (2%) would be subject to habitat loss under the Enhanced Conservation Alternative. There would be approximately 1,920 acres (3%) of Core Habitat subject to habitat loss under this alternative (637 acres outside and 1,283 acres inside Conservation Areas). This Alternative would have the least impact on the species of all Alternatives. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over a short period of time, impacts to this species would be significant for CEQA analysis purposes.

Orocopia sage (*Salvia greatae*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to habitat loss, including those occurring on the east side of the Mecca Hills. Approximately 6,933 acres (9%) of all habitat and 28% of non-Federal lands would be subject to habitat loss under the Preferred Alternative. There would be approximately 1,847 acres (3%) of Core Habitat subject to habitat loss under this alternative.

Impacts to Orocopia sage as a result of this alternative would be very beneficial, as the plants and the modeled habitat would be protected in two Conservation Areas. These provide Wilderness level of protection. The Plan would provide connectivity to populations outside the Plan Area in the Chocolate Mountains.

Covered Activities listed in Section 7 of the Plan that may impact this species include facility maintenance by CVWD, IID, and maintenance of County roads, including Box Canyon Road and Painted Canyon Road. Given the limited potential effect of maintenance of these facilities on this species, this activity should not adversely impact Orocopia sage.

The Plan relies on conserving a large acreage of modeled habitat for Orocopia sage, a local endemic plant, much of which is on public land. Covered Activities and allowable Development are considered to disturb an insignificant acreage, resulting in enough conserved habitat to maintain the plant in perpetuity. Disturbance to the habitat is quite different than Take of the species in this case, since the known occupied habitat is a very small fraction of the modeled habitat. However, the number of locations defining the occupied habitat is not large, and the model may overestimate the actual range of the species. Threats to the species and its remote habitat are few, even within the 75-year time frame of the Plan. Existing threats are associated with recreational use of the habitat, rather than Development. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to habitat loss, including those occurring in the Mecca Hills and Orocopia Mountains. Approximately 25,228 acres (32%) of all habitat would be subject to habitat loss under the Public Lands Alternative. There would be approximately 18,471 acres of Core Habitat (28% of Core Habitat) subject to habitat loss under this alternative. All of the habitat loss would be outside of Conservation Areas, since this alternative only conserves existing public lands where there is no habitat loss.

Most occurrences of this endemic are on remote public (BLM) lands managed for public use or as Wilderness. The occurrences on private land are not substantially threatened. Due to reduced reserve size, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the state and federal permit issuance standards for this species would be met. Nonetheless, this Alternative is not expected to have a significant impact on this species for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Impacts to this species would be the same as described under the Preferred Alternative because conservation in the Mecca Hills and Orocopia Mountains does not vary between the alternatives. Approximately 5,435 acres (7%) would be subject to habitat loss under the Core Habitat with Ecological Processes Alternative. There would be approximately 2,436 acres (4%) of Core Habitat subject to habitat loss under this alternative (654 acres outside and 1,782 acres inside Conservation Areas). Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate

unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to habitat loss, including a small amount in the northeast portion of the Indio Hills. Approximately 453 acres (1%) would be subject to habitat loss under the Enhanced Conservation Alternative. There would be approximately 1,908 acres (3%) of Core Habitat subject to habitat loss under this alternative (67 acres outside and 1,841 acres inside Conservation Areas). Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over a long time frame, impacts to this species could be significant for CEQA analysis purposes, however given its predominance on BLM lands and the limited development potential of habitat on private lands, long-term impacts are uncertain.

INSECTS

Coachella Valley giant sand-treader cricket (*Macrobaenetes valgum*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take Authorization, including those occurring on the Big Dune. The habitat for this species on the Big Dune is shielded from replenishment by aeolian sand transport. Approximately 13,682 acres (51%) of all habitat and 61% of non-federal lands would be subject to Take under the Preferred Alternative. There would be approximately 533 acres (5%) of Core Habitat subject to Take Authorization under this alternative.

Nearly all (94%) of the Take would be outside Conservation Areas, such as on Big Dune (Palm Springs Sand Ridge), where the blowsand habitat is shielded. This insect depends on active blowsand so would not likely persist for a long time on shielded habitat, but would be subject to severe fragmentation and edge effects. The establishment of contiguous Conservation Areas is

intended to create a preserve of sufficient size to conserve this species in perpetuity. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on the Big Dune, Edom Hill, and Snow Creek areas. The habitat for this species on the Big Dune is shielded from replenishment by aeolian sand transport. Approximately 22,500 acres (83%) of all habitat would be subject to Take Authorization under the Public Lands Alternative. There would be approximately 5,302 acres (45%) of Core Habitat subject to Take Authorization under this alternative. All of the Take Authorization would be outside of Conservation Areas, since this alternative only conserves existing public lands where there is no Take Authorization.

Although Core Habitat for the Coachella Valley giant sand-treader cricket would remain in the Thousand Palms Preserve and the Whitewater Floodplain Reserve, the conserved acreage would be substantially less than in the Preferred Alternative. No additional habitat would be conserved in the Edom Hill and Snow Creek areas. Additional surveys at the three existing reserves may result in additional locations. Methods of improved management are not well known, aside from maintenance of blowsand habitat and Essential Ecosystem Processes. Overall, significant adverse impacts would be expected for CEQA analysis purposes. However, the cricket would probably survive in the long term. Due to reduced reserve size, change in configuration, elimination of linkages, and the reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the state and federal permit issuance standards for this species would be met.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on the Big Dune. The habitat for this species on the Big Dune is shielded from replenishment by aeolian sand transport. Approximately 14,784 acres (54%) would be subject to Take Authorization under the Preferred Alternative. There would be approximately 1,747 acres (15%) of Core Habitat subject to Take Authorization under this alternative (1,352 acres outside and 395 acres inside Conservation Areas).

Core Habitat for the Coachella Valley giant sand-treader cricket would remain in the Thousand Palms Preserve and the Whitewater Floodplain Reserve. Additional habitat would be conserved in the Edom Hill and Snow Creek areas. Essential Ecological Processes would be maintained in

all of these areas. Loss of habitat may occur at isolated sites in the Indio Hills and in Cabazon, as well as east of Gene Autry Trail. Overall adverse impacts would be expected, but these are minor compared to the beneficial impacts of permanent conservation.

Due to reduced reserve size, change in configuration, and reduction in the amount of habitat for this species under this alternative, it is unclear if the state and federal permit issuance standards for this species would be met. While the impacts to this species from the Alternative are greater than the Preferred Alternative, the species could persist and impacts would be moderate but could be determined to be less than significant for CEQA analysis purposes.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on the western most portion of the Big Dune. Approximately 7,974 (29%) would be subject to Take Authorization under the Enhanced Conservation Alternative. There would be approximately 631 acres (5%) of Core Habitat subject to Take Authorization under this alternative (112 acres outside and 519 acres inside Conservation Areas). This Alternative would have the least impact on the species although areas that would be conserved south of I-10 could be subject to higher impacts from edge effects. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species would be significant for CEQA analysis purposes.

Coachella Valley Jerusalem cricket (*Stenopelmatus cahuilensis*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on the Big Dune. Approximately 9,989 acres (44%) of all habitat and 49% of non-Federal lands would be subject to Take Authorization under the Preferred Alternative. There would be approximately 150 acres (9%) of Core Habitat subject to Take Authorization under this alternative.

Table 4-114 of the Plan shows that 43% of all modeled habitat (49% on non-Federal lands) for this species would be subject to Take. The three Conservation Areas within the San Gorgonio and Whitewater River floodplains would ensure conservation of Core Habitat for the Jerusalem cricket, which should provide adequate protection into the future. The modeled habitat may overstate the number of acres occupied by this insect; hence the Take figures are likely to represent the “worst case” scenario from a biological perspective.

Overall impacts to the Coachella Valley Jerusalem cricket would be beneficial, since virtually no conservation measures are in place for this species anywhere in its range at present. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate. Therefore, adverse impacts from implementation of this Alternative would be less than significant for CEQA analysis purposes.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the San Gorgonio River, on the Big Dune, at Willow Hole, and along Mission Creek and Morongo Wash. Approximately 20,209 acres (89%) of all habitat would be subject to Take Authorization under the Public Lands Alternative. There would be approximately 1,502 acres (89%) of Core Habitat subject to Take Authorization under this alternative. All of the Take Authorization would be outside of Conservation Areas, since this alternative only conserves existing public lands where there is no Take Authorization.

Without establishment of Conservation Areas along the San Gorgonio River, this insect would receive no more protection than at present. The Whitewater Floodplain Reserve would constitute its conserved habitat, but nearly all the known sites are located to the west. Methods of better managing existing habitat for this species are not known. Depending on the future Development trends in its Core Habitat, the Coachella Valley Jerusalem cricket could become threatened with extinction under the Public Lands Alternative.

Due to reduced reserve size, change in configuration, elimination of a linkages, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met. Therefore, impacts to this species from this Alternative could be significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring between Highway 111 and Interstate 10. Approximately 11,025 acres (48%) would be subject to Take Authorization under the Core Habitat with Ecological Processes Alternative. There would be approximately 163 acres (10%) of Core Habitat subject to Take Authorization under this alternative (14 acres outside and 149 acres inside Conservation Areas).

The lack of a Conservation Area between Highway 111 and Interstate 10 would mean conservation would be lacking in an area where many of the known collections of this species have been reported. Its ability to survive with Development under existing zoning is uncertain, but may be possible. The Jerusalem cricket would be conserved in two Conservation areas linked under the Highway 111 bridge. As long as off-highway vehicle traffic under the bridge was eliminated, this linkage would probably suffice to connect Snow Creek with the Whitewater floodplain. Impacts to this species are judged to be negative compared to the Preferred Alternative, but are beneficial compared to no action.

Due to reduced reserve size, change in configuration, elimination of linkages, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met. Therefore, impacts to this species from this Alternative could be significant for CEQA analysis purposes.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on the Big Dune east of Gene Autry Trail. Approximately 5,090 acres (22%) would be subject to Take Authorization under Enhanced Conservation Alternative. There would be approximately 150 acres (9%) of Core Habitat subject to Take Authorization under this alternative (0 acres outside and 150 acres inside Conservation Areas). Disturbance allowed under this Alternative could be less than significant for CEQA analysis purposes and the benefits conferred by the Plan could protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species would be significant for CEQA analysis purposes.

FISH

Desert pupfish (*Cyprinodon macularius*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in shoreline pools of the Salton Sea. In addition, individuals occurring in the drains would be subject to Take by CVWD for ongoing maintenance activities in the drains. The habitat would remain, but individuals may be taken as a result of the maintenance activities, which help to maintain pupfish habitat by not allowing it to become overgrown with aquatic vegetation.

The desert pupfish habitat is conserved in the existing Dos Palmas Conservation Area of Critical Environmental Concern (ACEC) but the species must be managed carefully. Exclusion of predatory bullfrogs and other fish would be important, as well as insuring that the pure strains are not subject to genetic mixing with artificially-established populations.

A Monitoring and Adaptive Management Plan for desert pupfish would be prepared by CVWD within one year of Permit issuance to assure long-term viability of pupfish in the agricultural drains leading into the Salton Sea.

The statewide and national issues surrounding the restoration and possible re-configuration of the Salton Sea also present uncertainty with respect to conservation of the pupfish inhabiting the agricultural drains. Permits issued to IID for the transfer of conserved water to San Diego County Water Authority require IID to extend the drains to maintain aquatic continuity with the Sea. No similar provisions exist for connectivity of Salt Creek with a lowered Sea level, although it is likely that Salt Creek would remain connected to the Sea.

The Plan's Monitoring Program would result in updated information on the existing pupfish populations in the Salton Sea. The desert pupfish has persisted within the Plan Areas despite apparent adverse habitat conditions, but its habitat is subject to sudden changes that could destroy or improve conditions for the species. Implementation of the Preferred Alternative of the MSHCP would result in ongoing conservation actions and monitoring that would provide a significant benefit.

Consistency with Desert Pupfish Recovery Plan

The Desert Pupfish Recovery Plan⁵ describes twelve natural populations of the desert pupfish in Arizona, California and Mexico, and 20 – 24 transplanted (non-aquarium) sites. Several of these are found in the Plan Area. The natural populations are in upper Salt Creek and a few shoreline pools and irrigation drains of the Salton Sea. Transplanted populations are found at The Living Desert, Thousand Palms Reserve, Salton Sea State Recreation Area and Dos Palmas ACEC.

Criteria for downlisting from endangered to threatened include establishment of secure metapopulations at five general locations. One of these is the Salton Sink and includes upper Salt Creek and the shoreline pools and irrigation ditches of the Salton Sea. “Secure” means formal protection of the habitat and water rights and maintenance of a genetically pure, self-sustaining stable or increasing (viable) population. “Viable” means no fewer than 500 overwintering adults in a normal sex ratio with in-situ reproduction and recruitment sufficient to maintain that number. “Formal protection” is also provided with a specific definition pertaining to the long-term ability of the land and water rights owner to manage the pupfish well into the future.

The Recovery Plan calls for a complex program of maintaining genetic integrity of natural populations and promoting genetic interchange among re-introduced and artificial populations. The top priority is protection of natural populations in their native habitat, including prevention of interbreeding with other species or subspecies or populations of pupfish.

In addition, re-establishment of populations at former habitat or artificial refugia is specified in the Recovery Plan. Nine historically occupied and genetically pure locations (3 replications of each natural location) and 27 quasi-natural, genetically mixed sites (9 replications of each natural site) are the goal. The Recovery Plan recognizes that an adequate number of unaltered, natural habitats suitable for reestablishment may not exist. However, the target number of populations is necessary to insure against loss at one or more key sites.

The Preferred Alternative implements the provisions of re-establishment of populations in refugia through the requirement that CVWD establish 25 acres of artificial pupfish habitat. In addition, the Preferred Alternative focuses on conservation and maintenance of the known pupfish sites. The Preferred Alternative would constitute “formal protection” of habitat as defined in the Recovery Plan. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect

5 U.S. Fish and Wildlife Service. 1993. *Desert Pupfish (Cyprinodon macularius) Recovery Plan*. Unpublished report to U.S. Fish and Wildlife Service, Region 2, Albuquerque, New Mexico, with assistance from Arizona Game and Fish Department and Tonto National Forest. September 1993.

adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the irrigation drains. Under the Public Lands Alternative 25.03 acres (99.8%) of all habitat would be subject to Take Authorization under the Public Lands Alternative. There would no Core Habitat subject to Take Authorization under this alternative.

The desert pupfish would probably not be adversely impacted at Dos Palmas. However, at the Whitewater River delta and the irrigation drains along the border of the Salton Sea, CVWD would have no commitment under this alternative to manage its maintenance activities to avoid impacts to this species. No substantial monitoring of the irrigation drains or shoreline pools would take place.

All of the occurrences along the edge of the Salton Sea would be at risk of extirpation under Public Lands Alternative. The refugia populations at The Living Desert, Coachella Valley Preserve and Dos Palmas would remain without adverse impacts, and although it is unlikely that increased management would result in an improvement of conditions at these sites.

Due to reduced reserve size, change in configuration, elimination of linkages, and the reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met. However, impacts to the species from this Alternative would be significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Impacts to this species would be the same as those described for Proposed Action/Preferred Alternative because the conservation and management at Dos Palmas and the Whitewater River delta would be identical. Therefore, impacts would be beneficial. Disturbance allowed under this Alternative could be less than significant for CEQA analysis purposes and the benefits conferred by the Plan could protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Impacts to this species would be the same as those described for Preferred Alternative because the conservation and management at Dos Palmas and the Whitewater River delta would be

identical. Therefore, impacts would be beneficial. Disturbance allowed under this Alternative could be less than significant for CEQA analysis purposes and the benefits conferred by the Plan could protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species would be significant for CEQA analysis purposes.

AMPHIBIANS

Arroyo toad (*Bufo californicus*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the Bonnie Bell area. Approximately 88 acres (4%) of all habitat and 11% of non-Federal lands would be subject to Take Authorization under the Preferred Alternative. There would be approximately 78 acres (4%) of Core Habitat subject to Take Authorization under this alternative.

The Plan Area is on the periphery of the rangewide distribution of the arroyo toad and the Plan would conserve about 96% of available habitat. Distribution of the toad within Whitewater Canyon was recently documented in field surveys in the vicinity of the trout farm conducted by the US Geological Survey, which found no arroyo toads at this location.⁶

The volume and quality of surface water also is vital to the Plan's conservation strategy; therefore, diversion and use of water is not a Covered Activity, as described in Section 7.3 of the Plan.

⁶ California Red-Legged Frog (*Rana aurora draytonii*) and Mountain Yellow-Legged Frog (*Rana muscosa*) Surveys for the Coachella Valley Association of Governments (CVAG), 2003 by Adam Backlin, Cindy Hitchcock and Robert Fisher, U.S. Geological Survey, Western Ecological Research Center, Sacramento, CA 2003.

Consistency with Arroyo Toad Recovery Plan

The arroyo toad Recovery Plan⁷ defined three recovery units, the northern, southern and desert slope. Ten subregions within these recovery units were delineated. The Plan Area is part of the desert slope recovery unit, subregion 10, which includes only the Whitewater River. The Recovery Plan states that protection of the Whitewater basin population is essential for delisting the arroyo toad. Recommendations are made for management, ranging from restrictions on campgrounds, roads and trails to removing exotic vegetation in impacted streambeds.

The Preferred Alternative calls for acquisition and management of key habitat in Whitewater Canyon. Issues such as road kill, recreational use of the habitat, discharge of pollutants, stream diversions and other factors that may impact the arroyo toad in Whitewater Canyon are identified in Section 9.5.1.2 of the Plan and would be monitored and provided for through Adaptive Management.

Monitoring includes baseline data collection at the community level (amount and quality of riparian habitat and water levels) and at the species level (number of toads present). Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on the private lands throughout the Whitewater River. Approximately 762 acres (41%) of all habitat would be subject to Take Authorization under the Public Lands Alternative. There would be approximately 841 acres (41%) of Core Habitat subject to Take Authorization under this alternative. All of the Take Authorization would be outside of Conservation Areas, since this alternative only conserves existing public lands where there is no Take Authorization.

Because this species is not found within an existing reserve, virtually no pro-active protection would be afforded. Existing survey requirements and consultation requirements under the Endangered Species Act would apply. Impacts would be similar to taking no action and would be adverse compared to the Preferred Alternative.

⁷ U.S. Fish and Wildlife Service. 1999. *Arroyo Southwestern Toad (Bufo microscaphus californicus) Recovery Plan*. U.S. Fish and Wildlife Service, Portland, Oregon.

Due to reduced reserve size, change in configuration, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met. Impacts to the species from the adoption and implementation of this Alternative would be significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Impacts to this species would be the same as described for the Preferred Alternative. Individuals occurring outside the Conservation Areas would be subject to Take Authorization, including those occurring in the Bonnie Bell area. Approximately 40 acres (2%) would be subject to Take Authorization under the Core Habitat with Ecological Processes Alternative. There would be approximately 122 acres (6%) of Core Habitat subject to Take Authorization under this alternative (39 acres outside and 83 acres inside Conservation Areas). Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the Bonnie Bell area. Approximately 40 acres (2%) would be subject to Take Authorization under the Enhanced Conservation Alternative. There would be approximately 123 acres (6%) of Core Habitat subject to Take Authorization under this alternative (39 acres outside and 84 acres inside Conservation Areas). This Alternative would have the least impact on this species of all alternatives. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species, if it occurs in the Plan Area, would continue. Over time, impacts to this species could be significant for CEQA analysis purposes.

REPTILES

Coachella Valley fringe-toed lizard (*Uma inornata*)

Proposed Action/Preferred Alternative

Existing Habitat Conservation Plan

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on the Big Dune. The habitat for this species on the Big Dune is shielded from replenishment by aeolian sand transport. Approximately 13,681 acres (51%) of all habitat and 61% of non-Federal lands would be subject to Take Authorization under the Preferred Alternative. There would be approximately 606 acres (5%) of Core Habitat subject to Take Authorization under this alternative.

Since 1985, an extensive conservation and mitigation program has been implemented for the Coachella Valley fringe-toed lizard. The Coachella Valley fringe-toed lizard Habitat Conservation Plan⁸ established three preserves to protect this reptile, near Thousand Palms, in the Whitewater River floodplain and on Edom Hill. A mitigation fee area was established and was drawn to include all existing and former habitat. Fees collected are used to acquire and manage lands in the three reserves. Upon Permit issuance, Take for the species would be provided by the MSHCP.

DFG was not a signatory to the 1985 HCP for the fringe-toed lizard. However, in 2002 the state issued a consistency determination based upon Permittees modifying their implementation of the HCP.

Consistency with Fringe-Toed Lizard Recovery Plan

The Coachella Valley Fringe-toed Lizard Recovery Plan⁹ recommended over 50 measures that could be taken to lead to recovery, ranging from increased enforcement to education to re-introduction of lizards into restored habitat. Its primary objective was to secure and protect suitable habitat in two or more large-scale areas, one of which would be the critical habitat. The Recovery Plan acknowledged the preparation of a HCP, which was underway at the same time, and anticipated that the HCP would enact many of the recommended conservation actions. The

8 Nature Conservancy, The. 1985. *Coachella Valley Fringe-toed Lizard Habitat Conservation Plan*. Prepared for the Coachella Valley Fringe-toed Lizard Steering Committee chaired by The Nature Conservancy, San Francisco, California. June 1985.

9 U.S. Fish and Wildlife Service. 1984. *Coachella Valley Fringe-toed Lizard Recovery Plan*. Unpublished report to U.S. Fish and Wildlife Service, Portland, Oregon.

Preferred Alternative would meet or exceed Recovery Plan standards by creating and implementing conservation measures in the Conservation Areas.

Impacts to Critical Habitat of the Fringe-Toed Lizard

Critical habitat for the fringe-toed lizard was designated at the time of listing as a Threatened species.¹⁰ It consists of 11,920 acres centered in the existing Coachella Valley Preserve north of Interstate 10. Most of the critical habitat is within the preserve or the proposed Thousand Palms Conservation Area, but some remains outside the conserved lands near Thousand Palms in the sand transport area. This part of the critical habitat has existing dwellings and is not shown as a sand transport area in the Plan, although it was recognized as such in the 1985 HCP. That document had a lengthy discussion of the practicability of acquiring or conserving the critical habitat land west of the preserve boundary. It concluded that strict preservation was infeasible, and that County regulation by zoning could suffice to maintain the aeolian sand transport. The prescription for use given in the HCP was “Develop (possibly).”

Fluvial sand transport was also considered in the 1985 HCP. Resolution of the sand sources could not be reached, though the majority of sand to the preserve was thought (by one author) to be transported via Thousand Palms Canyon.

The fluvial sources of sand to the Thousand Palms Preserve have been carefully studied since 1985, using hydrological modeling,¹¹ aerial photography,¹² geochemical composition,^{13,14} and enhanced satellite imagery.¹⁵ Drainages from the Indio Hills deposit the majority of the fluvial sand upwind of the blowsand deposits, the location being the designated critical habitat. However, the timing of fluvial deposition intervals have not been determined, but may exceed 100 years.¹⁶

The relative contribution and necessary frequency of fluvial sand transport and aeolian sand transport is unknown, despite the aforementioned studies. This is partially because of the episodic nature of the rainstorms and windstorms that move the sand. The most significant

¹⁰ U.S. Fish and Wildlife Service. 1980. *Uma inornata, Reproposal of Critical Habitat*. Federal Register. May 28, 1980:36038-41.

¹¹ Simons, Li & Associates 1996, 1997.

¹² Lancaster N, J.R. Miller, and L. Zonge. 1993. *Geomorphic Evolution and Sediment Transport Dynamics of Eolian Terrains in the Coachella Valley Preserve System, South-central California*. Final report to the Coachella Valley Preserve System (The Nature Conservancy). December 29, 1993.

¹³ Meek N, and T. Wasklewicz. 1993. *Final Report on the Sand Sources of the Coachella Valley Fringe-toed Lizard Habitat*. Report to Coachella Valley Preserve System (Nature Conservancy), Thousand Palms, California. December 6, 1993.

¹⁴ Wasklewicz TA, and N. Meek. 1995. "Provenance of Aeolian Sediment: The Upper Coachella Valley, California." *Physical Geography* 16(6):539-56.

¹⁵ Barrows CW. Unpublished report, no date. *Results Of Annual Relative Abundance Surveys Show That Reproduction In Lizards Appears Correlated With Annual Rainfall In The Coachella Valley Preserve But Not At The Whitewater River Preserve*.

¹⁶ USFWS 2000, citing Dr. Li of Simons, Li & Associates.

movement of sand occurs during very infrequent high intensity floods and windstorms. The wind patterns that move smaller amounts of sand every spring and fall are much more predictable than the infrequent strong windstorms. Strong rainfall is very unpredictable because it can occur from “El Nino” years in the winter or from tropical storms in the summer.

The Thousand Palms/Whitewater River Basin Flood Control Project has been approved by the Corps of Engineers. It is a Covered Activity for CVWD, the local sponsor, in the Plan. The Plan relies on preserving the fluvial movement in the critical habitat inside the Conservation Area, utilizing the flood control plan of levees to direct floodwaters carrying sand into the reserve upwind from the blowsand deposits. The levees would then become the boundary of the reserve. They would be aligned parallel with the wind, and would have openings to function as a wind corridor. Sand deposited along the levees would be spread within the wind corridor every five years or after major flood events. This design was judged to have minimal impact to the aeolian transport system.¹⁷ It would have the effect of providing flood protection to 472 acres of critical habitat outside the Conservation Area, which could then be developed. The project would also place levees on 158 acres of critical habitat, which represents a permanent loss. Acquisition or conservation by other means of 551 acres of critical habitat would take place and be dedicated to conservation. An additional 32 acres of creosote bush scrub, serving as compensation for take of desert tortoise habitat, would be acquired. The Biological Opinion concluded that the Thousand Palms/Whitewater River Basin Flood Control Project would not jeopardize the continued existence of the fringe-toed lizard and would not result in destruction or adverse modification of critical habitat.

The MSHCP addresses the aeolian and fluvial sand transport in the critical habitat inside portions of the Conservation Area by establishing Site Planning Standards for Sections 7 and 8 (T4S, R6E). These standards for Development of individual parcels are intended to allow continued fluvial and aeolian sand transport at the west edge of the Conservation Area. Acquisition or conservation by other means of vacant parcels would be a priority. A 9:1 conservation to development ratio would be maintained within Section 21 (T4S, R6E) south of Ramon Road, where acquisition would also be a high priority. These measures are designed to achieve the Conservation Objectives and they represent minimization and mitigation to the maximum extent practicable for impacts to this sand transport area.

Summary of Impacts to the Fringe-Toed Lizard

The Plan’s provisions would ensure that impacts to the Coachella Valley fringe-toed lizard would be minimized to the maximum extent practicable. These measures reduce the risk of extinction, even if lizards are extirpated or greatly reduced in numbers at one of the three

¹⁷ U. S. Fish and Wildlife Service Biological Opinion to Corps 2000.

preserves. The principal conservation measure is addition of occupied habitat into new Conservation Areas and expansion of existing preserves. The new Conservation Area at Snow Creek/Windy Point, additions to the Whitewater Floodplain Preserve, additions to the Willow Hole and Edom Hill Preserve, and protection of scattered habitat between Willow Hole and Edom Hill greatly enhances protection of occupied habitat, hence maintains larger numbers of lizards. Core Habitat is protected within the Snow Creek/Windy Point and Willow Hole Conservation Areas. The scattered blowsand deposits and occupied habitat in the Indio Hills also would be conserved. It is unlikely that all populations would be extirpated at once, so that some lizards would be left to re-introduce if a local population were extirpated.

The Plan also employs measures to protect and maintain Essential Ecological Processes for sand transport to the new Conservation Areas with occupied habitat and provides linkages between these regions. Acquisition or conservation by other means of sand source for the Willow Hole and Edom Hill areas was determined to be a reasonable and prudent alternative in a jeopardy opinion issued by USFWS in 2000¹⁸ for the widening of Palm Drive. Four alternative mechanisms for protecting the sand source were recommended in this BO, all leading to acquisition of all parcels and rights-of-way along Palm Drive between Mission and Morongo Creeks. The Plan implements these recommendations in a different manner than specified in the BO. Section 6.6.1 and 6.6.2 require CVCC, CVAG and Caltrans to acquire 1,795 acres for interchange and arterial road Covered Activities listed in Table 7-1 of the Plan. It presumes Conservation of 90% of the private land in the Willow Hole Conservation Area, where the sand source is located, and specifies required measures of a 9:1 conservation to development ratio in specified areas.

Adaptive Management includes several measures that would forestall or prevent extirpation in a Conservation Area. These include the establishment of “sand fences” to trap sand upwind in armored habitat and create blowsand hummocks for expansion of the extant population. Other possibilities are hauling of sand upwind, destabilizing armored deposits by physically removing vegetation and surface crusts, and controlling exotic plant species and feral animals. Though essentially termed experimental, some of these measures may be needed soon, as in the Whitewater River floodplain. Within the Thousand Palms Conservation Area, installation of blowsand monitoring devices, such as measuring poles or drift fences, could be used to determine the rates of deposition or depletion of sand deposits. This data may become important in the future and may shed light on the periodicity of sand movement on the west (upwind) part of the Conservation Area.

¹⁸ Biological Opinion to FHA 2000.

Adaptive Management measures could include re-introduction of fringe-toed lizards into areas where they may be extirpated or into restored sites, as envisioned in the Recovery Plan, if such actions were deemed warranted

Expanding upon the existing HCP, the Proposed Action/Preferred Alternative comprehensively addresses the needs of the Coachella Valley fringe-toed lizard. Adoption of this alternative would be very beneficial to this species. Although Take in the Big Dune area represents a large acreage of occupied habitat, this region is shielded from sand transport, as it was in 1985. Land values, fragmentation by existing roads and edge effects make this habitat impracticable to conserve or restore for the fringe-toed lizard. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on the Big Dune, in the sand source for the Thousand Palms Preserve, Edom Hill and within the Snow Creek/Windy Point area. The habitat for this species on the Big Dune is shielded from replenishment by aeolian sand transport. Approximately 22,500 acres (82%) of all habitat would be subject to Take Authorization under the Public Lands Alternative. There would be approximately 6,076 acres (51%) of Core Habitat subject to Take Authorization under this alternative. All of the Take Authorization would be outside of Conservation Areas, since this alternative only conserves existing public lands where there is no Take Authorization.

Due to reduced reserve size, change in configuration, elimination of linkages, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met.

Existing Habitat Conservation Plan

The 1985 HCP would be subsumed by the MSHCP. Although additional management of the existing reserves under this Alternative would benefit the fringe-toed lizard, the biggest need for this species is protection of Essential Ecosystem Processes. Several sand source studies^{19,20,21,22}

¹⁹ Lancaster N, J.R. Miller, and L. Zonge. 1993. *Geomorphic Evolution and Sediment Transport Dynamics of Eolian Terrains in the Coachella Valley Preserve System, South-central California*. Final report to the Coachella Valley Preserve System (The Nature Conservancy). December 29, 1993.

²⁰ Meek N, and T. Wasklewicz. 1993. *Final Report on the Sand Sources of the Coachella Valley Fringe-toed Lizard Habitat*. Report to Coachella Valley Preserve System (Nature Conservancy), Thousand Palms, California. December 6, 1993.

²¹ Simons, Li & Associates, Inc. 1997.

have concluded that the fluvial transport from the Indio Hills, Long Canyon, Morongo Wash, Mission Creek and its tributaries and perhaps other washes are necessary to support the blowsand habitat on the three reserves. Deposition areas for these washes must also be protected from Development. In addition, the frequency of major flooding that deposits sand to replenish the reserves may be much longer than anticipated. Finally, the aeolian transport system carrying sand to the Thousand Palms Preserve would likely be blocked under this Alternative. Increased management of the reserves does not address these ecosystem process areas.

The existing risk to the three preserves from sand depletion and potential blocking of sand transport at the Thousand Palms Preserve requires that additional occupied habitat for the fringe-toed lizard be conserved in order to assure survival of this species in perpetuity. The Public Lands Alternative does not contain measures to acquire additional occupied habitat, although some additions might arise through the CEQA process. The Thousand Palms/Whitewater River Basin Flood Control Project is authorized and has prescribed mitigation and compensation measures, which would remain in effect under this alternative. CVWD would acquire 551 acres within the critical habitat. It is possible that under the Public Lands Alternative the Thousand Palms Preserve could achieve its purpose of protecting the Coachella Valley fringe-toed lizard, though there would be considerable long-term risk of extirpation. Even with this acquisition or permanent conservation by other means, without additional Core Habitat lands, the fringe-toed lizard remains at risk, and this alternative would have significant and adverse impacts to this species for CEQA analysis purposes.

Public Lands Alternative Impacts to Critical Fringe-Toed Lizard Habitat

Impacts to critical habitat for the fringe-toed lizard would be similar to those described for the Preferred Alternative. If the Flood Control Project is built, critical habitat could be impacted directly by construction and indirectly by Development on lands protected from flooding. If the project is not built, critical habitat could be slowly degraded by Development outside the Preserve.

Therefore, given the uncertainties regarding preservation of adequate habitat and possible continued encroachment into and loss of aeolian sand sources, the impacts to the species from this alternative would be significant for CEQA analysis purposes.

²² Griffiths PG, R.H. Webb, A. Muth, M. Fisher, C.W. Barrows, and N. Lancaster. 2003. Preservation of Holocene Wind Vectors by Vegetation and Ventifacts in an Eolian Sand System, Northern Coachella Valley, California, USA (paper no. 38-8; poster). Proceedings of the 16th INQUA Congress, Geological Society of America, on Shaping the Earth: A Quaternary Perspective, Reno, Nevada, July 23-30, 2003.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on the Big Dune and the east end of the Indio Hills. The habitat for this species on the Big Dune is shielded from replenishment by aeolian sand transport. Approximately 14,784 acres (54%) would be subject to Take Authorization under the Core Habitat with Ecological Processes Alternative. There would be approximately 1,943 acres (16%) of Core Habitat subject to Take Authorization under this alternative (1,484 acres outside and 459 acres inside Conservation Areas).

Due to reduced reserve size under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met.

Existing Habitat Conservation Plan

The 1985 HCP would be subsumed by the MSHCP. The Required Measures specified for Sections 8 and 21 in the existing HCP are assumed to be implemented as part of this alternative. The expanded Coachella Valley Preserve would serve as a Core Habitat for the fringe-toed lizard, but would be in a risk situation with respect to preservation of the Essential Ecological Processes. This is because the West Deception Canyon sand source to the Preserve is not specifically protected. Any future flood control in this drainage could be made compatible with assuring sand transport.

The addition of the Snow Creek/Windy Point Conservation Area and additions to the Whitewater Floodplain and Willow Hole and Edom Hill Preserves as Core Habitat are beneficial steps to conserve the fringe-toed lizard. Acquisition or conservation by other means of lands east of Palm Avenue would protect the sand source and transport areas for the Willow Hole and Edom Hill Preserves. Active desert dunes in the East Indio Hills would not be conserved.

Impacts to Critical Habitat of the Coachella Valley Fringe-Toed Lizard

Biological impacts would be the same as described for the Preferred Alternative. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on the on the western most portion of the Big Dune east of Gene Autry Trail. Approximately 7,974 acres (29%) would be subject to Take Authorization under the Enhanced Conservation Alternative. There would be approximately 709 acres (6%) of Core Habitat subject to Take Authorization under this alternative (113 acres outside and 596 acres inside Conservation Areas).

Existing Habitat Conservation Plan

The 1985 HCP would be subsumed by the MSHCP. This alternative would include Section 1 T4S, R5E northwest of the Thousand Palms Preserve, a beneficial biological attribute. It would exclude portions of the existing Preserve and proposed Conservation Area (Figure 3-4). The lands within Section 16 T4S, R6E are essential to maintenance of the sand transport to the blowsand habitat within the Preserve, and their exclusion from conservation would be adverse. Overall, however, impacts to the species from this Alternative could be determined to be less than significant for CEQA analysis purposes. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species would be significant for CEQA analysis purposes.

Desert tortoise (*Gopherus agassizii*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring east of Hwy 62 and east of Dillon Rd to the boundary with Joshua Tree National Park. Approximately 67,229 acres (12%) of all habitat and 28% of non-Federal lands would be subject to Take Authorization under the Preferred Alternative. There would be approximately 11,478 acres (3%) of Core Habitat subject to Take Authorization under this alternative.

The Preferred Alternative requires substantial measures for desert tortoise conservation in the Coachella Valley. It protects Core Habitat extending from the mesa on the west side of Whitewater Canyon through the Mission Creek drainage and into Joshua Tree National Park. Though portion of this area may not be occupied by desert tortoises, it provides a linkage from southwest to northeast in the Plan Area that connects with a very large conserved habitat for the tortoise. This protection, as described in the Conservation Objectives and Required Measures for the Whitewater Canyon, Stubbe and Cottonwood Canyons, and Upper Mission Creek Conservation Areas would have a very beneficial impact to the desert tortoise within the Plan Area. This protection, however, includes only a very small portion of the desert tortoise range and is outside the major Conservation Areas recommended by the Recovery Plan, hence would have only a minor beneficial impact on the species as a whole. The tortoise habitat in the east portion of the Plan Area is addressed below.

Consistency with Desert Tortoise Recovery Plan

The Desert Tortoise Recovery Plan²³ identified several recovery units for the desert tortoise. Portions of the West Mojave and the Eastern Colorado Desert recovery units are within the Plan Area. Within these recovery units, the Recovery Plan further recommended establishment of Desert Wildlife Management Areas (DWMAs). Portions of the recommended Joshua Tree DWMA (in the West Mojave recovery unit) and the Chuckwalla DWMA (in the eastern Colorado Desert recovery unit) fall within the boundaries of the Plan Area.

The remainder of the conserved habitat for the desert tortoise is not specifically addressed by the Recovery Plan and is not considered to be the highest-quality, highest-density tortoise habitat. The primary focus of the Recovery Plan is on the DWMAs. The Bureau of Land Management, through the Northern and Eastern Colorado Desert CDCA Plan Amendment,²⁴ established boundaries for the DWMAs and restrictions on use to protect the tortoise. The NECO Plan was not a Habitat Conservation Plan and did not address conservation and management on private lands.

The Proposed Action/Preferred Alternative would fill the planning gap by addressing private lands within the Joshua Tree National Park and Chuckwalla DWMAs. The Plan designates Core Habitat for desert tortoise in the Desert Tortoise and Linkage Conservation Area, Joshua Tree National Park Conservation Area and Mecca Hills/Orocopia Mountains Conservation Area. The Conservation Objectives of acquisition or conservation by other means, combined with the

²³ U.S. Fish and Wildlife Service. 1994. *Desert Tortoise (Mojave Population) Recovery Plan*. Unpublished report prepared for U.S. Fish and Wildlife Service, Regions 1, 2, and 6; Region 1 lead region, Portland, Oregon. June 1994.

²⁴ Bureau of Land Management, U.S. Department of Interior. 2002. *Draft Environmental Impact Statement for a Proposed Recreation Area Management Plan and Amendment to the California Desert Conservation Area Plan: Imperial Sand Dunes Recreation Area*. Bureau of Land Management, California Desert District, El Centro Resource Area. March 2002.

Required Measures, particularly the Land Use Adjacency Guidelines, would protect the tortoise habitat within the DWMA in accordance with the Recovery Plan.

Impacts to Critical Desert Tortoise Habitat

Critical Habitat for the Mojave population of the desert tortoise was designated in 1994.²⁵ None is found within the Coachella Valley, but the entire eastern part of the Plan Area is designated, including most of the Desert Tortoise and Linkage Conservation Area, and portions of Joshua Tree National Park and the Mecca Hills/Orocopia Mountains Conservation Areas. The majority of the critical habitat within the Plan Area is owned and managed for conservation by the National Park Service and by the BLM according to the NECO Plan, which established the DWMA's called for in the tortoise Recovery Plan. However, substantial blocks of private land are found south of Interstate 10 on both sides of Box Canyon Road.

A total of 172,936 acres of critical habitat lies within the Plan area. Approximately 55,000 acres are on private lands. Under the Preferred Alternative, at least 90%, or 49,501 acres would be acquired and managed in the three Conservation Areas.

Under the Proposed Action/Preferred Alternative, virtually all of the critical habitat for this species lies within Conservation Areas. Given the objectives of acquisition or permanent conservation by other means of at least 90% of private lands in the Conservation Areas, and the Required Measures for surveys and minimization and mitigation measures, the Preferred Alternative would be very beneficial to desert tortoise critical habitat in the long term. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring immediately west of Hwy 62, south of Joshua Tree National Park to Dillon Rd, private lands in the Chuckwalla Bench and Shavers Valley. Approximately 240,247 acres (42%) would be subject to Take Authorization under the Public Lands Alternative. There would be approximately 117,916 acres (31%) of Core Habitat subject to Take under this alternative.

²⁵ U.S. Fish and Wildlife Service. 1994. *Desert Tortoise (Mojave Population) Recovery Plan*. Unpublished report prepared for U.S. Fish and Wildlife Service, Regions 1, 2, and 6; Region 1 lead region, Portland, Oregon. June 1994.

Due to reduced reserve size, change in configuration, elimination of linkages, and the reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met.

Existing reserves with additional management cannot address the private lands within desert tortoise habitat in the eastern portion of the Plan Area. Without specified conservation measures, development of these lands, which are designated Critical Habitat, would have a significant and adverse impact on this species for CEQA analysis purposes, due to the Take of tortoises and occupied habitat. A total of 1,649 acres of private land designated as Critical Habitat lie within existing reserves in the Public Lands Alternative, leaving 53,362 acres (97%) unprotected, or at least not in conservation status. Some of the private lands are within Desert Wildlife Management Areas (DWMAs), those regions recommended by the tortoise Recovery Plan and implemented by the BLM's NECO Plan, for tortoise conservation and recovery. In the Public Lands Alternative, considerable fragmentation of the DWMA would continue to exist without unified management. A Take permit could not meet the Federal standard of "mitigate and minimize to the maximum extent practicable". It is anticipated that individual HCPs or Section 7 consultations would be required in the eastern part of the Plan Area, or that a Permit could not be issued at all for the desert tortoise under this alternative.

Few threats now exist to the tortoise population on the mesa above Whitewater Canyon, where many of the tortoises co-exist with wind energy development. The Core Habitat and Linkage for the tortoise through upper Mission Creek and into Joshua Tree National Park would probably remain intact under the Public Lands Alternative, because most of this land is under conservation management by the BLM and The Wildlands Conservancy. Continued protection of this separate, minor population of desert tortoise habitat would not alleviate the potential impacts on desert tortoise in the eastern portion of the Plan Area described above, because the eastern areas are those recognized as Critical Habitat and established as DWMAs following recommendation of the tortoise Recovery Plan. Impacts to the species from this Alternative could be significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring east of Dillon Road to Joshua Tree National Park, east of Hwy 62, and south of the Mecca Hills wilderness boundary. Approximately 64,350 acres (11%) would be subject to Take under the Core Habitat with Ecological Processes Alternative. There would be approximately 24,317 acres (6%) of Core Habitat subject to Take under this alternative (13,917 acres outside and 10,400 acres inside Conservation Areas).

Due to a reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met.

The Core Habitat with Ecological Processes Alternative differs very little from the Proposed Action/Preferred Alternative with respect to the desert tortoise. Two large Core Habitats would be protected, and designated Critical Habitat and DWMA's would also be conserved. Impacts would be beneficial and are as described for the Preferred Alternative. The avoidance and minimization measures specified in Section 4.4 of the Plan are assumed to be part of this Alternative, and would serve to protect tortoises on a project-specific basis. Monitoring of tortoise activity north of Dillon Road should be incorporated, so that Adaptive Management could determine the need for undercrossings and roadside fencing to prevent mortality from vehicles.

Impacts to Critical Habitat of the Desert Tortoise

The Core Habitat with Ecological Processes Alternative would conserve 43,916 acres (80%) of desert tortoise critical habitat on private lands in the Plan Area. Impacts to the species from this Alternative would be primarily in greater disturbance to Core habitat, while potential disturbance to all tortoise habitat would be approximately the same as the Preferred Alternative. Therefore, impacts to the species under this Alternative could be less than significant for CEQA analysis purposes.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring west of Hwy 62, and east of Dillon Rd to Joshua Tree National Park. There would be approximately 19,886 acres (5%) of Core Habitat subject to Take under this alternative (8,467 acres outside and 10,945 acres inside Conservation Areas).

The Enhanced Conservation Alternative would protect 43,966 acres of private land designated as desert tortoise critical habitat, representing 80% of the critical habitat on private lands within the Plan Area. This is 10,083 acres less than would be protected by the Preferred Alternative. While this Alternative is environmentally inferior to the Preferred Alternative, impacts from its adoption and implementation would be less than significant for CEQA analysis purposes.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species would be significant for CEQA analysis purposes.

Flat-tailed horned lizard (*Phrynosoma mcallii*)

The species distribution model for the flat-tailed horned lizard includes predicted habitat and also potential habitat. The development of the flat-tailed horned lizard model occurred through a coordinated effort involving members of the SAC, wildlife agency biologists, and other biologists with expertise on flat-tailed horned lizards. The team labeled habitat, where presence of the flat-tailed horned lizard was expected based on recent observations, as predicted habitat. All of the Core Habitat is in this category. Some outlying habitat, generally above 800 feet in elevation, where historical observations of this lizard are in the database but no recent observations are recorded, was labeled potential habitat. Statistics for this species presented in this section and elsewhere include both predicted and potential habitat.

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on the Big Dune. The habitat for this species on the Big Dune is shielded from replenishment by aeolian sand transport. Approximately 17,562 acres (54%) of all predicted habitat and 65% of non-Federal predicted habitat lands and 1,720 acres (33%) of all potential habitat and 41% of all potential habitat on non-Federal lands would be subject to Take under the Preferred Alternative. There would be approximately 97 acres (2%) of Core Habitat subject to Take under this alternative.

Controversy over the possible listing of the flat-tailed horned lizard as a threatened or endangered species has existed for ten years. The Coachella Valley lies at the northern edge of its range, but is thought to have harbored a viable and perhaps extensive population in and adjacent to the blowsand habitats. With Development and the loss of Essential Ecological Processes for much of the blowsand habitat in the Valley, the flat-tailed horned lizard now is only known for certain in the Coachella Valley and Whitewater Floodplain Preserves, the East Indio Hills, and Dos Palmas. This species is difficult to detect, and the modeled habitat is termed “predicted” and “potential”. Innovative modeling using satellite imagery has refined the specific types of sand deposits used by this species.

Table 4-114 notes that 54% of all predicted habitat would be subject to disturbance and an additional 33% of potential habitat could be lost to Development. These figures also allow Take on 65% and 41% of the non-Federal lands in each category of habitat. However, most of this loss would be on habitat shielded from sand transport processes, as on Big Dune. The benefit of larger Conservation Areas in the San Gorgonio and Whitewater floodplains and at Thousand Palms may outweigh the potential loss of shielded habitat. The westernmost location for this species would be conserved in the Cabazon Conservation Area, and this region could become important in the future if climate change changes the lizard's local distribution.

The interagency conservation plan for this species²⁶ recommended establishment of at least one reserve in the Coachella Valley, which would protect populations at the extreme northwestern edge of the species range. The Plan would achieve this recommendation. Therefore, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on the Big Dune, at Dos Palmas, the east end of the Indio Hills and Willow Hole. The habitat for this species on the Big Dune is shielded from replenishment by aeolian sand transport. Approximately 26,966 acres would be subject to Take under the Public Lands Alternative. There would be approximately 963 acres (23%) of Core Habitat subject to Take under this alternative. All of the Take would be outside of Conservation Areas, since this alternative only conserves existing public lands where there is no Take Authorization.

Due to reduced reserve size, change in configuration, elimination of linkages, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met.

The majority of the flat-tailed horned lizard occupied habitat is found within the existing three reserves of the Coachella Valley. The occurrences near Dos Palmas are not directly threatened, but also are not in sufficient conservation status to assure long-term protection for this species. Under the Public Lands Alternative, impacts are both beneficial and detrimental, because increased management would better secure the known populations in existing reserves but would not address populations and habitat in other areas. The net effect is indeterminable without additional detailed information on population sizes and specific areas of occurrence. Therefore,

²⁶ Forman L, ed. 1997. *Flat-tailed Horned Lizard Rangewide Management Strategy*. Report of Interagency Working Group.

in the absence of conclusive data and information on the species, impacts from this alternative are potentially significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on the Big Dune, at the east end of the Indio Hills and parts of Dos Palmas. The habitat for this species on the Big Dune is shielded from replenishment by aeolian sand transport. Approximately 20,204 acres would be subject to Take under the Core Habitat with Ecological Processes Alternative. There would be approximately 101 acres (2%) of Core Habitat subject to Take under this alternative (5 acres outside and 96 acres inside Conservation Areas).

The majority of the flat-tailed horned lizard occupied habitat is found within the existing three reserves of the Coachella Valley. These reserves would be expanded under the Core Habitat with Ecological Processes Alternative. The occurrences near Dos Palmas would also receive additional conservation via acquisition or conservation by other means of private lands. Under the Core Habitat with Ecological Processes Alternative, impacts are beneficial. Monitoring and Adaptive Management as described in the Preferred Alternative would be necessary feature of this alternative as well.

Due to reduced reserve size under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met. Therefore, in the absence of conclusive data and information on the species, impacts from this alternative are potentially significant for CEQA analysis purposes.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including a small amount in the Dos Palmas area. The habitat for this species on the Big Dune is shielded from replenishment by aeolian sand transport. Approximately 11,463 acres would be subject to Take Authorization under the Enhanced Conservation Alternative. There would be approximately 96 acres (2%) of Core Habitat subject to Take under this alternative (0 acres outside and 96 acres inside Conservation Areas). Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue, although the interagency conservation plan for this species would continue to be implemented. Over time, however, impacts to this species would be significant for CEQA analysis purposes.

BIRDS

Burrowing owl (*Athene cunicularia*)

Proposed Action/Preferred Alternative

Impacts to burrowing owl are very difficult to predict, given the limited knowledge on their distribution and abundance in the Plan Area, and their ability to relocate when established nesting sites are lost, which are often in agricultural and urban areas. No species model was prepared because sufficiently precise habitat parameters could not be defined. Existing mitigation involves detection of nest sites though all jurisdictions do not require pre-development surveys, followed by passive exclusion and/or relocation to artificial burrows. Monitoring is rarely continued long enough to adequately judge success.

The Avoidance, Minimization, and Mitigation Measures listed in Section 4.4 serve to minimize Take of burrowing owls. The approximately 746,600-acre Reserve System should contain sufficient Habitat to maintain a viable population of burrowing owls within the Plan Area. Recognizing that nearly half of this total may be mountainous non-habitat, the remaining Valley floor lands would still support adequate natural habitat to sustain the species. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Impacts to burrowing owls under the Public Lands Alternative would be adverse compared to the Preferred Alternative because areas near Cabazon, Desert Hot Springs and the Coachella Valley Stormwater channel that may support owls would not receive permanent protection under this Alternative. Increased management could include relocation of burrowing owls to existing reserves.

Due to reduced reserve size, change in configuration, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met. Under this Alternative, coordinated habitat conservation would be limited, and incremental impacts to this species would continue. Over time, impacts to this species could be significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Impacts to burrowing owls under the Core Habitat with Ecological Processes Alternative would be adverse compared to the Preferred Alternative. Due to reduced reserve size, change in configuration, and reduction in the amount of Core Habitat for this species (or habitat type) under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met. Under this Alternative, the extent of coordinated habitat conservation would be reduced, and incremental impacts to this species would continue. Over time, however, impacts to this species could be significant for CEQA analysis purposes.

Enhanced Conservation Alternative

Since burrowing owls potentially occur throughout the Plan area, Enhanced Conservation Alternative would provide the least amount of Take and maximum amount of habitat protection. A model was not prepared for this species, so it is not possible to determine the amount of habitat that would be subject to Take, but since there would be a greater amount of habitat conserved, it could likely result in greater conservation of burrowing owls. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species would be significant for CEQA analysis purposes.

California black rail (*Laterallus jamaicensis coturniculus*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including any occurring in the Coachella Valley Stormwater Channel. Approximately 59 acres (9%) of all habitat and 13% of non-Federal lands would be subject to Take under the Preferred Alternative. Core Habitat was not designated for this species.

The California black rail is a California “fully protected” species, and, under current law, Incidental Take Permits cannot be issued for this species by the State, other than take resulting from impacts directly attributable to the implementation of the Quantification Settlement Agreement (QSA). This bird is found only in the Dos Palmas and Coachella Valley Stormwater Channel and Delta Conservation Areas. Required Measures for Permittees other than CVWD would avoid Take. Given the level of conservation, which includes establishment of permanent riparian habitat and expansion of the marsh habitat, all impacts are considered beneficial. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take including those in the Whitewater Storm Water Channel. Approximately 475 acres (67%) would be subject to Take under the Public Lands Alternative. Core Habitat was not designated for this species.

Freshwater marsh would be maintained at Dos Palmas under the Public Lands Alternative because of the commitment of CVWD to provide water for this species after the lining of the Coachella Canal. In the Whitewater Delta, existing agricultural runoff is sufficient to maintain the marsh habitat. State efforts to restore and protect the Salton Sea, though in a different configuration, are anticipated to, at a minimum, maintain the existing marsh habitat for rails. Given these circumstances, no significant or adverse impact for CEQA analysis purposes to California black rail is anticipated from the Public Lands Alternative. However, at the Whitewater River delta and the irrigation drains along the border of the Salton Sea, CVWD would have no commitment under this alternative to manage its maintenance activities to avoid impacts to this species.

Due to reduced reserve size, change in configuration, elimination of linkages, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met.

Core Habitat with Ecological Processes Alternative

There would be no individuals occurring outside the Conservation Areas subject to Take. Core Habitat was not designated for this species.

Impacts to these species would be the same or slightly more beneficial than those described for the Preferred Alternative because the conservation and management at Dos Palmas and the Whitewater River delta would be identical. Because the Core Habitat with Ecological Processes Alternative would extend conservation upriver from the Salton Sea, more marsh habitat might be available for these birds. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

There would be no individuals occurring outside the Conservation Areas subject to Take. Core Habitat was not designated for this species. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. While the Salton Sea restoration efforts could preserve the amount of habitat equivalent to existing habitat, over time, impacts to this species would be significant for CEQA analysis purposes.

Le Conte's thrasher (*Toxostoma lecontei*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on the Big Dune and the east end of the Indio Hills. Approximately 96,133 acres

(40%) of all habitat and 53% of non-Federal lands would be subject to Take under the Preferred Alternative. Core Habitat was not designated for this species.

Territory size for Le Conte's thrasher has been reported at 18 acres per pair,²⁷ though the nest is defended for a radius of 150-275 meters. Over a 2-3 year period, Le Conte's thrashers were observed to occupy a home range of 9 – 45 acres. The density of Le Conte's thrashers has not been determined but it is doubtful that 2,500 pairs are found within the Plan Area, and certainly not in the Coachella Valley floor.

The overall range of Le Conte's thrasher is primarily in the California deserts, extending east to southern Nevada and western Arizona and south to Baja and Sonora Mexico. A large (500 pairs), well-studied disjunct population is known from Maricopa in Kern County. Take within the Plan Area would have little effect on the species as a whole, which is far more common in the Mojave Desert.

Table 4-114 indicates that 40% of all habitat within the Plan Area would be subject to Take. The proportion of non-Federal lands subject to Take is 53%. Many of the remote lands are unlikely to be developed, even during the 75-year permit duration. The acreage conserved on the Valley floor, where the Le Conte's thrasher is most threatened, is considerable and of substantial benefit to the species. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the San Geronio River, on the Big Dune, along Mission Creek and Morongo Wash, at the east end of the Indio Hills, along the southern Santa Rosa Mountains alluvial fans, at Dos Palmas and Willow Hole. Approximately 179,174 acres (73%) would be subject to Take under the Public Lands Alternative. Core Habitat was not designated for this species.

Increased management of existing reserves would not protect the Le Conte's thrasher on the Coachella Valley floor because most of the sightings and modeled habitat lie outside their boundaries. However, thousands of acres of habitat are found on BLM and National Park lands in the eastern part of the Plan Area. The Le Conte's thrasher might become extirpated within the Coachella Valley under the Public Lands Alternative. Public lands outside the valley floor would remain fragmented and subject to Development, although the threat in these remote areas is not

²⁷ Sheppard JM. 1996. *LeConte's Thrasher*. In. *The Birds of North America, Life Histories for the 21st century*.

substantial. Impacts to the species would be a small loss of numbers, but potentially a major loss of the western edge of its range in the Sonoran Desert.

Due to reduced reserve size, change in configuration, elimination of linkages, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met. While impacts to the species throughout its range would be less than significant, impacts within the Plan Area associated with alternative could, over time, be significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring east of the Coachella Canal, at the east end of the Indio Hills, on the Big Dune, east of Desert Hot Springs and west of the Whitewater Floodplain Preserve. Approximately 97,328 acres (40%) would be subject to Take under the Core Habitat with Ecological Processes Alternative. Core Habitat was not designated for this species.

About 20,000 acres of habitat for Le Conte's thrasher would be protected in the linkage portion of the Desert Tortoise and Linkage Conservation Area. Of 27 known locations (in 1999), 13 (48%) would be conserved by the Core Habitat with Ecological Processes Alternative. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring east of Desert Hot Springs. Approximately 61,807 acres (25%) would be subject to Take under the Enhanced Conservation Alternative. Core Habitat was not designated for this species. As discussed in section 9.7.6 of the Plan, habitat needs and population numbers for this bird species are not well known. The Enhanced Conservation Alternative would increase habitat in several Conservation Areas that are known to support Le Conte's thrasher, particularly in the northwest portion of the Plan Area. While habitat connectivity is well provided for in the Proposed Action/Preferred Alternative, the subject Alternative would presumably further enhance connectivity. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species within the Plan Area could be significant for CEQA analysis purposes.

Crissal thrasher (*Toxostoma crissale*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on lands in the south portion of the valley near the Salton Sea. Approximately 5,172 acres (75%) of all habitat and 76% of non-Federal lands would be subject to Take under the Preferred Alternative. There would be approximately 125 acres (9%) of Core Habitat subject to Take under this alternative.

Crissal thrashers prefer dense shrub cover, primarily mesquite. Though they might be found in several Conservation Areas, such as the Thousand Palms Conservation Area, they are known primarily from the Coachella Valley Storm Channel and Delta Conservation Area and secondarily from the Dos Palmas Conservation Area. The thrashers utilize tamarisk scrub and do not appear to be adversely impacted by tamarisk invasion, but they have not been recorded to nest in tamarisk plants. These birds exist in different densities depending on the size and density of the habitat patches. Territories range from 50 acres per pair in scattered mesquite to 10 acres per pair in tall, dense mesquite.²⁸ An average of 18 acres per pair has been provided for the Mojave and Colorado Deserts.²⁹

Much of the existing habitat in the Coachella Valley Storm Channel and Delta Conservation Area consists of remnant scattered mesquite hummocks, where the lower densities would apply. Near the delta, shrub density is high, and higher densities of crissal thrasher are expected.

The Coachella Valley Storm Channel and Delta Conservation Area and Dos Palmas Conservation Area do not come close to protecting enough acres of mesquite and dense shrub habitat (including tamarisk scrub) to support a self-sustaining population if the guideline of 5,000 individuals is used (Appendix I of Plan). Dos Palmas has 25,400 acres, of which 536 acres are considered Core Habitat and Coachella Valley Storm Channel and Delta Conservation Area has 4,400 acres of which 896 acres are considered Core Habitat. A total of 1,834 acres of modeled habitat are within Conservation Areas but few observational records have been documented.

²⁸ Cody 1999.

²⁹ Laudenslayer et al. 1992.

Nevertheless, these populations of crissal thrasher are important. They are at the edge of the species range, where intraspecific genetic diversity may be high. Though the species is resident and not known to disperse widely, interchange of individuals between Dos Palmas, Coachella Valley Storm Channel and Delta Conservation Area, and sites in Imperial County must occur on occasion.

The majority of this species range is in northern Mexico, though few studies exist, and these are from widely scattered localities. The center of the U. S. distribution is in Arizona and New Mexico, extending to Texas and north to southwest Utah. Loss of the Coachella Valley populations would be insignificant for the species as a whole. Within California, the Coachella Valley populations are a fairly substantial proportion of the state population, though no estimates of numbers have been attempted. The primary populations are along the Colorado River and in shrub habitat and stands of mesquite in the northern and eastern Mojave Desert. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on lands in the south portion of the valley near the Salton Sea. Approximately 4,933 acres (71%) would be subject to Take under the Core Habitat with Ecological Processes Alternative. There would be approximately 148 acres (10%) of Core Habitat subject to Take under this alternative (9 acres outside and 139 acres inside Conservation Areas).

Impacts to this species would be the same as described for Proposed Action/Preferred Alternative because the largest remaining block of habitat at the north end of the Salton Sea would be conserved, along with a smaller block of habitat at Dos Palmas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on lands in the south portion of the valley near the Salton Sea. Approximately 4,717 acres (68%) would be subject to Take under the Enhanced Conservation Alternative. There

would be approximately 148 acres (10%) of Core Habitat subject to Take under this alternative (9 acres outside and 139 acres inside Conservation Areas). Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species within the Plan Area could be significant for CEQA analysis purposes.

Gray vireo (*Vireo vicinior*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the Pinyon Flats area. Approximately 3,913 acres (4%) of all habitat and 18% of non-Federal lands would be subject to Take under the Proposed Action/Preferred Alternative. Core Habitat was not designated for this species.

Although territory size of gray vireo can be as small as 5 acres per pair in prime contiguous habitat, it ranges up to 25 acres per pair for isolated pairs in habitat patches.³⁰ Weathers³¹ estimated 1.6 birds per 100 acres in the Santa Rosa Mountains. In all likelihood, gray vireos are found in higher densities in patches of suitable habitat in both the chaparral of the Santa Rosa Mountains and in the pinyon-juniper woodland of the San Bernardino and Little San Bernardino Mountains.

Gray vireo is found primarily in Arizona, New Mexico, Colorado and Utah, with smaller disjunct populations in Texas, California and Mexico. The populations in the mountains of southern California are isolated from each other by intervening desert. Gray vireos are short distance migrants (to Baja and Sonora, Mexico) and are capable of traveling between ranges. They may utilize the proposed Biological Corridors in the Stubbe and Cottonwood Canyons and Indio Hills/Joshua Tree National Park Linkage Conservation Areas. Suitable habitat is present on both sides of the former corridor, and occupied habitat is present within Joshua Tree National Park at the edge of the Conservation Area's corridor. No information is available about exchange between the small isolated populations in southern California. If the Conservation Areas proved

³⁰ Barlow JC, S.N. Leckie, and C.T. Baril. 1999. Gray vireo *Vireo vicinior*. Birds of North America (447):1-23.

³¹ Weathers WW. 1983. *Birds of Southern California's Deep Canyon*. Berkeley, California: University of California Press.

inadequate to support this species in the long term, it would have no significant impact on the species as a whole. However, it would make the gray vireo much rarer in California, possibly leading to its listing as threatened or endangered.

The Plan conserves the habitat of this species to the maximum extent practicable. Additional censuses are needed and provided for in remote parts of the Plan Area to detect all patches of occupied habitat. The pattern of wildland fires that takes place in the future during the duration of the permit would modify the habitat both positively and negatively. Adaptive management may be important in habitat conservation for the gray vireo after more is learned of their local distribution. Regarding the CEQA analysis, the Proposed Action/Preferred Alternative will not have a significant adverse impact on this species and may facilitate more effective Conservation over the life of the Permit for CEQA analysis purposes.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on private lands in the Santa Rosa Mountains and Joshua Tree National Park. Approximately 22,336 acres (21%) would be subject to Take under the Public Lands Alternative. Core Habitat was not designated for this species.

No gray vireos exist in the three reserves of the Coachella Valley, though the majority of its habitat is conserved within Joshua Tree National Park, San Jacinto and Santa Rosa National Monument, Forest Service lands and BLM Wilderness. Increased management of these lands for the gray vireo is not necessary, except perhaps fire management that avoids burning all of the chaparral and pinyon and juniper woodland communities at one time. No adverse impacts from adoption of the Public Lands Alternative are expected. This alternative would have fewer benefits than the Proposed Action/Preferred Alternative, however, because acquisition or permanent conservation by other means of private lands would consolidate conservation management and reduce the threat of adverse edge effects from future Development.

Due to reduced reserve size, change in configuration, fragmentation of and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met.

Core Habitat with Ecological Processes Alternative

Impacts to this species would be the same as described for the Proposed Action/Preferred Alternative. Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the Pinyon Flats area. Approximately 1,404 acres (1%) would be

subject to Take under the Core Habitat with Ecological Processes Alternative. Core Habitat was not designated for this species. This Alternative will not have a significant adverse impact on this species and may facilitate more effective Conservation over the life of the Permit.

Enhanced Conservation Alternative

Only 26 acres (<1%) of habitat would be subject to Take under the Enhanced Conservation Alternative. Core Habitat was not designated for this species. This Alternative will not have a significant adverse impact for CEQA analysis purposes on this species and may facilitate more effective Conservation over the life of the Permit.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species within the Plan Area could be significant for CEQA analysis purposes.

Least Bell's vireo (*Vireo bellii pusillus*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those in migratory habitat east of the Coachella Canal and in a small portion of Dos Palmas. Approximately 761 acres (21%) of all breeding habitat (31% on non-Federal lands) and 14,775 acres (26%) of migratory habitat (41% on non-Federal lands) would be subject to Take under the Proposed Action/Preferred Alternative. Core Habitat was not designated for this species.

Regarding the CEQA analysis, no significant adverse impacts would result from this Alternative, and impacts to least Bell's vireo are expected to be beneficial, because the Plan would provide permanent protection to riparian habitat via acquisition and management in several Conservation Areas and by establishment of permanent riparian habitat in the Coachella Valley Storm Channel and Delta Conservation Area.

Impacts to Critical Habitat

No critical habitat for this species is designated within the Plan Area.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the Whitewater Storm Water Channel, at Dos Palmas, Willow Hole, along Mission Creek, Morongo Wash, the Whitewater River, lower Stubbe and Cottonwood Canyons, and Salt Creek. Approximately 2,488 acres (68%) of breeding habitat and 34,648 acres (61%) of migratory habitat would be subject to Take under the Public Lands Alternative. Core Habitat was not designated for this species.

Because some riparian sites are protected in existing reserves and on public land and because the existing laws protecting wetland sites, streambeds and “waters of the United States” constrain most Development, impacts to the riparian birds nesting and migratory habitat under the Public Lands Alternative are not anticipated to be significant or adverse for CEQA analysis purposes. This alternative is substantially inferior to the Preferred Alternative because it does not include the commitment of CVWD to establish permanent riparian habitat in the Coachella Valley Stormwater Channel and Delta Conservation Area, where large numbers of riparian birds would benefit from increased migration habitat. It also does not include acquisition of additional riparian sites that could be proactively managed for the species, such as by invasive plant removal or cowbird trapping.

Management of the riparian habitats on existing reserves is at a high level now, which reduces the need for increased management called for in the Public Lands Alternative.

Due to reduced reserve size, change in configuration, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met. Therefore, in the absence of a more broadly applied habitat conservation plan, impacts to the species from this Alternative could in the long-term be significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring at Willow Hole, along the margins of the Salton Sea, west of Thermal Canyon south of I-10. Approximately 13,379 acres (22%) of migratory habitat would be subject to Take under the Core Habitat with Ecological Processes Alternative. Core Habitat was not designated for this species.

Impacts to the least Bell’s vireo are similar to those described by the Proposed Action/Preferred Alternative, which are beneficial. Though some palm oases would not be within Conservation

Areas in the Core Habitat with Ecological Processes Alternative, all of the major riparian streams would be included. More protection of lands in the Whitewater River channel would be a feature of the Core Habitat with Ecological Processes Alternative compared to the Proposed Action/Preferred Alternative. Due to reduced reserve size, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met. Nonetheless, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the upper reaches of Stubbe and Cottonwood Canyons and in the Coachella Valley Stormwater Water Channel. Approximately 9,563 acres of migratory habitat would be subject to Take under the Enhanced Conservation Alternative. Core Habitat was not designated for this species. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species within the Plan Area could be significant for CEQA analysis purposes.

Southwestern willow flycatcher (*Empidonax traillii extimus*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those in migratory habitat east of the Coachella Canal and in a small portion of Dos Palmas. Approximately 168 acres (6%) of all breeding habitat (11% on non-Federal lands) and 15,351 acres (27%) of migratory habitat (42% on non-Federal lands) would be subject to Take under the Preferred Alternative. Core Habitat was not designated for this species.

Impacts to southwestern willow flycatcher are expected to be beneficial, because the Plan would provide permanent protection to riparian habitat via acquisition and management in several

Conservation Areas and by establishment of permanent riparian habitat in the Coachella valley Stormwater Channel and Delta Conservation Area. There are no significant impacts from a CEQA analysis standpoint.

Consistency with the Southwestern Willow Flycatcher Recovery Plan

The Southwestern Willow Flycatcher Recovery Plan³² applies to the federally listed subspecies of willow flycatcher that nest in seven southwestern states. It does not address the other subspecies, which range across the United States, though all willow flycatchers are protected by the State endangered species designation. Within the Plan Area, only the southwestern subspecies is likely to nest, though several subspecies migrate through in the spring and fall. The Recovery Plan designates five recovery units, each with 4 –7 management units. The Plan is included within the Basin & Mojave Recovery Unit. This unit contains 69 flycatcher territories (7% of the total), and most breeding sites have less than 5 territories. Of fifteen sites identified, none are in the Plan Area. Two territories are known within the Salton Basin management unit. Twenty-five territories in this management unit is the minimum number required for reclassification of the species to threatened. The Recovery Plan directs recovery actions towards the San Felipe Creek drainage in San Diego County, from San Felipe to Highway 78 (out of the Plan area).

Per the Recovery Plan, recovery unit and management unit goals pertain to areas with a history of supporting breeding populations over at least a 3-year period. The only confirmed site for nesting flycatchers within the Plan Area is at Mission Creek, which currently is under conservation protection. Several other sites contain potential breeding habitat (Section 9.7.4.5).

Other measures cited in the Recovery Plan are pertinent to the MSHCP. Minimization measures include protection of all occupied, suitable and potential habitat, i.e. riparian communities with surface water and sufficient tree and shrub cover. Protection of migration habitat is one of nine recovery actions included in the Recovery Plan, as is achieving agreements, such as Habitat Conservation Plans, that guarantee maintenance of suitable and potential breeding habitat. Research and monitoring are also specified recovery actions.

The Plan conforms with the Southwestern Willow Flycatcher Recovery Plan by providing conservation and management of private lands in several of the Conservation Areas, most notably Whitewater Canyon, Coachella Valley Storm Channel and Delta and Thousand Palms, which are known migration stopover sites for the southwestern and other subspecies. Monitoring includes baseline data collection at the community level (amount and quality of riparian habitat and water levels) and at the species level (number of birds present), though most of the measures

³² U.S. Fish and Wildlife Service. 2001. *Southwestern Willow Flycatcher Recovery Plan*, Draft. April 2001.

to be performed are not specific to the flycatcher. None of the Plan actions appear to conflict with the measures specified in the Recovery Plan.

Impacts to Critical Willow Flycatcher Habitat

Critical habitat designated in 1997 for the southwestern willow flycatcher did not include any locations within the Plan Area. In May 2001, the U. S. Tenth District Court set aside the critical habitat designation and instructed the USFWS to issue a new proposal. Therefore, critical habitat would not be affected by the Plan. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the Coachella Valley Stormwater Channel, at Dos Palmas, Willow Hole, along Mission Creek, Morongo Wash, the Whitewater River, lower Stubbe and Cottonwood Canyons, and Salt Creek. Approximately 1,627 acres (60%) of all breeding habitat and 35,510 acres (62%) of migratory habitat would be subject to Take under the Public Lands Alternative. Core Habitat was not designated for this species.

Because some riparian sites are protected in existing reserves and on public land, and because of the existing laws protecting wetland sites, streambeds and “waters of the United States” could constrain most Development, impacts to the riparian birds nesting and migratory habitat under the Public Lands Alternative are not anticipated to be significant or adverse for CEQA analysis purposes. This alternative is substantially inferior to the Preferred Alternative because it does not include the commitment of CVWD to establish permanent riparian habitat in the Coachella Valley Stormwater Channel and Delta, where large numbers of riparian birds would benefit from increased migration habitat. It also does not include acquisition of additional riparian sites that could be proactively managed for the species, such as by invasive plant removal or cowbird trapping.

Management of the riparian habitats on existing reserves is at a high level now, which reduces the need for increased management called for in Public Lands Alternative.

Due to reduced reserve size, change in configuration, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those at Willow Hole, along the margins of the Salton Sea, west of Thermal Canyon south of I-10. Approximately 13,379 acres (22%) would be subject to Take under the Core Habitat with Ecological Processes Alternative. Core Habitat was not designated for this species.

Impacts to the riparian birds are similar to those described by the Preferred Alternative, which are beneficial. Though some palm oases would not be within Conservation Areas in the Core Habitat with Ecological Processes Alternative, all of the major riparian streams would be included. More protection of lands in the Whitewater River channel would be a feature of the Core Habitat with Ecological Processes Alternative compared to the Preferred Alternative.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the upper reaches of Stubbe and Cottonwood Canyons and in the Whitewater Storm Water Channel. Approximately 9,571 acres (15%) would be subject to Take under the Enhanced Conservation Alternative. Core Habitat was not designated for this species. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species within the Plan Area could be significant for CEQA analysis purposes, although existing regulations cited above may in the long-term keep impacts below levels of significance.

Summer tanager (*Piranga rubra*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those in migratory habitat east of the Coachella Canal and in a small portion of Dos Palmas. Approximately 168 acres (6%) of all breeding habitat (11% on non-Federal lands) and 15,371

acres (27%) of migratory habitat (42% on non-Federal lands) would be subject to Take under the Preferred Alternative. Core Habitat was not designated for this species.

Impacts to summer tanager are expected to be beneficial, because the Plan would provide permanent protection to riparian habitat via acquisition and management in several Conservation Areas and by establishment of permanent riparian habitat in the Coachella Valley Stormwater Channel and Delta Conservation Area. Monitoring includes unspecified baseline data collection at the community level (amount and quality of riparian habitat and water levels) and at the species level (number of birds present). There are no significant impacts from a CEQA standpoint.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the Coachella Valley Stormwater Channel, at Dos Palmas, Willow Hole, along Mission Creek, Morongo Wash, the Whitewater River, lower Stubbe and Cottonwood Canyons, and Salt Creek. Approximately 1,627 acres (60%) of all breeding habitat and 35,510 acres (62%) of migratory habitat would be subject to Take under the Public Lands Alternative. Core Habitat was not designated for this species.

Because some riparian sites are protected in existing reserves and on public land and because the existing laws protecting wetland sites, streambeds and “waters of the United States” constrain most Development, impacts to the riparian birds nesting and migratory habitat under the Public Lands Alternative are not anticipated to be significant or adverse for CEQA analysis purposes. This alternative is substantially inferior to the Preferred Alternative because it does not include the commitment of CVWD to establish permanent riparian habitat in the Coachella Valley Stormwater Channel and Delta Conservation Area, where large numbers of riparian birds would benefit from increased migration habitat. It also does not include acquisition of additional riparian sites that could be proactively managed for the species, such as by invasive plant removal or cowbird trapping.

Management of the riparian habitats on existing reserves is at a high level now, which reduces the need for increased management called for in the Public Lands Alternative. Due to reduced reserve size, change in configuration, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met. Nonetheless, impacts to the species from this alternative are not considered for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring at Willow Hole, along the margins of the Salton Sea, west of Thermal Canyon south of I-10. Approximately 13,379 acres (22%) would be subject to Take under the Core Habitat with Ecological Processes Alternative. Core Habitat was not designated for this species. Core Habitat was not designated for this species.

Impacts to the riparian birds are similar to those described by Proposed Action/Preferred Alternative, which are beneficial. Though some palm oases would not be within Conservation Areas in the Core Habitat with Ecological Processes Alternative, all of the major riparian streams would be included. More protection of lands in the Whitewater River channel would be a feature of the Core Habitat with Ecological Processes Alternative compared to the Proposed Action/Preferred Alternative.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the upper reaches of Stubbe and Cottonwood Canyons and in the Whitewater Storm Water Channel. Approximately 9,571 acres (15%) would be subject to Take under the Enhanced Conservation Alternative. Core Habitat was not designated for this species. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species within the Plan Area could be significant for CEQA analysis purposes, although existing regulations cited above may in the long-term keep impacts below levels of significance.

Yellow warbler (*Dendroica petechia brewsteri*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those in migratory habitat east of the Coachella Canal and in a small portion of Dos Palmas.

Approximately 168 acres (6%) of all breeding habitat (11% on non-Federal lands) and 15,371 acres (27%) of migratory habitat (42% on non-Federal lands) would be subject to Take under the Preferred Alternative. Core Habitat was not designated for this species.

Impacts to yellow warbler are expected to be beneficial and not significant from a CEQA analysis standpoint, because the Plan would provide permanent protection to riparian habitat via acquisition and management in several Conservation Areas and by establishment of permanent riparian habitat in the Whitewater Storm Channel and Delta Conservation Area. Monitoring includes unspecified baseline data collection at the community level (amount and quality of riparian habitat and water levels) and at the species level (number of birds present). Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the Whitewater Storm Water Channel, at Dos Palmas, Willow Hole, along Mission Creek, Morongo Wash, the Whitewater River, lower Stubbe and Cottonwood Canyons, and Salt Creek. Approximately 1,627 acres (60%) of all breeding habitat and 35,510 acres (62%) of migratory habitat would be subject to Take under the Public Lands Alternative. Core Habitat was not designated for this species.

Because some riparian sites are protected in existing reserves and on public land and because the existing laws protecting wetland sites, streambeds and “waters of the United States” constrain most Development, impacts to the riparian birds nesting and migratory habitat under the Public Lands Alternative are not anticipated to be significant or adverse for CEQA analysis purposes. This alternative is substantially inferior to the Preferred Alternative because it does not include the commitment of CVWD to establish permanent riparian habitat in the Coachella Valley Stormwater Channel and Delta Conservation Area, where large numbers of riparian birds would benefit from increased migration habitat. It also does not include acquisition of additional riparian sites that could be proactively managed for the species, such as by invasive plant removal or cowbird trapping.

Management of the riparian habitats on existing reserves is at a high level now, which reduces the need for increased management called for in the Public Lands Alternative.

Due to reduced reserve size, change in configuration, elimination of linkages, reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring at Willow Hole, along the margins of the Salton Sea, west of Thermal Canyon south of I-10. Approximately 13,379 acres (22%) would be subject to Take under the Core Habitat with Ecological Processes Alternative. Core Habitat was not designated for this species. Core Habitat was not designated for this species.

Impacts to the riparian birds are similar to those described by the Proposed Action/Preferred Alternative, which are beneficial. Though some palm oases would not be within Conservation Areas in the Core Habitat with Ecological Processes Alternative, all of the major riparian streams would be included. More protection of lands in the Whitewater River channel would be a feature of the Core Habitat with Ecological Processes Alternative compared to the Preferred Alternative.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the upper reaches of Stubbe and Cottonwood Canyons and in the Whitewater Storm Water Channel. Approximately 9,571 acres (15%) would be subject to Take under the Enhanced Conservation Alternative. Core Habitat was not designated for this species. Core Habitat was not designated for this species. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species within the Plan Area could be significant for CEQA analysis purposes, although existing regulations cited above may in the long-term keep impacts below levels of significance.

Yellow-breasted chat (*Icteria virens*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those in migratory habitat east of the Coachella Canal and in a small portion of Dos Palmas. Approximately 168 acres (6%) of all breeding habitat (11% on non-Federal lands) and 15,371 acres (27%) of migratory habitat (42% on non-Federal lands) would be subject to Take under the Preferred Alternative. Core Habitat was not designated for this species.

Impacts to yellow-breasted chat are expected to be beneficial and not significant from a CEQA standpoint, because the Plan would provide permanent protection to riparian habitat via acquisition and management in several Conservation Areas and by establishment of permanent riparian habitat in the Whitewater Storm Channel and Delta Conservation Area. Monitoring includes unspecified baseline data collection at the community level (amount and quality of riparian habitat and water levels) and at the species level (number of birds present). Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the Whitewater Storm Water Channel, at Dos Palmas, Willow Hole, along Mission Creek, Morongo Wash, the Whitewater River, lower Stubbe and Cottonwood Canyons, and Salt Creek. Approximately 1,762 acres (60%) of all breeding habitat and 35,375 acres (62%) of migratory habitat would be subject to Take under the Public Lands Alternative. Core Habitat was not designated for this species.

Because some riparian sites are protected in existing reserves and on public land and because the existing laws protecting wetland sites, streambeds and “waters of the United States” constrain most Development, impacts to the riparian birds nesting and migratory habitat under the Public Lands Alternative are not anticipated to be significant or adverse for CEQA analysis purposes.

This alternative is substantially inferior to the Proposed Action/Preferred Alternative because it does not include the commitment of CVWD to establish permanent riparian habitat in the Whitewater Storm Channel and Delta, where large numbers of riparian birds would benefit from increased migration habitat. It also does not include acquisition of additional riparian sites that

could be proactively managed for the species, such as by invasive plant removal or cowbird trapping.

Management of the riparian habitats on existing reserves is at a high level now, which reduces the need for increased management called for in the Preferred Alternative.

Due to reduced reserve size, change in configuration, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring at Willow Hole, along the margins of the Salton Sea, west of Thermal Canyon south of I-10. Approximately 13,379 acres (22%) would be subject to Take under the Core Habitat with Ecological Processes Alternative. Core Habitat was not designated for this species. Core Habitat was not designated for this species.

Impacts to the riparian birds are similar to those described by the Preferred Alternative, which are beneficial. Though some palm oases would not be within Conservation Areas in Core Habitat with Ecological Processes Alternative, all of the major riparian streams would be included. More protection of lands in the Whitewater River channel would be a feature of Core Habitat with Ecological Processes Alternative compared to the Preferred Alternative. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in the upper reaches of Stubbe and Cottonwood Canyons and in the Whitewater Storm Water Channel. Approximately 9,571 acres (16%) would be subject to Take under the Enhanced Conservation Alternative. Core Habitat was not designated for this species. Core Habitat was not designated for this species. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species within the Plan Area could be significant for CEQA analysis purposes, although existing regulations cited above may in the long-term keep impacts below levels of significance.

Yuma clapper rail (*Rallus longirostris yumanensis*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take. Approximately 63 acres (8%) of all habitat and 13% of non-Federal lands would be subject to Take under the Preferred Alternative. Core Habitat was not designated for this species.

Yuma clapper rail is a California “fully protected” species, and Incidental Take Permits cannot be issued for this species by the State, other than take resulting from impacts directly attributable to the implementation of the Quantification Settlement Agreement (QSA). This bird is found only in the Dos Palmas and Coachella Valley Stormwater Channel and Delta Conservation Areas. Required Measures for Permittees other than CVWD would avoid take altogether. Given the level of conservation, which includes establishment of permanent riparian habitat of the marsh habitat, all impacts are considered beneficial.

This bird could benefit from the Salton Sea establishment of habitat in the delta, and may require Adaptive Management to connect the Coachella Valley Stormwater Channel with the receding or lowered level of the Salton Sea.

Consistency with Yuma Clapper Rail Recovery Plan

The Recovery Plan³³ recommends protection and continued surveys of disjunct populations of the Yuma clapper rail in the Salton Basin. The Plan (Section 8.4.5.3) recommends baseline species level monitoring to determine occupied habitat and population sizes, which is urgently needed. Combined with the protective measures of the marsh habitat at the Dos Palmas and Whitewater Storm Channel and Delta Conservation Areas, the Plan is consistent with the Recovery Plan.

Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat,

³³U.S. Fish and Wildlife Service 1983.

maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take including those in the Whitewater Storm Water Channel. Approximately 475 acres (67%) would be subject to Take under the Public Lands Alternative. Core Habitat was not designated for this species.

Freshwater marsh would be maintained at Dos Palmas under the Public Lands Alternative because of the commitment of CVWD to provide water for these species after the lining of the Coachella Canal. In the Whitewater Delta, existing agricultural runoff is sufficient to maintain the marsh habitat. State efforts to restore and protect the Salton Sea, though in a different configuration, are anticipated to, at a minimum, maintain the existing marsh habitat for rails. Given these circumstances, no significant or adverse impact for CEQA analysis purposes to Yuma clapper rail is anticipated from the Public Lands Alternative. However, at the Whitewater River delta and the irrigation drains along the border of the Salton Sea, CVWD would have no commitment under this alternative to manage its maintenance activities to avoid impacts to this species.

Due to reduced reserve size, change in configuration, elimination and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met.

Core Habitat with Ecological Processes Alternative

There would be no individuals occurring outside the Conservation Areas subject to Take. Core Habitat was not designated for this species. Impacts to this species would be the same or slightly more beneficial than those described for the Proposed Action/Preferred Alternative because the conservation and management at Dos Palmas and the Whitewater River delta would be identical. Because the Core Habitat with Ecological Processes Alternative would extend conservation upriver from the Salton Sea, more marsh habitat might be available for these birds.

Enhanced Conservation Alternative

There would be no individuals occurring outside the Conservation Areas subject to Take. Core Habitat was not designated for this species. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would

protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species within the Plan Area could be significant for CEQA analysis purposes, although existing regulations and mitigation programs cited above may in the long-term keep impacts below levels of significance.

MAMMALS

Peninsular bighorn sheep (*Ovis canadensis nelsoni*)

Proposed Action/Preferred Alternative

Habitat impacts outside the Conservation Areas would occur in the Pinyon Flats area under this Alternative. Approximately 6,533 acres (3%) of all habitat inside and outside the Conservation Areas and 6% of non-Federal lands would be subject to Take under the Proposed Action/Preferred Alternative. Core Habitat was not designated for this species.

Bighorn sheep are a California “fully protected” species. All Covered Activities of the Plan must avoid actions that would result in violations of the Fully Protected Species provisions (See Fish and Game Code sections 4700 and 3511).

The Plan provides a number of Required Measures for the Conservation Areas and special provisions in Section 4.4, Required Avoidance, Minimization, and Mitigation Measures, which protect bighorn from disturbance in the lambing season and from poisonous plants. The prohibition on invasive plant species (Section 4.5, Table 4-113 of the Plan) should also benefit bighorn and their habitat.

Major threats to bighorn sheep include the encroachment of development and associated edge effects into or near year-round, seasonal, and lamb rearing habitats, as well as essential hot weather water sources. Development proposed within Conservation Areas with bighorn sheep habitat will be subject to rigorous analysis by the CVCC and Wildlife Agencies. Most areas are subject to the Habitat Evaluation and Acquisition Negotiation Strategy (HANS) process described in Section 6.6.1.2 of the Plan. Land Use Adjacency Guidelines set forth in Section 4.5 of the Plan establish parameters by which potential impacts to sheep and their habitat will be

judged. These include adverse alterations to natural drainages, introduction of toxic or hazardous materials, light and noise, and the introduction of toxic and invasive plants. The construction of barriers to sheep movement or exposure of sheep to increased incidence of collision with vehicles are also important criteria for determining the potential for adverse impacts to sheep that are in conflict with the conservation Goals and Objectives for this species.

The Goals and Objectives applied to bighorn sheep in the Plan provide for the continued acquisition of the full range of sheep habitat necessary to assure their persistence and Recovery. The avoidance, minimization and mitigation measures set forth in the Plan would also address potential future threats from development, as would the aforementioned Land Use Adjacency Guidelines of the Plan. These measures are designed to avoid habitat fragmentation, maximize linkages and avoid genetic isolation, and provide for an Adaptive Management program.

Consistency with Peninsular Bighorn Sheep Recovery Plan

The Recovery Plan for Peninsular bighorn sheep³⁴ established nine recovery regions. Four of these regions are within the Plan Area and they extend across three Conservation Areas (Cabazon, Snow Creek/Windy Point and Santa Rosa and San Jacinto Mountains). The Recovery Plan explicitly states how the MSHCP can contribute to conservation for certain objectives, including land acquisition, education and land use planning guidelines. The Recovery Plan also recommends a trails management plan, though not in the context of the MSHCP. In addition, the Recovery Plan lists 45 recovery actions as they apply to each recovery unit. Nearly all (over 40) of these apply to the San Jacinto Mountains and the Santa Rosa Mountains north and south of Highway 74. About 25 apply to the Santa Rosa Mountains south of Martinez Canyon.

The MSHCP includes virtually all of the Essential Habitat for Peninsular bighorn sheep delineated by the Recovery Plan in the Conservation Areas. Habitat disturbance in these areas under the MSHCP is limited to a maximum of approximately 4,050 acres out of approximately 169,900 acres in the three Conservation Areas where there is Essential Habitat for Peninsular bighorn sheep: Cabazon, Snow Creek/Windy Point, and Santa Rosa and San Jacinto Mountains Conservation Areas. This means that approximately 2.4% of the Essential Habitat in these Conservation Areas is subject to potential disturbance. Of the acres of potential habitat disturbance, 1,154 acres are in Special Provision Areas, which the MSHCP through discussions with the Wildlife Agencies has identified as being areas with impacts that are minimized by mitigation measures and various site-specific characteristics. These areas are identified in Section 4.3.21 of the Plan. In all areas, the MSHCP provides that with respect to such new development as may be approved:

³⁴ U.S. Fish and Wildlife Service. 2000. *Recovery Plan for Bighorn Sheep in the Peninsular Ranges, California*. Unpublished report U.S. Fish and Wildlife Service, Region 1, Portland, Oregon.

- Development shall be clustered in one area of a site to the maximum extent feasible.
- Development shall be sited at the lowest possible elevation on the site and shall avoid the mouth of any canyon to the maximum extent feasible.
- Development shall be sited a minimum of a quarter (0.25) mile from known bighorn sheep water sources as identified on a reference map on file with CVCC.
- Development shall be conditioned to prohibit the construction of unauthorized trails in essential bighorn sheep Habitat.
- Development shall not preclude Habitat connectivity or movement. Determination of whether Habitat connectivity or movement is precluded shall be made by the Lead Agency for the Development based on factual data provided by the RMOC, RMUC, Wildlife Agencies, or other sources.

Development shall comply with Land Use Adjacency Guidelines contained in Section 4.5 of the MSHCP.

The Species Objectives for bighorn sheep (Section 9.8.3.1) include ensuring that implementation of the MSHCP is consistent with the recovery strategy described in the Recovery Plan to the maximum extent Feasible. Conservation Objectives for two of the three Conservation Areas overlapping the recovery units address conservation of bighorn habitat. The Plan imposes measures that help implement the recovery strategy in other ways, including areas where special provisions are required, and stipulations on certain Permittees and projects, such as CVWD and the widening of East Palm Canyon Drive.

The Plan also clearly addresses the individual recovery units containing separate ewe bands in the discussion of the San Jacinto/Santa Rosa Mountains Conservation Area. This level of detail shows close consistency with the recovery strategies described in the Recovery Plan

Impacts to Critical Peninsular Bighorn Sheep Habitat

Critical Habitat is designated over a large area of the Santa Rosa and eastern San Jacinto Mountains, from the undeveloped alluvial fans and toe of slope up to the mid elevations. The final boundaries of critical habitat for Peninsular bighorn sheep were designated in 2001.³⁵ It approximates the “essential habitat” of the Recovery Plan, but is aligned along legal parcel boundaries rather than topographic features.

Take Authorization would be available for very little of the designated critical habitat for bighorn sheep would be in the Preferred Alternative. Plan Table 4-114 indicates that less than 3% of the total habitat in the Plan Area would be subject to potential Take. Of the remaining acres to be

³⁵ U.S. Fish and Wildlife Service 2001.

conserved, Complementary Conservation would account for a portion, as the state and Federal governments would acquire an additional 21,850 acres (Section 4.2.2.1), many of which may be in bighorn habitat. No significant adverse impacts to critical habitat are anticipated from implementation of the Preferred Alternative for CEQA analysis purposes.

Summary of Impacts to Peninsular Bighorn Sheep

The Development potential for private lands in the mountainous habitat is limited by terrain, availability of utilities, road access and environmental considerations, including impacts to bighorn sheep. The BLM lands have received a non-jeopardy opinion and “not likely to adversely impact” concurrences for the California Desert Area Conservation Plan and the San Jacinto and Santa Rosa Mountains National Monument Management Plan. Use of existing trail alignments has also received non-jeopardy Biological Opinions. Adequate conservation of the private lands is the remaining link in permanent protection for the bighorn habitat in the Plan Area. There are no significant impacts from a CEQA perspective.

Public Lands Alternative

Habitat impacts could occur on all private lands outside the Conservation Areas under the Public Lands Alternative. Approximately 75,999 acres (48%) would be subject to habitat impacts under the Public Lands Alternative. Core Habitat was not designated for this species.

The Forest Service and Bureau of Land Management would provide protective management for bighorn sheep within the San Jacinto and Santa Rosa National Monument boundaries, which constitutes most of the critical habitat. However, conservation management of public lands alone cannot provide the needed protection for this endangered species. Reducing the threat from private land Development is also a necessary action. The review under CEQA and the Endangered Species Act would alleviate edge effects of Development to some extent, but without a unified program of conservation, such as provided by the MSHCP, habitat conditions for bighorn would probably deteriorate. Management of bighorn is already intensive, and includes re-introductions, construction of water sources, placement of barrier fences, annual censuses and restrictions on recreational use.

Due to reduced reserve size, change in configuration, elimination of linkages, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met. With the potential for substantial Take and the lack of a coordinated habitat conservation plan on private lands, this Alternative could in the long-term result in significant impacts to the species for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Disturbance allowed under this Alternative is the same as under the Proposed Action/Preferred Alternative and would be less than significant for CEQA analysis purposes. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Core Habitat was not designated for this species. Disturbance allowed under this Alternative is the same as under the Proposed Action/Preferred Alternative and would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species within the Plan Area could be significant for CEQA analysis purposes, although existing regulations and mitigation programs, including the bighorn Recovery Plan, may in the long-term keep impacts below levels of significance.

Coachella Valley round-tailed ground squirrel (*Spermophilus tereticaudus chlorus*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring east of Desert Hot Springs, on the Big Dune and along the Coachella Canal south of I-10. Approximately 61,243 acres (60%) of all habitat and 69% of non-Federal lands would be subject to Take under the Preferred Alternative. There would be approximately 1,319 acres (6%) of Core Habitat subject to Take under this alternative.

Table 4-114 of the Plan indicates that 60% of all lands within the Plan Area would be subject to Take. A total of 69% of the non-Federal lands containing modeled habitat could be disturbed. Although substantial acreage of occupied, suitable and potential habitat might be lost to

development within the next 75 years, the establishment of Conservation Areas where this species is protected is a significant improvement over the piecemeal and fragmenting nature of development patterns within this habitat occurring now. Using the criteria of the Scientific Advisory Committee, the Conservation Areas containing Core Habitat for the Coachella Valley round-tailed ground squirrel are judged to be both necessary and sufficient. They are large enough to contain hundreds of animals and are adequately connected to each other to allow genetic exchange. The modeled habitat appears to be an overestimate of Habitat actually used by this species. The overestimate magnifies the variance in Take and Conservation estimates within given areas, assuming squirrels are not uniformly distributed.

Coachella Valley round-tailed ground squirrel habitat occupancy rates are substantially higher in mesquite hummocks than other habitat types (Ball et al., in press)³⁶. It is therefore desirable to preserve the natural communities with a mesquite component for this squirrel. Substantial stands of mesquite hummocks and dunes are conserved within the Willow Hole and Thousand Palms Conservation Areas.

The Willow Hole Conservation Area straddles the Mission Creek and Garnet ground water subbasins. The subject mesquite hummocks are associated with the diking of groundwater within the Mission Creek Subbasin, which brings water to or near the surface and supports the mesquite. This subbasin is in a state of overdraft and portions of the subbasin have been lowered. While the subject mesquite areas are located at the low end of the subbasin where water levels have remained relatively stable, there is some evidence that existing mesquite have been or could be adversely affected by the continued drawdown of the water table. Conditions in the Mission Creek Subbasin are discussed in detail below under the heading “Comparison of Effects on Natural Communities by Alternative”.

As discussed in Section 8 of the Plan, the Monitoring Program will include the use of appropriate methods and technologies (which may change over time) to monitor groundwater levels in the Willow Hole, East Indio Hills, and Thousand Palms Conservation Areas where a substantial lowering of the water table could have a significant adverse impact on mesquite hummocks and associated Covered Species for CEQA analysis purposes. Should monitoring detect a substantial lowering of the water table or a decline in mesquite health, the following actions will be taken: 1) evaluate the results of the monitoring, 2) prepare a damage assessment report, 3) develop Feasible measures to ameliorate the effects of substantial lowering of the water table on mesquite hummocks and associated Covered Species, and 4) implement measures through Adaptive Management.

³⁶ L.C. Ball, P.F. Doherty, Jr., M.W. McDonald. Using Estimates of Patch Occupancy to Evaluate a Habitat Model. In press.

Disturbance allowed under this Alternative would be less than significant from a CEQA analysis perspective and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring east of Desert Hot Springs, on the Big Dune, in the San Gorgonio River, west of the Thousand Palms Preserve, north of the Indio Hills, the east end of the Indio Hills, along the Coachella Canal and at Dos Palmas. Approximately 87,516 acres (86%) would be subject to Take under the Public Lands Alternative. There would be approximately 12,009 acres (59%) of Core Habitat subject to Take under this alternative.

Core Habitat for the Coachella Valley round-tailed ground squirrel would remain at all three reserves in the Coachella Valley under the Public Lands Alternative. It would be reduced in size compared to the Preferred Alternative, which would acquire areas of occupied habitat at all sites and include them in the Conservation Areas.

Increased management might consist of establishing additional mesquite hummocks. However, the groundwater would not support these plantings at the Coachella Valley Preserve, making this measure impractical.

Due to reduced reserve size, change in configuration, elimination of linkages, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met. In the long-term, the lack of a more broadly applied habitat conservation plan would result in potentially significant impacts on the species if this Alternative were adopted and implemented for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring east of Desert Hot Springs, on the Big Dune, north of the Indio Hills and along the Coachella Canal south of I-10. Approximately 63,507 acres (62%) would be subject to Take under the Core Habitat with Ecological Processes Alternative. There would be approximately 3,672 acres (18%) of Core Habitat subject to Take under this alternative (2,746 acres outside and 926 acres inside Conservation Areas).

Due to reduced reserve size, change in configuration, and elimination of linkages, under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met. In the long-term, the lack of a more broadly applied habitat conservation plan would result in potentially significant impacts on the species for CEQA analysis purposes if this Alternative were adopted and implemented.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring east of Desert Hot Springs. Approximately 38,065 acres (37%) would be subject to Take Authorization under the Enhanced Conservation Alternative. There would be approximately 1,385 acres (7%) of Core Habitat subject to Take under this alternative (205 acres outside and 1,180 acres inside Conservation Areas). Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species within the Plan Area could be significant for CEQA analysis purposes.

Palm Springs pocket mouse (*Perognathus longimembris bangsi*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring east of Desert Hot Springs, on the Big Dune, between the southern Indio Hills and the little San Bernardino Mountains, east of the Coachella Canal south of I-10 and in the North Shore area. Approximately 75,304 acres (53%) of all habitat and 62% of non-Federal lands would be subject to Take under the Preferred Alternative. There would be approximately 1,993 acres (7%) of Core Habitat subject to Take under this alternative.

Impacts to Palm Springs pocket mouse would be beneficial compared to the existing situation or the No Action Alternative. Although substantial acreage of occupied, suitable and potential habitat might be lost to development within the next 75 years, the establishment of the MSHCP Reserve where this species is protected is a significant improvement over the piecemeal and fragmenting nature of development patterns within this habitat occurring now. Disturbance

allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on the Big Dune, in the San Gorgonio River, east of Desert Hot Springs, along Mission Creek and Morongo Wash, at Willow Hole, along the base of the little San Bernardino Mountains, west of the Thousand Palms Preserve, at the east end of the Indio Hills, in the southern alluvial fans of the Santa Rosa Mountains, east of the Coachella Canal south of I-10, and at Dos Palmas. Approximately 119,256 acres (84%) would be subject to Take under the Public Lands Alternative. There would be approximately 17,057 acres (60%) of Core Habitat subject to Take under this alternative. All of the Take would be outside of Conservation Areas, since this alternative only conserves existing public lands where there is no Take Authorization.

Existing reserves and other conservation lands protect only a small portion of the range of the Palm Springs pocket mouse. Nothing is known of how to improve management for this species, so the premise of the Public Lands Alternative would not be applicable. It is likely that the pocket mouse undergoes sizable fluctuations in population size. In that case, relatively large unfragmented patches of habitat are necessary for its conservation. The Public Lands Alternative would utilize the habitat on the three existing reserves as Core Habitat, compared to five Core Habitat areas for the Preferred Alternative. The highest reported densities of this species are near Snow Creek and Mission Creek, rather than in the existing reserves (Plan Table 9-33).

The Public Lands Alternative would represent no improvement over the existing situation. A relatively small fraction of the range and acreage of habitat would be conserved, and the impacts are judged to be significant and adverse to this species for CEQA analysis purposes.

Due to reduced reserve size, change in configuration, elimination of linkages, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met. In the absence of a more broadly applied habitat conservation plan, impacts to the species from this Alternative would be significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring on the Big Dune, in the San Gorgonio River, east of Desert Hot Springs, at the east end of the Indio Hills, in the southern alluvial fans of the Santa Rosa Mountains, and east of the Coachella Canal south of I-10. Approximately 79,718 acres (55%) would be subject to Take under the Core Habitat with Ecological Processes Alternative. There would be approximately 5,164 acres (18%) of Core Habitat subject to Take under this alternative (3,842 acres outside and 1,322 acres inside Conservation Areas).

The Core Habitat with Ecological Processes Alternative would protect 26,969 acres of Core Habitat in five reserves (Table 9-32), and would include the two densest populations. Other Conserved Habitat would extend throughout its range. No adverse impacts are anticipated.

Due to reduced reserve size, and elimination of a linkage under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met. In the long-term, the lack of a more broadly applied habitat conservation plan would result in potentially significant impacts for CEQA analysis purposes on the species if this Alternative were adopted and implemented.

Enhanced Conservation Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring east of Desert Hot Springs and in the North Shore area. Approximately 45-307 acres (31%) would be subject to Take under the Enhanced Conservation Alternative. There would be approximately 2,025 acres (7%) of Core Habitat subject to Take under this alternative (355 acres outside and 1,670 acres inside Conservation Areas). Disturbance allowed under this Alternative could be less than for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species would continue. Over time, impacts to this species within the Plan Area could be significant for CEQA analysis purposes.

Southern yellow bat (*Lasiurus xanthinus*)

Proposed Action/Preferred Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in isolated palm oases scattered throughout the Plan area. Approximately 78 acres (6%) of all habitat and 9% of non-Federal lands would be subject to Take under the Preferred Alternative. Core Habitat was not designated for this species.

The favored habitat, desert fan palm oasis woodland, is very well conserved by the Preferred Alternative. However, actual use of the conserved habitat by the southern yellow bat would have to be validated by monitoring. Disturbance allowed under this Alternative could be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in isolated palm oases in the Santa Rosa and San Jacinto Mountains. Approximately 887 acres (67%) would be subject to Take under the Public Lands Alternative. Core Habitat was not designated for this species.

Threats to desert fan palm oases, the preferred habitat of the southern yellow bat, are few, but many oases are not in conservation status. Impacts to this species would not be adverse under Public Lands Alternative, but are much greater than in the Preferred Alternative.

Due to reduced reserve size, change in configuration, and reduction in the amount of Core Habitat for this species under this alternative, it is unclear if the State and Federal permit issuance standards for this species would be met.

Core Habitat with Ecological Processes Alternative

Individuals occurring outside the Conservation Areas would be subject to Take, including those occurring in palm oases west of Dos Palmas. Approximately 22 acres (2%) would be subject to Take under the Core Habitat with Ecological Processes Alternative. Core Habitat was not designated for this species. Impacts to this species would be nearly the same as described for the Preferred Alternative. Exclusion of a few palm oases may lead to some negative impact to the

southern yellow bat in the long term, but impacts would be less than significant for CEQA analysis purposes.

Enhanced Conservation Alternative

There would be essentially no individuals occurring outside the Conservation Areas subject to Take. Only one acre (<1%) would be subject to Take under the Enhanced Conservation Alternative. Core Habitat was not designated for this species. Disturbance allowed under this Alternative could be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under this Alternative, no coordinated habitat conservation plans would be adopted or implemented, and incremental impacts to this species could continue. Over time, impacts to this species within the Plan Area could be significant for CEQA analysis purposes.

COMPARISON OF EFFECTS ON NATURAL COMMUNITIES BY ALTERNATIVE

Active Desert Dunes

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Active Desert Dunes would be subject to impact outside the Conservation Areas. There would be 25 acres subject to impact throughout the Plan Area, 16 acres within the Conservation Areas and 9 acres outside the Conservation Areas. The 25 acres constitute 4% of this natural community in the Plan Area. Excluding Federal lands, the 25 acres subject to impact represents 12% of this natural community in the Plan Area. Disturbance allowed under the Proposed Action/Preferred Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Active Desert Dunes would be subject to impact. There would be 156 acres (28%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 156 acres outside the Conservation Areas. Disturbance allowed under

this Alternative would be significant for CEQA analysis purposes and environmentally inferior to the Preferred Alternative because the Alternative would not adequately protect unfragmented habitat, nor maintain Essential Ecological Processes sufficient to sustain the habitat, or adequately protect Biological Corridors and Linkages, as appropriate.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Active Desert Dunes would be subject to impact primarily outside the Conservation Areas. There would be 28 acres (5%) subject to impact throughout the Plan Area, 14 acres within the Conservation Areas and 14 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Active Desert Dunes would be subject to impact primarily outside the Conservation Areas. There would be 24 acres (4%) subject to impact throughout the Plan Area, 15 acres within the Conservation Areas and 9 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Stabilized/Partially Stabilized Desert Dunes

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Stabilized/Partially Stabilized Desert Dunes would be subject to impact outside the Conservation Areas. There would be 72 acres (16% of all Habitat and 18% of non-Federal lands) subject to impact throughout the Plan Area, 35 acres within the Conservation

Areas and 37 acres outside the Conservation Areas. Disturbance allowed under the Proposed Action/Preferred Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Stabilized/Partially Stabilized Desert Dunes would be subject to impact along the fault line dunes. There would be 425 acres (94%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 425 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be significant for CEQA analysis purposes and environmentally inferior to the Preferred Alternative, because the Alternative would not adequately protect unfragmented habitat, nor maintain Essential Ecological Processes sufficient to sustain the habitat, or adequately protect Biological Corridors and Linkages, as appropriate.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Stabilized/Partially Stabilized Desert Dunes would be subject to impact at the west end of the fault line dunes. There would be 96 acres (21%) subject to impact throughout the Plan Area, 37 acres within the Conservation Areas and 59 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be environmentally inferior to the Preferred Alternative, because the Alternative would not comparably protect unfragmented habitat nor as well maintain Essential Ecological Processes to sustain the habitat, or comparably protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Stabilized/Partially Stabilized Desert Dunes would be subject to impact at the west end of the fault line dunes. There would be 46 acres (10%) subject to impact throughout the Plan Area, 42 acres within the Conservation Areas and 4 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Active Desert Sand Fields

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Active Desert Sand Fields would be subject to impact east of Date Palm Drive. There would be 1,493 acres (27% of all Habitat and 45% of non-Federal lands) subject to impact throughout the Plan Area, 148 acres within the Conservation Areas and 1,345 acres outside the Conservation Areas. Disturbance allowed under the Proposed Action/Preferred Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Active Desert Sand Fields would be subject to impact east of Date Palm Drive and west of the Thousand Palms Preserve. There would be 2,822 acres (51%) subject to impact throughout the Plan Area, 0 acre within the Conservation Areas and 2,822 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be significant for CEQA analysis purposes and environmentally inferior to the Preferred Alternative because the Alternative would not adequately protect unfragmented habitat, nor maintain Essential Ecological Processes sufficient to sustain the habitat, or adequately protect Biological Corridors and Linkages, as appropriate.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Active Desert Sand Fields would be subject to impact east of Date Palm Drive, west of the Thousand Palms Preserve and on Edom Hills. There would be 1,709 acres (31%) subject to impact throughout the Plan Area, 124 acres within the Conservation Areas and 1,585 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat,

maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate. The Alternative would be inferior compared to the Proposed Alternative.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Active Desert Sand Fields would be subject to impact east of Snow Creek. There would be 881 acres (16%) subject to impact throughout the Plan Area, 216 acres within the Conservation Areas and 665 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Ephemeral Desert Sand Fields

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Ephemeral Desert Sand Fields would be subject to impact outside of the Whitewater Floodplain Conservation Area. There would be 784 acres (14% of all lands and 17% of non-Federal lands) subject to impact throughout the Plan Area, 354 acres within the Conservation Areas and 430 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Ephemeral Desert Sand Fields would be subject to impact at Willow Hole, and on private lands around the Whitewater Floodplain Reserve. There would be 3,983 acres (69%) subject to impact throughout the Plan Area, 0 acres within the Conservation

Areas and 3,983 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be significant for CEQA analysis purposes and environmentally inferior to the Preferred Alternative because the Alternative would not adequately protect unfragmented habitat, nor maintain Essential Ecological Processes sufficient to sustain the habitat, or adequately protect Biological Corridors and Linkages, as appropriate.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Ephemeral Desert Sand Fields would be subject to impact at the Whitewater Floodplain Reserve. There would be 1,199 acres (21%) subject to impact throughout the Plan Area, 309 acres within the Conservation Areas and 890 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Ephemeral Desert Sand Fields would be subject to impact in at the Whitewater Floodplain Reserve. There would be 714 acres (12%) subject to impact throughout the Plan Area, 363 acres within the Conservation Areas and 351 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Stabilized and Partially Stabilized Desert Sand Fields

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Stabilized and Partially Stabilized Desert Sand Fields would be subject to impact outside the Whitewater Floodplain Conservation Area. There would be 277

acres (18% of all lands and 21% of non-Federal lands) subject to impact throughout the Plan Area, 112 acres within the Conservation Areas and 166 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Stabilized and Partially Stabilized Desert Sand Fields would be subject to impact in south of the Whitewater Floodplain Conservation Area and in the vicinity of the East Indio Hills Conservation Area. There would be 1,390 acres (90%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 1,390 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be significant for CEQA analysis purposes and environmentally inferior to the Preferred Alternative because the Alternative would not adequately protect unfragmented habitat, nor maintain Essential Ecological Processes sufficient to sustain the habitat, or adequately protect Biological Corridors and Linkages, as appropriate.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Stabilized and Partially Stabilized Desert Sand Fields would be subject to impact outside the Whitewater Floodplain Conservation Area. There would be 972 acres (63%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 972 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be significant for CEQA analysis purposes and environmentally inferior to the Preferred Alternative because the Alternative would not adequately protect unfragmented habitat, nor maintain Essential Ecological Processes sufficient to sustain the habitat, or adequately protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Stabilized and Partially Stabilized Desert Sand Fields would be subject to impact outside the Whitewater Floodplain Conservation Area. There would be 63 acres (4%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 63 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential

Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Stabilized Shielded Desert Sand Fields

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Stabilized Shielded Desert Sand Fields would be subject to impact on the Big Dune. There would be 10,912 acres (83% of all lands and 88% of non-Federal lands) subject to impact throughout the Plan Area, 119 acres within the Conservation Areas and 10,793 acres outside the Conservation Areas. However, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Stabilized Shielded Desert Sand Fields would be subject to impact on the Big Dune. There would be 11,983 acres (91%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 11,983 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be environmentally inferior to the Preferred Alternative because the Alternative would be less effective at protecting unfragmented habitat or in maintaining Essential Ecological Processes important to sustain the habitat, or to provide comparable protection of Biological Corridors and Linkages, as appropriate.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Stabilized Shielded Desert Sand Fields would be subject to impact on the Big Dune. There would be 11,163 acres (84%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 11,163 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be

environmentally inferior to the Preferred Alternative because the Alternative would be less effective at protecting unfragmented habitat or in maintaining Essential Ecological Processes important to sustain the habitat, or to provide comparable protection of Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Stabilized Shielded Desert Sand Fields would be subject to impact on scattered parcels throughout the urban area. There would be 6,788 acres (51%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 6,788 acres outside the Conservation Areas. However, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Mesquite Hummocks

During the planning process, the issue of the potential impact of groundwater withdrawals on mesquite in areas associated with the San Andreas Fault Zone was raised. The following discussion addresses these potential impacts.

Introduction

Mesquite hummocks have historically been found throughout the Coachella Valley. Mesquite communities have been impacted in the past several decades by the lowering of groundwater levels from pumpage associated with agriculture and urban development. The most viable surviving mesquite communities are currently found along the geological faulting associated with the San Andreas Fault Zone. Fault movement deposits clays that create barriers to the movement of groundwater. Up-gradient water pressure causes pooled groundwater to rise vertically along the fault. Mesquite is also well equipped to tap groundwater with taproots that can exceed 140 feet. The mesquite communities proposed for long-term protection under the Plan and the groundwater regimes that sustain them are briefly discussed below.

Mission Creek Subbasin and Associated Mesquite Communities

The Plan proposes to protect the mesquite hummocks located within and west of Willow Hole. This largely continuous community extends well west of Palm Drive and lies along the Banning Branch of the San Andreas Fault Zone in the western part of the valley south of Desert Hot Springs. The Mission Creek Subbasin is a well-defined water-bearing aquifer bounded on the south by the Banning Fault, on the north by the Mission Creek Fault, on the north by non-water bearing rock of the San Bernardino Mountains, and on the east by the Indio Hills. The CVWD, the MSWD and a few independent well owners (“Minimal Pumpers”) extract water from the subbasin. Estimates of subbasin capacity, water in storage and annual water balance (recharge v. withdrawals) vary widely.

The subbasin is naturally recharged by surface and subsurface discharge, most of which is from Mission Creek, and Little and Big Morongo Creeks. Water depths below the ground surface, as determined by the U.S. Geological Survey in 1971, range from a maximum of 425 feet in the northwesterly portion, to flowing wells at a minimum in a narrow strip along the Banning Fault.³⁷ A steady water level decline of approximately 0.5 to 1.5 feet per year has been observed since 1952.³⁸

According to data collected at CVWD’s Well No. 3407, located at Dillon Road and Little Morongo Drive, the subbasin water level has dropped from 760 feet above sea level in 1955 to 715 feet in 1998.³⁹ Alternatively, a private well located east of Mountain View Road and on the upgrade margin of Willow Hole had a water level at 5.7 feet below the surface in 2002; over the past decade the water level in this well has dropped from less than two feet below the surface, indicating a relatively stable groundwater regime in the eastern end of Willow Hole during a period of extended drought.⁴⁰

Mission Creek Basin Water in Storage: Based upon several studies of the Mission Creek Subbasin,⁴¹ it is estimated that the total water in storage in 1955 was approximately 2,015,733 AF (in storage in first 1,000 feet below surface). By 1970, total water in storage in the subbasin was estimated to have declined to 1,967,733 AF, to 1,920,800 by 1978, and to 1,778,400 by 1997. Based upon pumpage in the subbasin between 1998 and 2002, the total water in storage in the subbasin in 2002 was estimated at 1,717,979. The best available pumpage data is from 1978

³⁷ “Engineer’s Report on Water Supply and Replenishment Assessment,” Coachella Valley Water District, April 2000.

³⁸ Ibid.

³⁹ “Water Master Plan for Mission Springs Water District,” ASL Consulting Engineers, August 2000.

⁴⁰ Personal communication, Alan Harrell, Engineering Technician, Coachella Valley Water District. November 5, 2003.

⁴¹ “Basin Water Supply and Initial Groundwater Replenishment and Assessment for the Mission Creek Subbasin,” Prepared by Krieger & Stewart, Inc. April 2003. Prepared for the Coachella Valley Water District.

to the present and estimates indicate water in storage in 1978 at 1,920,800 AF. Based upon this approach, total water in storage in the subbasin in 2002 was about 1,778,400.

Mission Creek Recharge: The annual rate of recharge would vary but is estimated by the USGS to be about 5,000 acre feet (AF). The overall gradient of subsurface flows is from northwest to southeast, with the low point of the basin being located along the Banning Fault and at Willow Hole, where groundwater rises to or near the surface. It is estimated that 2,000 to 5,360 acre feet per year flow across the Banning Fault and into the adjoining Garnet Hill Subbasin. In calculating annual recharge and outflow it is conservatively assumed that natural recharge roughly equals natural subbasin outflows.

The Mission Creek Subbasin lies within an area covered by a Water Management Agreement between the DWA and CVWD. Both agencies have been aware of the overdraft situation in the subbasin and have taken steps to increase groundwater recharge using Colorado River water being delivered via a turnout on the Metropolitan Water District Colorado River Aqueduct. Recently completed Mission Creek recharge ponds constructed in the northwest portion of the subbasin benefit all areas where extraction occurs and would occur in the future. In 2002, 4,733 acre feet were delivered and recharged into the aquifer reducing the net overdraft for that year to about 4,346 AF.

The Mission Creek recharge facility is designed to recharge up to 25,000 acre-ft of Colorado River water in any one year. Based upon current production, the Mission Creek Recharge Project would use about 6% of the available State Water (SWP) project exchange water or up to 3,700 acre ft/yr of the current SWP entitlement.⁴² It is anticipated that between 5,000 and 10,000 acre-feet per year will be delivered to the spreading facility, and in wetter years, up to 15,000 acre-feet may be spread.⁴³

CVWD is assessing MSWD customers a replenishment fee to help recover the costs of the groundwater recharge program.⁴⁴ Artificial recharge water being percolated into the subbasin would not reach the CVWD well field in the southeastern portion of the subbasin for several years but would in time increase water in storage in this area of the subbasin.

Mission Creek Subbasin Pumpage Trends: Both MSWD and CVWD draw water from the Mission Creek Subbasin. MSWD is the larger of the two purveyors mining this aquifer, with pumpage having increased steadily since 1978, rising from 1,516 acre feet in that year to 7,055

⁴² "Water Master Plan for Mission Springs Water District," ASL Consulting Engineers, August 2000.

⁴³ Ibid.

⁴⁴ Woody Adams, Senior Service Planner, Desert Water Agency, letter to City of Desert Hot Springs, July 24, 2000.

acre feet in 1998.⁴⁵ While the District's boundaries lie north of the Banning Fault, a review of MSWD production records illustrates the trend in groundwater production.

The CVWD owns and operates production wells closest to the Banning Fault and the associated mesquite scarp. CVWD Wells No. 3406 and 3518 are located west of Palm Drive and north of 18th Avenue and are representative of the effects of production pumpage on groundwater levels. These and other production wells are located west and north of the aforementioned area of the subbasin where water quality has been impacted by high levels of fluoride and total dissolved solids from spillage of non-potable water from the Desert Hot Springs Subbasin.

CVWD pumpage data shows a steady increase in groundwater extraction for CVWD users in the Sky Valley area, which is underlain by the non-potable Desert Hot Springs Subbasin. CVWD pumpage in 1978 was 854 AF, rising to 2,302 AF by 1988, 2,757 AF in 1998, and jumping to 4,371 AF in 2002. During the period from 1974 to 2002, groundwater levels in the production wells decreased from 139.4 feet below ground surface to 178.6 feet by 2002, a 74 foot lowering of the water table. Other CVWD wells in the area show a 51.8 foot drop in water table levels between 1973 and 2002. It should be noted that groundwater levels are identified as those in the well, pumping from which creates a "cone of depression" in the water table. With distance from the well, depending on location and soils transmissivity, groundwater levels would be progressively less affected (higher).

Constraints to Pumpage in the Mission Creek Subbasin: In the vicinity of the Mission Creek Fault and in most of the southeastern portion of the subbasin there is an intrusion or spillage of groundwater from the Desert Hot Springs Subbasin into the Mission Creek Subbasin. This spillage is caused by an overflow across the Mission Creek Fault north of Willow Hole and has resulted in a plume of groundwater with high dissolved solids, including high levels of sulfate and fluoride, which has been determined to be non-potable. This intrusion extends from Willow Hole northwest to Palm Drive following the alignment of the Banning Fault. This intrusion of non-potable water has forced CVWD to develop its well field west of Palm Drive in Section 12, northwest of the high TDS plume.

Long-Term Impacts to Mesquite along the Banning Fault

The mesquite hummocks located in the southeastern portion of the Mission Creek Subbasin are at the lower end of a large and unconfined aquifer. Historically and currently, waters in the southeastern portion of the subbasin flow to or near the surface, spill over the Banning Fault and leak into the Garnet Hill Subbasin, indicating the continuing migration of up-gradient groundwater to this area. Recharge of the subbasin began in 2002 and in future years may exceed

⁴⁵ MSWD Water Master Plan, prepared by ASL Consulting Engineers, May 2000.

15,000 acre-feet per year. The mesquite hummocks associated with the Banning Fault is also influenced and supported by reliable continued leakage of the non-potable Desert Hot Springs Subbasin into Willow Hole and lands lying along the Banning Fault as far west as Palm Drive.

Conditions, which support the mesquite hummocks community in this area, are expected to remain in place for the indefinite future. As discussed in Section 8 of the Plan, the Monitoring Program will include the use of appropriate methods and technologies (which may change over time) to monitor groundwater levels in the Willow Hole, East Indio Hills, and Thousand Palms Conservation Areas where a substantial lowering of the water table could have a significant adverse impact on mesquite hummocks and associated Covered Species for CEQA analysis purposes. Should monitoring detect a substantial lowering of the water table or a decline in mesquite health, the following actions will be taken: 1) evaluate the results of the monitoring, 2) prepare a damage assessment report, 3) develop Feasible measures to ameliorate the effects of substantial lowering of the water table on mesquite hummocks and associated Covered Species, and 4) implement measures through Adaptive Management.

Desert Hot Springs Subbasin and Associated Mesquite Communities⁴⁶

The Desert Hot Springs Subbasin is bounded by the Little San Bernardino Mountains on the northeast, the Indio Hills and Mission Creek fault on the southwest, and the Mecca Hills on the southeast. It is further divided into three subareas as follows: Miracle Hill Subarea, Sky Valley Subarea and the Fargo Canyon Subarea. It is estimated that between the high ground water elevations that occurred during the 1935-1936 season and a depth of 1,000 feet below the ground surface, the Desert Hot Springs Subbasin has a capacity for storing (and had in storage) about 4,100,000 acre-feet of groundwater.

Although the subbasin is quite extensive in size, approximately 104 square miles, the land that overlies it is only sparsely developed. The coalescing alluvial fan deposits underlying the Dillon Road Piedmont Slope are the water-bearing materials of the Desert Hot Springs Subbasin. Water-bearing materials in the subbasin primarily consist of coarse-grained, poorly sorted alluvial fan deposits, which are principally of Ocotillo conglomerate estimated to be more than 700 feet thick. Recent fan conglomerates cover most of the land surface, and recent alluvium in the subbasin ranges in thickness from a thin edge to more than 100 feet.

Groundwater in this subbasin is characterized by high concentrations of fluoride, total dissolved solids, sodium sulfates and other undesirable minerals, which have limited its use for agricultural and domestic water purposes.⁴⁷ The presence of high mineral concentrations is largely due to

⁴⁶ Engineer's Report on Water Supply and Replenishment Assessment," Coachella Valley Water District, April 2000.

⁴⁷ Steve Bigley, Coachella Valley Water District, personal communication, March 13, 2001.

faulting along the margins of the subbasin. Faulting is associated with geothermal activity, which warms the earth's crust. As subsurface temperatures rise, minerals contained within the subbasin's sediments are more easily dissolved and mixed with groundwater, increasing the overall dissolved mineral content of the water. Groundwater pumped from the Miracle Hill subarea can reach up to 200°F and is the primary source of mineral spa waters in the City of Desert Hot Springs.

CVWD does not extract groundwater from the Desert Hot Springs Subbasin, given its high concentration of undesirable minerals. Instead, domestic water for the Sky Valley and Indio Hills communities is extracted by CVWD from the Mission Creek Subbasin to the west,⁴⁸ as discussed above. The poor quality of groundwater in the Desert Hot Springs Subbasin is expected to assure natural rates of recharge exceeding current and future pumpage. Available information and data on each of the three subareas comprising the Desert Hot Springs Subbasin is summarized below. The following table shows the total storage capacity and presumed 1936 storage in the individual subareas located within the Desert Hot Springs Subbasin.

Miracle Hill Subarea: The portion of the Desert Hot Springs subbasin along the Mission Creek fault in which there is extensive development of hot-water wells is called the Miracle Hill subarea. It covers approximately 12 square miles and includes the northeastern portion of the community of Desert Hot Springs. A principal use of ground water in this area is to provide the hot mineral water available at several spas. The boundary separating the subarea from the Sky Valley subarea is a surface drainage divide. Ground water levels indicate that underflow across this boundary moves from Miracle Hill subarea southeastward into the Sky Valley subarea.

More than 130 water wells have been drilled in the Miracle Hill subarea. Approximately half of these are active and pump water for domestic use or for commercial spas. Depth to water ranges from 12 feet below ground surface near the Mission Creek fault to over 300 feet in the southeast portion of the subarea. Water level data in the Miracle Hill subarea suggest several barriers to ground water movement. The barriers appear to trend parallel to the Mission Creek Fault with which they are probably associated. Structural conditions within the subarea are complex and the barrier effects are not well understood. Movement of groundwater in the subarea is generally southeastward except within the narrow strip between the main Mission Creek Fault and the secondary parallel fault that follows the northeast flank of Miracle Hill.

The water temperatures in 34 wells of the Miracle Hill subarea were measured in the spring of 1961, and the values range from 82°F to 200°F. The average value was 118°F. Water temperatures measured in 16 wells along the southwest side of the Mission Creek fault in the Mission Creek subbasin range in value from 74°F to 86°F. This difference is probably a

⁴⁸ Ibid.

reflection of the barrier effect of the fault and suggests that ground water is heated on the northeast side of the fault with very little movement across the fault.

Sky Valley Subarea: The central portion of the Desert Hot Springs subbasin, in which ground water movement is toward Thousand Palms Canyon, is the Sky Valley subarea. The subarea extends 11 miles from the Miracle Hill subarea southeasterly to the trace of the Indio Hills fault and covers approximately 35 square miles. The trace of the Indio Hills fault is the boundary of the Sky Valley and Fargo Canyon subareas. The fault coincides with a ground water divide and is probably an effective barrier to ground water movement.

Groundwater and other hydrologic data in the Sky Valley subarea are sparse. Only 15 water wells were located during the course of the investigation and of these, 8 were active, pumping only small quantities of groundwater for domestic use. Movement of water within the subarea is southeasterly from the Miracle Hill subarea and southwesterly from the vicinity of Fan Canyon, converging on the Thousand Palms Canyon, where rising water along the fault is present throughout the year. The gradient of the water table is moderate. Groundwater is probably unconfined in the greater part of the subarea.

Fargo Canyon Subarea: The portion of the Desert Hot Springs subbasin south and east of the Indio Hills fault is called the Fargo Canyon subarea. It covers approximately 57 square miles and extends 17 miles from the Sky Valley subarea to the southeast limit of the subbasin. The northwest half of the area is underlain by coarse alluvial fan deposits of "Recent" age. To the southeast, "Recent" deposits are confined to stream channels cut into the Ocotillo conglomerate.

Data on the occurrence of groundwater within the Fargo Canyon subarea is even less than that available for the Sky Valley subarea. Nine wells drilled in the Fargo Canyon subarea were located during the investigation, all in the vicinity of Dillon Road. Two of these wells were active, pumping water for domestic use and for irrigation of approximately 200 acres of young citrus trees.

Water levels measured in these wells during the spring of 1961 range from 717 feet to 17 feet. Although the data are not sufficient to determine the configuration of the water table, the measured levels along Dillon Road suggest that ground water movement in the northwest portion of the subarea moves southeasterly, and the groundwater is probably unconfined.

Impacts to Mesquite Communities

In the Plan Area, CVWD, DWA, MSWD and the Myoma Dunes Water District provide domestic water service. Each of these agencies owns and operates infrastructure improvements,

such as wells and water storage reservoirs. Of these districts, only CVWD is a Permittee under the MSHCP and receives Take for its Covered Activities.

The routine maintenance and occasional repair of existing improvements, and the initial construction of new facilities, can result in low-impact site disturbances, such as periodic inspections and data collection efforts. More intense land disturbances, such as restoration of eroded earthen levees, road and other grading, fence installation, compaction of access roads, sand-blasting and painting, and restoration of failed structures and/or electrical components are also anticipated maintenance activities. Such efforts may require the use of heavy equipment and machinery, such as dump trucks, sand blasters, conveyor belts, skip loaders, and concrete trucks, which can disturb ground surfaces and generate intrusive vibrations and noise levels on surrounding lands.

The frequency and duration of such projects influences the level of impact on the surrounding environment. Other maintenance operations may include the removal of weeds, grasses, and other vegetation or debris that has collected or grown within stormwater channels and atop channel banks, and the protection of infrastructure from potentially damaging wildlife activity, such as rodents burrowing into channel banks. The construction and maintenance of such facilities would also contribute to a limited degree to some habitat loss and/or fragmentation.

The above evaluation of the potential impacts of domestic water infrastructure, groundwater pumpage and maintenance indicates that these facilities and current and anticipated future groundwater pumpage within the area of potential influence of mesquite habitat would not result in significant adverse impacts for CEQA analysis purposes on those portions of the mesquite plant community proposed for conservation under the MSHCP. Potential conflicts between groundwater mining and preservation of these natural communities (mesquite) dependent upon stable and dependable groundwater resource are expected to be less than for CEQA analysis purposes.

Based upon a detailed analysis of the groundwater basins that support mesquite hummocks in the Plan Area, the impacts that have been assessed for each of the MSHCP alternatives are discussed below.

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Mesquite Hummocks would be subject to impact in the southern portion of the Plan area near the Salton Sea. There would be 545 (64% of all lands and 69% of non-Federal lands) acres subject to impact throughout the Plan Area, 28 acres within the Conservation Areas and 517 acres outside the Conservation Areas. In the Willow Hole

Conservation Area impacts to mesquite hummocks would be limited and are expected to be less than significant for CEQA analysis purposes. As discussed in Section 8 of the Plan, the Monitoring Program will include the use of appropriate methods and technologies (which may change over time) to monitor groundwater levels in the Willow Hole, East Indio Hills, and Thousand Palms Conservation Areas where a substantial lowering of the water table could have a significant adverse impact for CEQA analysis purposes on mesquite hummocks and associated Covered Species. Should monitoring detect a substantial lowering of the water table or a decline in mesquite health, the following actions will be taken: 1) evaluate the results of the monitoring, 2) prepare a damage assessment report, 3) develop Feasible measures to ameliorate the effects of substantial lowering of the water table on mesquite hummocks and associated Covered Species, and 4) implement measures through Adaptive Management. Based upon the level of conservation and the aforementioned Monitoring Program and Adaptive Management, impacts associated with the Proposed Action/Preferred Alternative would be less than for CEQA analysis purposes.

Public Lands Alternative

Under the Public Lands Alternative, Mesquite Hummocks would be subject to impact in the Dos Palmas area, on the Big Dune, along the fault dunes, and in the southern portion of the Plan area near the Salton Sea. There would be 843 acres (89%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 843 acres outside the Conservation Areas.

Unlike the Preferred Alternative, there would be substantial direct impact on the mesquite plant community in the Plan Area. Extensive areas of mesquite located west of Mountain View Road in the Willow Hole Conservation Area would likely be lost due to a lack of conservation. Areas of the mesquite plant community elsewhere in the Plan Area and located on private lands would also be subject to direct impacts, including private lands within the Dos Palmas ACEC. As development continues in the Plan Area, potable groundwater would be further mined in these areas, and some areas of mesquite not directly impacted would be expected to be indirectly impacted through the ongoing lowering of the water table. In both regards, this Alternative would have a significant adverse impact on this plant community for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Mesquite Hummocks would be subject to impact on the Big Dune, and in the southern portion of the Plan area near the Salton Sea. There would be 632 acres (67%) subject to impact throughout the Plan Area, 24 acres within the Conservation Areas and 608 acres outside the Conservation Areas.

This alternative would result in the direct conservation of most of the important mesquite communities, with possible losses in the eastern portion of the Indio Hills. The reduced conservation area, especially in the Sky Valley area, has the potential to reduce the levels of groundwater in the Desert Hot Springs Subbasin, although impacts would be due to non-potable consumption such as landscaping, golf course, etc.

Reduced conservation and potentially increased mining of groundwater could reduce the availability of water to mesquite and palm oases located along the San Andreas Fault Zone, although impacts under current planning designations are expected to remain below levels of significance. Overall, direct and indirect impacts to mesquite are expected to occur in the Willow Hole, Edom Hill, Indio Hills Palms and East Indio Hills Conservation Areas, and would be greater than impacts associated with the Preferred Alternative.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Mesquite Hummocks would be subject to impact in the southern portion of the Plan area near the Salton Sea. There would be 514 acres (54%) subject to impact throughout the Plan Area, 38 acres within the Conservation Areas and 476 acres outside the Conservation Areas.

This alternative would result in a substantial increase in conservation lands beyond that of any of the other alternatives. Additional lands would be added to a variety of broadly distributed Conservation Areas. This alternative would provide the level of protection expected to result from the Preferred Alternative.

Direct impacts of this alternative on groundwater resources that may be important to covered plant communities are expected to be modestly reduced in comparison to the Preferred Alternative. Less land in the Mission Creek Subbasin would be available for development, although possible increases in development intensities in the basin could reduce the effect of more lands placed in conservation in this area. This difference in conservation could further assure protection of the groundwater regime and associated mesquite, in the Willow Hole Conservation Area. In this regard, this alternative is modestly superior to the Preferred Alternative.

No Action/No Project Alternative

The No Action/No Project Alternative would not directly affect or pose possible conflicts between groundwater mining and preservation of groundwater-dependent natural communities (mesquite). Nonetheless, sensitive plant communities that are dependent upon stable and

dependable groundwater resource could be impacted by incremental urban development, associated demand for potable and irrigation water, and uncoordinated mining of the valley's groundwater basins.

As urban development continues in the Coachella Valley, pressure would increase on more remote areas as Sky Valley. While the Desert Hot Springs Subbasin, which is important to the continued viability of mesquite habitat as well as groves of native desert fan palms, is not a preferred source of potable water, other intense water uses associated with development could result in long-term adverse impacts of this subbasin and the groundwater regime it supports along the San Andreas Fault Zone.

The potential for adverse impacts to groundwater-dependent natural communities proposed for coverage under the Plan could result in individually and cumulatively adverse impacts for CEQA analysis purposes, which are unpredictable at this time. Over time, pressure on additional species could result in them becoming listed, further exacerbating the problems in attempts to facilitate compatible development.

The No Action/No Project Alternative also means that a coherent, integrated and coordinated conservation plan that could provide long-term protection of groundwater resources essential to the protection of these plant communities would not be implemented. In addition to the continued piecemeal means by which urban development/species protection conflicts are addressed, over time circumstances could worsen and the extent and pattern of development and groundwater mining could preclude the possibility of structuring viable habitat conservation plans that can assure the long-term protection of these plant communities and the wildlife species they support. The lack of a coordinated habitat conservation plan could result in significant adverse indirect impacts to this plant community for CEQA analysis purposes.

Sonoran Creosote Bush Scrub

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Sonoran Creosote Bush Scrub would be subject to impact in the areas east of Desert Hot Springs, between the Indio Hills and Joshua Tree National Park, and between Indio and the western edge of the Desert Tortoise Linkage Conservation Area. There would be 54,938 acres (14% of all lands and 33% of non-Federal lands) subject to impact throughout the Plan Area, 11,626 acres within the Conservation Areas and 43,312 acres outside the Conservation Areas. Given the significant extent of this community that would remain under this Alternative, impacts would be less than significant for CEQA analysis purposes. Furthermore, disturbance allowed under this Alternative would be less than significant for

CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Sonoran Creosote Bush Scrub would be subject to impact on private lands throughout the Plan area. There would be 157,848 acres (39%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 157,848 acres outside the Conservation Areas. Impacts to this community would be substantially greater than those associated with the Preferred Alternative, and is environmentally inferior compared to the Preferred Alternative.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Sonoran Creosote Bush Scrub would be subject to impact between the southern Indio Hills and Joshua Tree National Park. There would be 63,584 acres (16%) subject to impact throughout the Plan Area, 10,777 acres within the Conservation Areas and 52,807 acres outside the Conservation Areas. Overall, impacts to this community would be greater than those associated with the Preferred Alternative, and is environmentally inferior compared to the Preferred Alternative.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Sonoran Creosote Bush Scrub would be subject to impact in the area between the southern Indio Hills and Joshua Tree National Park. There would be 41,993 acres (10%) subject to impact throughout the Plan Area, 13,176 acres within the Conservation Areas and 28,817 acres outside the Conservation Areas. Given the significant extent of this community that would remain under this Alternative, impacts would be less than for CEQA analysis purposes.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Sonoran Mixed Woody and Succulent Scrub

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Sonoran Mixed Woody and Succulent Scrub would be subject to impact in the area west of Desert Hot Springs. There would be 24,012 acres (18% of all lands and 30% of non-Federal lands) subject to impact throughout the Plan Area, 4,192 acres within the Conservation Areas and 19,820 acres outside the Conservation Areas. Given the extent of this community that would remain under this Alternative, impacts would be less than significant for CEQA analysis purposes. Furthermore, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Sonoran Mixed Woody and Succulent Scrub would be subject to impact in area west of Desert Hot Springs, Mission Creek west of Hwy 62 and on private lands throughout the Santa Rosa and San Jacinto Mountains. There would be 59,836 acres (45%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 59,836 acres outside the Conservation Areas. This Alternative would be substantially inferior to the Preferred Alternative and could result in a significant adverse impact on this community for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Sonoran Mixed Woody and Succulent Scrub would be subject to impact in area west of Hwy 62. There would be 26,004 acres (19%) subject to impact throughout the Plan Area, 3,799 acres within the Conservation Areas and 21,850 acres outside the Conservation Areas. Impacts from this Alternative would be slightly greater than those under the Preferred Alternative. Nonetheless, given the extent of this community that would remain under this Alternative, impacts would be less than significant for CEQA analysis purposes.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Sonoran Mixed Woody and Succulent Scrub would be subject to impact in the area west of Hwy 62. There would be 17,704 acres (13%) subject to impact throughout the Plan Area, 5,076 acres within the Conservation Areas and

12,628 acres outside the Conservation Areas. Given the extent of this community that would remain under this Alternative, impacts would be less than significant for CEQA analysis purposes. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Mojave Mixed Woody Scrub

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Mojave Mixed Woody Scrub would be subject to impact in Joshua Tree National Park. There would be 5,864 acres (6% of all lands and 19% of non-Federal lands) subject to impact throughout the Plan Area, 2,766 acres within the Conservation Areas and 3,098 acres outside the Conservation Areas. Given the extent of this community that would remain under this Alternative, impacts would be less than significant for CEQA analysis purposes. Furthermore, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Mojave Mixed Woody Scrub would be subject to impact on private lands along the base of the little San Bernardino Mountains. There would be 30,754 acres (30%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 30,754 acres outside the Conservation Areas. The potential impacts to this community could be significant under this alternative. Nonetheless, approximately 70% of the community would continue to remain intact.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Mojave Mixed Woody Scrub would be subject to impact along the base of the Little San Bernardino Mountains. There would be 11,643 acres (11%) subject to impact throughout the Plan Area, 2,124 acres within the Conservation Areas and 9,519 acres outside the Conservation Areas. Substantial conservation would result from this Alternative although twice as much acreage of this community could be subject to impact compared to the Preferred Alternative. Nonetheless, given the extent of this community that would remain under this Alternative, impacts would be less than significant for CEQA analysis purposes.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Mojave Mixed Woody Scrub would be subject to impact along the base of the little San Bernardino Mountains. There would be 9,481 acres (9%) subject to impact throughout the Plan Area, 2,364 acres within the Conservation Areas and 7,117 acres outside the Conservation Areas. This Alternative is environmentally superior to the Preferred Alternative and could result in half again as much acreage being impacted. Nonetheless, given the extent of this community that would remain under this Alternative, impacts would be less than significant for CEQA analysis purposes.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Desert Saltbush Scrub

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Desert Saltbush Scrub would be subject to impact north of the Willow Hole Conservation Area and on scattered parcels in the lands just north of the Salton Sea. There would be 4,524 acres (85% of all lands and 84% of non-Federal lands) subject to impact throughout the Plan Area, 89 acres within the Conservation Areas and 4,435 acres outside the Conservation Areas. Nonetheless, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in

protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Desert Saltbush Scrub would be subject to impact in at Willow Hole and on scattered parcels in the area just north of the Salton Sea. There would be 5,405 acres (100%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 5,405 acres outside the Conservation Areas. Impacts to this community under this Alternative would be significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Desert Saltbush Scrub would be subject to impact north of Willow Hole and on scattered parcels in the area just north of the Salton Sea. There would be 4,432 acres (83%) subject to impact throughout the Plan Area, 108 acres within the Conservation Areas and 4,324 acres outside the Conservation Areas. Impacts from this Alternative would be modestly less compared to the Preferred Alternative. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Desert Saltbush Scrub would be subject to impact on scattered parcels just north of the Salton Sea. There would be 4,366 acres (82%) subject to impact throughout the Plan Area, 116 acres within the Conservation Areas and 4,250 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Impacts would be the same as for the Public Land Alternative. Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Desert Sink Scrub

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Desert Sink Scrub would be subject to impact along the northeast margin of the Salton Sea. There would be 1,664 acres (17% of all lands and 24% of non-Federal lands) subject to impact throughout the Plan Area, 587 acres within the Conservation Areas and 1,077 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Desert Sink Scrub would be subject to impact. There would be 7,094 (74%) acres subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 7,094 acres outside the Conservation Areas. Impacts associated with this Alternative would be substantially greater than those associated with the Preferred Alternative. The potential of impacts to 74% of this community would be significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Desert Sink Scrub would be subject to impact along the northeast margin of the Salton Sea. There would be 1,633 (17%) acres subject to impact throughout the Plan Area, 608 acres within the Conservation Areas and 1,025 acres outside the Conservation Areas. Overall impacts would be modestly less than the Preferred Alternative. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Desert Sink Scrub would be subject to impact along the northeast margin of the Salton Sea. There would be 1,633 (15%) acres subject to impact throughout the Plan Area, 608 acres within the Conservation Areas and 1,025 acres outside the Conservation Areas. Overall impacts would be modestly less than the Preferred

Alternative. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Chamise Chaparral

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Chamise Chaparral would be subject to impact east of Banning in the San Jacinto Mountains. There would be 52 acres (2% of all lands and 10% of non-Federal lands) subject to impact throughout the Plan Area, 52 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Chamise Chaparral would be subject to impact in the area east of Banning. There would be 558 acres (20%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 558 acres outside the Conservation Areas. Impacts to this community would be substantially greater than those from the Preferred Alternative and would therefore be environmentally inferior.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Chamise Chaparral would be subject to impact in area east of Banning. There would be 246 acres (9%) subject to impact throughout the Plan Area, 35 acres within the Conservation Areas and 211 acres outside the Conservation Areas. Impacts associated this Alternative would be moderately greater than those from the Preferred Alternative. Nonetheless, disturbance allowed under this Alternative would be

less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Chamise Chaparral would be subject to impact in the area east of Banning. There would be 246 acres (9%) subject to impact throughout the Plan Area, 35 acres within the Conservation Areas and 211 acres outside the Conservation Areas. Impacts associated this Alternative would be moderately greater than those from the Preferred Alternative. Nonetheless, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Redshank Chaparral

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Redshank Chaparral would be subject to impact in the Santa Rosa Mountains along Hwy 74. There would be 977 acres (7% of all lands and 30% of non-Federal lands) subject to impact throughout the Plan Area, 253 acres within the Conservation Areas and 724 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Redshank Chaparral would be subject to impact in the Santa Rosa Mountains along Hwy 74. There would be 3,251 acres (24%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 3,251 acres outside the Conservation

Areas. Impacts associated with this Alternative could be substantially greater than those associated with the Preferred Alternative.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Redshank Chaparral would be subject to impact in the Santa Rosa Mountains along Hwy 74. There would be 356 acres (3%) subject to impact throughout the Plan Area, 322 acres within the Conservation Areas and 34 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Redshank Chaparral would be subject to impact in the Santa Rosa Mountains along Hwy 74. There would be 349 acres (3%) subject to impact throughout the Plan Area, 323 acres within the Conservation Areas and 26 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Semi-Desert Chaparral

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Semi-Desert Chaparral would be subject to impacts outside the Conservation Areas. There would be 305 acres (1% of all lands and 9% of non-Federal lands) subject to impact throughout the Plan Area, 304 acres within the Conservation Areas and 1 acre outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in

protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Semi-Desert Chaparral would be subject to impact on private lands in the Santa Rosa and San Jacinto Mountains. There would be 3,195 (14%) acres subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 3,195 acres outside the Conservation Areas. Impacts associated this Alternative would be moderately greater than those from the Preferred Alternative. Nonetheless, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Semi-Desert Chaparral would not be subject to impacts outside of the Conservation Areas. There would be 309 acres subject to impact throughout the Plan Area, 309 acres (1%) within the Conservation Areas and 0 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Semi-Desert Chaparral would not be subject to impact outside of the Conservation Areas. There would be 309 (1%) acres subject to impact throughout the Plan Area, 309 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would

continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Interior Live Oak Chaparral

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Interior Live Oak Chaparral would be subject to impact near Cabazon and in the San Jacinto Mountains near the western boundary of the Plan area. There would be 3,858 acres (19% of all lands and 74% of non-Federal lands) subject to impact throughout the Plan Area, 91 acres within the Conservation Areas and 3,767 acres outside the Conservation Areas. However, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Interior Live Oak Chaparral would be subject to impact near Cabazon and in the San Jacinto Mountains near the western boundary of the Plan area. There would be 3,204 (16%) acres subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 3,204 outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Interior Live Oak Chaparral would be subject to impact near Cabazon and in the San Jacinto Mountains near the western boundary of the Plan area. There would be 2,466 (12%) acres subject to impact throughout the Plan Area, 82 acres within the Conservation Areas and 2,384 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Interior Live Oak Chaparral would be subject to impact near Cabazon and in the San Jacinto Mountains near the western boundary of the Plan area. There would be 2,466 (12%) acres subject to impact throughout the Plan Area, 82 acres within the Conservation Areas and 2,384 outside the Conservation Areas. Impacts associated with this Alternative are moderately less than those from the Preferred Alternative. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Cismontane Alkali Marsh

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Cismontane Alkali Marsh would not be subject to impacts outside the Conservation Areas. There would be 23 acres (7% of all lands and 10% of non-Federal lands) subject to impact throughout the Plan Area, 23 acres within the Conservation Areas and no acres outside the Conservation Areas. Disturbance of no more than 23 acres may occur, but it would be replaced to ensure that the no net loss occurs and the Conservation Objective is achieved. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Cismontane Alkali Marsh would be subject to impact at Dos Palmas. There would be 228 acres (71%) acres subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 228 (71%) outside the Conservation Areas. The figure of 0 acres is used within the Conservation Areas because, while impact is allowed to not more

than 10% of a wetland natural community in a Conservation Area, a biologically equivalent amount of marsh habitat must be established in that Conservation Area to ensure no net loss. Considering this, overall impacts allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Cismontane Alkali Marsh would not be subject to impacts outside the Conservation Areas. There would be 23 acres (7%) subject to impact throughout the Plan Area, 23 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Cismontane Alkali Marsh would not be subject to impacts outside the Conservation Areas. There would be 23 acres (7%) subject to impact throughout the Plan Area, 23 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Coastal and Valley Freshwater Marsh

Proposed Action/Preferred Alternative

Under the Preferred Alternative, as shown on Figure 4-115 of the Draft Plan, 79 acres of coastal and valley freshwater marsh habitat occur within the Plan Area, of which 16 acres occur outside the Plan's Conservation Areas and could be subject to impacts. The 16 acres occur primarily as patches in the Coachella Valley Stormwater Channel north of the Coachella Valley Stormwater Channel and Delta Conservation Area. These 16 acres are subject to disturbance; however, it should be noted that the CVWD has an obligation to establish 66 acres of marsh habitat for the Yuma clapper rail and California black rail, in part to mitigate the impacts to the coastal and valley freshwater marsh in the stormwater channel from operation and maintenance activities. The 63 acres of this natural community in the Coachella Valley Stormwater and Delta Conservation Area constitute a relatively intact stand with no fragmentation. The MSHCP requires that 57 acres of the 63 acres be conserved; 6 acres is authorized for disturbance. However, the MSHCP requires that any loss of this natural community in the Conservation Area be offset with establishment of replacement habitat to ensure no net loss.

Disturbance allowed under this Alternative would be less than for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

The primary threats to the coastal and valley freshwater marsh community include changes in water availability, water quality, and the infestation of exotic species of plants and fish. The level of the Salton Sea is maintained by agricultural runoff and by the highly polluted New and Alamo Rivers located outside the Plan Area. The most immediate issue with the Salton Sea is the increasing salinity. Current efforts to stabilize and/or reduce salinity will have unknown effects on water levels, and the results on the marsh habitat are far from ensured. This natural community is also threatened by disturbance from periodic drain and flood control channel maintenance activities. The Salton Sea and CVSC are the only identified "impaired waters" on the state's list as required under Section 303(d) of the federal CWA. Issues associated with the Salton Sea are also well known and have been taken into consideration in the development of conservation goals for the coastal and valley freshwater marsh habitats.

Public Lands Alternative

Under the Public Lands Alternative, Coastal and Valley Freshwater Marsh would be subject to impact along the Coachella Valley Stormwater Channel and at the Whitewater Delta. There

would be 74 acres (94%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 74 acres outside the Conservation Areas. The figure of 0 acres is used within the Conservation Areas because, while impact is allowed to not more than 10% of a wetland natural community in a Conservation Area, a biologically equivalent amount of marsh habitat must be established in that Conservation Area to ensure no net loss. Therefore, impacts associated with this Alternative would be less than significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Coastal and Valley Freshwater Marsh would be subject to impact in parts of the Coachella Valley Stormwater Channel. There would be 7 acres (9%) subject to impact throughout the Plan Area, 7 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Coastal and Valley Freshwater Marsh would be subject to impact in parts of the Coachella Valley Stormwater Channel. There would be 7 acres (9%) subject to impact throughout the Plan Area, 7 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Southern Arroyo Willow Riparian Forest

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Southern Arroyo Willow Riparian Forest would be subject to impacts. There would be four acres (3% of all lands) subject to impact throughout the Plan Area, two acres within the Conservation Areas and two acres outside the Conservation Areas. Impacts would be less than significant for CEQA analysis purposes because of the benefits conferred by the Plan in protecting adequate unfragmented habitat, maintaining Essential Ecological Processes to sustain the habitat, and protecting Biological Corridors and Linkages as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Southern Arroyo Willow Riparian Forest would be subject to impact. There would be 15 acres (13%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 15 acres outside the Conservation Areas. The figure of 0 acres is used within the Conservation Areas because, while impact is allowed to not more than 10% of a riparian natural community in a Conservation Area, a biologically equivalent amount of riparian habitat must be established in that Conservation Area to ensure no net loss. Therefore, impacts associated with this Alternative would be less than for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Southern Arroyo Willow Riparian Forest would be subject to impact in the San Jacinto Mountains. There would be 2 acres (1%) subject to impact throughout the Plan Area, 2 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Southern Arroyo Willow Riparian Forest would be no impacts in of the Conservation Areas. There would be 2 acres (1%) subject to impact throughout the Plan Area, 2 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate

unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Sonoran Cottonwood-Willow Riparian Forest

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Sonoran Cottonwood-Willow Riparian Forest would be subject to impact in upper Stubbe and Cottonwood Canyons. There would be 57 acres (9% of all lands and 11% of non-Federal lands) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 35 acres outside the Conservation Areas. The figure of 0 acres is used within the Conservation Areas because, while impact is allowed to not more than 10% of a riparian natural community in a Conservation Area, a biologically equivalent amount of riparian habitat must be established in that Conservation Area to ensure no net loss.

Public Lands Alternative

Under the Public Lands Alternative, Sonoran Cottonwood-Willow Riparian Forest would be subject to impact in upper Stubbe and Cottonwood Canyons. There would be 331 acres (52%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 331 acres outside the Conservation Areas. The figure of 0 acres is used within the Conservation Areas because, while impact is allowed to not more than 10% of a riparian natural community in a Conservation Area, a biologically equivalent amount of riparian habitat must be established in that Conservation Area to ensure no net loss. Therefore, impacts associated with this Alternative would be less than significant than for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Sonoran Cottonwood-Willow Riparian Forest would be subject to impact along the northwest boundary of the Plan Area. There would be 38 acres (6%) subject to impact throughout the Plan Area, 33 acres within the Conservation Areas and 5 acres outside the Conservation Areas. Disturbance allowed under this

Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Sonoran Cottonwood-Willow Riparian Forest would be subject to impact along the northwest boundary of the Plan Area. There would be 33 acres (5%) subject to impact throughout the Plan Area, 33 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Mesquite Bosque

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Mesquite Bosque would be subject to impact in the Dos Palmas Conservation Area. There would be 36 acres (7% of all lands and 10% of non-Federal lands) subject to impact throughout the Plan Area, 36 acres within the Conservation Areas and 0 outside the Conservation Areas. Pursuant to the avoidance, minimization, and mitigation measures in Section 4.4 of the Plan, mesquite bosque will be avoided to the maximum extent Feasible. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Mesquite Bosque would be subject to impacts outside of the Dos Palmas Conservation Area. There would be 355 acres (74%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 355 outside the Conservation Areas.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Mesquite Bosque would be subject to impact inside the Dos Palmas Conservation Area and would not be subject to impact outside of the Conservation Areas. There would be 36 acres (7%) subject to impact throughout the Plan Area, 36 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Nonetheless, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Mesquite Bosque would be subject to limited impact inside the Dos Palmas Conservation Area and would not be subject to impacts outside of the Conservation Areas. There would be 36 acres (7%) subject to impact throughout the Plan Area, 36 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Therefore, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Southern Sycamore-Alder Riparian Woodland

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Southern Sycamore-Alder Riparian Woodland would be subject to impact in the vicinity of the Cabazon Conservation Area and in Chino Canyon. There would be 23 acres (3% of all lands and 13% of non-federal lands) subject to impact throughout the Plan Area, 15 acres within the Conservation Areas and 8 acres outside the Conservation Areas. The figure of 0 acres is used within the Conservation Areas because, while impact is allowed to not more than 10% of a riparian natural community in a Conservation Area, a biologically equivalent amount of riparian habitat must be established in that Conservation Area to ensure no net loss.

Public Lands Alternative

Under the Public Lands Alternative, Southern Sycamore-Alder Riparian Woodland would be subject to impact in the vicinity of the Cabazon Conservation Area, in Chino Canyon, and in Upper Mission Creek. There would be 214 acres (32%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 214 acres outside the Conservation Areas. The figure of 0 acres is used within the Conservation Areas because, while no more than 10% of a riparian natural community in a Conservation Area can be impacted, a biologically equivalent amount of riparian habitat must be established in that Conservation Area to ensure no net loss. Therefore, impacts associated with this Alternative would be less than significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Southern Sycamore-Alder Riparian Woodland would be subject to impact the vicinity of the Cabazon Conservation Area, in Chino Canyon, and in Upper Mission Creek. There would be 21 acres (3%) subject to impact throughout the Plan Area, 21 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Therefore, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Southern Sycamore-Alder Riparian Woodland would be subject to impact the vicinity of the Cabazon Conservation Area, in Chino Canyon, and

in Upper Mission Creek. There would be 21 acres (3%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 21 acres outside the Conservation Areas. The figure of 0 acres is used within the Conservation Areas because, while impact is allowed to not more than 10% of a riparian natural community in a Conservation Area, a biologically equivalent amount of riparian habitat must be established in that Conservation Area to ensure no net loss. Therefore, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Arrowweed Scrub

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Arrowweed Scrub would be subject to impacts. There would be 13 acres (5% of all lands) subject to impact throughout the Plan Area, 13 acres within the Conservation Areas and 0 acre outside the Conservation Areas. Disturbance allowed under this alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Arrowweed Scrub would be subject to impact in the Dos Palmas area. There would be 135 acres (49%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 135 acres outside the Conservation Areas. The figure of 0 acres is used within the Conservation Areas because, while impact is allowed to not more than 10% of a riparian natural community in a Conservation Area, a biologically equivalent amount of riparian habitat must be established in that Conservation Area to ensure no net loss. Therefore, impacts associated with this Alternative would be less than significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Arrowweed Scrub would not be subject to impacts outside of the Conservation Areas. There would be 14 acres (5%) subject to impact throughout the Plan Area, 14 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Therefore, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Arrowweed Scrub would not be subject to impacts outside of the Conservation Areas. There would be 14 acres (5%) subject to impact throughout the Plan Area, 14 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Impacts would be moderately greater than for the Preferred Alternative, however, overall impacts would be expected to be less than significant for CEQA analysis purposes.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Desert Dry Wash Woodland

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Desert Dry Wash Woodland would be subject to impact in on the east side of the Coachella Canal south of I-10, and east of the Indio Hills in the Desert Tortoise and Linkage Conservation Area. There would 8,510 acres (21% of all lands and 39% of non-federal lands) subject to impact throughout the Plan Area, 1,550 acres within the Conservation Areas and 6,960 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Desert Dry Wash Woodland would be subject to impact in Shavers Valley, along the east side of the Coachella Canal south of I-10, between the Indio Hills and Joshua Tree National Park and in the southern alluvial fans of the Santa Rosa Mountains. There would be 21,147 acres (52%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 21,147 acres outside the Conservation Areas. Impacts to this community would be substantially greater than in the Preferred Alternative and would be significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Desert Dry Wash Woodland would be subject to impact in along the east of the Coachella Canal south of I-10 and between the Indio Hills and Joshua Tree National Park. There would be 8,792 acres (22%) subject to impact throughout the Plan Area, 1,533 acres within the Conservation Areas and 7,259 acres outside the Conservation Areas. Impacts to this community would be slightly greater than for the Preferred Alternative Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Desert Dry Wash Woodland would be subject to impact between the Indio Hills and Joshua Tree National Park. There would be 5,583 acres (14%) subject to impact throughout the Plan Area, 1,889 acres within the Conservation Areas and 3,694 acres outside the Conservation Areas. This Alternative would have moderately less impact on this community when compared to the Preferred Alternative. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would

continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Desert Fan Palm Oasis Woodland

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Desert Fan Palm Oasis Woodland would be subject to impact in the Santa Rosa and San Jacinto Mountains and Indio Hills Palms Conservation Areas. There would be 79 acres (6% of all lands and 9% of non-federal lands) subject to impact throughout the Plan Area, 65 acres within the Conservation Areas and 14 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Desert Fan Palm Oasis Woodland would be subject to impact on private lands in the Santa Rosa and San Jacinto Mountains. There would be 674 acres (51%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 674 acres outside the Conservation Areas. The potential impact from this Alternative would be substantially greater than from the Preferred Alternative and, given its limited extent and distribution would be significant for CEQA analysis purposes.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Desert Fan Palm Oasis Woodland would be subject to impact in the Santa Rosa and San Jacinto Mountains and Indio Hills Palms Conservation Areas. There would be 87 acres (7%) subject to impact throughout the Plan Area, 65 acres within the Conservation Areas and 22 acres outside the Conservation Areas. Potential impact to this community from this Alternative would be slightly greater than for the Preferred Alternative.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Desert Fan Palm Oasis Woodland would be subject to impact in the Santa Rosa and San Jacinto Mountains and Indio Hills Palms Conservation Areas. There would be 68 acres (5%) subject to impact throughout the Plan Area,

67 acres within the Conservation Areas and 1 acre outside the Conservation Areas. This Alternative would result in the least potential impact to this community. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Mojavean Pinyon-Juniper Woodland

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Mojavean Pinyon-Juniper Woodland would subject to impact outside of Conservation Areas but within Joshua Tree National Park. There would be 134 (0.4% of all lands and 7% of non-federal lands) acres subject to impact throughout the Plan Area, 134 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Mojavean Pinyon-Juniper Woodland would be subject to impact along the northeast boundary of the Plan area but within Joshua Tree National Park. There would be 1,342 acres (4%) subject to impact throughout the Plan Area, 0 acres within the Conservation Areas and 1,342 acres outside the Conservation Areas. While impacts would be greater than for the Preferred Alternative, disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Mojavean Pinyon-Juniper Woodland would be subject to impact along the northeast boundary of the Plan Area but within Joshua Tree National Park. There would be 134 acres (<1%) subject to impact throughout the Plan Area, 134 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Impacts would be the same as for the Preferred Alternative. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Mojavean Pinyon-Juniper Woodland would be subject to impact along the northeast boundary of the Plan Area but within Joshua Tree National Park. There would be 134 acres (<1%) subject to impact throughout the Plan Area, 134 acres within the Conservation Areas and 0 acres outside the Conservation Areas. Impacts would be the same as for the Preferred Alternative. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. While, incremental impacts to this community would continue, it is unlikely they would lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes, given that all but a small portion of these lands are within the Joshua Tree National Park and are thereby protected.

Peninsular Juniper Woodland and Scrub

Proposed Action/Preferred Alternative

Under the Preferred Alternative, Peninsular Juniper Woodland and Scrub would be subject to impact in Santa Rosa and San Jacinto Mountains. There would be 1,079 acres (3% of all lands and 8% of non-federal lands) subject to impact throughout the Plan Area, 771 acres within the Conservation Areas and 308 acres outside the Conservation Areas. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits

conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Public Lands Alternative

Under the Public Lands Alternative, Peninsular Juniper Woodland and Scrub would be subject to impact on private lands throughout the Santa Rosa and San Jacinto Mountains. There would be 7,796 acres (21%) subject to impact throughout the Plan Area, 0 acre within the Conservation Areas and 7,796 acres outside the Conservation Areas. This Alternative would result in substantially greater impacts compared to the Preferred Alternative. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Core Habitat with Ecological Processes Alternative

Under the Core Habitat with Ecological Processes Alternative, Peninsular Juniper Woodland and Scrub would be subject to impact in the Santa Rosa and San Jacinto Mountains. There would be 970 acres (3%) subject to impact throughout the Plan Area, 854 acres within the Conservation Areas and 116 outside the Conservation Areas. This Alternative would result in a modest decrease in impacts to this community compared to the Preferred Alternative. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

Enhanced Conservation Alternative

Under the Enhanced Conservation Alternative, Peninsular Juniper Woodland and Scrub would be subject to impact in the Santa Rosa and San Jacinto Mountains. There would be 866 acres (2%) subject to impact throughout the Plan Area, 866 acres within the Conservation Areas and 0 acres outside the Conservation Areas. This Alternative would result in a modest decrease in impacts to this community compared to the Preferred Alternative. Disturbance allowed under this Alternative would be less than significant for CEQA analysis purposes and the benefits conferred by the Plan would protect adequate unfragmented habitat, maintain Essential Ecological Processes to sustain the habitat, and protect Biological Corridors and Linkages, as appropriate.

No Action/No Project Alternative

Under the No Action/No Project Alternative there would be no coordinated conservation plan adopted or implemented. As a consequence, incremental impacts to this community would continue, which could lead in the long-term to a significant adverse indirect impact for CEQA analysis purposes.

Comparison of Effects on Non-Covered Species by Alternative

Preferred Alternative

Sections 3.2.1 and 3.2.2 of the Plan and Sections 3.8 and 3.9 of Appendix I to the Plan discuss the species that were considered but not included as Covered Species and the natural communities that were considered but not included in the Plan. Generally, the reasons for not covering a species include lack of known locations in the Plan Area or insufficient data to facilitate conservation planning. Of the 46 natural communities identified in the Plan Area, 27 natural communities provide Habitat for the Covered Species and are the focal point for establishment of Conservation Areas. The other natural communities are already adequately protected in the Plan Area on public lands outside the Conservation Areas, except for tamarisk scrub, which is not a “natural” community in that it is dominated by an exotic species.

The Proposed Action/Preferred Alternative establishes a Reserve System consisting of Existing Conservation Lands, Complementary Conservation Lands, and Additional Conservation Lands that would protect all of the natural communities in the Plan Area that are proposed for conservation, which are not already adequately protected on public lands. In protecting these natural communities, the Plan provides conservation for those species in the Plan Area that are not Covered Species under the Plan by protecting their habitats. In addition, the Plan conserves functioning ecosystems by protecting Essential Ecological Processes and maintaining Biological Corridors and Linkages. These Plan components also help conserve those species in the Plan Area that are not Covered Species. The Plan would maximize connectivity among populations and avoid habitat fragmentation within Conservation Areas; therefore, it conserves biological diversity and ecological balance. While loss of habitat for and individuals of non Covered Species would occur under the Preferred Alternative, this Alternative would provide a net benefit for the species, which currently receive no coherent, consistent protection.

Public Lands Alternative

This Alternative conserves no additional lands and thus provides no new Conservation Areas for non Covered Species. This Alternative does not have direct significant adverse impacts for

CEQA analysis purposes on non Covered Species; however, if this Alternative were implemented, the Development that would be facilitated by this Alternative would impact non Covered Species and this could be considered an indirect significant adverse impact for CEQA analysis purposes.

Core Habitat with Ecological Processes

This Alternative conserves substantial acreage, but less than under the Preferred Alternative. Thus, this Alternative provides incrementally fewer benefits for non Covered Species; however, the result remains a net benefit, and this Alternative would not have a significant adverse impact on non Covered Species for CEQA analysis purposes.

Enhanced Conservation Alternative

This Alternative conserves more acreage than under the Preferred Alternative. Thus, this Alternative provides greater benefits for non Covered Species, and this Alternative would not have a significant adverse impact on non Covered Species for CEQA analysis purposes.

No Action/No Project Alternative

Under this Alternative, there is no Plan and, hence, no conservation measures. For non Covered Species, this Alternative would result in continued loss of habitat and significant adverse impacts would be expected to occur for CEQA analysis purposes. The same would be true for natural communities. For Listed Species, projects would have to obtain Take through individual HCPs or, where applicable, Section 7 consultation with USFWS. While this would afford some incidental protection for non Covered Species, this project by project approach is not likely to provide the same level of conservation as the Preferred Alternative, which is a comprehensive, large scale conservation plan.

Edge Effects

Proposed Action/Preferred Alternative

The potential edge effects on the MSHCP Reserve System from Development that receives Take Authorization under the Plan were taken into account in the development of the Plan in several respects. First, reserve design would limit the potential impacts of edge effects by utilizing topographic features such as ridgelines or steep slopes; major roads; and flood control channels and floodplains as edges to limit the extent of Development that could occur immediately

adjacent to Core Habitat or Biological Corridors and Linkages. The Conservation Areas are also substantial in size, which further minimizes the overall impact of edge effects.

The Plan also contains Land Use Adjacency Guidelines in Section 4.5 to ensure that Development that does occur within or adjacent to Conservation Areas would include measures to avoid or minimize edge effects. In instances where specific Development proposals are identified as Covered Activities under the Plan, Special Provisions have been included in the relevant Section 4.3 Conservation Area subsections to avoid or minimize edge effects. As a result of all the foregoing, the impacts of edge effects would be less than significant for CEQA analysis purposes.

Public Lands Alternative

This Alternative conserves no additional lands for non Covered Species. This Alternative has not included the reserve design measures and the establishment of large Conservation Areas. In many instances, the resulting Conservation Areas include blocks of private lands within the Conservation Areas where Development could occur; thus, significantly increasing the extent of edge effects. As a result, this Alternative would be expected to result in significant adverse impacts from edge effects for CEQA analysis purposes.

Core Habitat with Ecological Processes

This Alternative conserves substantial acreage, but somewhat less than under the Preferred Alternative. Thus, this Alternative provides incrementally greater potential for edge effects. Overall, however, the potential impacts of edge effects would still be less than significant for CEQA analysis purposes.

Enhanced Conservation Alternative

This Alternative conserves more acreage than under the Preferred Alternative. For the most part, this would result in larger reserves in which Core Habitat and Biological Corridors and Linkages would be buffered from edge effects; however, in the case of the Big Dune area, the fragmented nature of the habitat there, being interspersed with Development, would result in significant adverse impacts from edge effects for CEQA analysis purposes.

No Action/No Project Alternative

Under this Alternative, there is no Plan and, hence, no conservation measures. For Listed Species, projects would have to obtain Take Authorization through individual HCPs or, where

applicable, Section 7 consultation with USFWS. The resulting pattern of conserved lands would be likely to have significant adverse impacts from edge effects for CEQA analysis purposes.

4.7.4 Mitigation Measures

Proposed Action/Preferred Alternative

The Plan conserves Core Habitat, Essential Ecological Processes, and Biological Corridors and Linkages for the Covered Species and natural communities to the maximum extent practicable in the Plan Area. It also incorporates avoidance, minimization and mitigation measures; land use adjacency guidelines; and a comprehensive Monitoring and Management Program that are designed to mitigate potential adverse effects to the greatest extent practicable. Because the Plan has been thus designed to adequately conserve the Covered Species and natural communities, and has already incorporated all Feasible measures to mitigate Plan impacts as part of the design of the Plan, no additional mitigation measures are either necessary or Feasible for CEQA analysis purposes.

Public Lands Only Alternative

This Alternative would not include a broad acquisition plan as part of the mitigation measures. Management of the existing reserves would be increased, so that Covered Species within these reserves would receive greater protection. Additional lands might be added to reserves or new reserves created by Complementary Conservation or from mitigation measures developed through the CEQA review of Development projects that did not receive Take Authorization under this Alternative. This Alternative would result in less conservation than the Preferred Alternative, and thus would have greater impact on Covered Species and natural communities. It is not known what species the Wildlife Agencies would determine meet the criteria for issuance of Take Authorization under this Alternative. No Feasible mitigation measures have been identified.

Core Habitat with Ecological Processes Alternative

This Alternative would result in less conservation than the Preferred Alternative, and thus would have greater impact on Covered Species and natural communities. It is not known what species the Wildlife Agencies would determine meet the criteria for issuance of Take Authorization under this Alternative. No Feasible mitigation measures have been identified.

Enhanced Conservation Alternative

This Alternative would result in the acquisition and management of more land than the Preferred Alternative. All other provisions of the Preferred Alternative would apply. No Feasible mitigation measures have been identified.

No Action/No Project Alternative

Under this Alternative, no Plan would be implemented. Individual projects that required Take Authorization would need to obtain it through either individual HCPs or through a Section 7 consultation with USFWS, when applicable. No Feasible mitigation measures have been identified.

4.7.5 Levels of Significance after Mitigation for CEQA Analysis

Proposed Action/Preferred Alternative

The impacts of the Proposed Action/Preferred Alternative would be less than significant for CEQA analysis purposes on Biological Resources because the Plan provides a coherent, comprehensive conservation Plan that would provide beneficial impacts for the Covered Species and natural communities in the Plan Area.. It establishes the MSHCP Reserve System that consists of Existing Conservation Lands, Complimentary Conservation lands and Additional Conservation Lands that would provide for the Conservation of the Covered Species. The Plan's components would minimize and mitigate to the maximum extent practicable impacts to Covered Species and establish the mitigation required for subsequent Development within the Plan Area. Additionally, the Plan benefits non-Covered Species that are associated with these natural communities as well.

Public Lands Only Alternative

This Alternative would not include acquisition of additional lands for conservation. Management of the existing reserves would be increased, so that Covered Species within these reserves would receive greater protection. Additional lands might be added to the MSHCP Reserve System. However, this Alternative would result in less conservation than the Preferred Alternative, and thus would have a significant impact on certain Covered Species and natural communities for CEQA analysis purposes. The Wildlife Agencies would determine, following their evaluation of the Plan which species, if any, the Plan meets the criteria for issuance of Take Authorization under this Alternative. No Feasible mitigation measures are identified that would reduce the significant impacts of this Alternative as proposed to below a level of significance.

Core Habitat with Ecological Processes Alternative

This Alternative would result in less conservation than the Preferred Alternative, and thus would have a significant impact on certain Covered Species and natural communities for CEQA analysis purposes. The Wildlife Agencies would determine, following their evaluation of the Plan which species, if any, the Plan meets the criteria for issuance of Take Authorization under this Alternative. No Feasible mitigation measures are identified that would reduce the significant impacts of this Alternative as proposed to below a level of significance for CEQA analysis purposes.

Enhanced Conservation Alternative

Alternative 3 would result in the acquisition and management of more land than the Preferred Alternative. All other provisions of the Preferred Alternative would apply. Therefore, impacts from this Alternative would be less than significant for CEQA analysis purposes.

No Action/No Project Alternative

Under this Alternative, no Plan would be implemented. Individual projects that required Take Authorization would need to obtain it through either individual HCPs or through a Section 7 consultation with USFWS, when applicable. This Alternative could result in significant adverse impacts to biological resources for CEQA analysis purposes due to the lack of protection for both Covered and non-Covered Species. No Feasible mitigation measures have been identified.

Summary

The impacts of the Preferred Alternative and the Enhanced Conservation Alternative would be less than significant on Biological Resources for CEQA analysis purposes. The Public Lands, Core Habitat With Ecological Processes, and No Action/No Project Alternatives could have unmitigated impacts to biological resources.

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