



Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

VOLUME I ♦ APPENDIX E

Summary of MSHCP Species Survey Requirements

Prepared for:

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APPENDIX E

SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Of the 146 species covered by the MSHCP, no surveys will be required by applicants for public and private projects for 106 of these Covered Species. Covered Species for which surveys may be required by applicants for public and private Development projects include 4 birds, 3 mammals, 3 amphibians, 3 crustaceans, 14 Narrow Endemic Plants, and 13 other sensitive plants within the Criteria Area. Of these 40 species, survey area maps are provided for 34 species, and surveys will be undertaken within suitable Habitat areas in locations identified on these maps in the MSHCP Plan. The remaining six species are associated with riparian/riverine areas and vernal pools and include least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, Riverside fairy shrimp, Santa Rosa Plateau fairy shrimp, and vernal pool fairy shrimp. Although there are no survey area maps for these six species, surveys for these species, if necessary, will be undertaken as described in *Section 6.1.2* of this document. It is the goal of the MSHCP to provide for conservation of Covered Species within the approximately 500,000 acre MSHCP Conservation Area (comprised of approximately 347,000 acres of existing Public/Quasi-Public Lands and 153,000 acres of new Conservation on private lands). Conservation that may be identified to be desirable as a result of survey findings is not intended to increase the overall 500,000 acres of Conservation anticipated under the MSHCP. Please refer to *Section 6.0* of this document for more specific information regarding species survey requirements.

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
Narrow Endemic Plants (14 Species)				
Brand's phacelia <i>Phacelia stellaris</i>	6.1.3	Figure 6-1	For Narrow Endemic Plant populations identified as part of the survey process, impacts to 90% of those portions of the property that provide for long-term conservation value of the identified Narrow Endemic Plant Species shall be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made to demonstrate that the 90% standard has been met. If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species have not yet been demonstrated, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.1.3</i> of this document for more information on survey requirements for Narrow Endemic Plants.	<p>Objective 1: Include within the MSHCP Conservation Area at least 6,100 acres of suitable Habitat (meadows/ marshes and playa/vernal pools between 0 and 500 m within the Riverside Lowlands Bioregion).</p> <p>Objective 2: Include within the MSHCP Conservation Area at least the two known localities (one historic and one extant) of this species along the Santa Ana River at Fairmont Park and in the Santa Ana Wilderness Area.</p> <p>Objective 3: Surveys for Brand's phacelia will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable Habitat is present (see <i>Narrow Endemic Plant Species Survey Area Map, Figure 6-1</i> of this document). Brand's phacelia located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.1.3</i> of this document.</p>
California Orcutt grass <i>Orcuttia californica</i>	6.1.3	Figure 6-1	For Narrow Endemic Plant populations identified as part of the survey process, impacts to 90% of those portions of the property that provide for long-term conservation value of the identified Narrow Endemic Plant Species shall be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made to demonstrate that the 90% standard has been met. If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species have not yet been demonstrated, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.1.3</i> of this document for more information on survey requirements for Narrow Endemic Plants.	<p>Objective 1: Include within the MSHCP Conservation Area at least 6,680 acres of suitable Habitat (playas and vernal pools within the Riverside Lowlands Bioregion of the MSHCP Conservation Area).</p> <p>Objective 2: Include within the MSHCP Conservation Area at least three of the known locations of California Orcutt grass at the Santa Rosa Plateau, at Skunk Hollow and in the upper Salt Creek drainage west of Hemet.</p> <p>Objective 3: Surveys for the California Orcutt grass will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable Habitat is present (see <i>Narrow Endemic Plant Species Survey Area Map, Figure 6-1</i>, of this document). California Orcutt grass located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.1.3</i> of this document.</p> <p>Objective 4: Include within the MSHCP Conservation Area the watershed of the vernal pool complex on the Santa Rosa Plateau and the vernal pool occurrences at Skunk Hollow and Upper Salt Creek in order to maintain hydrologic conditions.</p>
Hammitt's clay-cress <i>Sibaropsis hammittii</i>	6.1.3	Figure 6-1	For Narrow Endemic Plant populations identified as part of the survey process, impacts to 90% of those portions of the property that provide for long-term conservation value of the identified Narrow Endemic Plant Species shall be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made to demonstrate that the 90% standard has been met. If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species have not yet been demonstrated, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.1.3</i> of this document for more information on survey requirements for Narrow Endemic Plants.	<p>Objective 1: Include within the MSHCP Conservation Area at least 21,260 acres of suitable habitat (grassland, coastal sage scrub, chaparral and peninsular juniper woodland between 300 and 1,000 m in the Riverside Lowlands and Santa Ana Mountains bioregions). This will include at least 2,070 acres of clay soils: Altamont (190 acres), Auld (250 acres), Bosanko (600 acres), Claypit (100 acres) and Porterville (930 acres) soils underlying the suitable habitat.</p> <p>Objective 2: Include within the MSHCP Conservation Area the Core Area for this species, including at least the one known locality near Elsinore Peak and suitable Habitat adjacent to these occurrences.</p> <p>Objective 3: Surveys for Hammitt's clay-cress will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable Habitat is present (see <i>Narrow Endemic Plant Species Survey Area Map, Figure 6-1</i> of this document). Hammitt's clay-cress located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.1.3</i> of this document.</p>

APPENDIX E

SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
Johnston's rock cress <i>Arabis johnstonii</i>	6.1.3	Figure 6-1	For Narrow Endemic Plant populations identified as part of the survey process, impacts to 90% of those portions of the property that provide for long-term conservation value of the identified Narrow Endemic Plant Species shall be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made to demonstrate that the 90% standard has been met. If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species have not yet been demonstrated, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.1.3</i> of this document for more information on survey requirements for Narrow Endemic Plants.	<p>Objective 1: Include within the MSHCP Conservation Area at least 34,975 acres of suitable Habitat (chaparral and pine forest Habitat between 1,400 and 2,150 m within the San Jacinto Mountains Bioregion).</p> <p>Objective 2: Include within the MSHCP Conservation Area the two Core Areas for this species, including at least 17 of the known occurrences in Garner Valley and Mountain Springs and suitable Habitat adjacent to these occurrences.</p> <p>Objective 3: Surveys for Johnston's rock cress will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable Habitat is present (see <i>Narrow Endemic Plant Species Survey Area Map, Figure 6-1</i> of this document). Johnston's rock cress located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.1.3</i> of this document.</p>
many-stemmed dudleya <i>Dudleya multicaulis</i>	6.1.3	Figure 6-1	For Narrow Endemic Plant populations identified as part of the survey process, impacts to 90% of those portions of the property that provide for long-term conservation value of the identified Narrow Endemic Plant Species shall be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made to demonstrate that the 90% standard has been met. If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species have not yet been demonstrated, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.1.3</i> of this document for more information on survey requirements for Narrow Endemic Plants.	<p>Objective 1: Include within the MSHCP Conservation Area at least 142,680 acres of suitable Habitat (chaparral, coastal sage scrub and grassland below 700 m in the Riverside Lowlands and Santa Ana Mountain Bioregions) in the Plan Area, including 1,575 acres of clay soils: 190 acres of Altamont, 210 acres of Auld, 490 acres of Bosanko, 100 acres of Claypit soils and 585 acres of Porterville soils.</p> <p>Objective 2: Include within the MSHCP Conservation Area at least 26 of the known occurrences of many-stemmed dudleya, including the occurrences at Estelle Mountain, Temescal Canyon, the Santa Ana Mountains, Gavilan Hills, Alberhill Creek, and Prado Basin.</p> <p>Objective 3: Surveys for many-stemmed dudleya will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable Habitat is present (see <i>Narrow Endemic Plant Species Survey Area Map, Figure 6-1</i> of this document). Many-stemmed dudleya located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.1.3</i> of this document.</p>
Munz's mariposa lily <i>Calochortus palmeri</i> var. <i>munzii</i>	6.1.3	Figure 6-1	For Narrow Endemic Plant populations identified as part of the survey process, impacts to 90% of those portions of the property that provide for long-term conservation value of the identified Narrow Endemic Plant Species shall be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made to demonstrate that the 90% standard has been met. If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species have not yet been demonstrated, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.1.3</i> of this document for more information on survey requirements for Narrow Endemic Plants.	<p>Objective 1: Include within the MSHCP Conservation Area 33,470 acres of suitable Habitat (chaparral, meadow, and montane coniferous forest between 900 and 1,640 m within the Narrow Endemic Survey Area of the San Jacinto Mountains Bioregion).</p> <p>Objective 2: Include within the MSHCP Conservation Area 10 of the known locations within the San Jacinto Mountains, including Garner Valley.</p> <p>Objective 3: Surveys for Munz's mariposa lily will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable Habitat is present (see <i>Narrow Endemic Plant Species Survey Area Map, Figure 6-1</i> of this document). Munz's mariposa lily located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.1.3</i> of this document.</p>
Munz's onion <i>Allium munzii</i>	6.1.3	Figure 6-1	For Narrow Endemic Plant populations identified as part of the survey process, impacts to 90% of those portions of the property that provide for long-term conservation value of the identified Narrow Endemic Plant Species shall be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made to demonstrate that the 90% standard has been met. If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species have not yet been demonstrated, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.1.3</i> of this document for more information on survey requirements for Narrow Endemic Plants.	<p>Objective 1: Include within the MSHCP Conservation Area at least 21,260 acres of suitable Habitat (grassland, coastal sage scrub, chaparral and peninsular juniper woodland between 300 and 1,000 m in the Riverside Lowlands and Santa Ana Mountains Bioregions). This will include at least 2,070 acres of clay soils: Altamont (190 acres), Auld (250 acres), Bosanko (600 acres), Claypit (100 acres) and Porterville (930 acres) soils underlying the suitable Habitat.</p> <p>Objective 2: Include within the MSHCP Conservation Area at least 13 localities within Temescal Valley and the southwestern portion of Plan Area, including the following Core Areas: Harford Springs Park, privately owned EO 5 population in Temescal Valley, Alberhill, DiPalma Rd, Estelle Mountain, Domenigoni Hills, Lake Skinner, Bachelor Mountain, Elsinore Peak, Scott Road, North Peak, and northeast of Alberhill (EO 16).</p>

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

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Munz's onion (<i>cont.</i>) <i>Allium munzii</i>				Objective 3: Surveys for the Munz's onion will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable Habitat is present (see <i>Narrow Endemic Plant Species Survey Area Map, Figure 6-1</i> of this document). Munz's onion located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.1.3</i> of this document.
San Diego ambrosia <i>Ambrosia pumila</i>	6.1.3	Figure 6-1	For Narrow Endemic Plant populations identified as part of the survey process, impacts to 90% of those portions of the property that provide for long-term conservation value of the identified Narrow Endemic Plant Species shall be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made to demonstrate that the 90% standard has been met. If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species have not yet been demonstrated, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.1.3 of this document</i> for more information on survey requirements for Narrow Endemic Plants.	Objective 1: Include within the MSHCP Conservation Area at least 21,800 acres of suitable Habitat (grassland and playa/vernal pools between 200 and 500 m within the Riverside Lowlands Bioregion). Objective 2: Include within the MSHCP Conservation Area at least two of the three known locations of this species: Alberhill Creek at Nichols Road and Skunk Hollow. Objective 3: Surveys for the San Diego ambrosia will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable Habitat is present (see <i>Narrow Endemic Plant Species Survey Area Map, Figure 6-1</i> of this document). San Diego ambrosia located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.1.3</i> of this document.
San Jacinto Mountains bedstraw <i>Galium angustifolium</i> ssp. <i>jacinticum</i>	6.1.3	Figure 6-1	For Narrow Endemic Plant populations identified as part of the survey process, impacts to 90% of those portions of the property that provide for long-term conservation value of the identified Narrow Endemic Plant Species shall be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made to demonstrate that the 90% standard has been met. If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species have not yet been demonstrated, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.1.3 of this document</i> for more information on survey requirements for Narrow Endemic Plants.	Objective 1: Include within the MSHCP Conservation Area at least 12,125 acres of suitable Habitat (montane coniferous forest between 1,280 to 1,980 m within the Narrow Endemic survey area of the San Jacinto Mountains Bioregion). Objective 2: Include within the MSHCP Conservation Area at least eight of the known locations of this species: Lake Fulmor, Dark Canyon and the Black Mountain area. Objective 3: Surveys for this species will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable Habitat is present (see <i>Narrow Endemic Plant Species Survey Area Map, Figure 6-1 of this document</i>). San Jacinto Mountain bedstraw located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.1.3, of this document</i> .
San Miguel savory <i>Satureja chandleri</i>	6.1.3	Figure 6-1	For Narrow Endemic Plant populations identified as part of the survey process, impacts to 90% of those portions of the property that provide for long-term conservation value of the identified Narrow Endemic Plant Species shall be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made to demonstrate that the 90% standard has been met. If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species have not yet been demonstrated, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.1.3 of this document</i> for more information on survey requirements for Narrow Endemic Plants.	Objective 1: Include within the MSHCP Conservation Area at least 201,450 acres of suitable Habitat (chaparral, coastal sage scrub, cismontane forest, riparian woodland, and valley and foothill grassland between 120 and 1,005 m). Objective 2: Include within the MSHCP Conservation Area at least seven of the known locations of San Miguel savory on the Santa Rosa Plateau; in the vicinity of Tenaja guard station and three miles south of Murrieta near De Luz Road in the Santa Ana Mountains; and three miles southwest of Murrieta near Warner's Ranch. Objective 3: Surveys for San Miguel savory will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable Habitat and gabbro soils are present (see <i>Narrow Endemic Plant Species Survey Area Map, Figure 6-1 of this document</i>). San Miguel savory located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.1.3, of this document</i> .

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

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slender-horned spine flower <i>Dodecahema leptoceras</i>	6.1.3	Figure 6-1	For Narrow Endemic Plant populations identified as part of the survey process, impacts to 90% of those portions of the property that provide for long-term conservation value of the identified Narrow Endemic Plant Species shall be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made to demonstrate that the 90% standard has been met. If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species have not yet been demonstrated, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.1.3 of this document</i> for more information on survey requirements for Narrow Endemic Plants.	<p>Objective 1: Include within the MSHCP Conservation Area at least 8,350 acres of suitable Habitat (chaparral and Riversidean alluvial fan sage scrub between 200 and 700 m in the Vail Lake Narrow Endemic Species survey area and Agua Tibia Mountains Bioregion).</p> <p>Objective 2: Include within the MSHCP Conservation Area at least 11 of the known locations of this species, including Temescal Canyon, Bautista Canyon, upper San Jacinto River, Agua Tibia Wilderness Area, Alberhill, Alberhill Creek east of Lake Elsinore, Railroad Canyon, Vail Lake, Kolb Creek, and east of State Street south of Hemet.</p> <p>Objective 3: Surveys for slender-horned spine flower will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable Habitat is present (see <i>Narrow Endemic Plant Species Survey Area Map, Figure 6-1 of this document</i>). Slender-horned spine flower located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.1.3, of this document</i>.</p> <p>Objective 4: Include within the MSHCP Conservation Area the floodplain along Arroyo Seco and Kolb Creeks, Temescal Wash at Indian Creek, central Bautista Creek and the San Jacinto River upstream from Valle Vista. Alluvial processes will be maintained in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change.</p>
spreading navarretia <i>Navarretia fossalis</i>	6.1.3	Figure 6-1	For Narrow Endemic Plant populations identified as part of the survey process, impacts to 90% of those portions of the property that provide for long-term conservation value of the identified Narrow Endemic Plant Species shall be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made to demonstrate that the 90% standard has been met. If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species have not yet been demonstrated, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.1.3 of this document</i> for more information on survey requirements for Narrow Endemic Plants.	<p>Objective 1: Include within the MSHCP Conservation Area at least 6,900 acres of suitable habitat (grassland and playas and vernal pools within the San Jacinto River, Mystic Lake and Salt Creek portions of the MSHCP Conservation Area).</p> <p>Objective 2: Include within the MSHCP Conservation Area at least 13 of the known locations of spreading navarretia at the Skunk Hollow, the Santa Rosa Plateau and core locations: the San Jacinto Wildlife Area, floodplains of the San Jacinto River from the Ramona Expressway south to Railroad Canyon, and upper Salt Creek west of Hemet.</p> <p>Objective 3: Surveys for the spreading navarretia will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable habitat is present (see <i>Narrow Endemic Plant Species Survey Area Map, Figure 6-1 of the MSHCP, Volume I</i>). Spreading navarretia located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.1.3 of the MSHCP, Volume I</i>.</p> <p>Objective 4: Include within the MSHCP Conservation Area the floodplain along the San Jacinto River consistent with Objective 1. Floodplain processes will be maintained along the river in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change. A potential future flood control project along the San Jacinto River designed and constructed consistent with the criteria for the San Jacinto River project presented in <i>Section 7.0 of the MSHCP, Volume I</i> and with the Area Plan Subunit guidelines for Subunit 1 of the Lakeview/Nuevo Area Plan and Subunit 4 of the Mead Valley Area Plan will be considered to be consistent with this objective.</p> <p>Objective 5: Include within the MSHCP Conservation Area the floodplain along Salt Creek generally in its existing condition from Warren Road to Newport Road and the vernal pools in Upper Salt Creek west of Hemet. Floodplain processes will be maintained in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change.</p>

APPENDIX E
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Wright's trichocoronis <i>Trichocoronis wrightii</i> var. <i>wrightii</i>	6.1.3	Figure 6-1	For Narrow Endemic Plant populations identified as part of the survey process, impacts to 90% of those portions of the property that provide for long-term conservation value of the identified Narrow Endemic Plant Species shall be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made to demonstrate that the 90% standard has been met. If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species have not yet been demonstrated, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.1.3 of this document</i> for more information on survey requirements for Narrow Endemic Plants.	<p>Objective 1: Include within the MSHCP Conservation Area at least 6,900 acres of suitable Habitat (grassland and playas and vernal pools including Willow, Domino and Traver soils, along the San Jacinto River, at Mystic Lake, and Salt Creek).</p> <p>Objective 2: Include within the MSHCP Conservation Area at least four of the known locations along the San Jacinto River from the vicinity of the Ramona Expressway and San Jacinto Wildlife Area and along the northern shore of Mystic Lake.</p> <p>Objective 3: Surveys for Wright's trichocoronis will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable Habitat is present (see <i>Narrow Endemic Plant Species Survey Area Map, Figure 6-1 of this document</i>). Wright's trichocoronis located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.1.3, of this document</i>.</p> <p>Objective 4: Include within the MSHCP Conservation Area the floodplain along the San Jacinto River consistent with Objective 1. Floodplain processes will be maintained along the river in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change. A potential future flood control project along the San Jacinto River designed and constructed consistent with the criteria for the San Jacinto River project presented in Section 7.0 of the MSHCP, Volume I and with the Area Plan Subunit guidelines for Subunit 1 of the Lakeview/Nuevo Area Plan and Subunit 4 of the Mead Valley Area Plan will be considered to be consistent with this objective.</p> <p>Objective 5: Include within the MSHCP Conservation Area the floodplain along Salt Creek generally in its existing condition from Warren Road to Newport Road and the vernal pools in Upper Salt Creek west of Hemet. Floodplain processes will be maintained within the linkage in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change.</p>
Yucaipa onion <i>Allium marvinii</i>	6.1.3	Figure 6-1	For Narrow Endemic Plant populations identified as part of the survey process, impacts to 90% of those portions of the property that provide for long-term conservation value of the identified Narrow Endemic Plant Species shall be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made to demonstrate that the 90% standard has been met. If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species have not yet been demonstrated, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.1.3 of this document</i> for more information on survey requirements for Narrow Endemic Plants.	<p>Objective 1: Include within the MSHCP Conservation Area at least 1,200 acres of suitable Habitat (chaparral between 760 and 1065 m in the San Bernardino Mountains Bioregion).</p> <p>Objective 2: Surveys for the Yucaipa onion will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable Habitat is present (see <i>Narrow Endemic Plant Species Survey Area Map, Figure 6-1 of this document</i>). Yucaipa onion located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.1.3, of this document</i>.</p>
Additional Survey Needs and Procedures Species (20 total species)				
Amphibians (3 amphibians)				
arroyo toad <i>Bufo californicus</i>	6.3.2	Figure 6-3	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If	<p>Objective 1: Include within the MSHCP Conservation Area at least 1,602 acres of suitable breeding Habitat (riparian scrub, woodlands and forests, meadows and marshes, and alluvial fan scrub Habitat). Suitable breeding Habitat for the arroyo toad includes low-gradient (usually less than 2 percent), sandy stream reaches that often (although not necessarily annually) support shallow pools with little current that persist for at least three months during the spring and summer.</p>

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SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
arroyo toad (cont.) <i>Bufo californicus</i>			it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 2: Include within the MSHCP Conservation Area at least nine Core Areas which include portions of San Juan Creek (1,414 acres), Los Alamos Creek (7,898 acres), San Jacinto River (3,096 acres), Indian Creek (5,973 acres), Bautista Creek (3,148 acres), Wilson Creek (2,631 acres), Temecula Creek (5,663 acres), Arroyo Seco (2,798 acres), and Vail Lake (1,017 acres)(as discussed below).</p> <p>Objective 3: Include within the MSHCP Conservation Area at least 7,005 acres of necessary suitable upland Habitat as defined within the species account, adjacent to San Juan Creek, San Jacinto River, Indian Creek, Bautista Creek, Wilson Creek, Temecula Creek, Arroyo Seco, and Vail Lake, including agricultural lands, woodlands and forests, chaparral, coastal sage scrub, and grasslands.</p> <p>Objective 4: Surveys for arroyo toad will be conducted as part of the project review process for public and private projects within the amphibian species survey area where suitable Habitat is present (see <i>Amphibian Species Survey Area Map, Figure 6-3 of this document</i>). Arroyo toad locations identified as a result of survey efforts shall be conserved in accordance with the procedures described in <i>Section 6.3.2, of this document</i>.</p> <p>Objective 5: Within the MSHCP Conservation Area, Reserve Managers shall maintain or, if feasible, restore ecological processes within occupied Habitat and suitable new areas within the Criteria Area, given existing constraints and activities covered under the MSHCP. At a minimum, these areas will include portions of San Juan Creek, San Jacinto River, Indian Creek, Bautista Creek, Wilson Creek, Temecula Creek, Arroyo Seco, and Vail Lake, which are important to the arroyo toad.</p> <p>NOTE: Maintaining or, if feasible, restoring ecological processes within the MSHCP Conservation Area may include: allowing for natural dynamic fluvial processes of flooding and Habitat regeneration, and possibly fire, to maintain healthy alluvial fan Habitat, and other riparian Habitat; careful planning and design of existing and future authorized used that may affect natural processes such as flood control, water conservation, and sand and gravel mining; controlling or removing known threats from important arroyo toad creeks and rivers (i.e., portions of San Juan Creek, San Jacinto River, Indian Creek, Bautista Creek, Wilson Creek, Temecula Creek, Arroyo Seco, and Vail Lake), including, but not limited to, eliminating non-native fishes and bullfrogs; restoring natural hydrologic processes; limiting livestock access to streams, creeks, ponds, and pools; limiting recreational use of certain areas; altering water use; controlling farming and agricultural practices within and adjacent to occupied Habitat or upstream of occupied Habitat; controlling weed abatement, discing, and pesticide/herbicide use adjacent and upstream of occupied Habitat, and; removing exotic vegetation.</p> <p>Objective 6: Within the MSHCP Conservation Area, maintain breeding populations at a minimum of 80 percent of the conserved breeding locations as measured by the presence/absence of juveniles toads (roughly 10 to 30 mm [Sweet 1993]), tadpoles, or egg masses across any 5 consecutive years.</p>
California red-legged frog <i>Rana aurora draytonii</i>	6.3.2	Figure 6-3	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least 766 acres of occupied and historic breeding Habitat (riparian scrub, woodlands and forests, open water, and playas and vernal pools). Breeding Habitat for the red-legged frog includes cool, deep pools, lowland streams, and other wetlands where dense vegetation surrounds relatively them. These areas generally have a small (< 300 km2) watershed</p> <p>Objective 2: Include within the MSHCP Conservation Area the Core Areas in the Santa Rosa Plateau (9,028 acres) and the southern Santa Ana Mountains (30,964 acres), and the intervening lands which shall provide movement between the Core Areas. The intervening lands are primarily situated around Avenoloca Mesa, Redonda Mesa, slopes and foothills of Squaw Mountain, and Alamos Canyon.</p>

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
California red-legged frog <i>(cont.)</i> <i>Rana aurora draytonii</i>				<p>Objective 3: Include within the MSHCP Conservation Area at least 39,147 acres of upland Habitat adjacent to occupied or suitable breeding Habitat. These areas are situated around the Santa Rosa Plateau, southern Santa Ana Mountains, and intervening lands including Avenoloca Mesa, Redonda Mesa, slopes and foothills of Squaw Mountain, Alamos Canyon and environs. Upland Habitats include woodlands and forests, chaparral, coastal sage scrub, and grasslands.</p> <p>Objective 4: Surveys for this species will be conducted as part of the project review process for public and private projects within the amphibian species survey area where suitable Habitat is present (see <i>Amphibian Species Survey Area Map, Figure 6-3 of this document</i>). Red-legged frog locations identified as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.3.2, of this document</i>.</p> <p>Objective 5: Within the MSHCP Conservation Area, Reserve Managers shall maintain or, if feasible, restore ecological processes within occupied Habitat and suitable new areas within the Criteria Area. At a minimum, these areas will include the Santa Rosa Plateau, San Mateo Wilderness area of the Cleveland National Forest, Squaw Mountain, Avenacola Mesa Redondo Mesa, Alamos Canyon, and surrounding areas.</p> <p>Objective 6: Within the MSHCP Conservation Area, determine if successful reproduction is occurring as measured by the presence/absence of tadpoles, egg masses, or juvenile frogs once a year for the first five years after permit issuance and then as determined by the Reserve Management Oversight Committee as described in <i>Section 6.6</i> of this document (but not less frequently than every 8 years).</p>
mountain yellow-legged frog <i>Rana mucosa</i>	6.3.2	Figure 6-3	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least 335 acres of primary breeding Habitat above 370 meters (riparian scrub woodland and forest) within the San Jacinto Mountains. Primary breeding Habitat for the yellow-legged frog includes aquatic Habitats with gently sloping shore margins that receive some sunlight, and clear cool water.</p> <p>Objective 2: Include within the MSHCP Conservation Area the Core Areas above 370 meters at the North Fork of the San Jacinto River (including Dark Canyon), Hall Canyon, and Fuller Mill Creek and other perennial water streams in the San Jacinto Mountains.</p> <p>Objective 3: Include within the MSHCP Conservation Area at least 32,399 acres of the secondary wooded Habitat above 370 meters (oak woodlands and forests and montane coniferous forest) within the North Fork of the San Jacinto River (including Dark Canyon), Hall Canyon, and Fuller Mill Creek and other perennial water streams in the San Jacinto Mountains.</p> <p>Objective 4: Surveys for this species will be conducted as part of the project review process for public and private projects within the amphibian species survey area where suitable Habitat is present (see <i>Amphibian Species Survey Area Map, Figure 6-3 of this document</i>). Mountain yellow-legged frog localities identified as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.3.2</i> of this document.</p> <p>Objective 5: Within the MSHCP Conservation Area, Reserve Managers shall maintain or, if feasible, restore ecological processes (with particular emphasis on removing non-native predatory fish and bullfrogs) within occupied Habitat and suitable new areas within the Criteria Area. At a minimum, these areas will include areas above 370 meters at the North Fork of the San Jacinto River (including Dark Canyon), Fuller Mill Creek, and Hall Canyon above Lake Fulmor.</p> <p>Objective 6: Within the MSHCP Conservation Area, maintain successful reproduction as measured by the presence/absence of tadpoles, egg masses, or juvenile frogs once a year for the first five years after permit issuance and then as determined by the Reserve Management Oversight Committee as described in <i>Section 6.6</i> of this document (but not less frequently than every 8 years).</p>

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
Birds (1 bird)				
burrowing owl <i>Athene cunicularia hypugaea</i>	6.3.2	Figure 6-4	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least 27,470 acres of suitable primary Habitat for the burrowing owl including grasslands.</p> <p>Objective 2: Include within the MSHCP Conservation Area at least 5 Core Areas and interconnecting linkages. Core Areas may include the following: (1) Lake Skinner/Diamond Valley Lake area (Existing Core C plus Proposed Extension of Existing Cores 5, 6, 7; 29,060 acres); (2) playa west of Hemet (Proposed Noncontiguous Habitat Block 7; 1,250 acres); (3) San Jacinto Wildlife Area/Mystic Lake area including Lake Perris area (Existing Core H; 17,470 acres); (4) Lake Mathews (Existing Core C plus Proposed Extension of Existing Cores 2; 23,710 acres); and (5) along the Santa Ana River (9,670 acres). The Core Areas should support a combined total breeding population of approximately 120 burrowing owls with no fewer than five pairs in any one Core Area.</p> <p>Objective 3: Include within the MSHCP Conservation Area at least 22,120 acres of suitable secondary Habitat for the burrowing owl including playas and vernal pools, and agriculture outside of the Core Areas identified above. Areas where additional suitable Habitat could be conserved include west of the Jurupa Mountains, near Temescal Wash (i.e., vicinity of Alberhill), near Temecula Creek, within the Lakeview Mountains, Banning, the Badlands, Gavilan Hills, and Quail Valley.</p> <p>Objective 4: Include within the MSHCP Conservation Area the known nesting locations of the burrowing owl at Lake Perris, Mystic Lake/San Jacinto Wildlife area, Lake Skinner area, the area around Diamond Valley Lake, playa west of Hemet, Lakeview Mountains, Lake Mathews/Estelle Mountain Reserve and Sycamore Canyon Regional Park.</p> <p>Objective 5: Surveys for burrowing owl will be conducted as part of the project review process for public and private projects within the burrowing owl survey area where suitable Habitat is present (see <i>Burrowing Owl Survey Area Map, Figure 6-4 of this document</i>). The locations of this species determined as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.3.2, of this document</i> and the guidance provided below:</p> <p>Burrowing owl surveys shall be conducted utilizing accepted protocols as follows. If burrowing owls are detected on the project site then the action(s) taken will be as follows:</p> <p>If the site is within the Criteria Area, then at least 90 percent of the area with long-term conservation value will be included in the MSHCP Conservation Area. Otherwise:</p> <ol style="list-style-type: none"> 1) If the site contains, or is part of an area supporting less than 35 acres of suitable Habitat or the survey reveals that the site and the surrounding area supports fewer than 3 pairs of burrowing owls, then the on-site burrowing owls will be passively or actively relocated following accepted protocols. 2) If the site (including adjacent areas) supports three or more pairs of burrowing owls, supports greater than 35 acres of suitable Habitat and is non-contiguous with MSHCP Conservation Area lands, at least 90 percent of the area with long-term conservation value and burrowing owl pairs will be conserved onsite. <p>The survey and conservation requirements stated in this objective will be eliminated when it is demonstrated that Objectives 1 – 4 have been met.</p>

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
burrowing owl (<i>cont.</i>) <i>Athene cunicularia hypugaea</i>				<p>Objective 6: Pre-construction presence/absence surveys for burrowing owl within the survey area where suitable Habitat is present will be conducted for all Covered Activities through the life of the permit. Surveys will be conducted within 30 days prior to disturbance. Take of active nests will be avoided. Passive relocation (use of one way doors and collapse of burrows) will occur when owls are present outside the nesting season.</p> <p>Objective 7: Translocation sites for the burrowing owl will be created in the MSHCP Conservation Area for the establishment of new colonies. Translocation sites will be identified, taking into consideration unoccupied Habitat areas, presence of burrowing mammals to provide suitable burrow sites, existing colonies and effects to other Covered Species. Reserve Managers will consult with the Wildlife Agencies regarding site selection prior to translocation site development.</p>
Mammals (3 mammals)				
Aguanga kangaroo rat <i>Dipodomys merriami collinus</i>	6.3.2	Figure 6-5	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area 5,484 acres (81 percent) of occupied or suitable Habitat within the historic floodplains of Temecula Creek and Wilson Creek, and their tributaries.</p> <p>Objective 2: Surveys for Aguanga kangaroo rat will be conducted as part of the project review process for public and private projects within the mammal species survey area where suitable Habitat is present (see <i>Mammal Species Survey Area Map, Figure 6-5 of this document</i>). Aguanga kangaroo rats located as a result of survey efforts shall be conserved in accordance with the procedures described within <i>Section 6.3.2, of this document</i>.</p> <p>Objective 3: Within the 5,484 acres of occupied and suitable Habitat in the MSHCP Conservation Area, ensure that at least 75 percent (4,113 acres) of the total is occupied and that at least 20 percent of the occupied Habitat (approximately 823 acres) supports a medium or higher population density (5 to 15 individuals per hectare; based on McKernan 1997 studies of the San Bernardino kangaroo rat) of the species as measured across any 8-year period (i.e., the approximate length of the weather cycle).</p> <p>Objective 4: Within the MSHCP Conservation Area, Reserve Managers shall maintain or, if feasible, restore ecological processes within the historic floodplains of Temecula Creek and Wilson Creek, their tributaries, and other localities within the Criteria Area where the Aguanga kangaroo rat is detected in the future, given existing constraints and activities covered under the Plan. Maintenance and/or restoration of ecological processes within the MSHCP Conservation Area may include: 1) allowing for natural dynamic fluvial processes of flooding, scouring and Habitat regeneration, and possibly fire, to maintain healthy alluvial fan sage scrub Habitat; 2) careful planning and design of existing and future authorized uses that may affect natural processes such as flood control, water conservation, and sand and gravel mining; 3) control of other uses and disturbances such as farming and discing for weed abatement, heavy grazing, off-road vehicles, and vandalism; and 4) control of invasive exotic species.</p>
Los Angeles pocket mouse <i>Perognathus longimembris brevinasus</i>	6.3.2	Figure 6-5	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area, at least 14,000 acres of suitable Habitat for the Los Angeles pocket mouse (e.g., sandy to loamy-sand soils occurring in non-native grassland, Riversidean sage scrub, Riversidean alluvial fan sage scrub, desert scrub, playa and vernal pool, chaparral, or redshank chaparral Habitat), with at least 2,000 acres within each of seven (7) Core Areas within the MSHCP Conservation Area. Based on existing population distribution information, probable Core Areas include the following: 1) San Jacinto Wildlife Area-Lake Perris Reserve, 2) the Badlands, 3) San Jacinto River and Bautista Creek, 4) Anza Valley, 5) Lake Skinner-Domenigoni Reserve, 6) Potrero Valley, and 7) Temecula Creek.</p>

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
Los Angeles pocket mouse (<i>cont.</i>) <i>Perognathus longimembris brevinasus</i>				<p>Objective 2: Include within the MSHCP Conservation Area at least 10,000 acres of suitable Habitat for the Los Angeles pocket mouse outside of the probable Core Areas identified above, but within the Criteria Area. Criteria Area locations where additional Habitat likely will be conserved include the Santa Ana River (northeast of Highway 60 and possibly in some areas downstream), Wilson Creek, Vail Lake, Warm Springs Creek, San Timoteo Creek, and San Gorgonio Wash.</p> <p>Objective 3: Surveys for Los Angeles pocket mouse will be conducted as part of the project review process for public and private projects within the mammal species survey area where suitable Habitat is present (see <i>Mammal Species Survey Area Map, Figure 6-5 of this document</i>). Los Angeles pocket mice located as a result of survey efforts shall be conserved in accordance with the procedures described in <i>Section 6.3.2 of this document</i>.</p> <p>Survey and site-specific conservation efforts will continue until there is a minimum of seven Core Areas with at least 2,000 acres of suitable Habitat within each Core Area, for a total of 14,000 acres of suitable Habitat.</p> <p>Objective 4: Within the MSHCP Conservation Area, Reserve Managers shall demonstrate that each of the seven Core Areas supports a stable or increasing population that occupies at least 30 percent of the suitable Habitat (at least 4,200 acres) as measured over any 8-consecutive year period (i.e., the approximate length of the weather cycle).</p>
San Bernardino kangaroo rat <i>Dipodomys merriami parvus</i>	6.3.2	Figure 6-5	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area 4,440 acres of occupied or suitable Habitat within the historic flood plains of the San Jacinto River and Bautista Creek and their tributaries.</p> <p>Objective 2: Surveys for San Bernardino kangaroo rat will be conducted as part of the project review process for public and private projects within the mammal species survey area where suitable Habitat is present (see <i>Mammal Species Survey Area Map, Figure 6-5 of this document</i>). San Bernardino kangaroo rats located as a result of survey efforts shall be conserved in accordance with the procedures described within <i>Section 6.3.2, of this document</i>.</p> <p>Objective 3: Within the 4,440 acres of suitable Habitat in the MSHCP Conservation Area, ensure that at least 75 percent of the total (3,330 acres) is occupied and that at least 20 percent of the occupied Habitat (approximately 666 acres) supports a medium or higher population density (5 to 15 individuals per hectare; McKernan 1997) of the species as measured across any 8-year period (i.e., the approximate length of the weather cycle).</p> <p>Objective 4: Within the MSHCP Conservation Area, Reserve Managers shall maintain or, if feasible, restore ecological processes within the historic flood plains of the San Jacinto River and Bautista Creek, their tributaries, and other locations within the Criteria Area where the San Bernardino kangaroo rat is detected in the future, given existing constraints and activities covered under the Plan. Maintenance and/or restoration of ecological processes may include: 1) allowing for natural dynamic fluvial processes of flooding, scouring and Habitat regeneration, and possibly fire, to maintain healthy alluvial fan sage scrub Habitat, 2) careful planning and design of existing and future authorized uses that may affect natural processes such as flood control, water conservation, and sand and gravel mining, 3) control of other uses and disturbances such as farming and discing for weed abatement, heavy grazing, off-road vehicles, and vandalism, and 4) control of invasive exotic species.</p>

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
Plants (13 plants)				
Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	6.3.2	Figure 6-2	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least 6,900 acres of suitable Habitat (grassland and playas and vernal pools within the San Jacinto River, Mystic Lake and Salt Creek portions of the MSHCP Conservation Area).</p> <p>Objective 2: Include within the MSHCP Conservation Area at least 20 of the known occurrences of this species, including the three Core Areas: the San Jacinto Wildlife Area and the southern shores of Mystic Lake, the middle segment of the San Jacinto River and a portion of the Alberhill locality.</p> <p>Objective 3: Surveys for Coulter's goldfields will be conducted for public and private projects within the Criteria Area where suitable Habitat is present (see <i>Criteria Area Species Survey Area Map, Figure 6-2 of this document</i>). Coulter's goldfields located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.3.2, of this document</i>.</p> <p>Objective 4: Include within the MSHCP Conservation Area the floodplain along the San Jacinto River consistent with Objective 1. Floodplain processes will be maintained along the river in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change. A potential future flood control project along the San Jacinto River designed and constructed consistent with the criteria for the San Jacinto River project presented in Section 7.0 of the MSHCP, Volume I and with the Area Plan Subunit guidelines for Subunit 1 of the Lakeview/Nuevo Area Plan and Subunit 4 of the Mead Valley Area Plan will be considered to be consistent with this objective.</p> <p>Objective 5: Include within the MSHCP Conservation Area the floodplain along Salt Creek generally in its existing condition from Warren Road to Newport Road and the vernal pools in Upper Salt Creek west of Hemet. Floodplain processes will be maintained within the linkage in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change.</p>
Davidson's saltscale <i>Atriplex serenana</i> var. <i>davidsonii</i>	6.3.2	Figure 6-2	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least 6,900 acres of suitable Habitat (grassland and playas and vernal pools within the San Jacinto River, Mystic Lake and Salt Creek portions of the MSHCP Conservation Area).</p> <p>Objective 2: Include within the MSHCP Conservation Area the three known localities of Davidson's saltscale at Salt Creek, the San Jacinto River and the San Jacinto Wildlife Area.</p> <p>Objective 3: Surveys for the Davidson's saltscale will be conducted as part of the project review process for public and private projects within the Criteria Area where suitable Habitat is present (see <i>Criteria Area Species Survey Area Map, Figure 6-2 of this document</i>). Davidson's saltscale located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.3.2, of this document</i>.</p> <p>Objective 4: Include within the MSHCP Conservation Area the floodplain along the San Jacinto River consistent with Objective 1. Floodplain processes will be maintained along the river in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change. A potential future flood control project along the San Jacinto River designed and constructed consistent with the criteria for the San Jacinto River project presented in Section 7.0 of the MSHCP, Volume I and with the Area Plan Subunit guidelines for Subunit 1 of the Lakeview/Nuevo Area Plan and Subunit 4 of the Mead Valley Area Plan will be considered to be consistent with this objective.</p>

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
Davidson's saltscale <i>(cont.)</i> <i>Atriplex serenana</i> var. <i> davidsonii</i>	6.3.2	Figure 6-2	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	Objective 5: Include within the MSHCP Conservation Area the floodplain along Salt Creek generally in its existing condition from Warren Road to Newport Road and the vernal pools in Upper Salt Creek west of Hemet. Floodplain processes will be maintained within the linkage in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change.
heart-leaved pitcher sage <i>Lepechinia cardiophylla</i>				Objective 1: Include within the MSHCP Conservation Area at least 56,950 acres of suitable Habitat (chaparral, woodlands and forests between 550 m and 1,370 m within the Santa Ana Mountains Bioregion). Objective 2: Include within the MSHCP Conservation Area at least six known populations in the Santa Ana Mountains (within the vicinity of Sierra Peak, Indian Truck Trail, Bald Peak, Trabuco Peak, Horsethief Trail, Pleasants Peak, and the ridge between Ladd Canyon and East Fork Canyon). Objective 3: Surveys for the heart-leaved pitcher sage will be conducted as part of the project review process for public and private projects within the Criteria Area where suitable Habitat is present (see <i>Criteria Area Species Survey Area Map, Figure 6-2 of this document</i>). Heart-leaved pitcher sage located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.3.2 of this document</i> .
little mousetail <i>Myosurus minimus</i>	6.3.2	Figure 6-2	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	Objective 1: Include within the MSHCP Conservation Area at least 6,900 acres of suitable Habitat (grassland and playas and vernal pools within the San Jacinto River, Mystic Lake and Salt Creek portions of the MSHCP Conservation Area). Objective 2: Include within the MSHCP Conservation Area at least five of the known locations of this species, including Harford Springs County Park on the Gavilan Plateau and the three core locations: one along Salt Creek west of Hemet and two on the Santa Rosa Plateau. Objective 3: Surveys for the little mousetail will be conducted as part of the project review process for public and private projects within the Criteria Area where suitable Habitat is present (see <i>Criteria Area Species Survey Area Map, Figure 6-2 of this document</i>). Little mousetail located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.3.2 of this document</i> . Objective 4: Include within the MSHCP Conservation Area the floodplain along the San Jacinto River consistent with Objective 1. Floodplain processes will be maintained along the river in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change. A potential future flood control project along the San Jacinto River designed and constructed consistent with the criteria for the San Jacinto River project presented in Section 7.0 of the MSHCP, Volume I and with the Area Plan Subunit guidelines for Subunit 1 of the Lakeview/Nuevo Area Plan and Subunit 4 of the Mead Valley Area Plan will be considered to be consistent with this objective. Objective 5: Include within the MSHCP Conservation Area the floodplain along Salt Creek generally in its existing condition from Warren Road to Newport Road and the vernal pools in Upper Salt Creek west of Hemet. Floodplain processes will be maintained in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change.

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
mud nama <i>Nama stenocarpum</i>	6.3.2	Figure 6-2	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least 7,050 acres of suitable Habitat (meadows/ marshes and playa/vernal pools between 5 and 500 m within the Riverside Lowlands Bioregion).</p> <p>Objective 2: Include within the MSHCP Conservation Area two of the three known occurrences of this species along the San Jacinto River near Gilman Springs Road.</p> <p>Objective 3: Surveys for mud nama will be conducted as part of the project review process for public and private projects within the Criteria Area where suitable Habitat is present (see <i>Criteria Area Species Survey Area Map, Figure 6-2 of this document</i>). Mud nama located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.3.2 of this document</i>.</p> <p>Objective 4: Include within the MSHCP Conservation Area the floodplain along the San Jacinto River consistent with Objective 1. Floodplain processes will be maintained along the river in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change. A potential future flood control project along the San Jacinto River designed and constructed consistent with the criteria for the San Jacinto River project presented in Section 7.0 of the MSHCP, Volume I and with the Area Plan Subunit guidelines for Subunit 1 of the Lakeview/Nuevo Area Plan and Subunit 4 of the Mead Valley Area Plan will be considered to be consistent with this objective.</p>
Nevin's barberry <i>Berberis nevinii</i>	6.3.2	Figure 6-2	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least 8,000 acres of suitable Habitat (chaparral and Riversidean alluvial fan sage scrub between 300 and 659 m in the Vail Lake area as depicted on <i>Figure 6-1</i>, the Narrow Endemic Plant Species Survey Area and the Agua Tibia Mountains Bioregion).</p> <p>Objective 2: Include within the MSHCP Conservation Area the known locations for Nevin's barberry in the San Timoteo/Badlands area, Jurupa Hills and Agua Tibia/Vail Lake area.</p> <p>Objective 3: Surveys for this species will be conducted as part of the project review process for public and private projects within the Criteria Area where suitable Habitat is present (see <i>Criteria Area Species Survey Area Map, Figure 6-2 of this document</i>). Nevin's barberry located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.3.2, of this document</i>.</p>
Parish's brittlescale <i>Atriplex parishii</i>	6.3.2	Figure 6-2	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least 6,900 acres of suitable Habitat (grassland and playas and vernal pools within the San Jacinto River, Mystic Lake and Salt Creek portions of the MSHCP Conservation Area).</p> <p>Objective 2: Include within the MSHCP Conservation Area the three known populations of the Parish's brittlescale in the upper Salt Creek drainage west of Hemet.</p> <p>Objective 3: Surveys for the Parish's brittlescale will be conducted as part of the project review process for public and private projects within the Criteria Area where suitable Habitat is present (see <i>Criteria Area Species Survey Area Map, Figure 6-2 of this document</i>). Parish's brittlescale located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.3.2 of this document</i>.</p>

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
Parish's brittle scale <i>(cont.)</i> <i>Atriplex parishii</i>				Objective 4: Include within the MSHCP Conservation Area the floodplain along the San Jacinto River consistent with Objective 1. Floodplain processes will be maintained along the river in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change. A potential future flood control project along the San Jacinto River designed and constructed consistent with the criteria for the San Jacinto River project presented in Section 7.0 of the MSHCP, Volume I and with the Area Plan Subunit guidelines for Subunit 1 of the Lakeview/Nuevo Area Plan and Subunit 4 of the Mead Valley Area Plan will be considered to be consistent with this objective.
prostrate navarretia <i>Navarretia prostrata</i>	6.3.2	Figure 6-2	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	Objective 5: Include within the MSHCP Conservation Area the floodplain along Salt Creek generally in its existing condition from Warren Road to Newport Road and the vernal pools in Upper Salt Creek west of Hemet. Floodplain processes will be maintained within the linkage in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change. Objective 1: Include within the MSHCP Conservation Area at least the one known occurrence of this species on the Santa Rosa Plateau. Objective 2: Include within the MSHCP Conservation Area the watershed of the vernal pool complex on the Santa Rosa Plateau in order to maintain hydrologic conditions. Objective 3: Surveys for prostrate navarretia will be conducted as part of the project review process for public and private projects within the Criteria Area where suitable Habitat is present (see <i>Criteria Area Species Survey Area Map, Figure 6-2 of this document</i>). Prostrate navarretia located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.3.2 of this document</i> .
round-leaved filaree <i>Erodium macrophyllum</i>	6.3.2	Figure 6-2	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	Objective 1: Include within the MSHCP Conservation Area at least 37,663 acres of suitable Habitat (grasslands and cismontane woodlands between 15 and 1,200 m within the Santa Ana Mountains and the Riverside Lowlands Bioregions). Objective 2: Include within the MSHCP Conservation Area eight out of the 10 known localities of round-leaved filaree: four occurrences in the Gavilan Hills region, one at Lake Mathews, one along Temescal Wash near Lee Lake, one at Diamond Valley Lake and one in the foothills of the Agua Tibia Mountains. Objective 3: Surveys for round-leaved filaree will be conducted as part of the project review process for public and private projects within the Criteria Area where suitable Habitat is present (see <i>Criteria Area Species Survey Area Map, Figure 6-2 of this document</i>). Round-leaved filaree located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.3.2 of this document</i> .
San Jacinto Valley crownscale <i>Atriplex coronata</i> var. <i>notatior</i>	6.3.2	Figure 6-2	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	Objective 1: Include within the MSHCP Conservation Area at least 6,900 acres of suitable Habitat (grassland and playas and vernal pools within the San Jacinto River, Mystic Lake and Salt Creek portions of the MSHCP Conservation Area). Objective 2: Include within the MSHCP Conservation Area the Alberhill Creek locality as well as the three Core Areas, located along the San Jacinto River from the vicinity of Mystic Lake southwest to the vicinity of Perris and in the upper Salt Creek drainage west of Hemet. Objective 3: Surveys for the San Jacinto Valley crownscale will be conducted as part of the project review process for public and private projects within the Criteria Area where suitable Habitat is present (see <i>Criteria Area Species Survey Area Map, Figure 6-2 of the MSHCP, Volume</i>

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
San Jacinto Valley crownscale (<i>cont.</i>) <i>Atriplex coronata</i> var. <i>notatior</i>				<p>1). San Jacinto Valley crownscale located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.3.2 of this document.</i></p> <p>Objective 4: Include within the MSHCP Conservation Area the floodplain along the San Jacinto River consistent with Objective 1. Floodplain processes will be maintained along the river in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change. A potential future flood control project along the San Jacinto River designed and constructed consistent with the criteria for the San Jacinto River project presented in Section 7.0 of the MSHCP, Volume I and with the Area Plan Subunit guidelines for Subunit 1 of the Lakeview/Nuevo Area Plan and Subunit 4 of the Mead Valley Area Plan will be considered to be consistent with this objective.</p> <p>Objective 5: Include within the MSHCP Conservation Area the floodplain along Salt Creek generally in its existing condition from Warren Road to Newport Road and the vernal pools in Upper Salt Creek west of Hemet. Floodplain processes will be maintained in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change.</p>
smooth tarplant <i>Centromadia pungens</i> ssp. <i>laevis</i>	6.3.2	Figure 6-2	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least 6,900 acres of suitable Habitat (grassland and playas and vernal pools within the San Jacinto River, Mystic Lake and Salt Creek portions of the MSHCP Conservation Area).</p> <p>Objective 2: Include within the MSHCP Conservation Area at least 27 of the known occurrences of this species at Antelope Valley; Temescal Canyon; Lake Elsinore; Murrieta Creek; French Valley; Lakeview Mountains; Lake Skinner; Diamond Valley Lake; Sycamore Canyon Park; Alberhill Creek; Lake Mathews; the Santa Ana River; and the core locations at the San Jacinto Wildlife Area, the middle segment of the San Jacinto River and upper Salt Creek.</p> <p>Objective 3: Surveys for the smooth tarplant will be conducted as part of the project review process for public and private projects within the Criteria Area where suitable Habitat is present (see <i>Criteria Area Species Survey Area Map, Figure 6-2 of this document</i>). Smooth tarplant located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.3.2 of this document.</i></p>
thread-leaved brodiaea <i>Brodiaea filifolia</i>	6.3.2	Figure 6-2	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least 6,900 acres of suitable Habitat (grassland and playas and vernal pools within the San Jacinto River, Mystic Lake and Salt Creek portions of the MSHCP Conservation Area).</p> <p>Objective 2: Include within the MSHCP Conservation Area the Core Areas located at Goetz Road (EO1), Perris Valley airport (EO2), Tenaja Road (EO3), Mesa de Colorado (EO5), Hemet vernal pools (EO 26), South SJWA (EO27), Squaw Mountain (EO29), Santa Rosa Ranch (EO30), Slaughterhouse (EO31), North SJWA (EO43) and Redondo Mesa (EO 52).</p> <p>Objective 3: Surveys for this species will be conducted as part of the project review process for public and private projects in the Criteria Area where suitable Habitat is present (see <i>Criteria Area Species Survey Area Map, Figure 6-2 of this document</i>). This species located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.3.2, of this document.</i></p>

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
thread-leaved brodiaea <i>(cont.)</i> <i>Brodiaea filifolia</i>				<p>Objective 4: Include within the MSHCP Conservation Area the floodplain along the San Jacinto River consistent with Objective 1. Floodplain processes will be maintained along the river in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change. A potential future flood control project along the San Jacinto River designed and constructed consistent with the criteria for the San Jacinto River project presented in Section 7.0 of the MSHCP, Volume I and with the Area Plan Subunit guidelines for Subunit 1 of the Lakeview/Nuevo Area Plan and Subunit 4 of the Mead Valley Area Plan will be considered to be consistent with this objective.</p> <p>Objective 5: Include within the MSHCP Conservation Area the floodplain along Salt Creek generally in its existing condition from Warren Road to Newport Road and the vernal pools in Upper Salt Creek west of Hemet. Floodplain processes will be maintained in order to provide for the distribution of the species to shift over time as hydrologic conditions and seed bank sources change.</p>
Vail Lake ceanothus <i>Ceanothus ophiochilus</i>	6.3.2	Figure 6-2	For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species will be avoided until it is demonstrated that species-specific conservation objectives for the particular species are met. Findings of equivalency shall be made demonstrating that the 90% standard has been met. If it is determined that the 90% threshold cannot be met, the Permittee(s) must make a determination of biologically equivalent or superior preservation. Please refer to <i>Section 6.3.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least 13,290 acres of suitable Habitat (chaparral in the vicinity of Vail Lake and the Agua Tibia Wilderness).</p> <p>Objective 2: Include within the MSHCP Conservation Area at least three core locations in the vicinity of Vail Lake and the Agua Tibia Wilderness area.</p> <p>Objective 3: Surveys for this species will be conducted as part of the project review process for public and private projects within the Criteria Area where suitable Habitat is present (see <i>Criteria Area Species Survey Area Map, Figure 6-2 of this document</i>). This species located as a result of survey efforts shall be conserved in accordance with procedures described within <i>Section 6.3.2, of this document</i>.</p>
Species Associated with Riparian/Riverine Areas and Vernal Pools (6 total species)				
Birds (3 birds)				
least Bell's vireo <i>Vireo bellii pusillus</i>	6.1.2	No survey area map for this species; as discussed in <i>Section 6.1.2</i> , suitable Habitat and potential survey areas for this species will be derived from project-specific riparian/riverine areas and vernal pools mapping.	See Objective 3 in the next column. Please refer to <i>Section 6.1.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least 9,430 acres of suitable Habitat including riparian forest, woodland and scrub Habitat within the Riverside Lowlands and San Jacinto Foothills Bioregions.</p> <p>Objective 2: Include within the MSHCP Conservation Area at least 8 Core Areas and interconnecting linkages. Core Areas could include the following areas: 1) the Prado Basin/Santa Ana River (9,670 acres); 2) Temescal Wash including Alberhill Creek (includes Subunit 3 of the Temescal Canyon Area Plan plus Proposed Linkage 2 and Proposed Constrained Linage 6; 4,290 acres); 3) Murrieta Creek (Subunit 1 of the Southwest Area Plan; 2,060 acres); 4) Temecula Creek (Subunit 2 of the Southwest Area Plan; 850 acres); 5) Lake Skinner/Diamond Valley Lake area (including Rawson Canyon) (Existing Core C, Proposed Extension of Existing Cores 5, 6, 7; 29,060 acres); 6) Vail Lake (Subunit 3 of the Southwest Area Plan; 12,320 acres); 7) Wilson Valley (Subunit 2 of the REMAP Area Plan; 33,540 acres) and 8) San Timoteo Canyon (Subunit 3 of The Pass Area Plan; 2,290 acres). Each Core Area will include at least 100 meters of undeveloped landscape adjacent to the riparian woodland and scrub Habitat where it occurs within the Criteria Area.</p> <p>Objective 3: Include within the MSHCP Conservation Area additional areas within the Criteria Area identified as important to the least Bell's vireo. This Objective shall be met through implementation of the Riparian/Riverine Areas and Vernal Pools Policy presented in <i>Section 6.1.2 of this document</i>. Wetland mapping assembled as part of that policy shall be reviewed as part of the project review process and if riparian scrub and/or woodland is identified on the wetland maps and the Habitat will not be avoided as part of the project, a focused</p>

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
least Bell's vireo (<i>cont.</i>) <i>Vireo bellii pusillus</i>				<p>survey for least Bell's vireo shall be conducted by a qualified biologist in accordance with accepted protocol. If survey results are positive, 90 percent of the occupied portions of the property that provide for long-term conservation value for the vireo shall be conserved in a manner consistent with conservation of the vireo. This will involve including 100 meters of undeveloped landscape adjacent to the Habitat conserved.</p> <p>Objective 4: Within the MSHCP Conservation Area, maintain (once every 3 years) the continued use of, and successful reproduction at 75 percent of the known vireo occupied Habitat (including any nesting locations identified in the MSHCP Conservation Area in the future). Successful reproduction is defined as a nest which fledged at least one known young.</p>
southwestern willow flycatcher <i>Empidonax traillii extimus</i>	6.1.2	No survey area map for this species; as discussed in <i>Section 6.1.2</i> , suitable Habitat and potential survey areas for this species will be derived from project-specific riparian/riverine areas and vernal pools mapping.	See Objective 3 in the next column. Please refer to <i>Section 6.1.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least 10,580 acres of suitable Habitat for the southwestern willow flycatcher including montane riparian forest, riparian scrub, arundo/riparian forest, riparian forest, southern cottonwood/willow riparian, southern sycamore/alder riparian woodland, and southern willow scrub.</p> <p>Objective 2: Include within the MSHCP Conservation Area at least 6 Core Areas and interconnecting linkages. Core Areas shall include the following areas: 1) Prado Basin/Santa Ana River, including Chino Creek, the Santa Ana River both up- and downstream of the Prado Dam, and the seven 2001 territories (9,670 acres); 2) Temescal Wash including Alberhill Creek (estimated as Subunit 3 plus Proposed Constrained Linkage 6 and Proposed Linkage 2; 4,290 acres); 3) Murrieta Creek (Proposed Constrained Linkage 13; 1,400 acres); 4) Temecula Creek (Proposed Constrained Linkages 14 and 24; 830 acres); 5) San Timoteo Canyon (Proposed Linkages 5, 12 and Proposed Linkage 22; 2,140 acres); 6) Vail Lake (Subunit 3 of Southwest Area Plan; 12,320 acres). Each Core Area will include at least 100 meters of undeveloped landscape adjacent to the riparian woodland and scrub Habitat and contain unfragmented Habitat and landscape linkages to other Core Areas.</p> <p>Objective 3: Include within the MSHCP Conservation Area additional areas within the Criteria Area identified as important to the southwestern willow flycatcher. This Objective shall be met through implementation of the Riparian/Riverine Areas and Vernal Pools Policy presented in <i>Section 6.1.2 of this document</i>. Wetland mapping assembled as part of that policy shall be reviewed as part of the project review process and if suitable southwestern willow flycatcher Habitat, defined as cottonwood or willow riparian Habitat adjacent to flowing water or saturated soils, is identified on the wetland maps and cannot be avoided, a focused survey for southwestern willow flycatcher shall be conducted by a qualified biologist in accordance with accepted protocol. If survey results are positive, 100 percent of the occupied portions of the property that provide for long-term conservation value for the flycatcher shall be conserved in a manner consistent with conservation of the flycatcher. This will involve including 100 meters of undeveloped landscape adjacent to the Habitat conserved. The survey requirements within this objective will be waived upon demonstrating that at least two Core Areas contain at least 10 successful flycatcher breeding pairs and at least four additional Core Areas each support breeding populations of at least 5 pairs of flycatchers.</p> <p>Objective 4: Within the MSHCP Conservation Area, maintain (once every 3 years) the continued use of, and successful reproduction at 75 percent of the known southwestern willow flycatcher occupied Core Areas (including any nesting locations identified in the MSHCP Conservation Area in the future). Successful reproduction is defined as a nest which fledged at least one known young.</p>

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	6.1.2	No survey area map for this species; as discussed in <i>Section 6.1.2</i> , suitable Habitat and potential survey areas for this species will be derived from project-specific riparian/riverine areas and vernal pools mapping.	See Objective 4 in the next column. Please refer to <i>Section 6.1.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least 8,970 acres of suitable Habitat for the western yellow-billed cuckoo including southern cottonwood/willow riparian, riparian scrub, riparian forest, and southern willow scrub.</p> <p>Objective 2: Include within the MSHCP Conservation Area at least five Core Areas and interconnecting linkages. Core Areas shall include the following areas: 1) Prado Basin/Santa Ana River, including Chino Creek, Mill Creek, and the Santa Ana River both up- and downstream of the Prado Dam (9,670 acres); 2) Temescal Wash including Alberhill Creek (estimated as subunit 3 of Temescal Canyon Area Plan plus Proposed Constrained Linkage 6 and Proposed Linkage 2; 4,290 acres); 3) Murrieta Creek (Proposed Constrained Linkage 13; 1,400 acres); 4) Temecula Creek (Proposed Constrained Linkages 14 and 24; 830 acres); 5) San Timoteo Canyon (Proposed Linkages 5, 12 and Proposed Linkage 22; 2,140 acres). Each Core Area will include at least 100 meters of undeveloped landscape adjacent to the riparian woodland and scrub Habitat and contain unfragmented Habitat and landscape linkages to other Core Areas. The Core Areas must support a population of 20 pairs of cuckoos combined total.</p> <p>Objective 3: Within the MSHCP Conservation Area, maintain or, if feasible, improve the riparian Habitats within the recent documented locations of the western yellow-billed cuckoo at the Prado Basin, Santa Ana River, North Peak Conservation Bank and Poorman Reservoir. Additionally, maintain or, if feasible, improve the potential yellow-billed cuckoo Habitat (including potential core and other areas) and potential Habitat linkages within the riparian areas along the Santa Ana River both upstream and downstream from Prado Dam, Temescal Wash including Alberhill Creek, Wasson Canyon, Murrieta Creek, Temecula Creek, Vail Lake, Wilson Valley, Bautista Creek, Tualota Creek, Lake Skinner, Potrero Creek, and San Timoteo Canyon. The maintenance or improvement of Habitat at all locales will be accomplished by preserving the hydrological processes within the drainages that support the potential Habitat and, if feasible, by selectively restoring, rehabilitating or revegetating all such areas that are currently fragmented or otherwise degraded by, for instance, infestations of exotic plants and animals. Each Reserve Manager responsible for a Core Area identified above will evaluate the condition of the riparian vegetation within the Core Area and implement a program to maintain or, if feasible, restore, and/or create riparian Habitat within the Core Area. The Riparian/Riverine Areas and Vernal Pools Policy (Section 6.1.2) and <i>Guidelines Pertaining to Urban/ Wildlands Interface (Section 6.1.4)</i> will be implemented within the MSHCP Conservation Area.</p> <p>Objective 4: Include within the MSHCP Conservation Area additional areas within the Criteria Area identified as important to the western yellow-billed cuckoo. This Objective shall be met through implementation of the Riparian/Riverine Areas and Vernal Pools Policy presented in <i>Section 6.1.2 of this document</i>. Wetland mapping assembled as part of that policy shall be reviewed as part of the project review process and if suitable western yellow-billed cuckoo Habitat, defined as cottonwood or willow riparian Habitat adjacent to flowing water or saturated soils, is identified on the wetland maps and cannot be avoided, a focused survey for western yellow-billed cuckoo shall be conducted by a qualified biologist in accordance with accepted protocols. If survey results are positive, 100 percent of the occupied portions of the property that provide for long-term conservation value for the cuckoo shall be conserved in a manner consistent with conservation of the cuckoo. This will involve including 100 meters of undeveloped landscape adjacent to the Habitat conserved.</p> <p>Objective 5: Within the MSHCP Conservation Area, maintain (once every 3 years) the continued use of, and successful reproduction at 75 percent of the known western yellow-billed cuckoo occupied Core Areas (including any nesting locations identified in the MSHCP Conservation Area in the future). Successful reproduction is defined as a nest which fledged at least one known young.</p>

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
Invertebrates - Crustaceans (3 crustaceans)				
Riverside fairy shrimp <i>Streptocephalus woottoni</i>	6.1.2	No survey area map for this species; as discussed in <i>Section 6.1.2</i> , suitable Habitat and potential survey areas for this species will be derived from project-specific riparian/riverine areas and vernal pools mapping.	See Objective 3 in the next column. Please refer to <i>Section 6.1.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least five Core Areas of occupied vernal pools (or vernal pool complex) and their watersheds. Core Areas include the Santa Rosa Plateau Ecological Reserve (17,188 acres), Skunk Hollow (156 acres), Murrieta (1,292 acres) and Lake Elsinore back basin (3,180 acres).</p> <p>Objective 2: Include within the MSHCP Conservation Area at least 11,942 acres of landscape Habitat area which might contain suitable vernal pool Habitat for Riverside fairy shrimp (playa, basalt flows, and clay soils). These areas may support other non-mapped pools and depressions which may be suitable for Riverside fairy shrimp.</p> <p>Objective 3: Include within the MSHCP Conservation Area additional areas within the Criteria Area identified as important for the Riverside fairy shrimp. This objective shall be met through implementation of the Riparian/Riverine Areas and Vernal Pools Policy presented in <i>Section 6.1.2 of this document</i>. Wetland mapping assembled as part of that policy shall be reviewed as part of the project review process and, if suitable Riverside fairy shrimp Habitat, defined as vernal pools, stock ponds, ephemeral ponds, or other human-modified depressions, is identified on the wetland maps and cannot be avoided, a single-season dry or wet season survey for this species shall be conducted by a qualified biologist in accordance with accepted protocol. If survey results are positive, 90 percent of the occupied portions of the property that provide for long-term conservation value for the fairy shrimp shall be conserved.</p>
Santa Rosa Plateau fairy shrimp <i>Linderiella santarosae</i>	6.1.2	No survey area map for this species; as discussed in <i>Section 6.1.2</i> , suitable Habitat and potential survey areas for this species will be derived from project-specific riparian/riverine areas and vernal pools mapping.	See Objective 3 in the next column. Please refer to <i>Section 6.1.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least 32 acres of basalt flow vernal pools and a majority of their watersheds within the Santa Rosa Plateau Ecological Reserve.</p> <p>Objective 2: Include within the MSHCP Conservation Area at least 2,134 acres of area on the basalt flow that may contain unmapped vernal pool Habitat which might support Santa Rosa Plateau fairy shrimp.</p> <p>Objective 3: Include within the MSHCP Conservation Area additional areas within the Criteria Area identified as important for the Santa Rosa Plateau fairy shrimp. This objective shall be met through implementation of the Riparian/Riverine Areas and Vernal Pools Policy presented in <i>Section 6.1.2 of this document</i>. Wetland mapping assembled as part of that policy shall be reviewed as part of the project review process and, if suitable Santa Rosa Plateau fairy shrimp Habitat, defined as vernal pools, stock ponds, ephemeral ponds, or other human-modified depressions over Basaltic soils, is identified on the wetland maps and cannot be avoided, a single-season dry or wet season survey for this species shall be conducted by a qualified biologist in accordance with accepted protocols. If survey results are positive, 90 percent of the occupied portions of the property that provide for long-term conservation value for the fairy shrimp shall be conserved.</p>
vernal pool fairy <i>Branchinecta lynchi</i>	6.1.2	No survey area map for this species; as discussed in <i>Section 6.1.2</i> , suitable Habitat and potential survey areas for this species will be derived from project-specific riparian/riverine areas and vernal pools mapping.	See Objective 4 in the next column. Please refer to <i>Section 6.1.2 of this document</i> for more information on survey requirements for this species.	<p>Objective 1: Include within the MSHCP Conservation Area at least 476 acres of suitable Habitat by conserving vernal pool and playa Habitat (does not include watershed acreages) within the West Hemet portion of Salt Creek, Santa Rosa Plateau Ecological Reserve, and Skunk Hollow.</p> <p>Objective 2: Include within the MSHCP Conservation Area at least 2,647 acres of alkali playa (Willow, Traver and Domino soils) in the floodplain of the San Jacinto River and west Hemet portion of Salt Creek which contains suitable Habitat for this species.</p> <p>Objective 3: Include within the MSHCP Conservation Area at least three Core Areas, which include the three known occupied vernal pools (or vernal pool complexes) and their watersheds in the West Hemet portion of Salt Creek (4,043 acres), Santa Rosa Plateau Ecological Reserve (17,188 acres), and Skunk Hollow (156 acres).</p>

APPENDIX E
SUMMARY OF MSHCP SPECIES SURVEY REQUIREMENTS

Species Name	MSHCP Section Reference	Survey Area Map Reference	Actions to Be Taken If Survey Results Are Positive	Species-Specific Conservation Objectives
vernal pool fairy shrimp (<i>cont.</i>) <i>Branchinecta lynchi</i>				Objective 4: Include within the MSHCP Conservation Area additional areas within the Criteria Area identified as important for the vernal pool fairy shrimp. This objective shall be met through implementation of the Riparian/Riverine Areas and Vernal Pools Policy presented in <i>Section 6.1.2 of this document</i> . Wetland mapping assembled as part of that policy shall be reviewed as part of the project review process and, if suitable vernal pool fairy shrimp Habitat, defined as vernal pools, stock ponds, ephemeral ponds, or other human-modified depressions over willow soils, is identified on the wetland maps and cannot be avoided, a single-season dry or wet season survey for this species shall be conducted by a qualified biologist in accordance with accepted protocol. If survey results are positive, 90 percent of the occupied portions of the property that provide for long-term conservation value for the fairy shrimp shall be conserved.