
regional and subregional conservation planning framework to the consistency reviews presented in this Chapter, the conservation planning premises are summarized in the following subsections.

a. The Federal Endangered Species Act

Section 10(a)(1)(B) of FESA requires the consideration of avoidance (alternatives to proposed “take”), minimization and mitigation. Likewise, the NCCP Act and Fish and Game Code Section 1600 *et seq.* require the consideration of avoidance of impacts, minimization and mitigation. However, as reviewed below, the conservation planning framework for such considerations under a Subregional NCCP/MSAA/HCP is quite different from that of a smaller scale HCP or Section 7 under FESA or a Section 2081 permit or individual streambed alteration agreement under state law.

In enacting FESA, Congress declared that one of the main “purposes” of FESA is to “provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved” (16 U.S.C. 1531(b)).

As reviewed in *Chapter 1*, the USFWS has recently compared conservation benefits that can be provided pursuant to HCPs versus protection and management that can be achieved through Section 7 consultations and has concluded:

. . . HCPs typically provide for greater conservation benefits to a covered species than section 7 consultations because HCPs assure the long-term protection and management of a covered species and its habitat, and funding for such management through the standards found in the 5-Point Policy for HCPs (64 FR 35242) and the HCP No Surprises regulation (63 FR 8859). Such assurances are typically not provided by section 7 consultations which, in contrast to HCPs, often do not commit the project proponent to long term special management or protections.

Many HCPs, particularly large regional HCPs, take many years to develop and, upon completion, become regional conservation plans that are consistent with the recovery of covered species.

(65 Federal Register, 63688 and 63889, 10/24/00)

As the USFWS concluded in the EA for the 4(d) Rule:

The Service believes that the Subregional NCCP Plans, once implemented, will enhance the recovery of the gnatcatcher by providing an ecosystem-based habitat management plan that would not be possible under a species-specific habitat conservation plan.

(draft EA, at p. 37)

b. The NCCP Act

In 1991, the California Legislature enacted the NCCP Act. The Legislature found and declared, as part of the Legislative Findings for the Act (“Legislative Findings”), that “there is a need for broad-based planning to provide for effective protection and conservation of the state’s wildlife heritage while continuing to allow appropriate development and growth.” According to the Legislative Findings for the NCCP Act, “Natural community conservation planning is a mechanism that can provide an early planning framework for proposed development projects within the planning area in order to avoid, minimize and compensate for project impacts to wildlife” (Legislative Findings, Section One, AB 2172, 1991).

As reviewed in *Chapter 1*, the State of California initiated the formulation of a regional conservation planning program, intended to be implemented on a subregional basis, through the preparation of the NCCP Process Guidelines and Conservation Guidelines. The NCCP Process Guidelines and Conservation Guidelines were formulated and adopted by CDFG for the purpose of integrating state natural communities conservation planning with federal initiatives pursuant to Section 10 of FESA. The federal 4(d) Rule for the gnatcatcher formally integrated the NCCP Guidelines into the federal conservation planning process.

c. California Fish & Game Code Section 1600 et seq..

California Fish and Game Code Section 1602(a) states that “an entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake ... unless” certain requirements are met including, for activities that may “substantially adversely affect an existing fish or wildlife resource,” the issuance of a final agreement that includes reasonable measures necessary to protect the resource, and the entity conducts the activity in accordance with the agreement.”

Importantly, under Fish and Game Code Section 1605(g), CDFG may enter into long-term agreements if certain conditions are met including provisions for providing a status report addressing the topics identified in that subsection and provisions for department review and consultation regarding the status report. According to CDFG regulations:

“A ‘Master Agreement’ means an agreement with a term of greater than five years that (1) covers multiple projects. . . . The master agreement will specify a process the department and entity will follow before each project begins and may identify various measures the entity will be required to incorporate as part of each project in order to protect fish and wildlife resources. . . . A master agreement will typically, but not always, encompass one or more watersheds and/or relate to a habitat conservation plan or natural community conservation plan.”

(Title 14 Code of California Regulations, Section 699.5(a)(1)(G))

d. Landscape-Scale Natural Communities Conservation Planning

Consistent with the NCCP Process Guidelines and Conservation Guidelines, the proposed NCCP/MSAA/HCP integrates broad landscape-scale natural communities conservation planning with the requirements of the NCCP Act, FESA and Fish and Game Code Section 1600 *et seq.* relating to the long-term protection of listed and unlisted species and associated habitats. Given the NCCP/HCP regional and subregional conservation planning focus, the consideration of alternatives, avoidance, minimization and mitigation for purposes of consistency with applicable statutory standards must necessarily relate to the goals, policies and principles of this large-scale conservation planning program (see *Section 14.1.2* below).

14.1.2 NCCP/MSAA/HCP Programmatic Elements and Related Conservation Planning Policies

As reviewed in *Chapter 4*, the goal of the Southern NCCP/MSAA/HCP is to fashion a habitat conservation planning and implementation program that addresses coastal sage scrub and other natural habitats on an ecosystem basis at a subregional level, pursuant to the State of California NCCP coastal sage scrub program and within the framework of the 1993 NCCP Conservation Guidelines. According to the NCCP Conservation Guidelines:

. . .subregional NCCPs will designate a system of interconnected reserves designed to: 1) promote biodiversity, 2) provide for high likelihoods for persistence of target species in the subregion, and 3) provide for no net loss of habitat value from the present, taking into account management and enhancement. No net loss of habitat value means no net reduction in the ability of the subregion to maintain viable populations of target species over the long-term.

To achieve the above-stated goals directed toward the creation of a system of interconnected reserves, the NCCP Conservation Guidelines set forth seven Tenets of Reserve Design discussed in *Chapter 4, Section 4.2.1*. As reviewed in *Chapters 4* and *6*, four planning elements comprise a typical “Conservation Strategy” and serve as programmatic vehicles for carrying out the statewide NCCP Tenets of Reserve Design and management guidelines at the subregional level:

- ***Creation of a Habitat Reserve:*** This programmatic element is reviewed in *Chapters 6, 8, 9* and *10* and focuses on the creation of a subregional Habitat Reserve capable of protecting and maintaining populations of “planning species” over the long term, including land areas necessary for the dispersal of planning species and for maintaining genetic flow within the Subregion and between the Subregion and adjacent protected open space areas.

- **Habitat Reserve Management Program (HRMP):** This programmatic element is reviewed in *Chapter 7* and focuses on the creation of the technical and institutional capability for undertaking coordinated monitoring and management actions necessary or helpful to sustain and enhance species populations and associated habitats over the long term, while adapting management actions to new information and changing habitat conditions.
- **Regulatory Coverage for Designated Species and Provisions for CDFG Jurisdictional Streams:** Species, vegetation communities and state jurisdictional streams intended to be protected and managed by the Habitat Reserve and HRMP are addressed within the broad framework of “regulatory coverage and provisions” reviewed in *Chapter 1*. *Chapter 13* addresses the potential impacts of Covered Activities on Covered Species, Conserved Vegetation Communities and CDFG Jurisdictional Areas in relation to proposed “conservation” and “management” measures and, building on these analyses, presents the basis for proposed regulatory coverage for Covered Species. As defined in *Chapter 1*, the term “Conserved Vegetation Communities” is defined as those vegetation communities that: **(1)** are designated to be adaptively managed in accordance with the Adaptive Management Program (AMP) and Ongoing Management Program (OMP) components of the Habitat Reserve Management Program (HRMP) discussed in *Chapter 7*; **(2)** are permanently and sufficiently protected consistent with the requirements of the NCCP Conservation Guidelines (*i.e.*, in terms of the number of acres of vegetation and share of the total vegetation community in the study area) as part of the Habitat Reserve to be considered conserved; and **(3)** provide the habitat that supports regulatory coverage and other provisions for the Covered Species identified in this NCCP/MSAA/HCP.
- **Implementation Agreement and Funding:** The NCCP/HCP Implementation Agreement (IA) and a companion MSAA identify the rights and obligations of all signatory parties to the approved NCCP/MSAA/HCP and provides for funding mechanisms adequate to assure the implementation of the NCCP/MSAA/HCP consistent with the terms of the approved IA and with the NCCP Act, and FESA. Compliance with the requirements of Fish and Game Code Section 1600 *et seq.* through a companion MSAA whose terms and conditions are incorporated by reference into the NCCP/HCP IA. The NCCP/HCP IA and companion MSAA provide for mutual assurances and other provisions required for the long-term implementation of the NCCP/MSAA/HCP.

As reviewed in *Chapter 4*:

“The combination of a properly formulated Habitat Reserve and a comprehensive HRMP will allow the NCCP/MSAA/HCP program to maintain *net habitat value* on a *long-term basis* for species ultimately receiving regulatory coverage and provisions under the program. As broadly defined in the 1993 NCCP Conservation Guidelines, “no net loss of

habitat value means no net reduction in the ability of the subregion to maintain viable populations of target species over the long-term.” (Conservation Guidelines, page 9). Specifically defined, *net habitat value* takes into account habitat gains and losses due to a particular activity, such as reductions in habitat area (impact) and increases in habitat quality (mitigation through restoration and management). The Habitat Reserve and AMP component of the HRMP will allow for the mitigation of impacts of proposed Incidental Take such that the *net habitat value* of the subregion for Covered Species will be maintained on a long-term basis.”

SECTION 14.2 STATE AND FEDERAL STATUTORY REQUIREMENTS ADDRESSED BY THE PROPOSED CONSERVATION STRATEGY

The term regulatory coverage as related to implementation of the Conservation Strategy is intended to encompass the full range of regulatory approvals, No Surprises assurances and other provisions providing authorization for the impacts of Covered Activities on Covered Species and CDFG Jurisdictional Areas. The categories of regulatory coverage and other provisions proposed for the NCCP/MSAA/HCP Conservation Strategy are as follows:

14.2.1 Regulatory Coverage

a. State Law

1. NCCP Act

Under Section 2835 of the NCCP Act of 1991, coverage would be provided for “the taking . . . of any identified species whose conservation and management is provided for in a department approved natural communities conservation plan.” Take of identified species (termed Covered Species under this draft NCCP/MSAA/HCP) includes both listed and unlisted species. The Section 2835 findings regarding the conservation and management of identified species will be based on the protection and management of Conserved Vegetation Communities that provide habitat for these species and other measures designed to conserve, protect restore and enhance the Covered Species as specified in *Chapter 13* and this Chapter. Conserved Vegetation Communities are identified and designated pursuant to the requirements of Section 2805 (“The plan identifies and provides for the regional or areawide protection and perpetuation of natural wildlife diversity”) and pursuant to findings of consistency with the NCCP Conservation Guidelines tenets of reserve design. Coverage would also include Section 2825(c) under the NCCP Act (relating to CESA Section 2081).

2. Master Streambed Alteration Agreement (MSAA)

Long-term streambed alteration agreements would be finalized under California Fish and Game Section 1600 *et seq.*. Agreements would be entered into with the County of Orange, RMV and SMWD. Recent proposed CDFG regulations describe a “Master agreement” as an agreement with a term of greater than five years that describes a procedure the entity must follow for construction maintenance, or other projects the agreement covers. According to the proposed regulations “a master agreement will typically . . . encompass one or more watersheds and/or relate to a habitat conservation plan or natural community conservation plan.” (See *Section 14.7*)

b. Federal Law

1. FESA Section 10(a)(1)(B) – Fish and Wildlife Species

All proposed listed Covered Species will be addressed under survival and recovery standards per General Policies 1-3 of *Chapter 4*. Likewise, unlisted Covered Species will be addressed under a conservation standard per General Policies 1-3 of *Chapter 4*.

2. FESA Section 7 – Fish and Wildlife Species

14.2.2 Other Conservation Strategy and IA Provisions

a. FESA Section 7 – Fish and Wildlife Species

FESA Section 7(a)(2) states: Each Federal agency shall, in consultation with the Secretary, insure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction of adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with affected States to be critical” The Section 7 requirements are proposed to be addressed through: **(a)** the internal Section 7 consultation for the HCP; **(b)** the Section 10(a)(1)(B) permit; **(c)** No Surprises assurances; **(d)** Section 7 provisions through the IA; and **(e)** the Section 7 programmatic consultation for the proposed SAMP permitting procedures. Relevant analyses in *Chapter 13* species involve review not only under not only the Section 7/Section 10 “jeopardy” standard of “not significantly reduce the likelihood of survival and recovery of the species” but also “adverse modification” determinations standards for impacts on designated critical habitat of any listed species.

b. FESA Section 3 and Section 4 – Future Critical Habitat Designations

The NCCP/MSAA/HCP review of both listed and unlisted species habitat protections and special management considerations addresses both occupied and unoccupied habitat and thus is intended to review the application of all of the Section 3 substantive criteria for the designation of critical habitat to the Conservation Strategy. The draft IA includes provisions regarding: **(a)** any future modifications to existing critical habitat designations; and **(b)** future critical habitat designation for any presently unlisted species treated “as if listed” as a Covered Species under the final NCCP/MSAA/HCP. Such provisions for all unlisted Covered Species are proposed on the basis of the conservation analyses presented in *Chapter 13*, including the protection and management of Conserved Vegetation Communities provided through the creation of the Habitat Reserve and implementation of the HRMP. Conserved Vegetation Communities are identified consistent with the purpose of FESA “to provide a means whereby the ecosystems upon which endangered species and threatened species may be conserved” and are intended to include Covered Species habitats meeting the Section 3 substantive criteria.

c. Programmatic Section 7 Consultation for the SAMP Permitting Procedures under Clean Water Act Section 404

The SAMP addresses the portions of the San Juan Creek and San Mateo Creek watersheds located within the NCCP/MSAA/HCP study area as part of the “coordinated planning process.” The SAMP presently contemplates establishing permitting procedures for RMV lands and SMWD. With regard to SMWD and RMV, the USACE permitting procedures would establish maximum levels of future impacts on a geographic-specific and programmatic basis at the time of the approval of the proposed RMV/SMWD individual long-term permit and associated permitting procedures. Thus, in contrast with federal permitting assurances provided in other NCCP/HCPs for USACE 404 permit impacts to be analyzed at a future point in time, the proposed Section 7 consultation for the SAMP permitting procedures would involve presently defined impact levels and would result in Section 7 determinations in effect for the term of the SAMP permitting procedures.

Consistent with the conservation planning goals set forth in *Chapter 2* and in order to provide a unified analytic approach to regulatory coverage and provisions addressing all of the above state and federal regulatory requirements, *Chapter 13* employs the following “conservation” and “management” analytical framework:

- (1) Conservation** - The identification of Conserved Vegetation Communities that provide the habitat suitable for proposed Covered Species, including both occupied and unoccupied habitat that contain the physical and biological features essential to the conservation of proposed Covered Species, with protection

provided through the proposed permanent Habitat Reserve (32,818 acres) and permanent Supplemental Open Space (4,456 acres) in Subarea 1.

- (2) **Management** - The identification of special management considerations, including specific management and enhancement/restoration measures that would contribute to the recovery of listed species or prevent the need for future listing of other presently unlisted Covered Species. Management also would include the compliance and effectiveness monitoring measures identified as a component of the HRMP.

The FESA Section 3 requirements involving conservation, management and recovery that are embodied in the above definitions of “conservation” and “management” fully encompass the Section 10(a)(1)(B) standard requiring that authorized impacts shall not reduce the likelihood of survival and recovery of species in the wild (see *Chapter 13, Section 13.1*). Since the above operational definitions of “conservation” and “management” are also consistent with the NCCP Act terms in Fish and Game Code Section 2835, the *Chapter 13* analyses of proposed Covered Species and proposed Conserved Vegetation Communities provide the biological basis for the review of the various categories of regulatory coverage and other provisions provided in this Chapter.

SECTION 14.3 RELATIONSHIP OF THE PROPOSED CONSERVATION STRATEGY ELEMENTS TO AVOIDANCE, MINIMIZATION AND MITIGATION

Avoidance, minimization and mitigation are required under applicable statutory/regulatory standards and will be reviewed under the following programmatic elements of the proposed Conservation Strategy:

- *Avoidance/minimization of impacts on vegetation communities and NCCP/MSAA/HCP planning species and resulting Mitigation of Impacts on Covered Species and Conserved Vegetation Communities* – review of “conservation provide by the proposed Habitat Reserve design;
- *Mitigation of Impacts on Covered Species and Conserved Vegetation Communities* – review under the Conservation Strategy program for maintaining “net habitat value” over the long-term through management of the Habitat Reserve pursuant to the HRMP;
- *Special Avoidance/ Minimization Measures to Reduce Impacts on Covered Species and Conserved Vegetation Communities* – review of special Conservation Strategy measures that would minimize impacts on proposed Covered Species and proposed Conserved Vegetation Communities; and

- *Compliance and Effectiveness Monitoring* – review of Conservation Strategy HRMP monitoring elements directed toward meeting USFWS HCP and CDFG NCCP/MSAA monitoring requirements.

SECTION 14.4 FESA SECTION 10 CONSISTENCY REVIEW

This section reviews the statutory standards set forth in FESA Section 10 for the approval of a Habitat Conservation Plan and associated 10(a)(1)(B) permit.

14.4.1 Impacts of Covered Activities on Covered Species and Conserved Vegetation Communities

Impacts of proposed Covered Activities on proposed Covered Species that are fish and wildlife species are reviewed in *Chapter 13* and are set forth in *Tables 13-5* and *13-6*. Impacts on plants proposed to be Covered Species and on proposed Conserved Vegetation Communities are also reviewed in *Chapter 13*. Potential impacts on plants are not included in a 10(a)(1)(B) permit authorization but are included in this consistency review because it is expected that the internal Section 7 consultation for the HCP will address: (a) the effects of issuance of the Section 10(a)(1)(B) permit on all listed species and unlisted species proposed to be Covered Species; and (b) the IA Section 7 provisions include plants. Additionally, the Section 10(a)(1)(B) permit is expected to list plants that are Covered Species.

Chapter 13 and the NCCP/MSAA/HCP EIR/EIS analyze impacts, conservation and management with respect to proposed Covered Species whose habitats are included within the Conserved Vegetation Communities based on current information regarding the extent of the NCCP vegetation communities. Because the acreage and location of specific vegetation communities will fluctuate over time, impacts to Covered Species are proposed to be authorized for regulatory coverage within geographic-specific impact acreages reviewed in the final EIR/EIS, regardless of changes that may occur in Conserved Vegetation Communities and related habitat composition over time. As indicated in *Chapter 13*:

“The estimated conservation acreage of Conserved Vegetation Communities in the Habitat Reserve and SOS discussed in this section and estimated impacts to vegetation communities/land covers in development areas and from infrastructure, quarry and landfill impacts will vary over time as vegetation communities expand and contract in response to natural successional changes and stochastic events such as floods, fire and precipitation cycles. Coastal sage scrub, chaparral, and riparian acreage, in particular, is subject to variation. Thus, the coverage of vegetation communities, while based on current estimates, also includes any acreage changes over time. The Parties signatory to the NCCP/MSAA/HCP acknowledge that the acreage of proposed Conserved

Vegetation Communities on lands both within the Habitat Reserve, SOS and the proposed development areas may fluctuate over time.”

14.4.2 Impacts will be Incidental to Otherwise Lawful Activities

The analysis of Covered Activities under the proposed Conservation Strategy is set forth in *Section 10.1.7 of Chapter 10*. The term “Covered Activities” is defined as follows:

“**Covered Activities**” means those activities described in *Chapters 10 and 11* of the NCCP/MSAA/HCP and *Appendix S* that are proposed to be carried out or conducted by Southern Subregion Planning Participants (*i.e.*, Permittees), including activities authorized for regulatory coverage and provisions related to impacts on Covered Species and Conserved Vegetation Communities.

All Covered Activities will be lawful because they will be undertaken pursuant to applicable governmental authorizations, including the IA. Lawful activities proposed for regulatory coverage and provisions as Covered Activities are summarized for each of the Participating Landowners and in conjunction with the implementation of the HRMP over time are described in detail in *Appendices M (County), S (RMV) and T (SMWD)* and are summarized in the following subsections.

a. County of Orange Integrated Waste Management Department (IWMD) and Road Department (Roads)

The County is requesting regulatory coverage and provisions for Covered Activities within Subarea 1 and for Avenida La Pata in Subarea 4, including: (1) construction and operation related to its 1,530-acre Prima Deshecha Landfill (IWMD) and improvements; (2) future mitigation actions associated with landfill development operations including invasive species control within San Juan Creek and on-site mitigation as needed within the Landfill SOS; and (3) the extension of Avenida La Pata from Ortega Highway through the Landfill to link to the existing Avenida La Pata in the City of San Clemente. Covered Activities for both the Prima Deshecha Landfill GDP and Avenida La Pata Improvement Project are discussed in *Section 10.1.7 and Appendix M*. In addition, regulatory coverage and provisions are being requested for the optional impact fee program in Subarea 3 in the event that the owners of the remaining undeveloped residential lots in Coto de Caza opt to pay impact fees to the County for impacts to Conserved Vegetation Communities and Covered Species.

Covered Activities for the County landfill operations include onsite landfill operations and restoration/enhancement that would potentially impact two state-and/or federally-listed wildlife species: least Bell’s vireo (also state-listed) and coastal California gnatcatcher. Covered

Activities also would involve offsite habitat enhancement/restoration activities (e.g., exotic invasive plant species controls) mitigation measures for landfill operations impacts that could affect habitat potentially supporting federally-listed endangered arroyo toad habitat in areas such as San Juan Creek. Covered Activities related to the Landfill GDP also involve impacts to a state/federal-listed plant, thread-leaved brodiaea (*Brodiaea filifolia*) (Figure 173-M).

b. Rancho Mission Viejo (RMV)

The RMV property includes about 22,815 acres within the subregion (Figure 3-M). RMV Covered Activities are authorized through the County of Orange RMV GPA/ZC and include: (1) development within Planning Areas (PA) 1 through 5 and 8; (2) maintenance of infrastructure, improvements to existing roads and infrastructure, and construction of new roads and infrastructure inside and outside designated development areas and within the Habitat Reserve; (3) ongoing and limited expanded Ranch operations consistent with uses permitted set forth in Chapter 11, and maintenance related to proposed Covered Activities; and (4) designated current permitted and future Ortega Rock mining operations. Covered Activities proposed by RMV include those development activities described as part of the approved November, 2004 County of Orange GPA/ZC, including the adopted Planned Community text for the Ranch Plan as applicable to the B-12 Alternative (see Table 10-2 – *RMV Development and Open Space*, Figure 133-M and Appendix S).

As discussed in Section 10.1.7 and Appendix S, proposed Covered Activities would include residential, commercial/industrial, recreation, RMV ranching facilities and operations, roads and other infrastructure uses, ranching and related activities within Subarea 1, identified as temporary and permanent impacts in Chapter 13 in Tables 13-5, 13-6, 13-7, 13-17 and 13-18, that could potentially impact habitat of as many as seven state or federal listed species, including: San Diego and Riverside fairy shrimp, arroyo toad, least Bell's vireo, southwestern willow flycatcher, coastal California gnatcatcher and thread-leaved brodiaea. Long-term operation and maintenance of the WQMP facilities to be located within Planning Areas also are proposed as Covered Activities. Table 14-1 summarizes conservation and impacts of proposed Covered Species associated with RMV Covered Activities by development Planning Area.

c. Santa Margarita Water District (SMWD)

The SMWD provides water and wastewater treatment services to landowners and communities within the subregion. Covered Activities include those actions described in Section 10.1.7 by the District located outside proposed RMV development areas that have the potential to impact the coastal California gnatcatcher and other proposed Covered Species and/or require SAAs (see Appendix T and Figure 160-M), as well as future operations and maintenance operations associated with proposed RMV and SMWD Covered Activities.

**TABLE 14-1
SUMMARY OF CONSERVATION AND IMPACTS TO PROPOSED
COVERED SPECIES FOR RMV BY DEVELOPMENT PLANNING AREA**

Covered Species ^{1,2}	PA 1		PA 2		PA 3		PA 4 ⁴		PA 5		PA 6 & 7 ⁴	PA 8 ⁴	
	Impact	Habitat Reserve	Impact	Habitat Reserve	Impact	Habitat Reserve	Impact	Habitat Reserve	Impact	Habitat Reserve	Impact	Impact	Habitat Reserve
Cactus Wren	0	4	63	171	63	39	0	0	6	5	9	39	129
California Gnatcatcher	3	5	37	147	18	2	0	0	1	6	2	5	19
Cooper's Hawk	1	1	1	8	0	3	1	0	0	0	0	1	6
Grasshopper Sparrow	3	85	82	213	53	14	0	5	3	5	34	25	97
Least Bell's Vireo	0	2	0	6	0	18	0	0	0	0	0	0	5
Long-eared Owl	0	0	0	1	0	0	0	0	0	0	0	0	3
Willow Flycatcher	0	0	0	0	0	6	0	0	0	0	0	0	0
Tricolored Blackbird (nesting colony)	0	0	0	2	0	1	0	0	1	0	0	0	1
Yellow-breasted Chat	3	3	0	14	4	36	0	0	0	0	0	1	14
Yellow Warbler	0	0	0	5	0	10	0	0	0	0	0	0	2
Arroyo Toad ⁵	No Impact to Breeding Sites	~18% of San Juan Creek Major Pop.	No Impact to Breeding Sites	~25% of San Juan Creek Major Pop.	No Impact to Breeding Sites	~57% of San Juan Creek Major Pop.	No Impact to Breeding Sites		No Impact to Breeding Sites		No Impact to Breeding Sites	No Impact to Breeding Sites	100% of Breeding Sites in Watershed
California Glossy Snake	0	0	0	0	0	1	0	0	0	0	0	0	0
Coast Patch-nosed Snake	0	0	0	0	0	0	0	0	0	0	1	0	0
Red-diamond Rattlesnake	1	0	1	3	0	0	0	0	1	0	1	1	4
Orange-throated Whiptail	0	5	5	72	36	17	1	0	0	2	0	0	8
Red Coachwhip	0	0	0	1	0	0	0	0	0	0	0	0	0
San Diego Horned Lizard	0	0	6	17	1	3	0	0	0	0	5	0	0
Southwestern Pond Turtle ⁶	0	0	0	2	2	2	0	0	0	0	0	0	2
Western Spadefoot Toad ^{6,7}	2	0	0	2	0	1	0	0	0	5	0	0	5
Arroyo Chub ⁸		X		X		X							
Threespine Stickleback ⁸		X		X		X							
Riverside Fairy Shrimp ⁷	0	0	0	0	0	0	0	0	0	2	0	0	0
San Diego Fairy Shrimp ⁷	0	0	0	0	0	0	0	0	0	3	0	0	0

**TABLE 14-1
SUMMARY OF CONSERVATION AND IMPACTS TO PROPOSED
COVERED SPECIES FOR RMV BY DEVELOPMENT PLANNING AREA**

Covered Species ^{1,2}	PA 1		PA 2		PA 3		PA 4 ⁴		PA 5		PA 6 & 7 ⁴	PA 8 ⁴	
	Impact	Habitat Reserve	Impact	Habitat Reserve	Impact	Habitat Reserve	Impact	Habitat Reserve	Impact	Habitat Reserve	Impact	Impact	Habitat Reserve
California Scrub Oak ⁹	1 ac	1 ac	0	2 ac	68 ac	189 ac	127 ac	23 ac	18 ac	8 ac	0	67 ac	764 ac
Chaparral Beargrass	0	0	0	0	0	0	0	0	0	0	0	1	5
Coast Live Oak ⁹	3 ac	30 ac	43 ac	116 ac	108 ac	279 ac	117 ac	40 ac	209 ac	126 ac	2 ac	118 ac	698 ac
Coulter's Saltbush	0	0	4 sites, 214 indivs.	28 sites, 2,758 individuals	0	0	0	0	0		2 sites, 15 indivs.	0	4 sites, 100 individuals
Many-stemmed Dudleya¹⁰	0	0	49 sites, 7,499 indivs.	63 sites, 9,517 Individuals	68 sites, 6,331 indiv.	31 sites, 5,371 individuals	0	0	1 site, 1 indiv.	1 site, 1 indiv.	17 sites, 3,804 indiv.	0	81 sites, 17,360 indiv.
Southern Tarplant	0	0	8 sites, 9,821 indivs.	34 sites, 126,395 individuals	0	1 site, 10,000 indivs.	0	0	0	0	0	0	0
Thread-leaved Brodiaea¹¹	0	0	4 sites, 85 indivs.	1 site, 2,000 individuals	0	1 site, 250 individuals	0	0	0	0	6 sites, 59 indivs.	0	18 sites, 6,917 individuals

¹ NCCP/MSAA/HCP planning species are shown in boldface print.

² Burrowing owl is not included in the PA breakdown because there are no precise location records in the database; rather the accounts are by general locations, such as Chiquita Canyon, upper Cristianitos, etc.

³ The impact and conservation analysis is for illustrative purposes only to depict the rough proportion of impacts to conservation in relation to the phased development and associated dedication of open space. Impacts and conservation results are based on a gross GIS analysis of discrete species locations in the NCCP sensitive species database, except as where otherwise noted. This analysis does not include infrastructure impacts and does not consider impacts on *major/important populations in key locations*, as analyzed in *Chapter 13*.

⁴ The analysis assumes the overstated scenario impacts for PAs 4, 6-8, as described in *Chapter 13*, except where otherwise noted for southwestern pond turtle, western spadefoot toad, many-stemmed dudleya and thread-leaved for which specific avoidance measure have been described in the *Chapter 13* conservation analysis.

⁵ The arroyo toad analysis only considers breeding locations and not adjacent uplands, as analyzed in *Chapter 13*.

⁶ The analysis for the southwestern pond turtle and western spadefoot toad assumes avoidance of the stockpond in PA 6 in upper Cristianitos Canyon.

⁷ The analysis for the western spadefoot toad, Riverside fairy shrimp and San Diego fairy shrimp assumes avoidance of the occupied vernal pools in PA 5.

⁸ The arroyo chub and threespine stickleback analysis only considers general stream reaches where the species are known. Indirect impacts are not considered, as analyzed in *Chapter 13*. The "X" depicted in the table indicates that the open space dedicated to the Habitat Reserve for that particular PA contains occupied habitat for the two species.

⁹ The analyses for California scrub oak and coast live oak are reported in acres because these species are mapped as vegetation communities and not individuals, as described in *Chapter 13*.

¹⁰ The analysis for the many-stemmed dudleya assumes avoidance of specific locations in PAs 6, 7 and 8, as analyzed in *Chapter 13*.

¹¹ The analysis for the thread-leaved brodiaea assumes avoidance of the *major population/key location* on Chiquadora Ridge, certain locations in PA 6 and the locations in PA 8, as analyzed in *Chapter 13*.

d. Long-Term Implementation of the HRMP

HRMP management and monitoring activities and “coordinated management plans” identified in *Chapter 7* and *Appendices F* through *K*, *N* and *O* will be undertaken pursuant to the Conservation Strategy and IA. Given the purpose of the HRMP to maintain and, where feasible, enhance the net habitat value of the Habitat Reserve over time and the various provisions governing management decisions set forth in *Chapter 7*, all HRMP implementation actions are proposed to be Covered Activities.

14.4.3 Alternatives to Taking that the Applicants Considered and the Reasons Why Such Alternatives are not Being Utilized – Selection of the Habitat Reserve Design under the Proposed Conservation Strategy

Section 6.7 of *Chapter 6* summarizes the NCCP/MSAA/HCP process for identifying alternatives. To assure that a “reasonable range of alternatives” was identified for review as part of the “coordinated planning process, thirteen Programmatic and Habitat Reserve Alternatives were initially formulated, were posted on the County’s web-site and were reviewed in public workshops. Subsequently, four additional Alternatives were formulated, one by the NCCP/SAMP Working Group (the B-9), two by the County of Orange (the B-10 and B-11) in conjunction with the RMV GPA/ZC review process, and one formulated subsequent to the GPA/ZC approval through subsequent discussions with the Wildlife Agencies, the environmental community and interested members of the public (the B-12). The County Board of Supervisors adopted a modified version of the B-10, the B-10M, in November 2004, in conjunction with the GPA/ZC component of the coordinated planning process. Subsequently, the B-12 Alternative was formulated through the collaborative process discussed in *Chapter 6*.

Sections 6.7.2 and *6.7.3* of *Chapter 6* present an analysis of the seventeen alternatives that were formulated during the NCCP/MSAA/HCP review process. Broadly speaking, alternatives considered have been divided into two groupings: (1) Programmatic Alternatives (included within the ‘A’ Alternatives developed for the Alternatives Public Workshop); and (2) Habitat Reserve Alternatives (the ‘B’ Alternatives developed for the Alternatives Public Workshop and Alternatives subsequently developed by the Working Group, by the County of Orange as part of the GPA/ZC review process and through the post-GPA/ZC collaborative process).

As reviewed in *Chapter 6*, RMV comprises the only large-scale undeveloped land ownership that has participated actively in the Southern NCCP/HCP planning program. RMV lands are centrally located within the planning area and connect with major protected open space areas to the west, the north, the east and the south. Consequently, the Habitat Reserve Alternatives identified by the NCCP working group (*i.e.*, the B-4, B-5, B-6, B-8 and B-9 Alternatives), the

County of Orange (*i.e.*, the B-10M and B-11 Alternatives) and extended discussions with various organizations and agencies (*i.e.*, the B-12 Alternative) focus on the RMV landholdings.

Three ‘B’ Alternatives – the B-8, B-10M and B-12 - were selected in *Chapter 6* for further review in *Chapters 8* and *9*, as well as the A-4 and A-5 Programmatic Alternatives (see *Section 6.7.4* in *Chapter 6*). In order to address the conservation policy considerations inherent in the purposes set forth in *Chapter 2*, the three Habitat Reserve Alternatives reviewed in *Chapters 8* and *9* focus on a range of conservation strategies embodying different conservation priorities (see discussion in *Chapter 6*), as well as goals of Participating Landowners including long-term County housing and community development goals.

As previously reviewed, the Southern Subregion conservation planning program has formulated several sets of guidelines and planning principles intended to guide both conservation and development planning at a geographic-specific level (the sub-basin guidelines and principles contained in the Draft Southern Planning Guidelines and Draft Watershed Planning Principles documents) and at the broader landscape level (the SRP/Science Advisors Tenets of Reserve Design, SAMP Tenets and Draft Baseline Conditions Watershed Planning Principles). *Chapter 8* analyzes the consistency of the B-8, B-10M and B-12 Alternatives with the sub-basin guidelines and principles set forth in *Chapters 4* and *5*. With regard to the ‘B’ Alternatives, the *Chapter 8* analyses provide assessments of the consistency of the ‘B’ Alternatives at a geographic-specific and species/habitat-specific level. These *Chapter 8* assessments served as the building blocks for the broader scale level of analysis set forth in *Chapter 9*.

The goal of the alternatives analyses in *Chapter 9* was to select one or more of the ‘B’ Alternatives for consideration for inclusion in the proposed Conservation Strategy to be further reviewed in *Chapter 10*. *Chapter 9* addresses the extent to which the three ‘B’ Alternatives have the capability of maintaining net habitat value on a long-term basis at the broader landscape level. Using the information and analyses presented in *Chapter 8*, *Chapter 9* assesses both the Habitat Reserve designs proposed under the different alternatives and the ability of the ‘B’ Alternatives to implement the HRMP elements in the manner set forth in *Chapter 7*. (It is important to note that the HRMP presented in *Chapter 7*, as well as sub-basin restoration and management guidelines, were prepared independently of any and all of the ‘B’ Alternatives and, as a consequence, particular ‘B’ Alternatives, or elements of the Alternatives, might not be consistent with elements of the *Chapter 7* and sub-basin management and restoration prescriptions.) An overall assessment was then made as to whether or not each Alternative has the ability to provide for the Habitat Reserve and HRMP elements of a Conservation Strategy within the framework of the Draft Southern Planning Guidelines and Draft Watershed Planning Principles and the Project Purposes set forth in *Chapter 2*. The B-12 Alternative was selected as the proposed Habitat Reserve design for inclusion in the Conservation Strategy for reasons identified in *Chapters 9* and *10*. The B-12 Habitat Reserve and the HRMP were subsequently

used as the basis for addressing species and vegetation community coverage in *Chapter 13* (see *Section 14.4.4* below)

14.4.4 Applicants' Proposed Measures to Avoid, Minimize and Mitigate the Impacts of Covered Activities on Covered Species and Conserved Vegetation Communities

There are many elements of the Conservation Strategy that address avoidance/ minimization and mitigation of impacts on Covered Species and Conserved Vegetation Communities that would result from Covered Activities. Accordingly, in addressing the Applicants' proposed actions to minimize and mitigate the impacts of Covered Activities on Covered Species and Conserved Vegetation Communities "to the maximum extent practicable," this section is divided into the following topics:

- Avoidance/minimization and mitigation through the assured protection of the proposed Habitat Reserve as the necessary biological foundation for maintaining net habitat value over the long term;
- Mitigation through the contributions of the HRMP (including stressor-based management, habitat restoration and invasive species control elements) to maintaining and enhancing net habitat value over the long-term;
- Avoidance/minimization through specific RMV project modifications;
- Avoidance/minimization and mitigation of impacts on water quality and hydrologic conditions of concern through the implementation of the WQMP;
- Avoidance/minimization and mitigation of circulation system/infrastructure impacts;
- Avoidance/minimization of indirect effects;
- Minimization through construction-related minimization measures;
- Grazing Management Plan species avoidance measures after Habitat Reserve dedication;
- Avoidance/minimization through Covered Activity, Compatible Use and Prohibited Use provisions within the Habitat Reserve;
- Overall conservation of proposed Covered Species and proposed Conserved Vegetation Communities (*Chapter 13*); and
- Avoidance/minimization and mitigation measures for impacts to state jurisdictional streams (as reviewed in *Section 14.7*).

a. Contributions of the Proposed Habitat Reserve Design to Avoidance/Minimization and Mitigation

The assemblage of a subregional Habitat Reserve is the central feature of the proposed Conservation Strategy directed toward avoiding/minimizing and mitigating impacts on significant biotic and abiotic resources. Given the scale of the Southern planning subregion, *Chapter 8* provides a comprehensive assessment of avoidance/minimization employing geographic-specific sub-basin guidelines prepared to address the protection, management and restoration of biotic and abiotic resources. Specific avoidance measures required for individual proposed Covered Species are set forth in *Appendix U*.

Building on the sub-basin level of analysis in *Chapter 8*, the landscape-scale tenets and principles reviewed in *Chapter 9* provide performance criteria by which to assess the extent to which the proposed Habitat Reserve can contribute to maintaining net habitat value over the long-term on an overall subregional basis. As indicated previously, Alternative B-12 was selected in *Chapter 9* as the Alternative used to define the Habitat Reserve to be included in the proposed Conservation Strategy. “Conservation” of proposed Covered Species and proposed Conserved Vegetation Communities under the B-12 Habitat Reserve is reviewed in *Chapter 13*.

As reviewed previously, Alternative B-12 is one of the four alternatives that were prepared after completion of the Draft Southern Planning Guidelines and Draft Watershed Planning Principles. Alternative B-12 achieves a high level of consistency with the sub-basin-level Guidelines and Principles, as well as the watershed scale SAMP Tenets and tenets of reserve design. This Alternative is based on input from the USACE, CDFG, USFWS, the environmental community and the general public.

Alternative B-12 focuses on protecting significant resources associated with: **(1)** the Chiquita sub-basin, by protecting Chiquita Canyon above the treatment plant and all of the Canyon west of Chiquita Creek; **(2)** Verdugo Canyon; **(3)** Sulphur Canyon and Gobernadora Creek; **(4)** wildlife movement along San Juan Creek; **(5)** habitat linkage connectivity between the San Juan Creek and San Mateo Creek watersheds; and **(6)** the vast majority of the San Mateo Creek Watershed by concentrating development in and near areas with existing development (*i.e.*, Northrop Grumman) or areas disturbed by historic activities (*e.g.*, Ford-Philco lease). This Alternative also concentrates development in the San Juan Creek Watershed in areas with lower resource values while continuing to protect high resource value areas.

With respect to the overall *Chapter 4* goal of preserving habitat at a large-scale and providing for connectivity, the B-12 Alternative would create three large blocks of habitat (*Figure 159-M*) that are both connected with one another and with three other large-scale protected habitat areas:

- The eastern and northern open space areas would connect with other previously protected open space areas to comprise a large, contiguous habitat block containing approximately 23,200 acres. This habitat block extends westward to include that portion of the San Juan Creek corridor located between the East Ortega and Trampas development areas;
- A 7,300-acre block to the west, extending from the Upper Chiquita Canyon Conservation Area in the northern portion of the Chiquita Canyon sub-basin to San Juan Creek and connecting with adjacent portions of Chiquadora Ridge, the Riley Wilderness Park, Gobernadora Creek, and to Caspers Wilderness Park via an open space corridor at the northern edge of the proposed Gobernadora/Central San Juan development area; and
- A 1,900-acre block of habitat in Arroyo Trabuco, connecting with the Chiquita Canyon habitat block through linkage B and extending to the Foothill-Trabuco Specific Plan area to the north and to the CNF to the east.

For the reasons stated above and as reviewed in *Chapter 9*, the B-12 Habitat Reserve is consistent with the Statewide NCCP Tenets of Reserve Design and with General Policies 1 and 3 set forth in *Chapter 4*, as well as other applicable Draft Southern Planning Guidelines and Draft Watershed Planning Principles. Under the statewide NCCP Conservation Guidelines incorporated into the 4(d) Rule for the gnatcatcher and the Draft Southern Planning Guidelines, the assemblage of a Habitat Reserve consistent with the Conservation Guidelines Tenets of Reserve Design is the necessary foundation for a comprehensive program for avoiding, minimizing and mitigating impacts on Covered Species and Conserved Vegetation Communities.

b. HRMP Mitigation Contributions (including restoration and invasive species control elements) to Maintaining and, Where Feasible, Enhancing Net Habitat Value over the Long-Term

The purpose of adaptive management element of the HRMP within the framework of the statewide NCCP/HCP Program is to maintain and, where feasible, enhance long-term net habitat value within a subregion as defined in the SRP Conservation Guidelines. Establishing the Habitat Reserve, as reviewed in subsection “a” above, provides the necessary pre-condition for maintaining net habitat value and for enhancing net habitat value over the long-term. However, it is the HRMP that creates the implementation mechanism for both maintaining and increasing net habitat value of resources within the Habitat Reserve on a long-term basis. In this context, the long term management of the Habitat Reserve helps mitigate the impacts of Covered Activities on Covered Species, Conserved Vegetation Communities and CDFG Jurisdictional Areas by maintaining and increasing habitat values and functions.

As reviewed in *Chapter 7*, the overall Habitat Reserve will be managed and monitored according to the collective HRMP. There will be three tiers of management applied to the Habitat Reserve (see *Figure 136-M*) depending on whether designated Habitat Reserve lands are:

1. Existing County parklands where regulatory coverage and provisions are not being requested and management is funded through the County's annual budget and planning process for the County HBP;
2. Existing County parklands where adaptive management activities would be implemented and funded by the optional Subarea 3 impact fees related to new development on remaining residential lots in Coto de Caza if the Opt-In Program reviewed in *Section 13.5* is selected, or by the RMV AMP for adaptive management measures related to stressors on parklands identified through the AMP monitoring program and that affect Covered Species and Conserved Vegetation Communities within RMV Habitat Reserve Lands; and
3. Previously protected RMV conservation easement area lands and future RMV dedication lands that are committed to the Habitat Reserve pursuant to provisions and that are committed to adaptive management funded by Participating Landowners as mitigation for impacts on Covered Species.

The mitigation functions provided by the HRMP are reviewed in: (a) *Chapter 7* which identifies three broad goals for the AMP component of the HRMP, each of which is related to the objective of maintaining, and where feasible, increasing net habitat value of the planning area over the long-term; and (b) *Chapter 13* which identifies management measures specific to each of the Covered Species and which would have the effect of increasing individual species habitat values.

Goal 1: Maximize the likelihood of the persistence of a native-dominated vegetation mosaic in the planning area

The AMP is comprised of four steps to maximize the likelihood of the persistence of a native-dominated vegetation mosaic in the planning area: (1) preparation of conceptual stressor models and conceptual management plans for vegetation communities; (2) periodic assessment of the status of the vegetation communities; (3) management of the vegetation communities; and (4) evaluation of the effects of the management actions. With regard to conceptual stressor models, these models address management and monitoring of resources at three fundamental scales: (1) natural community landscape mosaic; (2) specific vegetation communities and habitats; and (3) species and species assemblages. Although there is overlap, dependence and interaction among the different scales, clearly stated conceptual relationships and coordinated management objectives at all three scales will need to be articulated in order to help maintain and, where feasible, increase net habitat value:

- *Landscape management* pertains to the dynamic and interacting biotic natural communities and abiotic factors within the entire subregion, and focuses on the natural processes that maintain the condition and dynamics of the natural communities.
- *Management and monitoring of specific vegetation communities and habitats* refers to site-specific conditions, as contrasted with the broader landscape scale that focuses on the dynamic interaction of biotic and abiotic processes. Vegetation communities would be monitored and managed in terms of *net habitat value* (*i.e.*, defined as “no net reduction in the ability of the subregion to maintain populations of target species over the long term), thus providing flexibility in the management and monitoring in recognition of the natural stressor-induced changes (*i.e.*, intrinsic drivers) that occur in vegetation community associations that alter the relative amounts of the community at any give time (*e.g.*, natural succession, fire, flooding, etc.). This scale of management and monitoring thus is closely associated with maintaining species populations
- *Management and monitoring of species and species assemblages* refers to maintaining species populations, including Covered Species or other focal species. Management and monitoring of species and species assemblages would be important for both permit compliance monitoring for Covered Species and effectiveness monitoring and adaptive management of the Habitat Reserve.

Table 7-1 in Chapter 7 provides a summary of the goals and objectives at these three fundamental scales, with the recognition that many of the objectives, while tied to a particular goal, will be related to achieving other goals.

Goal 2: Restore the quality of degraded vegetation communities and other habitat types

The goal of restoration is to emulate the structure, function, diversity and dynamics of the habitat or ecosystem. This goal generally will be achieved through implementation of several coordinated/integrated restoration plans and related management plans, including:

- A Habitat Restoration Plan addressing both uplands habitats and wetlands/riparian habitats (*Appendix H*)
- A Wildland Fire Management Plan (*Appendix N*)
- An Invasive Species Control Plan (*Appendix J*)
- A Translocation, Propagation and Management Plan for Special-status Plants (*Appendix I*)

As noted in *Chapter 13*, potential restoration sites for different types of habitats are identified in the Habitat Restoration Plan. The timing and extent of restoration actions will be established through the overall process for prioritizing AMP actions reflecting the recommendations of the Science Panel and Reserve Manager. Given the duration of the AMP and the funding program identified in *Chapter 12*, it is reasonable to assume that enhancement/restoration programs identified in the Habitat Restoration Plan, or equivalent measures, as well as other enhancement/restoration actions identified over time, will be implemented over the life of the permit.

Goal 3: Maintain and restore biotic and abiotic natural processes, at all identified scales, for the subregional planning area

The Science Advisors fashioned a new tenet of reserve design – Tenet 7 – to focus on maintaining ecosystem processes and structures. Particular emphasis was placed on fire and on hydrologic/erosional processes. With regard to fire, the AMP will combine fieldwork information derived from undertaking experimental prescribed burns for habitat management and restoration purposes with baseline and comparative information assembled both for this subregion and from other NCCP reserve systems.

With regard to geomorphic processes, the combination of information from prior baseline studies, applied adaptive management restoration actions and coordination with the WQMP will provide the foundation for future adaptive management actions directed toward riparian/wetlands system processes.

Specific contributions of the HRMP to species and vegetation community coverage is reviewed at length under the “Management” heading in *Chapter 13*. For the reasons stated above and in *Chapters 7 and 13*, various elements of the HRMP contribute significantly to the mitigation of impacts on Covered Species and Conserved Vegetation Communities by maintaining, and where feasible, enhancing net habitat value within the Subregion over the long term.

c. Avoidance, Minimization and Mitigation through Implementation of the WQMP

As noted in the introduction to *Chapter 7* and referenced in preceding sections, the WQMP (*Appendix K*), will be carried out independently of the HRMP and AMP element, but will be closely coordinated with the AMP because it provides important supporting functions, including addressing specific habitat and species “stressors” reviewed in *Chapter 7*.

The draft WQMP under the proposed Conservation Strategy (see *Chapter 7*) would be implemented in an “adaptive” manner and is modeled after the approach set forth earlier in this Chapter for the AMP. The draft WQMP would address three stressors:

- i. “Pollutants” generated by urban development with the potential to impact species and habitats;
- ii. “Altered hydrology” due to urban development (including, in some cases, pre-existing conditions such as runoff from Coto de Caza) or public works projects with the potential to impact species and habitats, and
- iii. “Altered geomorphic processes” with the potential to impact species and habitats.

The above “stressors” are addressed in the WQMP in relation to the SAMP tenets and Baseline Conditions Watershed Planning Principles set forth in *Chapter 4* and within the water quality management framework established by the County of Orange and the San Diego Regional Water Quality Control Board (SDRWQCB). The County and SDRWQCB require that potential development impacts that could take the form of the three stressors referenced above are to be analyzed under two broad headings: (1) “Pollutants of Concern” and (2) “Hydrologic Conditions of Concern.”

(1) “*Pollutants of Concern*” addressed in the WQMP include:

- Bacteria and viruses
- Metals
- Nutrients
- Organic Compounds
- Sediments (addressed functionally under Hydrologic Conditions of Concern)
- Trash and Debris
- Oxygen-Demanding Substances
- Oil and Grease

In conformance with the Orange County Drainage Area Management Plan (DAMP) and associated Orange County/SDRWQCB MS4 permit, Chapter 2 of the WQMP identifies “pollutants of concern” that are anticipated or potentially could be generated in conjunction with the proposed permitting procedures (based on the proposed land uses and past land uses) and that have been identified by regulatory agencies as potentially impairing beneficial uses in the receiving water bodies or that could adversely affect receiving water quality or endangered species. These “pollutants of concern” are listed above. Chapter 4 of the WQMP reviews a combined control system that incorporates water quality elements required for each sub-basin

where development is proposed. Chapter 5 of the WQMP discusses pre-and post project pollutants loadings in terms of “significance” findings relative to the standards set forth in the San Diego Basin Plan and the California Toxics Rule as applicable or to provide effective performance standards (e.g., while not applicable to non-point stormwater flows, the California Toxics Rule standards are employed as a conservative performance standard for protecting aquatic species and habitats

- (2) **“Hydrologic Conditions of Concern”** include both hydrologic and geomorphic processes

The WQMP analyses of Hydrologic Conditions of Concern specifically review hydrologic conditions with regard to: (1) potential increases in dry season streamflow and wet season baseflow between storms; (2) changes in the magnitude, frequency, and duration of annually expected flow events (1-2 year events); (3) changes in hydrologic response to major episodic storm events; (4) potential changes in sediment supply, with short term increases related to construction and longer term reductions related to impervious/landscaped ground cover; and (5) potential changes in the infiltration of surface/soil water to groundwater.

Potential changes in “Geomorphic Processes” affecting sediment generation and transport are addressed in the Balance Sediment Report (titled Geomorphologic Factors Affecting Sediment Generation and Transport under Pre-and Post-Urbanization Conditions at Rancho Mission Viejo and in the San Juan and San Mateo Watersheds, Orange County, California [Balance, June 2005]) reviewed in this section and in the *Chapter 9* Baseline Conditions Watershed Planning Principles consistency review of the ‘B’ Alternatives relating to Hydrologic Conditions of Concern (which includes sediment generation and sediment transport).

d. Minimization of Circulation System and Other Infrastructure Impacts

General Policy 4 of the Draft Southern Planning Guidelines relates to roads and infrastructure, as follows:

“Roads and infrastructure should be located outside the Habitat Reserve to the maximum extent feasible. The siting and design of roads and infrastructure should provide for protection of habitat linkages and movement corridors.

- To the maximum extent feasible, roads and infrastructure should be located outside the Habitat Reserve.
- Roads that are necessary to serve approved land and water uses located inside or outside the Habitat Reserve shall be designed and sited to minimize impacts of designated

Covered Species and non-covered planning species, to accommodate wildlife movement to the maximum extent feasible and to minimize impacts to habitat and associated species. Where roads are necessary, under the approved NCCP/MCAA/HCP, they will be designed consistent with safety, roadway design criteria that are appropriate for the setting and desired roadway function. Roadway design shall include bridges and/or culverts large enough to accommodate fish and wildlife movement and, where appropriate and feasible, wildlife over-crossings. In addition, bridges and culverts should maintain appropriate sediment movement for existing streams. As appropriate, fencing, grading and plant cover will be provided to serve wildlife crossings consistent with the conservation principles and the AMP element of the HRMP. Where feasible and safe, lighting along roadways within the Habitat Reserve should be avoided. Where roadway lighting within the Habitat Reserve is necessary for public health and safety reasons, it should be low-sodium or similar low intensity lighting that is directed away or shielded from the Habitat Reserve.

- Other infrastructure facilities (*e.g.*, pipelines, transmission lines, etc.) that are necessary to serve approved uses or regional needs also shall be sited and designed to accommodate wildlife movement and, to the extent feasible, to minimize impacts to habitats and designated Covered Species and non-covered planning species located inside and outside the Habitat Reserve. To the extent feasible, infrastructure facilities within the Habitat Reserve should be located within or immediately adjacent to existing roadways or other developed landscapes.”

Figure 187-R shows the proposed circulation network for the B-12 land uses. Based on preliminary engineering, the locations of major roadways and bridges have been set forth as shown on the figure. As the design of these facilities is refined to comply with County of Orange design criteria, adjustments to the exact location of the roadways and bridges may be made. The cross-hatch areas on *Figure 187-R* are intended to denote the limited areas within which future locational decisions for roadways and bridges will be made. As the design of these facilities progresses, the mapped limitations on future areas within which facilities can be located will ensure compliance with General Policy 4 above for those few areas where the circulation network is located within the Habitat Reserve.

Chapter 8 contains an extensive review of the consistency of the proposed circulation network with regard to the B-12 alternative. As can be seen from *Figure 187-R*, roads considered to be RMV Covered Activities are largely located within Planning Areas. The exceptions are the segments of roadways that are necessary to connect the Planning Areas (*e.g.*, PA 2 and 3, 3 and 4, 3 and 5, 8 and adjacent development in San Clemente) or the segments of roadway necessary to connect to the larger Orange County MPAH (*e.g.*, Cristianitos Road/”F” Street to Oso Parkway). Thus the proposed Conservation Strategy is consistent with the first part of General Policy 4.

Regarding the second part of General Policy 4, the protection of wildlife movement corridors and linkages, *Chapter 8* contains a consistency analysis of the B-12 proposed circulation facilities with the Draft Southern Planning Guidelines. The B-12 proposed circulation network is consistent with the sub-basin recommendations. Wildlife movement linkages G along Gobernadora Creek and J along San Juan Creek would be protected via construction of bridges designed to facilitate both fish and wildlife movement through specified standards. Linkage D would be protected via a culvert also designed to specified standards. Wildlife movement linkage N in the San Mateo Creek Watershed would be unaffected by the extension of Avenida Pico to Planning Area 8 because the same standards noted above would apply. Lighting is discussed under indirect effects below.

Regarding the third and final part of General Policy 4, infrastructure facilities such as those shown on *Figures 188-R through 190-R* have been sited adjacent to existing or proposed roadways or developed landscapes. Since the vast majority of these facilities are either currently underground or will be placed underground when constructed, wildlife movement will not be impeded.

e. Minimization of Indirect Effects

Consistency with *Chapter 4* General Policy 5 is reviewed in *Chapter 13, Section 13.2.3*. Specific “minimization measures” intended to address indirect effects are set forth in *Appendix U*.

f. Minimization through Construction-Related Minimization Measures

A comprehensive set of minimization measures intended to minimize the impacts of authorized construction activities on Covered Species and Conserved Vegetation Communities is set forth in *Appendix U*.

g. Minimization through Grazing Management Plan Measures

A set of minimization measures intended to minimize the impacts of grazing on sensitive species following dedication of lands to the Habitat Reserve is set forth in *Appendix G*.

h. Avoidance and Minimization of Impacts through the Covered Activities, Compatible Use and Prohibited Use Provisions Set Forth in Chapter 11

Avoidance and minimization of potential impacts to resources within the Habitat Reserve are also addressed in the provisions of *Chapter 11* addressing Covered Activities, Compatible Uses and Prohibited Uses within the proposed Habitat Reserve. *Chapter 11* identifies Covered

Activities and Compatible Uses allowed within the Habitat Reserve and the scope of activities for each allowed use in order to assure, on an ongoing basis, that such uses are: **(a)** consistent with the protection of Covered Species and Conserved Vegetation Communities; and **(b)** defined in such a way that the scope of activities avoids and minimizes impacts on such species and vegetation communities.

Chapter 11, Section 11.2 identifies Covered Activities within lands designated for inclusion in the proposed Habitat Reserve. Categories of Covered Activities addressed in *Chapter 11* include:

- *Section 11.2.1* Habitat Reserve Management and Monitoring Activities
- *Section 11.2.2* Ranch Operations and Facilities
- *Section 11.2.3* RMV Rock Mining Activities
- *Section 11.2.4* New Infrastructure Activities
- *Section 11.2.5* Recreation and Access on RMVLC Lands within the Habitat Reserve
- *Section 11.2.6* Existing Uses
- *Section 11.2.7* Interim Uses on Designated Lands Prior to Formal Inclusion in the Habitat Reserve

Section 11.3 identifies ongoing operation, maintenance and management activities within the County parklands component of the Habitat Reserve that would be treated as Compatible Uses and would not require permitting under the proposed NCCP/MSAA/HCP.

Section 11.4 identifies Prohibited Uses on lands designated for inclusion in the Habitat Reserve. The identified uses and activities are designated as Prohibited Uses because: **(a)** they would result in impacts that would not be consistent with long-term management of the biotic and abiotic resources and processes within the Habitat Reserve and, therefore, such uses would not be consistent with the proposed Conservation Strategy; or **(b)** the uses might be consistent with the long-term management of the Habitat Reserve but additional analyses and amendment of the NCCP/MSAA/HCP would be required.

Thus, avoidance and minimization of impacts on Habitat Reserve functions and values is achieved by: **(a)** specifically prohibiting uses incompatible with maintaining and enhancing long term net habitat value; **(b)** clearly identifying uses that are compatible with net habitat value goals; and **(c)** defining the scope of Covered Activities (*e.g.*, the Grazing Management Plan) in order to avoid and minimize the potential for adverse effects resulting from permitted use activities.

i. SMWD and County of Orange Prima Deshecha GDP and Avenida La Pata Construction Mitigation Measures

1. SMWD Mitigation

Chapter 13 describes the impacts related to the proposed SMWD Covered Activities. As described in *Chapter 13*, these impacts result from (1) construction of new facilities (e.g., Upper Chiquita Reservoir) and (2) maintenance of existing facilities. To mitigate for these impacts, SMWD proposes the following:

- A monetary contribution to the AMP in the amount of \$3.7 million, including the \$700,000 contribution to the SAMP;
- Restoration of areas temporarily disturbed by construction of the Upper Chiquita Reservoir with native species including grassland and coastal sage scrub species as appropriate; and
- Implementation of minimization measures for maintenance of existing facilities including:
 - Placement of “Environmentally Sensitive Area” fencing around sensitive resources;
 - Dust and litter control;
 - Erosion and sedimentation control; and
 - Post-project restoration.

In addition to these measures, the USACE has also proposed several minimization measures for maintenance of existing SMWD facilities through the SAMP. These are set forth in *Appendix U*.

2. Prima Deshecha Landfill GDP Mitigation

Chapter 13 describes the impacts related to implementation of the Prima Deshecha Landfill GDP. To mitigate for these impacts, the County of Orange proposes the following:

- Invasive plant species control in the portion of San Juan Creek within Caspers Wilderness Park, with a particular focus on eradication of giant reed. Currently 24 acres of giant reed are mapped within the Park.
- Restoration and enhancement of native vegetation communities, including 122 acres of coastal sage scrub, 18 acres of grassland, and approximately 6 acres of willow riparian habitat, within the portion of Prima Deshecha designated as SOS.
- Salvage and translocation of impacted thread-leaved brodiaea populations to expand existing populations within Prima Deshecha Landfill.

3. Avenida La Pata Improvement Project Mitigation

Chapter 13 describes the impacts related to implementation of the Avenida La Pata Improvement Project. To mitigate for these impacts, the County of Orange proposes the following:

- Invasive plant species control in the portion of San Juan Creek within Caspers Wilderness Park, with a particular focus on eradication of giant reed. Currently 24 acres of giant reed are mapped within the Park.
- Restoration and enhancement of native vegetation communities, including 219 acres of coastal sage scrub, within the portion of Prima Deshecha designated as SOS.

14.4.5 Overview of Avoidance, Minimization and Mitigation Analytical Framework with Regard to Proposed Covered Species and Proposed Conserved Vegetation Communities Presented in Chapter 13 and in this Chapter

The following subsections outline the *Chapter 13* analytical approach to reviewing avoidance, minimization and mitigation actions summarized in the above subsections in relation to individual Covered Species and Conserved Vegetation Communities.

a. Covered Species

Section 13.2 presents analyses of “conservation” and “management” for species proposed to receive regulatory coverage and provisions. “Conservation” and “management” are reviewed for each Covered Species under the following topics:

- Rangewide and Planning Area Status
- Conservation Analysis
- Impacts
- Conservation
- Management
- Rationale for Regulatory Coverage

b. Conserved Vegetation Communities

Section 13.3 presents analyses of “conservation” and “management” for Conserved Vegetation Communities that provide habitat supporting Covered Species and proposed to be: (1) impacted by Covered Activities; and (2) conserved within the Habitat Reserve under the following topics:

- Conserved Vegetation Communities – Acreage

- Impacts on Conserved Vegetation Communities – Acreage
- Reserve Design Tenets – Conservation Criteria
 - Planning Species
 - Habitat Blocks and Contiguity
 - Diversity and Representativeness
 - Management – Habitat Reserve Management Program
- Relation to Proposed Regulatory Coverage for Covered Species

(Subsection “G” below analyzes avoidance, minimization and mitigation of the potential impacts of proposed Covered Activities on CDFG Jurisdictional Areas both in the context of Conserved Vegetation Communities and in relation to the requirements of Fish and Game Code Section 1600 *et seq.*)

c. Summary of Chapter 13 Regulatory Coverage Analyses for Proposed Covered Species in Relation to Protection and Management of Conserved Vegetation Communities

1. Summary of Rationale for Regulatory Coverage for Impacts of Proposed Covered Activities on Proposed Covered Species

Based on the *Chapter 13* analyses, the draft NCCP/MSAA/HCP Conservation Strategy would provide for:

- Conservation of 32 listed and unlisted plant and animal species sufficient for these species to be treated as Covered Species ;
- Substantial protection of the *major* and *important populations in key locations* of all seven listed species currently found within Subarea 1, including substantial majorities of the documented sites of state and federally-listed species, including:
 - 428 of 518 (83 percent) coastal California gnatcatcher sites, by protecting 85 percent of the sites within the Chiquita *major population in a key location*;
 - 46 of 53 (87 percent) least Bell’s vireo sites;
 - All six southwestern willow flycatcher sites;
 - all of the arroyo toad breeding sites;
 - all of the San Diego and Riverside fairy shrimp and vernal pool sites, by locating new development topographically below the pool sites; and

- 9,248 of 9,395 (98 percent) individuals and 20 of 33 (64 percent) locations of the thread-leaved brodiaea.

For the reasons set forth in *Chapter 13*, the implementation of the proposed Conservation Strategy would provide the basis for regulatory coverage and other provisions addressing Covered Species as authorized pursuant to the IA.

2. Relationship of Covered Species to Conserved Vegetation Communities

The review of proposed Conserved Vegetation Communities in *Chapter 13* demonstrates that the Habitat Reserve and accompanying HRMP, in combination with important SOS areas on NAS Starr Ranch and Prima Deshecha, which are treated as permanent SOS because of their ownership and functions, provide the rationale for regulatory coverage and provisions for Covered Species that are related to the habitat provided by Conserved Vegetation Communities. The rationale is summarized as follows:

- Creation of a large, biologically diverse and well-connected Habitat Reserve that can function effectively over the long term to maintain, and where feasible, enhance functions and values of upland and riparian/wetland habitats and related natural processes.
- Implementation of an HRMP to guide long-term management of the biological resources and their supporting hydrologic and geomorphic processes within the Habitat Reserve, including habitat restoration, exotic invasive plant species control, wildland fire management.

The key features of the Habitat Reserve and SOS that justify regulatory coverage for 32 Covered Species that rely on habitat provided within the 10 proposed Conserved Vegetation Communities include:

- An ultimate Habitat Reserve totaling more than 32,000 acres and at least 72 percent of vegetation communities/land covers in Subarea 1;
- SOS totaling an additional 4,456 acres and 10 percent of vegetation communities/land covers in Subarea 1;
- A combined Habitat Reserve and SOS area totaling more than 37,000 acres and at least 81 percent of vegetation communities/land covers in Subarea 1;
- A combined Habitat Reserve and SOS area of the 10 proposed Conserved Vegetation Communities totaling more than 32,000 acres and 82 percent of the existing acreage of the proposed Conserved Vegetation Communities;

- 74 percent conservation of native grasslands, assuming the overstated impact scenario in PAs 6 and 7;
- 69 percent conservation of coast live oak communities in the Habitat Reserve and 14 percent conservation in SOS, for a total of 83 percent conservation of coast live oak communities;
- Adequate conservation of proposed Conserved Vegetation Communities to support landscape-level NCCP/MSAA/HCP wildlife planning species, including California gnatcatcher, cactus wren, yellow warbler, yellow-breasted chat, tricolored blackbird, grasshopper sparrow, Cooper’s hawk, white-tailed kite, merlin, golden eagle, arroyo toad, orange-throated whiptail, San Diego horned lizard, mountain lion and mule deer;
- Conservation of 89 percent of the Habitat Reserve and SOS in Subarea 1 in three large, contiguous and functionally connected habitat blocks;
- Physiographic (watershed and elevation) conservation balance of the five *Chapter 7* aggregated Vegetation Communities (*i.e.*, coastal sage scrub, chaparral, grassland, riparian and woodland and forest) such that the Habitat Reserve and SOS are representative of existing spatial diversity in Subarea 1;
- Implementation of the three tiers of the HRMP; and
- Implementation of the “coordinated management plans” - the Grazing Management Plan and the Water Quality Management Plan that complement the long-term management benefits provided by the HRMP within the Habitat Reserve.

d. FESA Chapter 10 Standard for Proposed Covered Fish and Wildlife Species and No Surprises Assurances for Covered Species

For each Covered Species and Conserved Vegetation Community, *Chapter 13* provides a rationale focusing on overall conservation and management actions that, in the case of listed species, would further recovery and, in the case of unlisted species, would substantially benefit the species and help avoid the need for future listing. Given the use of the FESA Section 3 standards in defining “Conservation” and “Management” in *Chapter 13*, the analyses in *Chapter 13* provide a factual and analytic basis for addressing the FESA Section 10(a)(1)(B) standard requiring that proposed impacts caused by Covered Activities would not reduce the likelihood of survival and recovery in the wild of Covered Species and for addressing the requirements of No Surprises Policy regulation as applied to Covered Species.

14.4.6 Provisions for Adequate Funding for the Plan to Minimize and Mitigate Impacts of Proposed Covered Activities on Proposed Covered Species and Conserved Vegetation Communities

Because the Conservation Strategy focuses on the assemblage and long-term management of a Habitat Reserve, the NCCP/MSAA/HCP contains two sets of provisions to assure that the Habitat Reserve will be assembled over time and managed on a long-term basis in order to maintain and, where feasible, enhance net habitat value. The first set of provisions (see *Chapter 10* and the *Part III IA*) identifies assurances for the assemblage of the Habitat Reserve through: (1) commitments of County parklands to the Habitat Reserve; (2) the commitment of prior RMV conservancies to the Habitat Reserve; and (3) the RMV phased dedication program established through the IA to provide for the future dedication of conservation easements over specific increments of the Habitat Reserve on RMV lands in conjunction with defined development areas. Regarding the RMV Phased-Dedication Program, funding of the dedications is assured without the need for public funding through the specific provisions of the dedication program.

The second set of provisions describes funding for the HRMP (see *Chapter 12* and the *Part III IA*) through: (1) annual County of Orange Harbors, Beaches and Parks (HBP) funding for the OMP; and (2) RMV funding for the AMP, as described in *Chapter 12*, (which includes potential funding for activities on County parklands under defined circumstances as identified in *Chapters 7* and *10*). Funding for invasive species control as part of mitigation for the Prima Deshecha Landfill GDP and Avenida La Pata Covered Activities (reviewed in *Chapter 10* and above) will also contribute to maintaining and enhancing net habitat value. *Chapter 7, Section 7.17* presents a work program and *Chapter 12* presents cost estimates and funding sources for AMP activities based on current levels of understanding.

The Long-term Funding Program set forth in *Chapter 12* provides substantial assured funding for carrying out the HRMP for the term of the IA and 10(a)(1)(B) permit and for supporting FESA Sections 3, 4 and 7 provisions for Covered Activities (see also *Section 14.5* below). Broad funding categories for HRMP activities are set forth in *Chapter 12* and include existing NCCP/MSAA/HCP funds, contributions by Participating Landowners and a “benefit fee” program that will be established by RMV. *Chapters 7* and *12* discuss three categories of HRMP funding, summarized as follows:

- i. County OMP funding – approximately \$1.49 million annually in the past and the County will continue to cover the costs of managing the parks within the Habitat Reserve through its annual budget costs.
- ii. County AMP funding sources - several sources of funding have been identified: (a) approximately \$500,000 of the County annual \$1.49 million budget is for management activities that benefit Covered Species; (b) invasive species control (24

acres of giant reed) in San Juan Creek will be funded by the County as mitigation for the landfill and La Pata projects; and (c) species and vegetation surveys and adaptive management actions relating to invasive species and wildfire management will be funded through the RMV AMP. Additionally, funds from the Coto de Caza Opt-In Program are committed through the IA to County AMP actions if the landowners elect to use the program.

- iii. RMV funding has three components: (a) funding for its AMP operating conservation program; (b) funding to create a Reserve Account to address Changed Circumstances not provided for in the operating conservation program; and (c) funding to be set aside for a permanent endowment. As reviewed in the revised *Chapter 12*, funding from both accounts is projected to generate a self-sustaining endowment that will be in place at the end of the term of the IA.

Potential additional sources of funding could include (among other programs) State and federal bond proceeds, a Habitat Maintenance Assessment District and a Community Facilities District. For the reasons reviewed in *Chapter 12*, County funding provisions and the proposed long-term funding for the AMP are considered to be fully capable of implementing the HRMP.

14.4.7 Compliance with the USFWS Five-point Policy

Compliance with the USFWS Five Point-policy is reviewed extensively in *Appendix V*. Compliance with the Five-point Policy is addressed under:

- Biological Goals and Objectives
- Adaptive Management
- Compliance Monitoring
- Effects and Effectiveness Monitoring

14.4.8 Changed Circumstances and Unforeseen Circumstances

a. Habitat Conservation Plan Assurances Rule and the Five-point Policy

The USFWS published the Habitat Conservation Plan Assurances Rule in the Federal Register on February 23, 1998 (63 Federal Register 8859), and codified the Rule at 50 CFR, sections 17.3, 17.22(b) and 17.32(b). Recent rule-making actions have addressed related provisions involving assurances provided under the Habitat Conservation Plan Assurances Rule [need to update with permit termination rule-making info]. Under the Assurances Rule, permittees must address both “Changed Circumstances” and “Unforeseen Circumstances.”

“Changed Circumstances” are defined as changes in circumstances affecting a Covered Species or Conserved Vegetation community that can reasonably be anticipated by the Parties and that can reasonably be planned for the NCCP/MSAA/HCP. Changed Circumstances do not include “Unforeseen Circumstances.” An example of a Changed Circumstance is a wildfire within the scope and frequency of historic wildfire occurrences in the subregion as set forth in the Wildland Fire Management Plan (*Appendix N*). As reviewed in the Five-point Policy, the “No Surprises rule-making expanded on the contingency planning aspects of the HCP program by requiring contingency planning for changed circumstances that are foreseeable” (65 Federal Register, 35248, 06/1/ 2000).

“Unforeseen Circumstances” are defined as changes in circumstances affecting a Covered Species or Conserved Vegetation Community that could not reasonably have been anticipated by the Parties at the time of the NCCP/MSAA/HCP’s negotiation and development and that result in a substantial and adverse change in the status of either one or more Covered Species or one or more Conserved Vegetation Community. The term “Unforeseen Circumstances” is intended to have the same meaning as used in the Habitat Conservation Plan Assurances Rule. An example of an unforeseen circumstance is a 500-year flood.

According to the Five-point Policy:

“HCP assurances (No Surprises) and the use of adaptive management strategies are compatible. . . . When an HCP, permit, and IA . . . incorporate an adaptive management strategy, it should clearly state the range of possible operating conservation program adjustments due to significant new information, risk or uncertainty. This range defines the limits of what resource commitments may be required of the permittee. This process will enable the applicant to assess the potential economic impacts of adjustments before agreeing to the HCP.” (65 Federal Register, 35253, 06/1/ 2000).

This subsection addresses provisions in the NCCP/MSAA/HCP addressing both Changed Circumstances and Unforeseen Circumstances.

b. NCCP/MSAA/HCP Approach to Addressing Changed Circumstances and Unforeseen Circumstances – Focus on Stressors

As reviewed in *Chapter 7*, “the first and underlying guiding principle of the AMP is that management and monitoring should be directed towards environmental factors known or thought to be directly or indirectly responsible for ecosystem changes that would be inconsistent with the three overall goals of the AMP.” *Chapter 7* extensively reviews the AMP approach to monitoring and responding to internal and extrinsic “stressors” on species and habitats within the Habitat Reserve, including monitoring at three different scales (see discussion in subsection

14.4.4.b above). The AMP comprehensively reviews reasonably foreseeable stressors that could impact proposed Covered Species and proposed Conserved Vegetation Communities, including providing stressor models for each.

1. Responses to Changed Circumstances

Section 7.2.5 of Chapter 7 specifically discusses Changed Circumstance and Section 7.3.6 describes the process for responding to changed circumstances based on management and monitoring data and scientific review as follows:

The Reserve Manager, with assistance by the Science Panel, will prepare a 5-year MAP that describes the spatial and temporal aspects of the AMP that will allow direct implementation of the AMP (also see Section 7.3.8, Program Implementation, Tracking, Reporting and Analysis). In the context of the adaptive management approach, the MAP also is intended to be flexible and allow for revisions and modifications to the AMP based on information collected in the field and new independent scientific information that may warrant changes in the AMP. For example, the MAP should incorporate a response action to catastrophic events such as major floods or wildfires that can dramatically alter the management landscape. Also, the Reserve Manager may find that certain management actions or monitoring observations are providing unexpected and/or obvious results (good or bad) that may require immediate modifications to the MAP. At minimum, annual field reports will be prepared by the Reserve Manager of management and monitoring actions and results and submitted to the Science Panel for review, synthesis and comment prior to submittal to the RMVLC Board (see Section 7.3.8 for more detail). In the case of an unexpected or catastrophic event, an evaluation of the event and its impact on the Habitat Reserve will be made as quickly as is feasible by the Reserve Manager and submitted to the Science Panel. . . . An important feature of the MAP is enough flexibility to allow for short-term management decisions/modifications by the Reserve Manager and Science Panel based on clear evidence that a particular management action is, or is not, working.

Additionally, the WQMP contains an extensive discussion of the manner in which the results of monitoring will be responded to and provides commitments to coordination with the Reserve Manager (see Appendix K).

Flexible responses will be undertaken as stressor impacts are detected during any one year through the monitoring program and are addressed through the AMP management system. The AMP also provides for annual review and re-adjustment of funding and program priorities in response to new information regarding stressor considerations and the three levels of monitoring. Based on the annual reports, or unexpected and catastrophic event reports, the Science Panel will

evaluate whether the management and monitoring actions and results are consistent with the goals and objectives of the AMP, and, if not, reexamine aspects of the MAP that may need modification at any point in time.

Section 7.2.5 addresses Changed Circumstances that are addressed through the HRMP operating conservation program and a special Reserve Account. Changed Circumstances that are foreseeable, but which require responses outside the scope of the AMP stressor management program will be addressed on the basis of the type and extent of impacts and funded through the Changed Circumstances Reserve Account as reviewed in *Section 7.2.5*. Given the level of funding projected to be generated from RMV development areas (see *Chapter 12*), as well as other funding sources such as the County annual budget for County Parks, and the stressor-based monitoring focus of the AMP, it is expected that the HRMP will fully address all reasonably foreseeable changed circumstances.

2. Unforeseen Circumstances

By definition, Unforeseen Circumstances are not reasonably foreseeable (see *Section 7.2.5*). However, the essence of a stressor-focused adaptive management program is to identify future stressors that could reduce or adversely alter long-term net habitat value, whether the causes are “intrinsic drivers” or “extrinsic drivers” without regard to whether or not the causes are reasonably foreseeable. As a consequence, the responses of the AMP will be formulated in the same manner and will employ the same resources as those identified for responses to “changed circumstances.” Priorities will be adjusted and responses will be made on the basis of the overall program to the extent feasible as is required by the Habitat Conservation Plan Assurances Policy.

SECTION 14.5 FESA SECTION 3/4 AND SECTION 7 CONSISTENCY

14.5.1 Overview of FESA Section 7 Consultation Requirements in relation to FESA Section 3 and Critical Habitat Standards

The FESA Section 7 (a)(2) consultation process requires that in any consultation with a federal agency regarding potential impacts on listed species resulting from “any action authorized, funded, or carried out by such agency,” USFWS must determine that the impacts of the permitted activity “is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species. . . determined . . . to be critical . . .” Jeopardy determinations under Section 7(a)(2) employ the same standard as Section 10(a)(1)(b) (“not substantially reduce the likelihood of survival and recovery”) and thus the above Section 10(a) findings and associated assurances address the jeopardy standards for fish and wildlife species. Covered Species that are plants are addressed through IA provisions.

Jeopardy and adverse modification determinations required pursuant to FESA Section 7(a)(2) are significant for all NCCP/MSAA/HCP Participating Landowners for the following reasons:

- ***Internal Section 7 Consultation for the NCCP/HCP*** – USFWS is required to carry out an “internal” Section 7 consultation analyzing the potential impacts of the NCCP/MSAA/HCP on listed species, fish and wildlife and plants under a “jeopardy” standard and is required to make “adverse modification” of critical habitat determinations. Thus, the potential impacts of issuance of the 10(a)(1)(B) permit on listed plants, as well as fish and wildlife impacts involving existing or proposed critical habitat designations within areas impacted by Covered Activities to be authorized by the Section 10(a) permit, would need to be analyzed under the Section 7 consultation standards.
- ***Listed Covered Species*** – Listed Covered Species are addressed, in part, in the NCCP/MSAA/HCP for purposes of addressing both proposed/final critical habitat designation/Section 7 consultation IA provisions and IA provisions for any modification of a current critical habitat designation or a future designation.
- ***Unlisted Covered Species*** – Proposed unlisted Covered Species are addressed, in part, in the NCCP/MSAA/HCP for purposes of assurances to be provided in the IA regarding any future listing of any Covered Species, provided the species is treated “as if listed” in the HCP. Since an unlisted Covered Species may be listed in the future, the Section 7 “jeopardy” and “adverse modification” substantive standards have been addressed in the *Chapter 13* analyses in the event any such species is listed and critical habitat is designated.
- ***Conserved Vegetation Communities*** – Because the Conserved Vegetation Communities encompass the habitats of Covered Species, Section 10 authorizations for take, as well as required minimization and mitigation measures, include occupied habitat found within Conserved Vegetation Communities. Additionally, the Section 7 consultation “adverse modification standard” (*e.g.*, habitat needed for recovery, as well as survival) is also relevant to Conservation Strategy measures addressing impacts of Covered Activities on Covered Species.

14.5.2 Review of Listed Species Provisions in the NCCP/MSAA/HCP that Address FESA Section 3 and 4 Substantive Standards

a. Listed Covered Species

Concurrent with the preparation of the NCCP/MSAA/HCP, USFWS has been under court order to undertake a new set of designations of “critical habitat” for a number of species, including the

coastal California gnatcatcher, the arroyo toad, the thread-leaved brodiaea, the Riverside fairy shrimp and the southwestern willow flycatcher. Final critical designations have been adopted for the Riverside fairy, thread-leaved brodiaea, arroyo toad, and southwestern willow flycatcher, of which only the Riverside fairy shrimp has final critical habitat in the Subregion. Proposed designations for California gnatcatcher and San Diego fairy shrimp are still under consideration. *Figure 8-M* shows the final “in effect” critical habitat designations in the planning area.

Because listed species found in Subarea 1 (California gnatcatcher and San Diego fairy shrimp) have “in effect” critical habitat designations, including designations that could be modified in the future, a special analysis has been prepared keying the *Chapter 13* analyses to the specific provisions of FESA Section 3 that define “critical habitat.” Relying on the *Chapter 13* analyses, *Appendix W* contains summaries addressing each of the FESA Section 3 standards for the California gnatcatcher and San Diego fairy shrimp, as well as the other listed species that occur in Subarea 1 – arroyo toad, least Bell’s vireo, Riverside fairy shrimp and thread-leaved brodiaea – and the southern steelhead which occurs downstream of the planning area in the San Mateo Creek Watershed and has the potential to occur downstream of Subarea 1 within the San Juan Creek Watershed. For each listed species found within Subarea 1, *Appendix W* addresses the manner in which the Conservation Strategy addresses the following topics set forth in FESA Section 3:

- Identify Occupied Habitat with Physical or Biological Attributes Essential to the Conservation of the Species;
- Special Management Considerations and Protections;
- Identify Specific Unoccupied Areas Found Essential for the Conservation of the Species; and
- Protection and Management of Areas Essential to the Conservation of the Species.

b. Unlisted Proposed Covered Species

With regard to unlisted proposed Covered Species, *Chapter 13* contains extensive analyses of FESA Section 3 standards under the headings of “Conservation” and “Management” that encompass FESA Section 3 standards and that provide the analytic basis for the Section 7 and critical habitat provisions summarized above.

c. Conserved Vegetation Communities

Conserved Vegetation Communities are addressed through the analyses in *Chapter 13* involving both occupied and unoccupied habitat essential to the conservation of Covered Species and

special management considerations reviewed in *Chapter 13* with respect to Covered Species and in *Chapters 7 and 13* with respect to Conserved Vegetation Communities.

SECTION 14.6 NCCP ACT CONSISTENCY

14.6.1 Integration of State and Federal Conservation Planning through the 4(d) Rule for the Gnatcatcher and the Coordinated Planning Process

As reviewed previously, the HCP and NCCP planning processes for the Southern California subregion were integrated through the adoption of the 4(d) Rule for the coastal California gnatcatcher on December 10, 1993, both procedurally and substantively, through the incorporation of the NCCP Process and Conservation Guidelines into the 4(d) Rule. As stated in the Implementation Agreement for the County of Orange Central and Coastal NCCP/HCP Subregion:

“In order to further the purpose of FESA ‘to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved’ and to reverse the trend towards extinction found by the courts to be the intent of Congress in enacting FESA, the 4(d) Rule for the gnatcatcher incorporates the biodiversity goals of the NCCP Conservation Guidelines’ tenets of reserve design, as well as the specific CSS reserve design elements of the Conservation Guidelines.”

(County of Orange Central and Coastal NCCP/HCP Implementation Agreement, Section 8.3.4(c))

As reviewed in *Chapters 1, 2 and 6*, one of the three major elements of the coordinated planning process is the preparation of the Southern NCCP/MSAA/HCP Conservation Strategy, including habitat reserve and habitat management elements. Because the Proposed NCCP/MSAA/HCP has been prepared through an integrated state-federal conservation planning program, this section will: (1) briefly relate to the prior discussion of FESA requirements that apply directly to NCCP Act requirements; and (2) provide a brief summary of the consistency reviews provided in *Chapters 8 and 9* in relation to NCCP Act requirements in the context of the 1991 NCCP Act.

14.6.2 Proposed Conservation Strategy Consistency with the NCCP Act of 1991

a. Management and Conservation of Multiple Wildlife Species and Area Wide Protection and Perpetuation of Natural Wildlife Diversity

According to Section 2805(a) of the NCCP Act of 1991, a natural community conservation plan shall “provide comprehensive management and conservation of multiple wildlife species.” Further, Section 2805(a) states that the “plan identifies and provides for the regional or area wide

protection and perpetuation of natural wildlife diversity, while allowing compatible and appropriate development and growth.”

Section 14.1.1 contains an extensive discussion of the NCCP/MSAA/HCP programmatic elements and related conservation policies intended to guide the formulation of a subregional Conservation Strategy, and associated implementation plans, directed toward providing for “area wide protection and perpetuation of natural wildlife diversity, while allowing compatible and appropriate development and growth.” *Section 14.3* above outlines the relationship of the draft Conservation Strategy elements to avoidance, minimization and mitigation. The FESA Section 10 consistency review in *Section 14.4.3* reviews the ‘B’ Alternatives jointly formulated by the state and federal agencies involved in the coordinated planning process. *Section 14.4.4.b* contains an extensive discussion of the manner in which the conservation plan will provide comprehensive management and conservation of multiple wildlife species, including providing for area wide protection and perpetuation of wildlife diversity. In particular, *Section 14.4.4* provides analyses of the extent to which the proposed Conservation Strategy, including the Habitat Reserve design and compatible and appropriate growth identified in the B-12 Alternative, is consistent with the Draft Southern Planning Guidelines and Draft Watershed Planning Principles jointly formulated to guide the subregional conservation planning program and to provide the basis for proposed regulatory coverage. Specific analyses of consistency with the statewide 1993 NCCP Process and Conservation Guidelines are provided in subsection “1” below, while consistency with the 1998 Natural Community Conservation Planning General Process Guidelines is reviewed in subsection “2” below.

1. NCCP/MSAA/HCP Consistency with the Southern California Coastal Sage Scrub NCCP Process Guidelines

- (a) Background

Following establishment of the NCCP Act of 1991 (Sections 2800 *et seq.* of the Fish and Game Code), and pursuant to Section 2825 of the NCCP Act, the NCCP Process Guidelines and companion Conservation Guidelines (discussed below) were formulated and approved as non-regulatory guidelines in November 1993 to guide implementation of the Southern California Coastal Sage Scrub NCCP. The Southern California NCCP region included portions of five-counties, roughly a 6,000-square mile region within Southern California: San Diego, Orange, Riverside, Los Angeles and San Bernardino counties. These five counties contained significant areas of coastal sage scrub vegetation that supported a diverse assemblage of state/federal listed species and other sensitive species. The continuing impacts to the coastal sage scrub mosaic of plants and animals resulted in the establishment of the NCCP Act of 1991 and, subsequently, these Process Guidelines based on the conclusion that actions were urgently required to conserve this southern California natural community.

Because of the large area (6,000 square miles), multiple governmental jurisdictions and biological diversity and range of land use planning issues within the NCCP Region, it became clear that the “regional” approach to planning for conservation of the natural community needed to be conducted at a subregional level. Accordingly the Process Guidelines identified 10 to 15 “functional subregional planning areas” to provide the basis for conserving the coastal sage scrub community within the region. And, based on the recognition of the need for planning and implementation at the subregional level, the Process Guidelines were formulated. The purposes of the Process Guidelines are to: (1) explain the roles of local, state and federal governments in addressing protection of natural communities within the region; and (2) enable a shift in focus from the five-county region to coordinated protection and management of natural communities at the subregional level. In other words, the Process Guidelines provided a blueprint for protection of a significant natural community through regional coordination and subregional implementation.

(b) Southern Subregion NCCP Consistency with the 1993 Process Guidelines

Chapters 1, 6, 7 and 10 of this NCCP/MSAA/HCP, and the IA that is included as *Part III* of the NCCP/MSAA/HCP documentation, combine to set forth an NCCP planning, preparation and implementation process that is consistent with the provisions of the state Southern California NCCP Process Guidelines. Key provisions of the Southern NCCP/MSAA/HCP that demonstrate consistency with the Process Guidelines are identified below and briefly discussed.

- *Chapter 1, Sections 1.1 and 1.2 (Introduction)* discuss the Planning Agreement for the Southern Subregion that was signed in 1993 by the County and other participants, consistent with the terms of Section 3 and Sections 5.1 of the Process Guidelines.
- *Chapter 6, Section 6.2 (Chapter 6 – Conservation Planning Process)* and *Appendix L* describe the open space and habitat set aside during the interim planning period following signing of the 1993 Planning Agreement consistent with process of interim approvals set forth in Section 4 of the Guidelines.
- *Chapter 6, Section 6.3* summarizes creation of the subregional database over more than ten years that documented the presence and extent of planning species, vegetation communities and the abiotic processes supporting the species/communities within the subregion.
- *Chapter 6, Section 6.4* describes, consistent with Sections 5.2 and 5.3 of the Guidelines, the coordinated planning process for southern Orange County involving the County, USFWS, CDFG, major landowner and others that led to the preparation of this NCCP/MSAA/HCP and its coordination with the San Juan Creek Watershed and Western San Mateo Creek Watershed SAMP under the direction of the USACE and the watershed level WQMP.

- *Chapter 6, Section 6.5* describes the Draft Southern Planning Guidelines and Draft Watershed Planning Principles that were based on the SRP Conservation Guidelines and were formulated to provide more precise subregional applications of the SRP Conservation Guidelines, consistent with Section 3.2 of the Process Guidelines.
- *Chapter 6, Section 6.6* describes the public participation process implemented within the subregion consistent with Section 5.6 of the Process Guidelines.
- *Chapter 6, Section 6.7* describes the identification and evaluation of impacts related to the 17 Programmatic and Habitat Reserve alternatives on subregional species, vegetation communities, jurisdiction streams and supporting natural processes, consistent with the environmental documentation provisions of Section 5.5 of the Process Guidelines.
- *Chapter 7 (Habitat Reserve Management Program)* provides a detailed explanation of the overall HRMP and AMP component, consistent with Section 6 of the Process Guidelines, that provides for long term management and monitoring within the proposed 32,818-acre Habitat Reserve.
- Finally, *Chapter 10* describes the permanent Habitat Reserve (*Section 10.4*) and summarizes the IA (*Section 10.3.4*) that provide the basis for funding, assurances, implementation and, as necessary, enforcement of the NCCP/MSAA/HCP provisions and terms. The full IA is provided as *Part III* of the draft NCCP/MSAA/HCP and draft EIR/EIS.

(c) NCCP/MSAA/HCP Consistency with the Southern California Coastal Sage Scrub NCCP Conservation Guidelines

As reviewed in *Chapter 4*, the Draft Southern Planning Guidelines are intended to provide an objective and common set of planning considerations and recommendations for use by the resource and regulatory agencies and the program participants in selecting and evaluating reserve program, restoration and management alternatives for the Southern NCCP/MSAA/HCP. The Draft Southern Planning Guidelines were prepared by the NCCP/SAMP Working Group. These guidelines represent a synthesis of the following source materials:

- The NCCP Conservation Guidelines, including the seven Tenets of Reserve Design, prepared by the SRP appointed by the CDFG (1993); and
- The Principles of Reserve Design and Adaptive Management Principles for the Southern Subregion prepared by the Science Advisors convened by The Nature Conservancy to assist in the preparation of the Southern NCCP (1998).

The Southern NCCP Science Advisors elaborated upon the general NCCP Tenets of Reserve Design with a series of reserve design principles and recommendations developed specifically

for the Southern Subregion. These principles and recommendations are summarized in Chapter 4 and are set forth in their entirety in *Appendix B*:

To address the importance of hydrologic and erosion process, the Science Advisors combined two previous SRP Tenets of Reserve Design and added a seventh tenet to ensure that reserve design planning would account for the hydrologic and erosion processes that shape the landscapes of the planning area:

The reserve system should protect intact hydrologic and erosion processes, including both normal function and extreme events (flooding, earthflow). Reserve design should protect to the maximum extent possible the hydrology and erosion regimes of riparian systems, especially in Cristianitos, San Juan and Trabuco drainages. (This tenet is more fully addressed in the Southern Watershed Planning Principles set forth in *Chapter 5*.)

Using the broader NCCP Tenets as a framework and starting point, the Draft Southern Planning Guidelines provide guidance for decision-makers that is keyed to local biologic, hydrologic, and geomorphic conditions. The Draft Southern Planning Guidelines address resources at both the landscape and more detailed hydrologic/geomorphic sub-basin levels. For each sub-basin planning unit, the Draft Southern Planning Guidelines identify the important biological resources and key hydrologic/geomorphic processes. Protection recommendations also are included, providing an objective and common set of planning considerations and recommendations for use in selecting and evaluating Habitat Reserve design, restoration and adaptive management alternatives. The sub-basin Guidelines are reviewed and applied to one programmatic and three 'B' alternatives in *Chapter 8*. The landscape-scale SRP/Science Advisors Tenets of Reserve Design and the Baseline Conditions Watershed Planning Principles, along with the SAMP Tenets, are applied to two programmatic and three 'B' Alternatives in *Chapter 9*. Thus, the NCCP Conservation Guidelines Tenets of Reserve Design were fully applied in the selection of the B-12 as the Habitat Reserve design for inclusion in the proposed Conservation Strategy.

The statewide NCCP Conservation Guidelines also focus on adaptive management as the central management concept for the long-term management of NCCP Habitat Reserves. The preparation and implementation of an HRMP is one of the four central elements of a Conservation Strategy. As reviewed previously in this Chapter, sub-basin management and restoration recommendations are central considerations in the alternatives consistency reviews provided in *Chapter 8*. Further, *Chapter 7* provides for a detailed AMP, as part of the overall HRMP, and *Chapter 13* and *Appendix E* set forth specific management measures applicable to proposed Covered Species and proposed Conserved Vegetation Communities. Thus, the statewide NCCP Conservation Guidelines prescriptions for the formulation and implementation of adaptive management are fully addressed and reflected in the proposed NCCP/MSAA/HCP Conservation Strategy.

2. Regulatory Coverage under the NCCP Act of 1991 - NCCP/MSAA/HCP Consistency with the 1998 Natural Community Conservation Planning General Process Guidelines

(a) Background

In 1998 CDFG adopted a set of “Natural Community Conservation Planning General Process Guidelines.” Although these Guidelines are superseded by the NCCP Act of 2002 for NCCP plans subject to the 2002 Act, the Guidelines continue to apply to plans reviewed pursuant to the grandfather provisions of the 2002 Act, as is the case of the Southern NCCP/MSAA/HCP.

Key plan element components are reviewed under the 1993 Process Guidelines Consistency Review. The following two subsections review the portions of the 1998 Guidelines requiring consistency with NCCP Act Section 2835 and CESA Section 2081.

(b) Southern NCCP Consistency with the 1998 Process Guidelines – Consistency with Section 2835 of the NCCP Act of 1991

With regard to regulatory coverage of Proposed Covered Species, Section 2835 of the NCCP Act provides: “The department may permit the taking, as provided in this code, of any identified species whose conservation and management is provided for in a departmental approved natural communities conservation plan.” *Section 14.4.4* summarizes the conservation provided through the assemblage of the proposed Habitat Reserve, contributions to net habitat value provided by the HRMP, other minimization and mitigation measures and the overall basis for proposed regulatory coverage for Covered Species under the Subarea 1 Plan. Each of these analyses applies equally to the conservation and management requirements of Section 2835 of the NCCP Act. By using the *Chapter 4* Draft Southern Planning Guidelines and *Chapter 5* Draft Watershed Planning Principles and integrating the FESA Section 3 conservation and management considerations with respect to occupied habitat, special management and protection and unoccupied habitat, the *Chapter 13* analyses of proposed Covered Species apply statutory standards that encompass the conservation and management standard set forth in NCCP Act Section 2835 (see introduction to *Chapter 13*). Recovery provisions are addressed in *Chapter 13* and are also reviewed in *Appendix W*.

The Section 2835 findings regarding the conservation and management of Covered Species are based on the protection and management of Conserved Vegetation Communities that provide habitat for these species and other measures designed to conserve, protect, restore and enhance the Covered Species as specified in *Chapters 7* and *13*. Conserved Vegetation Communities are identified and designated pursuant to the requirements of Section 2805 of the NCCP Act of 1991 (“The plan identifies and provides for the regional or areawide protection and perpetuation of

natural wildlife diversity”) and pursuant to findings of consistency with the NCCP Conservation Guidelines tenets of reserve design. As reviewed previously, *Chapters 7-10* and *Chapter 13* contain extensive analyses of the manner in which the NCCP/MSAA/HCP will conserve and manage the 10 vegetation communities proposed to be Conserved Vegetation Communities under the Subarea 1 Plan, including the use of the SRP Tenets of Reserve Design in *Chapter 9*, and the Draft Southern Planning Guidelines and Draft Watershed Planning Principles in *Chapters 8, 9* and *10*. *Table 14-1* further summarizes the conservation and Take of Covered Species on the RMV property by development Planning Area.

(c) Southern NCCP Consistency with the 1998 Process Guidelines – Consistency with CESA Section 2081

The 1998 NCCP General Process Guidelines state that a showing of compliance with Section 2081(b) of the Fish and Game Code is required “to ensure compliance with CESA.” This requirement is related to the provisions of Section 2825(c) of the NCCP Act of 1991 (“Natural community conservation plans, as appropriate, shall be implemented pursuant to Section 2081”). According to the Guidelines, in order to ensure compliance with CESA, authorization for taking of species identified in the plan shall also meet the following conditions required by 2081(b) of the Fish and Game Code:

- a. The take is incidental to an otherwise lawful activity.
- b. The impacts of the authorized take shall be minimized and fully mitigated. Impacts of taking include all impacts on the identified species that result from any act that would cause the proposed taking.
 - The measures required to meet this obligation shall be roughly proportional in extent to the impact of the authorized taking on the species.
 - Where various measures are available to meet this obligation, the measures required shall maintain the applicant's objectives to the greatest extent possible.
 - All required measures shall be capable of successful implementation.
- c. The permit is consistent with any regulations adopted pursuant to Sections 2112 and 2114.
- d. The applicant shall ensure adequate funding to implement the measures required and for monitoring compliance with, and effectiveness of, those measures.”

Although CESA only addresses listed species (also, see *EPIC v. CDF, Pacific Lumber, 12/12/05*), this subsection addresses all “identified species” (termed “Covered Species” under the NCCP/MSAA/HCP) as required by the language of the NCCP Process Guidelines.

Proposed Take of Covered Species is Incidental to an Otherwise Lawful Activity

This requirement is addressed in *Section 14.4.2*.

Impacts of the Authorized Take Shall be Minimized and Fully Mitigated - Measures Required to Minimize and Fully Mitigate Impacts to Covered Species Must be Roughly Proportional in Extent to the Impact of the Authorized Taking on the Species and All Required Measures Must be Capable of Successful Implementation

Measures proposed to avoid, minimize and fully mitigate the impacts of Covered Activities on Covered Species and Conserved Vegetation Communities are reviewed in *Sections 14.4.4 and 14.4.5*. Mitigation for impacts to UASCE wetlands are reviewed in *Part II, Chapter 4* and mitigation for impacts to state jurisdictional streams are reviewed in *Section 14.7*. Mitigation provided through the assemblage of the Habitat Reserve and implementation of the HRMP is summarized below, with specific references to the requirement in CESA Section 2081 that mitigation must be roughly proportional in extent to the impact of the authorized taking on Covered Species and that required measures must be capable of successful implementation.

b. Assemblage of the Habitat Reserve

All lands to be committed to the Habitat Reserve are owned/controlled either by the County of Orange or RMV and are assured of commitment as part of a “hard line” Habitat Reserve in accordance with the timing provisions set forth in the IA. Land commitments to the Habitat Reserve are as follows and are depicted geographically on *Figure M-182*:

- 11,950 acres of County parklands;
- 4,284 acres of RMV pre-existing conservancies;
- 48 acres of RMV land subject to a conservation easement required as a condition of the Arroyo Trabuco Golf Course (ATGC) approvals; and
- 16,536¹ acres of RMV phased dedication lands

The timing of the assemblage of the Habitat Reserve is as follows.

As soon as is practicable following the Effective of the IA, the following areas will incorporated into the Habitat Reserve:

¹ Note that the RMV open space dedication shown on *Figure M-182* titled *Initial Subarea 1 Habitat Reserve and Future B-12 Gross Open Space Dedication* represents gross RMV open space to be protected per County of Orange requirements including such open space as orchards and the 16,536 proposed for inclusion in the Habitat Reserve.

- The 11,950 acres of County parklands will be committed to the Habitat Reserve;
- The 4,284 acres of pre-existing RMV conservancies and the 48 acre ATGC conservation easement area; and
- The 16,536 acres of RMV phased dedication lands will be enrolled in the Habitat Reserve in accordance with *Figure M-182* and as specified in the *Part III IA*.

With regard to the future phased enrollment of 16,536 acres of RMV lands into the Habitat Reserve, each dedication increment is assured through an irrevocable covenant of a Conservation Easement recorded at the time of commencement of development within each RMV Planning Area to be developed. A Master Area Plan will be prepared for each Planning Area prior to the commencement of any development within that Planning Area. Approval of the Master Area Plan by the County will include the designation of Subareas of development increments within each Planning Area. At the time of the review and approval of the Master Area Plan by the County of Orange, RMV will identify the portion of the overall Habitat Reserve dedication area for that Planning Area that is to be committed to the Habitat Reserve in conjunction with development of each Subarea within that particular Planning Area. Upon the commencement of grading within a particular Subarea, the areas subject to the HRMP will include the area identified as the corresponding dedication increment.

The dedication areas within each dedication increment corresponding to development areas are set forth in *Table 13-19B*. As can be seen, dedication increments are designed to be substantially in excess of 1:1 on a cumulative basis at all phases of dedication (see *Figure M-182*). With regard to rough proportionality of dedications in relation to impacts, substantial dedications are proposed within the San Juan Creek watershed that fully mitigate the impacts of Covered Activities on Covered Species within that watershed. Mitigation of impacts has been correlated with: (a) the protection of Conserved Vegetation Communities; (b) dedication increments containing the habitats of Covered Species; (c) the protection of habitat linkages assuring connectivity within the Habitat Reserve and between the Habitat Reserve and adjoining protected open space areas; and (d) the provision of logical management units. With regard to the impacts of Covered Activities on Covered Species within the San Juan Creek watershed, the phased dedication program will provide major dedication increments well in excess of acreage and resource impacts for the overall San Juan Creek watershed of approximately 2:1 (see *Tables 13-19A* and *13-19B*) and Covered Species (see *Table 14-1*). Dedication areas within the San Juan Creek area provide for connectivity between the San Juan Creek Watershed and the San Mateo Creek Watershed through functional connectivity with the Donna O'Neill Land Conservancy. Dedication of a conservation easement over the San Mateo Creek Watershed portion of the Habitat Reserve (with an ultimate dedication-to-development ratio of almost 20:1) is keyed to the earlier of: (1) initiation of development in Planning Area 8; (2) one year prior to the

expiration of the term of the IA; or (3) termination of the permit by RMV subsequent to the initiation of grading within the fifth Planning Area within the San Juan Creek watershed.

The rough proportionality of the mitigation of impacts provided by the proposed dedication program has been reviewed in relation to two other major dedication programs involving NCCP areas with comparable resource values, Newport Coast and Otay Ranch. The Newport Coast dedication program ratio is 1.66:1. The Otay Ranch dedication program requires a ratio of 1.18:1 as the program is implemented, with an ultimate dedication equaling 2:1. The RMV Phased-Dedication Program substantially exceeds Newport Coast and Otay Ranch *both* as development proceeds and in the ultimate configuration of the Habitat Reserve (through the commitment to provide the San Mateo Creek Watershed dedication prior to the expiration of the permit if it PA 8 development has not proceeded).

For the above reasons the assemblage of the Habitat Reserve is proportional in extent to the impacts of Covered Activities on Covered Species and the assemblage of the Habitat Reserve is assured of successful implementation.

c. Implementation of the HRMP

The contributions of the HRMP to the mitigation of impacts of Covered Activities on Covered Species are reviewed in *Sections 14.4.4 and 14.4.5*. *Chapters 7 and 13* contain extensive analyses of the manner in which the implementation of the HRMP will contribute to maintaining, and where feasible enhancing, the net habitat value of the Conserved Vegetation Communities (which contain the habitats of the Covered Species) and specific management contributions provided by the HRMP with respect to the protection and management of Covered Species. *Chapters 7 and 13* detail the manner in which such measures are capable of successful implementation. Funding requirements for the HRMP, as well as other minimization and mitigation measures are addressed below.

d. Provision of Adequate Funding to Implement the Measures Required and for Monitoring Compliance with, and Effectiveness of, those Measures

Chapters 7 and 12 demonstrate that funding adequate to carry out the HRMP and other provisions of the IA are provided under the proposed NCCP/MSAA/HCP. Funding for implementation of the Conservation Strategy is reviewed in *Section 14.4.6*. Funding required to implement County mitigation measures will be provided by the County as specified in *Chapters 7 and 12* and in the IA. Funding required to minimize and mitigate SMWD impacts is specified in the IA. In addition to RMV commitments reviewed in *Chapters 7 and 12* and in *Section 14.4.6*, RMV is required to implement the WQMP, GMP and Fire Management Plan and to carry

out indirect effects and construction-related effects minimization measures, all of which provide significant minimization measures reviewed in this Chapter.

SECTION 14.7 LONG-TERM MASTER STREAMBED ALTERATION AGREEMENT – CONSISTENCY REVIEW

California Fish & Game Code Section 1602(a) states that “an entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake ... unless” certain requirements are met including, for activities that may “substantially adversely affect an existing fish or wildlife resource,” the issuance of a final agreement that includes reasonable measures necessary to protect the resource, and the entity conducts the activity in accordance with the agreement.” Under Fish and Game Code Section 1605(g), CDFG may enter into long-term agreements if certain conditions are met including provisions for providing a status report addressing the topics identified in that subsection and provisions for department review and consultation regarding the status report. According to CDFG regulations:

“A ‘Master Agreement’ means an agreement with a term of greater than five years that (1) covers multiple projects. . . . The master agreement will specify a process the department and entity will follow before each project begins and may identify various measures the entity will be required to incorporate as part of each project in order to protect fish and wildlife resources. . . . A master agreement will typically, but not always, encompass one or more watersheds and/or relate to a habitat conservation plan or natural community conservation plan.”

(Title 14 Code of California Regulations, Section 699.5(a)(1)(G))

The proposed NCCP/MSAA/HCP identifies Covered Activities to be undertaken by the Participating Landowners that would involve streambed alteration and impacts on fish or wildlife resources within CDFG jurisdictional areas under Fish and Game Code Section 1600 *et seq.* Procedures required to be included in a Master Agreement in accordance with statutory and regulatory requirements will be incorporated into the final MSAA. Potential impacts involving proposed Covered Activities are as set forth in *Chapter 13, Tables 13-25 and 13-26*. The reasonable measures necessary to protect aquatic resources subject to CDFG jurisdiction include avoidance, minimization and mitigation measures addressed in the following subsections.

14.7.1 Avoidance/Long-Term Protection of Aquatic Resources through Inclusion within the Proposed Habitat Reserve

Under the proposed NCCP/MSAA/HCP, the vast majority of significant aquatic resources within CDFG jurisdiction would be assured of long-term protection through inclusion within the

proposed Habitat Reserve. Conservation of aquatic resources is set forth in Table 13-25. Aquatic resource protection features of the Habitat Reserve that would be assembled under B-12 Alternative include:

- The proposed B-12 Alternative's open space would protect habitat and species in and adjacent to the major side canyons in the Chiquita sub-basin in middle Chiquita above the SMWD treatment plant and below Tesoro High School; and drainage areas west of Chiquita Creek.
- Gobernadora Creek would be protected, including areas recommended for restoration.
- Verdugo Canyon riparian resources and terrains generating coarse sediments would be protected.
- Arroyo Trabuco would be protected under prior open space dedications.
- The San Juan Creek floodplain and associated riparian habitats would be protected from the boundary of Caspers Wilderness Park with the CNF to the southern boundary of RMV, including a substantial movement corridor comprised of: (1) a habitat linkage 1,300 feet (400 meters) in width from the northern portion of the RMV lands to Chiquita Creek; and (2) a habitat linkage connecting the San Juan Creek and San Mateo Creek watersheds through a 5,000 foot wide block of protected riparian and upland habitat.
- A large block of aquatic resources habitats and associated species in the San Mateo Creek Watershed in the Cristianitos, La Paz, and Gabino sub-basins comprising 95 percent of the RMV portion of the San Mateo Watershed would be protected (*Figure 169-M*).

Specific aquatic resource considerations under the B-12 Alternative include the following:

- **Aquatic Resources Protected Within the San Juan Creek Watershed:**
 - Chiquita Creek for its entire length, the entirety of Chiquita Ridge west of the creek and the adjacent uplands from the SMWD wastewater treatment facility to the headwaters of Chiquita Creek (except for Tesoro High School and a small development area to the south of the high school);
 - Substantial contiguous habitat located south of San Juan Creek that would provide connectivity between the western portion of the planning area and Chiquita Canyon and San Juan Creek, as well as connectivity with the San Mateo Watershed;
 - The Gobernadora Creek floodplain from San Juan Creek north to the point where it exits the Coto de Caza planned community;
 - Extensive habitat connectivity from Upper and Middle Chiquita Canyon across Sulphur Canyon/Chiquadora Ridge through the Gobernadora Creek floodplain,

- across Upper Gobernadora through a 2,000- to 2,500-foot wide wildlife movement corridor to Caspers Wilderness Park;
 - The mesa area west of Trampas Canyon and south of San Juan Creek (*i.e.*, the Radio Tower Road area) containing important vernal pool habitats;
 - All of the San Juan Creek 100-year floodplain within County lands and the RMV Planning Area and associated riparian habitat areas;
 - All of the mainstem creek and associated drainage within Verdugo Canyon; and
 - All of the Arroyo Trabuco riparian habitat and associated floodplain protected through prior open space dedications.
- **Aquatic Resources Protected within the San Mateo Creek Watershed:**
 - Cristianitos Creek – a relatively rapidly evolving creek system influenced by adjacent clay soils that connects important aquatic/riparian systems in Cristianitos Canyon, Gabino Canyon and La Paz Canyon with Talega Creek and downstream habitats located outside the RMV Planning Area;
 - Gabino Creek – a creek system that contains three distinctive geomorphic reaches and that forms confluences with La Paz Creek in its middle reach and with Cristianitos Creek in its lower reach;
 - All of the La Paz Canyon sub-basin on the RMV Planning Area providing for riparian habitat connectivity both within the Southern Subregion and with habitat systems in adjoining areas to the north and east. La Paz Creek links Gabino Canyon to large-scale federal open space areas to the north (CNF) and east (San Mateo Wilderness and MCB Camp Pendleton) and provides a source of cobbles and other coarse sediments important for downstream habitat systems; and
 - Talega Creek – a major creek system with a very large population of arroyo toads, with part of the creek and canyon system located on the RMV Planning Area and the remainder located on MCB Camp Pendleton property.

14.7.2 Mitigation of Impacts on CDFG Jurisdictional Areas

As reviewed in *Section 13.4 of Chapter 13*, mitigation of impacts to CDFG jurisdictional wetland/riparian areas will be on a 1:1 basis as provided for in the aquatic resources restoration component of the HRMP Restoration Plan. Mitigation of impacts to non-wetland riparian habitat within CDFG jurisdictional areas is provided through: (1) conservation of 95 percent of coastal live oak riparian woodlands; and (2) implementation of the wetlands/riparian and woodlands components of the HRMP as described in *Chapter 7*. Implementation of the avoidance, construction-related and indirect effect minimization measures outlined below will further mitigate impacts on CDFG jurisdictional area resources.

14.7.3 Construction-Related and Indirect Effect Minimization Measures

Avoidance/Minimization Measures specifically applicable to the MSAA, including construction-related measures, are set forth in *Appendix U*. Other measures previously reviewed, including indirect effect minimization measures, are set forth in *Appendix U*. These measures include provisions for wetlands/riparian habitat and associated species.

14.7.4 Mitigation through Implementation of the HRMP and the Prima Deshecha/Avenida La Pata Mitigation Program

Section 14.4.4.b above summarizes the manner in which the HRMP, and in particular, the AMP component of the HRMP, contributes to maintaining and enhancing net habitat value over the long-term, thereby contributing to mitigation of impacts on resources within the planning area. As previously reviewed, the County of Orange, SMWD and RMV will contribute substantial funding to the HRMP. Specific vegetation communities that include areas under CDFG jurisdiction are addressed in *Chapter 7*, including wetlands/riparian and oak woodlands.

Specific mitigation measures for IWMD impacts at the Prima Deshecha Landfill and for Avenida La Pata Improvement Project impacts are set forth in *Section 14.4.4.i* above. Invasive species control measures to be implemented in San Juan Creek will have major benefits for the restoration of water flow and riparian vegetation (the latter through natural succession) and associated listed species such as the arroyo toad and least Bell's vireo.

14.7.5 Aquatic Species Impacts Conservation and Management

For the reasons set forth in *Section 14.4.4* above, potential impacts of Covered Activities on Covered Species with habitats located within CDFG jurisdiction are fully mitigated through avoidance/protection, minimization and mitigation measures reviewed in *Chapters 7* and *13*.

14.7.6 Conclusion

Based on the above measures and associated implementation procedures proposed to address streambed impacts, associated vegetation communities and aquatic species in areas under CDFG jurisdiction would be set forth in the MSAA companion document to the NCCP/HCP IA. Thus, as reviewed in *Section 13.4* of *Chapter 13* and as summarized above, the proposed "conservation" and "management" of proposed Covered Species and proposed Conserved Vegetation Communities are intended to fulfill the requirements of Fish and Game Code Section 1600 *et seq.* and associated regulations.