

**CALIFORNIA
DEPARTMENT OF FISH AND WILDLIFE**

FINDINGS OF FACT

under the
CALIFORNIA ENVIRONMENTAL QUALITY ACT
and the
NATURAL COMMUNITY CONSERVATION PLANNING ACT

AND

NATURAL COMMUNITY CONSERVATION PLAN

**PERMIT
(2835-2012-002-03)**

for the

Santa Clara Valley Habitat Plan

July 2013

FINDINGS AND NCCP PERMIT

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BACKGROUND

1.0 INTRODUCTION

This document sets forth findings and the approval of the California Department of Fish and Wildlife (“CDFW”) for the Santa Clara County Habitat Conservation Plan/Natural Community Conservation Plan (“HCP/NCCP”). In approving the HCP/NCCP as provided for in the California Natural Community Conservation Planning Act, California Fish and Game Code Sections 2800-2835¹ (“NCCPA”), CDFW is acting as a responsible agency under the California Environmental Quality Act, Public Resources Code Section 21000 et seq. (“CEQA”). Unless otherwise noted in this document, capitalized terms have the same definitions as in the HCP/NCCP.

1.1 The Natural Community Conservation Planning Act

The NCCPA provides for the preparation and implementation of large-scale natural resource conservation plans as an alternative to reviewing impacts of development and maintenance activities on a project-by-project and species-by-species basis. A Natural Community Conservation Plan (“NCCP”) must provide for “the protection of habitat, natural communities, and species diversity on a landscape or ecosystem level” (§2820, subd. (a)(3)), while allowing “compatible and appropriate economic development, growth, and other human uses” (§2805, subd. (h)). When it approves an NCCP, CDFW may authorize the “take” of species whose conservation and management is provided for in the NCCP, including, but not limited to, species listed as endangered, threatened, or candidate under the California Endangered Species Act, Sections 2050-2115 (“CESA”).

The NCCPA was originally enacted in 1991² and was amended in 1993,³ 1994,⁴ 1996⁵ and 2000⁶. The NCCPA was repealed and replaced in 2002 by Senate Bill 107⁷ which codified a number of CDFW’s administrative standards and practices for NCCP development and implementation and added some new requirements. It was amended again in 2003⁸. With the

¹ All further section references are to the Fish and Game Code, unless otherwise indicated.

² Statutes 1991, chapter 765, section 2, page 3424 (A.B. 2172).

³ Statutes 1993, chapter 708, section 1, page 4034 (S.B. 755).

⁴ Statutes 1994, chapter 220, section 1, page 1778 (S.B. 1352).

⁵ Statutes 1996, chapter 593, sections 1 and 2, page 2702 (A.B. 3446).

⁶ Statutes 2000, chapter 87, sections 1-3, page 1207 (S.B. 1679).

⁷ Statutes 2002, chapter 4, sections 1 and 2, page 81 (S.B. 107). Minor housekeeping changes were subsequently enacted as part of S.B. 2052 (Stats. 2002, ch. 133, §§ 1 and 2, page 568).

⁸ Statutes 2003, chapter 61, section 1, page 95 (S.B. 572)

revisions, many of the substantive standards and mandatory elements for an NCCP formerly contained in guidelines prepared by CDFW are now found in Section 2820.

1.2 Santa Clara Valley Habitat Conservation Plan/Natural Community Conservation Plan

The proposed HCP/NCCP is a comprehensive, multi-jurisdictional plan that provides for regional habitat and species conservation at an ecosystem scale while allowing local land-use authorities to better manage anticipated growth and development. The HCP/NCCP provides a coordinated process for permitting and mitigating the take of species identified in section 6.2.1 (“Covered Species”) as an alternative to the traditional project-by-project permitting approach. The HCP/NCCP has been prepared as an NCCP pursuant to the California Natural Community Conservation Planning Act of 2003, and as an HCP pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act (“ESA”). Upon approval of the HCP/NCCP, the United States Fish and Wildlife Service (“USFWS”) and CDFW can authorize the take of certain listed species and other species, subject to the terms of coverage under the HCP/NCCP. Except as otherwise noted, all references to tables, figures, and text sections pertain to those in the HCCP/NCCP.

The following terms are used throughout all HCP/NCCP documents and these findings:

Study area: The study area is defined as the area in which all Covered Activities would occur, impacts would be evaluated, and conservation activities would be implemented.

Expanded study area: This comprises the study area and the additional area to the northeast; together these areas provide for greater burrowing owl conservation.

Permit area: The permit area is the area in which the Permittees are requesting take authorization from USFWS and CDFW for activities and projects covered in the HCP/NCCP. The permit area is contiguous with the expanded study area except that Henry Coe and Pacheco State Parks are not included and the only take authorized in the expanded portion of the study area is that necessary for conservation activities for burrowing owl.

The study area lies within Santa Clara County (Figures 1-1 and 1-2 of the HCP/NCCP) and includes most of Santa Clara County (“study area”). There are two sizeable excluded areas: the northwest, which includes a number of cities and is almost completely urbanized and the northeast which includes a rugged section of the Hamilton Range where development and impacts are expected to occur at extremely low levels. Santa Clara County has a land area of 835,449 acres and the study area encompasses 519,506 acres, or approximately 62% of the county. The boundary of the study area was based on political, ecological, and hydrologic factors. The study area includes all of the Pacheco/Llagas/Uvas/Pajaro watersheds that are within Santa Clara County and all of Coyote Creek watershed except for the Baylands at the

southern edge of San Francisco Bay. A large portion of the Guadalupe watershed is also within the study area. The study area also encompasses small areas outside these watersheds, as described below.

The northern edge of the study area is defined by the boundary of Alameda and Santa Clara Counties, excluding the Milpitas city limits and lands owned by the San Francisco Public Utilities Commission (SFPUC). The SFPUC is preparing an HCP for its lands in southern Alameda County and northern Santa Clara County that includes approximately 10,000 acres in Santa Clara County and is seeking an incidental take permit (ITP) pursuant to Fish and Game Code section 2081, subdivisions (b) and (c). Lands in Joseph D. Grant County Park and Mount Madonna County Park outside the Coyote Creek and Llagas/Uvas/Pajaro watersheds are included in the study area, marking the eastern and southwestern boundaries of the study area, respectively. See Figure 2-3 for the locations of the parks and open spaces referenced.

Tulare Hill, the Santa Teresa Hills, and the Calero Reservoir area, all within the Guadalupe River watershed, are included in the study area to ensure inclusion of serpentine soils and all occupied and potential habitat for Bay checkerspot butterfly, one of the primary Covered Species in the HCP/NCCP.

Almaden Quicksilver County Park, at the western boundary, is in the study area to ensure inclusion of additional serpentine habitat, which supports a disproportionately high number of Covered Species, particularly covered plants.

A sliver of lands along Los Gatos Creek up to Vasona County Park, which are owned by the Santa Clara Valley Water District (SCVWD) and the Santa Clara County of Santa Clara Parks and Recreation Department (County Parks), are included in the study area to allow additional coverage of activities by these agencies.

Most of the City of San José lies within the study area. The Baylands and Alviso, which are part of San José, have been excluded because they are current or historically areas of tidal influence and those types of habitat are not covered by the HCP/NCCP. The boundary in that area was drawn using December 2005 aerial photographs, historic maps of tidal areas, and data from the Baylands Ecosystem Goals Project. Within San José, the northern boundary of the study area is the northern edge of the “bufferlands” of the Water Pollution Control Plant facility on Zanker Road.

San José’s Baylands were excluded from the study area to avoid covering species restricted to salt marshes and other saline habitats, which would significantly increase the complexity for very little benefit. Since other substantial planning efforts are underway in the Baylands of Santa Clara County (e.g., South Bay Salt Ponds Restoration Project); this area was excluded to avoid duplicating those efforts.

During development of the HCP/NCCP, it became necessary to include conservation actions immediately outside of the study area in order to provide for adequate mitigation and conservation of the western burrowing owl. As described in Chapter 5 and in the species account (Appendix D), the population of western burrowing owl is in severe decline in the Region and study area. In addition, conservation opportunities in the base study area are very limited. After extensive discussions, it became clear that the only way to increase the local population was to provide conservation outside the study area, but within the permit area.

To address this need, an expanded study area for western burrowing owl conservation was identified in the northern edge of the county in portions of the cities of San José, Santa Clara, Mountain View, Milpitas, and Sunnyvale; in Fremont in Alameda County; and a small portion of San Mateo County (Figure 1-2). The expanded study area for burrowing owl conservation, which falls outside of the primary HCP/NCCP study area, is 48,464 acres.

The allowable Covered Activities in this expanded study area are limited only to conservation actions for western burrowing owl. Coverage for these activities is provided only for this species. Projects and activities of the other jurisdictions, which are not Permittees, are not covered.

The permit area differs slightly from the study area and is the area in which the Permittees are requesting take authorization from USFWS and CDFW for activities and projects covered in the HCP/NCCP. The permit area constitutes those lands within the study area and expanded study area for western burrowing owl conservation. The permit area is the same as the study area except that it excludes Henry W. Coe State Park (Figure 1-2). This park was excluded from the permit area because activities within this park are not covered by the HCP/NCCP and because it represents such a large portion of the study area. A small portion of Pacheco State Park within the study area is likewise excluded from the permit area. The permit area is 508,669 acres (519,506 acres in the study area + 48,464 in the expanded study area for western burrowing owl - 58,642 acres of Henry W. Coe State Park within the study area - 659 acres of Pacheco State Park within the study area).

The permit area also includes small areas that extend outside of the mapped study area. Land management and monitoring activities may occur outside the mapped study area where a conservation parcel straddles the mapped permit area as long as more than half of each parcel is contained within the permit area. These unmapped areas will not exceed a total of 250 acres.

The following agencies will be Permittees under the HCP/NCCP:

- City of Gilroy.
- City of Morgan Hill.
- City of San José.

- County of Santa Clara.
- Santa Clara Valley Water District.
- Santa Clara Valley Transportation Authority.
- Implementing Entity (Santa Clara Valley Habitat Agency).

Each of these agencies will be a Permittee for take that occurs from its Covered Activities and from Covered Activities within their respective jurisdictions. Each is a signatory to the HCP/NCCP Implementing Agreement (“IA”). The Permittees will vest the responsibility for implementing the HCP/NCCP to the Implementing Entity which will oversee implementation of the HCP/NCCP on behalf of the other Permittees. The Permittees will ultimately be responsible for compliance with all the terms and conditions of the HCP/NCCP’s permits and for the performance of the Implementing Entity. Each local jurisdiction will designate staff to advise the Implementing Entity on HCP/NCCP implementation and provide a point of contact at the local jurisdiction for the HCP/NCCP.

The Implementing Entity will be run by a Governing Board and Implementation Board that will consist of designated officials representing each of the Permittees. The Implementing Entity will be advised by representatives of USFWS and CDFW, local land-management agencies, a technical advisory committee, a pool of science advisors, and a public advisory committee. It is anticipated that the Implementing Entity will partner with existing agencies and organizations in conducting a significant portion of its activities. The Implementing Entity will particularly seek direction from USFWS and CDFW in the case of significant implementation uncertainties; the Wildlife Agencies will assist in resolution of important implementation decisions.

In addition to the Permittees, other entities can request coverage under the HCP/NCCP as Participating Special Entities (PSE). A PSE must be a public agency such as a school district, transportation agency, water district, vector control agency or open space agency. Other municipalities cannot receive coverage. The Implementing Entity, with the approval of CDFW and the USFWS, may issue a Certificate of Inclusion to the PSE allowing the requested activity to be covered under the HCP/NCCP. Take limitations and conservation requirements will be subtracted from the totals already proposed for the HCP/NCCP. Inclusion of PSE projects will not result in increased take or decreased conservation from that analyzed in the HCP/NCCP.

The heart of the conservation strategy for the HCP/NCCP is the creation of a Reserve System that will protect an estimated 46,920 acres for the benefit of Covered Species, natural communities, biological diversity, and ecosystem function. Land acquisition and protection will create a network of reserves that accomplishes the following:

- Acquires, permanently protects and manages in perpetuity, a minimum of 33,205 currently unprotected acres of land for the benefit of Covered Species, natural communities, biological diversity, and ecosystem function.

- In addition to the new protection of a minimum of 33,205 acres of land, incorporates up to 13,291 acres of existing open space that enhances the long-term management and monitoring on those lands within the Reserve System. Therefore, the total size of the Reserve System will be at least 46,496 acres and possibly as much as 46,920 acres (Section 5.1).
- Protects up to 100 miles of streams as part of the Reserve System.
- Provides management and monitoring to achieve the goals and objectives of the HCP/NCCP.
- Preserves major local and regional connections between key habitat areas and between existing protected areas.

Additions to the Reserve System may be through purchase in fee title or by acquisition of a conservation easement. Acquisitions may occur solely through the efforts of the Implementing Entity or through partnerships with other conservation organizations already active in the region. Reserve System assembly will be required to stay ahead of the impacts of Covered Activities and all land acquisition will be completed by Year 45 of the 50 year HCP/NCCP permit term.

The HCP/NCCP will enhance all terrestrial and aquatic land cover types in the Reserve System, including streams, to benefit covered and other native species. Wetland and aquatic land cover types will be restored to recover lost ecological and hydrologic functions of sites that have been degraded. Restoration actions will promote ecosystem recovery by enhancing functional processes, species composition, and community structure. Regardless of impacts, a minimum of 90 acres of riparian woodland and scrub, wetlands, and ponds will be restored and a minimum of 1.0 mile of stream will be restored. If all predicted impacts occur, the HCP/NCCP will restore up to 500 acres of riparian woodland and scrub, wetlands, and ponds, and up to 9.4 miles of streams to offset losses of these land cover types and to contribute to species recovery (Table 5-21). Construction of all habitat restoration or creation projects will be completed by Year 40 of the HCP/NCCP permit term.

The HCP/NCCP contains detailed guidelines and recommendations for monitoring landscapes as well as the management, enhancement, or restoration of the following land cover types:

- Grassland, including serpentine grassland,
- Chaparral and northern coastal scrub,
- Oak and conifer woodland,
- Riverine and riparian forest, and
- Wetlands and ponds.

The HCP/NCCP also contains detailed guidelines for monitoring and adaptive management, including that for Covered Species and habitat types.

A primary component of regional species protection is the development of comprehensive take avoidance and minimization measures to help ensure that impacts from Covered Activities are reduced. As such, the HCP/NCCP has developed broad principles for regional take avoidance and minimization as well as specific conditions on Covered Activities. Any person or entity receiving take coverage under the HCP/NCCP will be required to adhere to these measures to receive take authorization. All parties covered by the HCP/NCCP will submit an application package to receive and document take authorization.

The County of Santa Clara is the lead agency for purposes of CEQA. Conservation, management, and implementation responsibilities and guarantees for the HCP/NCCP are set forth in an IA signed by all the Permittees and USFWS and CDFW (the “Wildlife Agencies”). All Permittees and the Wildlife Agencies will implement their respective responsibilities under the HCP/NCCP as described in the IA. Existing Conditions

Santa Clara County geography is dominated by the Diablo Range in the east and the Santa Cruz Mountains to the west, separated by the Santa Clara Valley. Most drainage flows to the inner valley and then north towards San Francisco Bay (Coyote, Guadalupe, West Valley and Lower Peninsula watersheds) or south (Pacheco-Uvas-Llagas watershed) to the Pajaro River and thence into Monterey Bay. The valley contains a highly urbanized core centered on a north-south axis along Highway 101. Lands to the east and west of the urban areas are sparsely occupied and are used primarily for agriculture and grazing (Figure 2-2). Large blocks of land within and adjacent to the study area consist of state and regional parks, Open Space lands and watershed lands (Figures 2-1, 2-3). The area is in the rain shadow of the Santa Cruz Mountains, but the effect is somewhat offset by the presence of San Francisco Bay to the north, which can funnel moisture and winds through the area. Precipitation in the area falls mostly as rain during the late fall, winter, and early spring months, and the highest elevations can receive infrequent snowfalls during the winter months. Rainfall can be extremely variable from year to year, ranging from under 5 inches to more than 30 inches in San Jose. Average rainfall ranges from 13 inches in the valley to 45 inches along the crest of the Santa Cruz Mountains. The eastern part of the study area is not influenced by marine air to the same extent as the western part and is generally warmer, although Pacheco Pass acts as a natural funnel through which maritime air masses enter the Central Valley. Elevations in the study area range from 10 to 350 feet along the valley and up to 3,790 feet in the Santa Cruz Mountains and 4,370 in the Hamilton Range (Figure 3-1).

Land cover types in the study area are shown in Figures 3-9 and 3-10 in the HCP/NCCP and Table 3-7 lists the amount of each land cover type present. Habitat communities within the HCP/NCCP area include: grassland (including serpentine grasslands), chaparral and scrub, coastal scrub, conifer woodland, oak savannah, oak woodland, riparian woodland scrub, mixed evergreen forest, wetlands, aquatic, rock outcrop, irrigated agriculture, and developed areas. The HCP/NCCP Reserve System will protect biodiversity, conserve important habitats, ecological processes, and sensitive species, increase recreational opportunities, enhance the quality of life in Santa Clara County, and enhance the region’s attractiveness as a location for business. The

HCP/NCCP has been developed cooperatively by local jurisdictions, state and federal agencies, representatives of the development community, representatives of the environmental advocacy community, private citizens, landowners and special districts, with the goal of conserving native vegetation communities and associated species, rather than simply focusing preservation efforts on individual species. Historic loss of native vegetation and open space has resulted in many species of wildlife becoming increasingly rare, and in some cases threatened with extirpation or extinction. The HCP/NCCP provides direct economic benefits by streamlining future development outside the Reserve System, establishing a permanently protected Reserve System through an assembly process within the HCP/NCCP study area and decreasing the costs of compliance with federal and state laws that protect biological resources.

1.3 Implementing Agreement

CDFW plans to execute the HCP/NCCP IA concurrently with this NCCP permit (“Permit”). The IA is an agreement among Santa Clara County, the Santa Clara Valley Water District, the Santa Clara Valley Transportation Authority (VTA), the Cities of Morgan Hill, Gilroy and San Jose, USFWS and CDFW. These entities are signatories to the IA and the County, cities, SCVWD and VTA referred to as Permittees under the HCP/NCCP. The IA also includes the Implementing Entity as a Permittee.

The IA is designed to ensure the implementation of the HCP/NCCP, to bind each party to the terms of the HCP/NCCP, and to provide remedies and recourse for failure to adhere to the terms of the HCP/NCCP. This NCCP Permit specifically applies to the HCP/NCCP as implemented pursuant to the IA.

CDFW finds that the HCP/NCCP and IA provide the necessary assurances that the HCP/NCCP will be carried out by the Permittees. By accepting their NCCP Permit, the County, SCVWD, VTA and the Cities of Morgan Hill, Gilroy and San Jose are bound to fully implement the provisions of the HCP/NCCP in accordance with the IA and the NCCP Permit.

ADMINISTRATIVE RECORD

2.0 ADMINISTRATIVE RECORD OF PROCEEDINGS

For purposes of these findings, the administrative record of proceedings for CDFW's discretionary issuance of this NCCP Permit consists, at a minimum, of the following documents, except where privileges prevent their disclosure:

- Any HCP/NCCP related materials prepared by the Santa Clara local Agencies and submitted to CDFW;
- Any staff reports and related documents prepared by CDFW with respect to its compliance with CEQA and with respect to the issuance of an NCCP Permit for the HCP/NCCP;
- Any written testimony or documents submitted by any person to CDFW relevant to these findings and CDFW's discretionary actions with respect to the HCP/NCCP;
- Any notices issued to comply with CEQA, the NCCPA, or with any other law relevant to and governing the processing and approval of this NCCP Permit by CDFW;
- Any written comments received by CDFW in response to, or in connection with, environmental documents prepared for this project;
- All written evidence or correspondence submitted to, or transferred from, CDFW with respect to compliance with CEQA and with respect to the HCP/NCCP;
- Any proposed decisions or findings related to the HCP/NCCP submitted to CDFW by its staff, the local partners, HCP/NCCP supporters and opponents, or other persons;
- The documentation of the final decision by CDFW, including all documents cited or relied on in these findings adopted pursuant to CEQA and the NCCPA;
- The documentation of the final decision by USFWS associated with Permit Number TE 94345A, including all documents adopted or approved pursuant to NEPA and the ESA.

- Any other written materials relevant to CDFW's compliance with CEQA or CDFW's decision on the merits with respect to the NCCP Permit for the HCP/NCCP, including any draft environmental documents that were released for public review, and copies of studies or other documents relied upon in any environmental document prepared for the project and either made available to the public during a public review period or included in CDFW's files on the HCP/NCCP, and all non-privileged internal agency communications, including staff notes and memoranda related to the HCP/NCCP or compliance with CEQA;
- Matters of common knowledge to CDFW, including but not limited to federal, state, and local laws and regulations; and
- Any other materials required to be in CDFW's administrative record of proceedings by Public Resources Code Section 21167.6, subdivision (e).

The custodian of the documents comprising the administrative record of proceedings is the California Department of Fish and Wildlife, located at 1416 Ninth Street, Sacramento, California 95814. All related inquiries should be directed to the Habitat Conservation Planning Branch at (916) 653-4875.

CDFW has relied on all of the documents listed in this section in exercising its independent judgment and reaching its decision with respect to the HCP/NCCP, even if every document was not formally presented to CDFW or its staff as part of the CDFW files generated in connection with the HCP/NCCP. Without exception, any documents set forth above not found in CDFW's files for the HCP/NCCP fall into one of two categories. Certain documents reflect prior planning or legislative decisions of which CDFW was aware in approving the HCP/NCCP. (See *City of Santa Cruz v. Local Agency Formation Comm.* (1978) 76 Cal.App.3d 381, 391-392; *Dominey v. Department of Personnel Administration* (1988) 205 Cal.App.3d 729, 738, fn. 6.) Other documents influenced the expert advice of CDFW staff, who then provided advice to the decision-makers at CDFW with respect to the NCCP Permit for the HCP/NCCP. For that reason, such documents form part of the underlying factual basis for CDFW's decision related to the HCP/NCCP. (See Pub. Resources Code, 21167.6, subd. (e)(10); *Browning-Ferris Industries v. City Council of City of San Jose* (1986) 181 Cal.App.3d 852, 866; *Stanislaus Audubon Society, Inc. v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 153, 155).

FINDINGS OF FACT

3.0 FINDINGS UNDER CEQA

3.1 Environmental Documents

The County of Santa Clara is the CEQA “lead agency” for purposes of the HCP/NCCP and has completed environmental review and approval of the HCP/NCCP (See generally Pub. Resources Code, § 21067; CEQA Guidelines, § 15367). The Santa Clara local agencies analyzed the environmental effects of implementing the HCP/NCCP.

Pursuant to the California Environmental Quality Act, Public Resources Code Section 21000 *et seq.* (“CEQA”) and the CEQA Guidelines, Code of California Regulations, Title XIV, Section 15000 *et seq.*, the County of Santa Clara determined that an Environmental Impact Report consisting of a Draft EIR, a Final EIR and all the appendices (“EIR”) would be prepared for the Proposed Project. CDFW concurs with that determination.

The County of Santa Clara as lead agency has prepared a HCP/NCCP that was approved on October 9, 2012 and an EIR/EIS that was certified by the County of Santa Clara on October 9, 2012. Specifically, the County of Santa Clara prepared: Volumes 1-4 of the HCP/NCCP and Volumes I-II of the EIR/EIS, which is a Final Environmental Impact Report (“EIR”) and Environmental Impact Statement (“EIS”). The State Clearinghouse Number for the EIR is SCH #2010122059. In analyzing and approving the HCP/NCCP and certifying the EIR/EIS, the local partners, “considered the effects, both individual and collective, of all activities involved in the project.” (Pub. Resources Code, § 21002.1, subdivision (d)).

Approval dates (at each approval):

<u>Agency</u>	<u>Action</u>	<u>Date</u>
County of Santa Clara	Approve Plan, Certify EIR	October 9, 2012
SCVWD	Approve Plan, Certify EIR	September 25, 2012
VTA	Approve Plan, Certify EIR	December 13, 2012
City of Morgan Hill	Approve Plan, Certify EIR	October 17, 2012
City of Gilroy	Approve Plan, Certify EIR	October 15, 2012
City of San Jose	Certify EIR	December 4, 2012
	Approve Plan	January 29, 2013

The County of Santa Clara issued a Notice of Preparation (NOP), which was circulated to responsible agencies and interested groups and individuals for review and comment on September 7, 2007. A public scoping meeting was held on September 27, 2007 with verbal and written comments being received. By the close of the scoping period, 25 letters representing comments from 126 individuals or organizations had been received.

Upon completion of the Draft EIR, the County of Santa Clara filed a Notice of Availability (NOA) in compliance with CEQA with the State Clearinghouse. The County of Santa Clara distributed the NOA and the EIR to interested agencies, organizations, and individuals for review and comment and made the EIR available at public libraries for public review. The public review period was December 17, 2010 through April 15, 2011. Two public meetings were held to gather comments during the review period-February 9 in Morgan Hill and February 15 in Palo Alto. CDFW reviewed the Draft EIR in detail.

The County of Santa Clara received a total of 794 comments on the EIR/EIS by the close of the comment period. Responses to comments were prepared by the County of Santa Clara in collaboration with the other partners on environmental issues, and changes made to the Draft EIR. The responses to comments, changes to the Draft EIR, and additional information were published in the Final EIR, dated August 2012. CEQA Guidelines Section 15088.5 requires a lead agency to recirculate an EIR for further review and comment when significant new information is added to the EIR after public notice is given of the availability of the draft EIR, but before certification. The County of Santa Clara found that the Final EIR does not contain significant new information and that recirculation of the EIR therefore is not required. CDFW reviewed the Final EIR in detail.

At all public meetings during the preparation of the HCP/NCCP, the County of Santa Clara staff and its consultants provided information about the proposed project, the potential environmental impacts, and the CEQA review process. At each meeting, members of the public had the opportunity to ask questions and express their concerns and interests for the proposed project.

CDFW has prepared these findings to comply with CEQA. CDFW is a “responsible agency” under CEQA with respect to the HCP/NCCP because of its authority under the NCCPA. (See generally Pub. Resources Code, §§ 21002.1, subd. (d) and 21069; CEQA Guidelines, § 15381; see also Cal. Code Regs., tit. 14, § 783.3, subd. (a).) CDFW accordingly makes the findings that appear in Section 3.5, below, under CEQA as part of its discretionary decision to approve the HCP/NCCP and authorize take of species whose conservation and management is provided for in the HCP/NCCP.

These findings pertain to the Proposed Project and the EIR prepared for the Proposed Project (SCH #2010122059). The Draft EIR, the Final EIR, and all the appendices comprise the “EIR” referenced in these findings.

The purpose of the joint EIR/EIS is to evaluate the potential for environmental effects from the adoption and implementation of the HCP/NCCP and the issuance of take permits for species pursuant to Section 2800, et seq., of the NCCPA. It also evaluates the potential for environmental effects of the issuance of take authorizations pursuant to Section 10(a)(1)(B) of federal Endangered Species Act.

3.2 CEQA Findings Requirement

CEQA requires public agencies to adopt certain findings before approving a project for which an EIR was prepared. The findings that appear below are intended to comply with the CEQA mandate that no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant effects thereof unless the agency makes one or more of the following findings (Public Resources Code Section 21081, subdivision (a), CEQA Guidelines Section 15091, subdivision (a); see also CEQA Guidelines Section 15082, subdivision (b)(2)):

- (1) Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment;
- (2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency; or
- (3) Economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the EIR.

These findings are also intended to comply with the requirement that each finding made by CDFW be supported by substantial evidence in the administrative record and be accompanied by a brief explanation of the rationale for each finding. (*Id.*, § 15091, subds. (a) and (b); see also Discussion following CEQA Guidelines, § 15091.) To that end, these findings provide the written, specific reasons supporting CDFW's decisions under CEQA as they relate to the approval of the HCP/NCCP under the NCCPA.

Because CDFW adopts these findings as a responsible agency, the scope of these findings and CDFW's analysis under CEQA are more limited than that of the lead agency. (Pub. Resources Code, §§ 21002.1, subd. (d) and 21167.2; CEQA Guidelines, § 15096, subds. (f)-(h); Cal. Code Regs., tit. 14, §§ 783.3, subd. (a) and 783.5, subd. (c).) In its capacity as a responsible agency, CDFW is also bound by the legal presumption that the EIR certified by the local partners fully complies with CEQA. (CEQA Guidelines, § 15096, subd. (e)(1)-(2); *City of Redding, v. Shasta*

County Local Agency Formation Com (1989), 209 Cal.App.3d 1169, 1178-1181; see also Pub. Resources Code, § 21167.2; *Laurel Heights Improvement Association, v. Regents of the University of California* (1993), 6 Cal.4th 1112, 1130.) In fact, CDFW is bound by the presumption of adequacy, except in extremely narrow circumstances. (Pub. Resources Code, § 21167.2; CEQA Guidelines, § 15096, subds. (e) and (f).) CDFW concludes such circumstances do not exist in the present case based on substantial evidence in its administrative record for the NCCP Permit.

3.3 Scope of CEQA Findings

CDFW is a responsible agency under CEQA for purposes of approving the HCP/NCCP because of its authority under NCCPA and the lead agency's prior actions with respect to the project. As a responsible agency, CDFW's CEQA obligations are "more limited" than those of the lead agency. (CEQA Guidelines, § 15096, subd. (g)(1).) CDFW, in particular, is "responsible for considering only the effects of those activities involved in the project which it is required by law to carry out or approve." (Pub. Resources Code, § 21002.1, subd. (d).) Thus, while CDFW must "consider the environmental effects" of the HCP/NCCP as disclosed in the environmental documents described above, CDFW "has responsibility for mitigating or avoiding only the direct or indirect environmental effects of those parts of the project which it decides to carry out, finance, or approve." (CEQA Guidelines, § 15096, subds. (f), (g)(1).) Accordingly, because CDFW's exercise of discretion is limited to approval of the HCP/NCCP and associated take authorizations, CDFW is responsible for considering only the environmental effects that fall within its authority under the NCCPA.

CDFW's more limited obligations as a responsible agency affect the scope of, but not the obligation to adopt, findings required by CEQA. Findings are required, in fact, by each "public agency" that approves a "project for which an environmental impact report has been certified which identifies one or more significant effects on the environment." (Pub. Resources Code, § 21081, subd. (a); CEQA Guidelines, § 15091, subd. (a); see also Pub. Resources Code, § 21068 ("significant effect on the environment defined"); CEQA Guidelines, § 15382 (same).) Because the County of Santa Clara certified the EIR in approving the HCP/NCCP, the obligation to adopt findings under CEQA necessarily applies to CDFW as a responsible agency. (CEQA Guidelines, § 15096, subd. (h); *Resource Defense Fund v. Local Agency Formation Comm. of Santa Cruz County* (1987) 191 Cal.App.3d 886, 896-898.)

The specific provision of the CEQA Guidelines addressing the responsible agency findings obligation is Section 15096, subdivision (h). That section provides, in pertinent part, that a "responsible agency shall make the findings required by Section 15091 for each significant effect of the project and shall make the findings in Section 15093 if necessary." (CEQA Guidelines, § 15096, subd. (h).) The scope of this charge in the guidelines is governed by statutory language concerning the extent of responsible agency decision making authority under CEQA. As noted above, the controlling statute provides that a "responsible agency shall be

responsible for considering only the effects of those activities involved in a project which it is required by law to carry out or approve.” (Pub. Resources Code, § 21002.1, subd. (d).) The same section underscores that the more limited scope of review for responsible agencies necessarily “applies only to decisions by a public agency to carry out or approve a project.” (*Ibid.*)

3.4 Legal Effect of the CEQA Findings

These findings are not merely informational. To the extent CDFW relies on implementation of particular measures to make a necessary finding under NCCPA, those measures constitute a binding set of obligations that take effect when CDFW approves the NCCP Permit for the HCP/NCCP. CDFW believes that all mitigation and conservation measures that it has relied on for purposes of its findings are separately required under the HCP/NCCP or the IA, or are express conditions of this NCCP Permit. Consequently CDFW does not anticipate that as a practical matter these findings, in and of themselves, will increase obligations of those operating under authority of this NCCP Permit.

3.5 CEQA Findings Regarding Potentially Significant Environmental Effects

The County of Santa Clara’s Final EIR/EIS for the Santa Clara HCP/NCCP analyzed the following impacts: Biological Resources, Land Use, Agricultural, Public Services, Recreation, Hazardous Materials, Hydrology and Water Quality, Socioeconomics and Environmental Justice, Geology, Soils and Seismicity, Cultural Resources, Transportation and Circulation, Noise, Air Quality and Greenhouse Gasses, Mineral Resources, Wildfire Hazards and the cumulative impacts associated with the overall HCP/NCCP. Issues deemed to be not as significant and therefore not selected for detailed analysis included: Visual Resources, Geology and Soils, Population and Housing, Public Services, Utilities and Services and Energy Resources (Volume I: Final EIR/EIS).

The Final EIR/EIS identified several potentially significant environmental impacts that would result with implementation of the HCP/NCCP. The County of Santa Clara concluded as the lead agency for the project under CEQA that these significant impacts could be avoided through the adoption of feasible mitigation measures. The County of Santa Clara found in the EIR/EIS that implementation of the HCP/NCCP would result in less than significant impacts to the following categories: Biological Resources, Land Use, Public Services, Recreation, Hydrology and Water Quality, Socioeconomic and Environmental Justice, Air Quality and Greenhouse Gasses, Mineral Resources and Wildfire Hazards. Potentially significant impacts to Agriculture, Hazardous Materials, Cultural Resources, Transportation and Circulation and Noise categories will be reduced to a less than significant level through implementation of mitigation measures identified in the EIR/EIS.

The EIR/EIS reiterates some of the information found in the HCP/NCCP and incorporates by reference the conservation, mitigation, and minimization and avoidance measures included with the HCP/NCCP. Chapter 6 of the HCP/NCCP discusses in detail specific incidental take minimization measures designed to minimize the impacts by averting the actual mortality or injury of individuals of the Covered Species. Avoidance and minimization measures required in the HCP/NCCP include, but are not limited to: (1) planning surveys; (2) pre-construction surveys; (3) construction monitoring; (4) specific conditions on Covered Activities; and, (5) species-specific take avoidance and minimization measures (Chapter 5).

The primary means of mitigating impacts and conserving Covered Species and natural communities is preservation of high-quality habitat in accordance with Reserve System design criteria outlined in Chapter 5 of the HCP/NCCP. Preservation may take place through outright acquisition or the placement of permanent conservation easements. Habitat enhancement, restoration, and creation are also important components of the conservation strategy. Vegetation communities or land cover types that provide habitat for Covered Species and which will be lost to Covered Activities will be mitigated by conserving and managing the same or similar communities or land cover types within the Reserve System. Habitat enhancement, restoration, and creation are intended to satisfy the goal of no net loss of certain resources (e.g., wetlands). In other cases, restoration and enhancement will be used to supplement preservation to adequately mitigate the loss of vegetation communities or land cover types. Definitions of enhancement, restoration, and creation can be found in Chapter 5 of the HCP/NCCP.

Most species-specific conservation will be accomplished by protecting, restoring, and managing habitat at the natural community level. For some species, the management actions described in the overall landscape- and natural community-level conservation measures are sufficient to conserve the Covered Species in the Reserve System. For those species, no additional conservation measures were developed. In other instances, particularly in the case of western burrowing owls and serpentine species, additional measures have been created that are specific to individual Covered Species (see Appendix M of the HCP/NCCP for the stand alone western burrowing owl strategy). These additional measures fill in gaps in the overall conservation strategy in ways that were not specifically addressed at the natural-community level.

Management measures will be implemented at the landscape, natural community, and species-specific levels. These management measures address the processes, threats and disturbances that affect habitat and species. Management measures will be periodically evaluated to ensure their effectiveness. These measures will benefit all species and habitats and are described in the Conservation Measures in Chapter 5 of the HCP/NCCP. The range of measures regarding habitat include natural regeneration, maintenance of existing or restored habitat, enhancement, revegetation, restoration and creation (Tables 5-11 and 5-13 HCP/NCCP).

These management measures may also occur on Santa Clara Valley Open Space Authority (OSA) or County of Santa Clara Parks and Recreation (Parks) lands that will be formally credited toward the land acquisition obligations and added to the Reserve System. Existing lands enrolled in the Reserve System must be consistent with the conservation strategy of the HCP/NCCP and be permanently protected and managed according to the same requirements as other units of the Reserve System. Possible contributions from OSA and Parks are summarized in Table 5-05.

Conservation actions to implement the HCP/NCCP will benefit non-Covered Species as well. Covered Activities in the HCP/NCCP will avoid all impacts on one plant species that is considered “no-take”. Contra Costa goldfields is considered extremely rare or extirpated from the HCP/NCCP area and the likelihood of discovering new populations is extremely unlikely. However, if a new population of is found, the protection of that plant or population will be of highest importance to the conservation of that species. If an occurrence of Contra Costa goldfields is found on a project site, the applicant is required to contact the USFWS for written concurrence of avoidance to ensure that the project does not jeopardize the continued existence of the species. In addition to Contra Costa goldfields, take of three of the covered plant species is limited or prohibited unless more occurrences are found before impacts occur. Take of any Loma Prieta hoita is prohibited unless new occurrences of equal or better quality than the potentially impacted occurrence are found and protected prior to any impact. Take of Tiburon Indian paintbrush is only allowed for management of the occurrences in Santa Clara County and take of only a very limited portion of one occurrence of coyote ceanothus (<5%) is allowed.

Several wildlife species that occur in the study area are listed as Fully Protected (as defined under Sections 3511 (birds) and 4700 (mammals) of the California Fish and Game Code): white-tailed kite, peregrine falcon, golden eagle, bald eagle, California condor and Ring-tailed cat. CDFW cannot issue permits for take of these species, except as provided in Fish and Game Code or for necessary scientific research or as provided in Fish and Game Code Section 2835 at the time of HCP/NCCP approval for species whose conservation and management is provided for in a NCCP. Covered Activities will avoid take of Fully Protected wildlife species as defined under the California Fish and Game Code. In addition, take of mountain lions is prohibited except as provided in Chapter 10 of Part 3 of Division 4 of the California Fish and Game Code.

All five Fully Protected raptor species may forage widely throughout the study area but nest in discrete locations. California condors are an occasional Santa Clara visitor. Activities covered under the HCP/NCCP must not disturb or destroy nests of these Fully Protected species, pursuant to Sections 3511 and 3503.5 of the California Fish and Game Code. These species are expected to benefit from the HCP/NCCP, through protection and management of additional foraging and nesting habitat.

Ring-tailed cats are likely to be found in woodlands in the study area. Ring-tailed cats will benefit from the preservation and restoration of riparian and woodland areas.

Planning surveys will establish whether suitable habitat is present for any of these species and projects will be designed to avoid take should any such species be found on the property.

Against this backdrop, this section presents CDFW's responsible agency findings with respect to the potentially significant environmental effects authorized by CDFW pursuant to the NCCP Permit issued to the Permittees under NCCPA. The NCCP Permit includes the 18 listed and non-listed species referred to collectively as "Covered Species" in the HCP/NCCP and the EIR/EIS. The take of Covered Species is allowed upon Permit issuance. The list of 18 Covered Species is found in Table 1-2 of the HCP/NCCP.

CDFW finds that conservation measures as set forth in the EIR/EIS, the IA, and the HCP/NCCP will mitigate or avoid the potential significant impacts of the HCP/NCCP on Covered Species.

CDFW hereby makes the following findings under CEQA with respect to the effects of proposed take on each species (organized by its primary natural community association) by the HCP/NCCP project as authorized under the NCCPA.

CEQA Findings for Covered Plant Species

Impact 3.5.1

Approval of the HCP/NCCP authorized under the NCCP Permit could result in potentially significant adverse impacts on the Covered Plant Species. These species include: Tiburon Indian paintbrush (*Castilleja affinis* ssp. *neglecta*); Coyote ceanothus (*Ceanothus ferrisae*); Mount Hamilton fountain thistle (*Cirsium fontinale* var. *campylon*); Santa Clara Valley dudleya (*Dudleya abramsii* ssp. *setchellii*); fragrant fritillary (*Fritillaria liliacea*); Loma Prieta hoita (*Hoita strobilina*); smooth lessingia (*Lessingia micradenia* var. *glabrata*); Metcalf Canyon jewel-flower (*Streptanthus albidus* ssp. *albidus*); most beautiful jewel-flower (*Streptanthus albidus* ssp. *peramoenus*).

Finding 3.5.1

CDFW finds that conservation measures required in the HCP/NCCP will mitigate or avoid the potentially significant impacts of the HCP/NCCP on Covered Plant Species to **below a level of significance**. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation 3.5.1:

NOTE1 In these findings, the term ‘take’ is used in preference to ‘impact’. This is because the HCP/NCCP makes a distinction between impacts that reduce the long-term viability of an occurrence (‘take’) and impacts that do not reduce the long-term viability of an occurrence ‘impact’. The HCP/NCCP analysis assumed that in most cases, occurrences that overlapped with the footprint of Covered Activities would result in complete loss of the occurrence. However, there will be some temporary or partial impacts to occurrences where the occurrence may recover in subsequent years and long-term viability is not affected.

For the purposes of this HCP/NCCP, an occurrence of an annual plant species will be assumed to retain long-term viability (impact but not take) and will not require replacement in the Reserve System if the decline in population size and percent cover from pre-project conditions is less than 25% over a monitoring period of at least 5 years (i.e., cumulative change over 5 years), unless site-specific conditions otherwise suggest substantial declines in population viability. The population size of annual covered plants may fluctuate more than 25% annually due to environmental variation such as rainfall.

An occurrence of a perennial plant species will be assumed to retain long-term viability and will not require replacement in the Reserve System if the decline in seedling recruitment and density from pre-project conditions is less than 25% over a monitoring period of at least 3 years, unless site-specific conditions otherwise suggest substantial declines in population viability (see Condition 20, Chapter 6).

Whenever the term ‘take’ is used in the following plant findings, it is assumed that the impact exceeds that of the standards listed above and will require protection of a like or better occurrence in the Reserve System.

NOTE2 Because the NCCP requires conservation of a Covered Species within the HCP/NCCP area, the protection ratios that follow are based on impact and mitigation/recovery relative only to the occurrences of the specific plant in the study area, not to the entire range.

Tiburon Indian paintbrush

Baseline: Tiburon Indian paintbrush is a California endemic with nine extant occurrences, two of which are in Santa Clara County. Both of the occurrences are on Coyote Ridge within the study area. One of these occurrences is within the boundaries of a conservation easement being developed for impacts associated with Kirby Canyon Landfill.

Impacts: Because of the limited number of occurrences and their locations, it is likely that the only impacts that could occur to this species are from management of its habitat (i.e. grazing or

burning). Take coverage under the HCP/NCCP is only allowed for management activities that benefit the species.

Mitigation/Conservation (Section 5.4.10): In addition to the avoidance measures associated with Covered Activities, mitigation and conservation will consist of the following:

The two known occurrences of Tiburon Indian paintbrush in the study area will be permanently protected upon successful implementation of the HCP/NCCP. One occurrence is anticipated to be permanently protected with a conservation easement by Kirby Canyon landfill very soon. The Implementing Entity of the HCP/NCCP will acquire the other occurrence which is currently under a temporary easement to mitigate effects of Kirby Canyon Landfill. Although the current easement expires in 2034, the Implementing Entity may permanently protect this occurrence at any time before Year 45 of the Permit term. If, for some reason, the second occurrence cannot be protected under the HCP/NCCP, the Implementing Entity will attempt creation of a new population, after consulting with the Wildlife Agencies. In addition, the Implementing Entity will increase the size of the acquired occurrence to at least 2,000 individuals (Objectives 20.15 and 20.16, Table 5-1d) .

To assist the long-term viability of this species, a permanent conservation seed bank for Tiburon Indian paintbrush will be established in the National Collection of Endangered Plants operated by the Center for Plant Conservation as a national repository of endangered plant seed stock. Seeds will be deposited at a local custodial institution (e.g., a botanic garden) designated by the Center for Plant Conservation. Progeny or seeds may be used in population reintroduction at sites of origin or to expand the geographic distribution of this species.

For an occurrence to count as protected under the HCP/NCCP, there will be a buffer of at least 500 feet between the occurrence and adverse land uses. Adverse land uses include permanent land uses that could endanger the long-term viability of the occurrence; including urban development, landfill, and other intensive land uses. This buffer may be reduced or increased in specific circumstances where, based on documented site conditions, plant occurrences are protected from adverse land uses by another means or site conditions warrant a larger buffer. For example, if a major physical barrier separates the occurrence from the land use or the occurrence is located upslope from the adverse land use, the buffer may be reduced. Conversely, if there are certain adverse land uses upslope from the occurrence and effects to the occurrence are expected, a buffer greater than 500 feet may be needed. These standards are easily achievable for both of the paintbrush occurrences.

Discussion: In Santa Clara County, Tiburon Indian Paintbrush is currently found on a sub-type of local serpentine soils, significantly limiting the amount of habitat that might support it. Because of this, discovery of new occurrences is not anticipated, but it remains a possibility. As a result, it is difficult to evaluate whether general acquisition of serpentine soils could benefit

this species; thus, such acquisitions are not considered in this finding. Impacts for the Tiburon Indian paintbrush will be very low intensity and are anticipated to be limited to those which might occur during conservation and management of the plant. Impacts are therefore temporary and beneficial in the long term. Conservation measures consist of acquisition of the one unprotected occurrence and increasing it in size to at least 2000 plants. Because of all these circumstances and measures, impacts which may occur to the Tiburon Indian paintbrush as a result of implementation of the HCP/NCCP are **less than significant**.

Coyote ceanothus

Baseline: Coyote ceanothus is a Santa Clara County endemic that grows on dry slopes with serpentine soils in chaparral, grassland and scrub communities. There are three occurrences for this species, all of them in the study area; one is located at and near Anderson Dam in the Diablo Range foothills; the second is approximately 0.5 miles north of the Anderson Dam occurrence and the third is across the valley, in the foothills of the Santa Cruz Mountains, approximately 0.5 miles north of Morgan Hill.

The largest of the occurrences is the one at Anderson Dam. Because most of the occurrence is on private property, an accurate estimate of the number of plants was difficult to make and was derived from comparisons with the portion of the occurrence on SCVWD property around the dam. Based on this estimate, the Anderson Dam occurrence is estimated to contain approximately 188,475 plants. The occurrence to the north is also on private land and is estimated to contain 150 plants and the occurrence north of Morgan Hill is estimated to contain up to 650 plants (HCP/NCCP, pp. 4-98 through 4-99).

The relationship between these occurrences was poorly understood until recently and some authorities considered the Anderson Dam occurrence to be two separate populations (CNDDB 2012). In 2012, genetic analysis revealed that the Morgan Hill occurrence differed significantly from the two eastern occurrences (USFWS, unpublished data).

Impacts: Take coverage for Coyote ceanothus is extremely limited and only allows up to 5% or 3,650 individual plants (whichever is smaller) to be taken from the Anderson Dam occurrence. Impacts will result from reconstruction of the dam to meet current seismic safety standards.

Mitigation/Conservation (Section 5.4.11): In addition to the avoidance measures associated with Covered Activities, mitigation and conservation will consist of the following:

The HCP/NCCP requires the protection of a total of five occurrences of Coyote ceanothus by the end of the Permit term. This total includes the three existing occurrences and two additional occurrences which will be either previously unknown populations or newly created ones. Propagation of this species is considerably better understood than for most covered plants and

there is a high degree of confidence that stable populations can be established by the end of the Permit term (J Hillman, pers com.). Population creation can occur no later than year 40 of the Permit term, to allow time to ensure that created populations are stable.

To successfully manage existing occurrences and create new occurrences of Coyote ceanothus, targeted studies will be conducted to determine factors limiting the expansion of extant occurrences, as well as those necessary for establishment and maintenance of a created occurrence. Such studies will include the effect of fire on seed germination and other possible germination requirements. If necessary, studies may also be conducted to determine requirements for successful transplanting to augment new occurrences. Other studies may focus on various factors related to management and microsite needs of the species at all life stages from germination through maturity (Objectives 20.2 and 20.3, Table 5-1d).

To assist the long-term viability of this species, a permanent conservation seed bank for Coyote ceanothus will be established in the National Collection of Endangered Plants operated by the Center for Plant Conservation as a national repository of endangered plant seed stock. Seeds will be deposited at a local custodial institution (e.g., a botanic garden) designated by the Center for Plant Conservation. Progeny or seeds may be used in population reintroduction at sites of origin or to expand the geographic distribution of this species.

For an occurrence to count as protected under the HCP/NCCP, there will be a buffer of at least 500 feet between the occurrence and adverse land uses (See Tiburon Indian Paintbrush, page 24 of these findings for full detail of this standard).

Discussion: Coyote ceanothus is found in a very limited range on an uncommon soil type, but anticipated HCP/NCCP related impacts are extremely limited as well. General acquisition of serpentine habitat for the HCP/NCCP may result in the acquisition of additional occurrences, although it is not possible to estimate how likely this will be. The primary mitigations for this species will be avoidance, limitation of impacts to less than 5% of the largest occurrence, protection of all of the extant occurrences and discovery/protection of at least two new occurrences or, if this does not occur by year 40 of the Permit term, creation of two new occurrences in consultation with the Wildlife agencies. It is also anticipated that population management through mechanical means or burning may will be tested to improve the health of any natural occurrences. Because of all these circumstances and measures, impacts which may occur to the Coyote ceanothus as a result of implementation of the HCP/NCCP are **less than significant**.

Mount Hamilton fountain thistle

Baseline: Mount Hamilton fountain thistle is a California endemic with 48 known occurrences, 40 of which are in the study area. It is hydrophilic and found in serpentine seeps or springs or on

serpentine soils along drainages. Most known occurrences are clustered along drainages associated with Coyote Ridge (35 occurrences) and northwest of Calero Reservoir (five occurrences). The thistle grows in groups of a few to as many as 18,000 plants. It is likely this plant has more occurrences than are currently known.

Impacts: Impacts to the plant could occur from any of the Covered Activities. The impact limit for this species, assuming no additional occurrences are found, is six occurrences (15% of local occurrences). All of the impacted occurrences will be from the larger grouping along Coyote Ridge. If more occurrences are discovered during the Permit term, as seems likely, then up to two more occurrences may be taken, as long as at least three additional occurrences are protected in the Reserve System prior to each additional impact. The additional protected occurrences must be of equal or better condition than the impacted occurrence.

Impacts to modeled habitat are limited to a maximum of 26 acres of permanent impact (5% of total modeled habitat) and 4 acres of temporary impacts (1%).

Mitigation/Conservation (Section 5.4.12): In addition to the avoidance measures associated with Covered Activities, mitigation and conservation will consist of the following:

The Implementing Entity will protect, maintain the viability of, and increase the number and size of populations of Mt. Hamilton thistle by acquiring and enhancing at least 22 known, extant occurrences if no additional occurrences are discovered during the Permit term. Two of the 22 occurrences are located in Santa Teresa County Park and Anderson Lake County Park and will be incorporated into the Reserve System. The Santa Teresa occurrence is from the smaller, western cluster. New population creation in lieu of protection of natural occurrences is not proposed for this species. Additional occurrences, previously unknown, will be subject to both additional take and conservation.

There are 487 acres of primary modeled habitat for Mt. Hamilton thistle within the study area. Under the HCP/NCCP, a minimum of 150 acres of modeled habitat will be acquired for the Reserve System. In addition, 60 acres of primary modeled habitat will be added to the Reserve System from existing open space. These acquisitions and additions will increase the proportion of protected modeled habitat in the study area to about 43%. It is expected that primary modeled habitat will be likely to contain new occurrences.

The Implementing Entity will manage and monitor the 22 occurrences so that each maintains a minimum occurrence size of 2,000 individuals as recommended by the Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area (U.S. Fish and Wildlife Service 1998c).

To successfully manage existing occurrences of Mt. Hamilton thistle, targeted studies will be conducted to determine factors limiting the expansion of extant occurrences. Such studies will include examining the effects of livestock grazing on the species by experimentally excluding

livestock and monitoring the effects on occurrences; control sites will be incorporated into these studies. Other studies may focus on various factors related to management and microsite needs of the species at all life stages from germination through maturity (Objectives 20.9 and 20.10, Table 5-1d).

To assist the long-term viability of this species, a permanent conservation seed bank for Mount Hamilton fountain thistle will be established in the National Collection of Endangered Plants operated by the Center for Plant Conservation as a national repository of endangered plant seed stock. Seeds will be deposited at a local custodial institution (e.g., a botanic garden) designated by the Center for Plant Conservation. Progeny or seeds may be used in population reintroduction at sites of origin or to expand the geographic distribution of this species.

For an occurrence to count as protected under the HCP/NCCP, there will be a buffer of at least 500 feet between the occurrence and adverse land uses. (See Tiburon Indian Paintbrush, page 24 of these findings for full detail of this standard).

Discussion: Although Mount Hamilton fountain thistle is restricted to damp serpentine soils, it appears fairly well distributed in that habitat. As a result, acquisition of the primary modeled habitat is likely to result in the protection of additional, currently undocumented occurrences. The impact cap is limited to 15% of local occurrences offset by the permanent protection and management of 55%, or, if enough additional occurrences are discovered, the impact and mitigation/recovery caps will be raised to 17% and 58% respectively. Additionally, although most of those acquired occurrences are associated with Coyote Ridge, one is from the much smaller western cluster and land acquisition for the Reserve System includes potential acquisitions in the western cluster area as well as along Coyote Ridge. This approach should protect both eastern and western occurrence clusters in perpetuity. Along with covered activity avoidance measures, seed bank establishment and planned studies, these circumstances and measures reduce impacts which may occur to the Mount Hamilton fountain thistle as a result of implementation of the HCP/NCCP to a level that is **less than significant**.

Santa Clara Valley dudleya

Baseline: Santa Clara Valley dudleya is a California endemic with 207 of the 209 known occurrences in the study area. The plant grows on rocky outcrops in serpentine grassland but may also found on outcrops in oak woodland. Most of the known occurrences are not currently recorded in the California Natural Diversity Database (“CNDDDB”). The species appears well distributed across the study area as long as habitat is present and it is very likely that there are more occurrences than are currently recorded. Because of this, it is likely that both the number and distribution of occurrences will increase during the Permit term.

Impacts: Impacts to Santa Clara Valley dudleya could occur from any of the Covered Activities. The initial impact limit for the species is 11 occurrences (5% of the Santa Clara County

occurrences). If additional occurrences are found, a maximum of three additional occurrences may be taken (6%). This is another species which is very likely to have undocumented occurrences in the study area. For additional occurrences to be taken, four new occurrences must be protected prior to each additional impact. The additionally protected occurrences must be of the same or better condition than the impacted occurrence.

Impacts to modeled habitat are expected to be a maximum of 550 acres (5.5% of the total in the study area) of serpentine bunchgrass grassland and 29 acres (11.2% of the total in the study area) of serpentine rock outcrop will be permanently affected. A maximum of 98 acres (1% of the total in the study area) of serpentine bunchgrass grassland and 2 acres (0.7% of the total in the study area) of serpentine rock outcrop will be temporarily affected.

Mitigation/Conservation (Section 5.4.13): In addition to the avoidance measures associated with covered activities, mitigation and conservation will consist of the following:

The Implementing Entity will protect, maintain the viability of, and increase the number and size of populations of Santa Clara Valley dudleya by acquiring and enhancing at least 55 known occurrences (Table 5-16) if no additional occurrences are discovered during the Permit term. If enough additional occurrences are found during the Permit term and additional take is allowed, a minimum of 67 occurrences will be protected in the Reserve System. For this species, it is not anticipated that creation of new occurrences will take place.

There are an estimated 10,274 acres of modeled habitat for Santa Clara Valley dudleya in the study area (10,012 acres of serpentine bunchgrass grassland and 262 acres of serpentine rock outcrop). The HCP/NCCP requires acquisition of at least 4,600 acres of serpentine bunchgrass grassland and 120 acres of rock outcrop by year 45 of the Permit term. These acquisitions will result in the permanent protection and management of at least 39% of the modeled habitat of this species.

To successfully manage existing occurrences of Santa Clara Valley dudleya, targeted studies will be conducted to determine the ecological definition of a population and the relationship between known occurrences and genetically-defined populations. Studies will also be conducted to determine factors limiting the expansion of extant occurrences (Biological Goals and Objectives, Objective 20.3 and 20.4, Table 5-1d).

The targeted studies will be used to inform the optimal population size for managed occurrences. For this species, the relationship between population and recorded occurrence is unclear. It is possible that multiple occurrences compromise a single population. At least 2,000 individuals per population will be established, as recommended in the *Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area* (U.S. Fish and Wildlife Service 1998c).

To assist the long-term viability of this species, a permanent conservation seed bank for Santa Clara Valley dudleya will be established in the National Collection of Endangered Plants operated by the Center for Plant Conservation as a national repository of endangered plant seed stock. Seeds will be deposited at a local custodial institution (e.g., a botanic garden) designated by the Center for Plant Conservation. Progeny or seeds may be used in population reintroduction at sites of origin or to expand the geographic distribution of this species.

For an occurrence to count as protected under the HCP/NCCP, there will be a buffer of at least 500 feet between the occurrence and adverse land uses (See Tiburon Indian Paintbrush, page 24 of these findings for full detail of this standard).

Discussion: Santa Clara Valley dudleya has the largest number of occurrences of any of the covered plant species. Although most known occurrences are on Coyote Ridge, the plant can be found on rock outcrops with serpentine influences throughout the study area and it is likely that acquisition of modeled habitat will result in the protection of currently undocumented occurrences. The take limits are 5% of the known occurrences offset by permanent protection and management of 27% of known occurrences or, if enough new occurrences are discovered, the take limits may be as high as 6% with a corresponding minimum of 30% of occurrences protected and managed. Along with avoidance measures, seed bank establishment and planned studies, these circumstances and measures reduce impacts which may occur to the Santa Clara Valley dudleya as a result of implementation of the HCP/NCCP to a level that is **less than significant**.

Fragrant fritillary

Baseline: Fragrant fritillary is a California endemic with 59 known occurrences, 8 of which are in the study area. The primary habitat for the species is bunchgrass grassland and it may also be found in moist, open areas in annual grassland, northern coastal scrub/Diablan sage scrub, and oak woodland. Six of the occurrences are along Coyote Ridge and the other two are west of Highway 101, in the foothills of the Santa Cruz Mountains. The western occurrences are smaller (in number of individual plants) than most of the eastern occurrences. The Santa Clara County occurrences of this species are located on the eastern boundary of the plant's range.

Impacts: The HCP/NCCP anticipates the loss of one occurrence as a result of Covered Activities (12.5% of Santa Clara occurrences). The occurrence which will be impacted is the smallest in the County, containing nine individual plants in 2000. An additional two occurrences may be taken if, during the Permit term, additional, previously unknown occurrences are discovered (19% of occurrences in Santa Clara).

A maximum of 550 acres of modeled primary habitat (bunchgrass grassland) and 4,171 acres of modeled secondary habitat (all other habitats) (6% and 3% of modeled habitat, respectively) may be permanently affected. A maximum of 59 acres of modeled primary habitat and 655 acres of

modeled secondary habitat, less than 1% of each of total modeled primary and secondary habitat, may be temporarily impacted.

Mitigation/Conservation (Section 5.4.14): In addition to the avoidance measures associated with Covered Activities, mitigation and conservation will consist of the following:

Assuming no additional occurrences are discovered, the Implementing Entity will protect, maintain the viability of, and increase the number and size of populations of fragrant fritillary by acquiring and enhancing a minimum of four occurrences by the end of the Permit term (Table 5-16). If enough new occurrences are found and acquired, a maximum of two additional occurrences may be taken. At least three new occurrences, of equal or greater condition to the occurrence to be impacted, must be acquired prior to each additional take. It is not anticipated that occurrence creation will be attempted for this species.

There are 165,455 acres of fragrant fritillary modeled habitat (primary and secondary) within the study area. The HCP/NCCP requires a minimum of 23,000 acres of modeled habitat to be acquired for the Reserve System (14% of modeled habitat). In addition, 4,000 acres will be added to the Reserve System from existing open space. Land acquisition that will protect primary and secondary modeled habitat will occur in almost all portions of the study area in which land acquisition will occur.

To successfully manage newly acquired occurrences of fragrant fritillary, targeted studies will be conducted to determine factors that limit occurrence expansion as well as those necessary for establishment and maintenance of new occurrences. Adaptive management decisions can then be developed on the basis of monitoring results (Biological Goals and Objectives, Objective 20.13 and 20.14, Table 5-1d).

The targeted studies will be used to inform the target occurrence size for each managed occurrence. The specific target occurrence size will be developed by Year 10 of implementation, based on empirical data collected on occurrences in the Reserve System and other best available science.

To assist the long-term viability of this species, a permanent conservation seed bank for fragrant fritillary will be established in the National Collection of Endangered Plants operated by the Center for Plant Conservation as a national repository of endangered plant seed stock. Seeds will be deposited at a local custodial institution (e.g., a botanic garden) designated by the Center for Plant Conservation. Progeny or seeds may be used in population reintroduction at sites of origin or to expand the geographic distribution of this species.

For an occurrence to count as protected under the HCP/NCCP, there will be a buffer of at least 500 feet between the occurrence and adverse land uses (See Tiburon Indian Paintbrush, page 24 of these findings for full detail of this standard).

Discussion: Because fragrant fritillary is very rare in Santa Clara County, take is limited to one occurrence unless other populations are found. Up to two additional occurrences may be taken as long as even more unknown populations (3 additional before each additional take) are found and protected and managed first. This approach ensures the protection and management of a minimum of 4 occurrences (50% of known occurrences) and up to 10 occurrences (62.5% of known and new occurrences) in the study area. Because of the very low level of take allowed and the high proportion of offsetting protection and management, along with avoidance measures, seed bank establishment and planned studies, these circumstances and measures reduce impacts which may occur to the fragrant fritillary as a result of implementation of the HCP/NCCP to a level that is **less than significant**.

Loma Prieta hoita

Baseline: Loma Prieta hoita is a California endemic with 29 known occurrences, 14 of which are in the study area. Of these, nine are already in partially protected areas (County Parks or other open space lands). Suitable habitat for Loma Prieta hoita occurs in mixed oak woodland and coast live oak forest and woodland (primary habitat) and northern mixed chaparral/chamise chaparral and mixed serpentine chaparral (secondary habitat).

Impacts: In part because of the high proportion of occurrences of this plant which are in partially protected habitats, it is not expected that any occurrences will be taken as a result of Covered Activities. Accordingly, no take of occurrences is covered under the HCP/NCCP, unless additional, currently undocumented populations are discovered. If enough additional occurrences are discovered and protected and managed during the Permit term, up to two occurrences of Loma Prieta hoita may be taken. For an occurrence of this species to be taken, at least two previously unknown occurrences of equal or better quality must be permanently protected and managed first.

Maximum impacts to modeled primary habitat are expected to be approximately 3,072 acres (3%) of permanent impacts and 413 acres (less than 1 %) of temporary impacts. A maximum of 359 acres (1%) of modeled secondary habitat may be permanently impacted, and 60 acres (less than 1%) may be impacted temporarily impacted

Mitigation/Conservation (Section 5.4.15): In addition to the avoidance measures associated with Covered Activities, mitigation and conservation will consist of the following:

The Implementing Entity will protect, maintain the viability of, and increase the number and size of populations of Loma Prieta hoita by acquiring and enhancing four extant occurrences within the study area (28%) (Table 5-16), if no additional occurrences are found during the Permit term. Of the four occurrences targeted for protection and management, three are currently located in

County parks. Up to two currently unknown occurrences of this species may be taken if two additional unknown occurrences of equal or greater condition are acquired and managed before each additional take (40% protection).

Because it is found in a broad range of habitats, Loma Prieta hoita is expected to benefit from acquisition and enhancement of natural communities that serve as primary or secondary modeled habitat and/or contain known or undiscovered occurrences, including chaparral and coastal scrub. There are 121,871 acres of Loma Prieta hoita modeled habitat (primary and secondary) within the study area. Under the HCP/NCCP, the Implementing Entity will acquire a minimum of 10,000 acres of modeled habitat for the Reserve System. In addition, 4,100 acres of modeled habitat will be added to the Reserve System from existing open space.

To successfully manage existing occurrences of Loma Prieta hoita, targeted studies will be conducted to determine factors limiting the expansion of extant occurrences. Other studies may focus on factors related to management and microsite needs of the species at all life stages from germination through maturity. Adaptive management decisions can then be developed on the basis of monitoring results (Biological Goals and Objectives, Objective 20.17 and 20.18, Table 5-1d).

The targeted studies will be used to inform the target occurrence size for managed occurrences. The specific target occurrence size will be developed by Year 10 of implementation, based on empirical data collected on occurrences in the Reserve System and other best available science.

To assist the long-term viability of this species, a permanent conservation seed bank for Loma Prieta hoita will be established in the National Collection of Endangered Plants operated by the Center for Plant Conservation as a national repository of endangered plant seed stock. Seeds will be deposited at a local custodial institution (e.g., a botanic garden) designated by the Center for Plant Conservation. Progeny or seeds may be used in population reintroduction at sites of origin or to expand the geographic distribution of this species.

For an occurrence to count as protected under the HCP/NCCP, there will be a buffer of at least 500 feet between the occurrence and adverse land uses (See Tiburon Indian Paintbrush, page 24 of these findings for full detail of this standard).

Discussion: Because of the low number of occurrences of this plant in the study area, take will not be covered under the HCP/NCCP unless additional populations are found. In the absence of new occurrences, the protection and management of the existing populations ((27%) is fairly high since no take is occurring. If new occurrences are found, the maximum take limit is 10% and the required offsetting protection and management will be 40%. Because of the very low level of take allowed and the high proportion of offsetting protection and management, along with avoidance measures, seed bank establishment and planned studies, these circumstances and measures reduce impacts which may occur to the Loma Prieta hoita as a result of implementation of the HCP/NCCP to a level that is **less than significant**.

Smooth lessingia

Baseline: Smooth lessingia is a Santa Clara endemic with 39 currently known occurrences, 38 of which are in the study area. The plant is widely distributed in the western portion of the study area and at least 14 of the known occurrences enjoy some type of protection. This species may be more common than is currently known as it is easily confused with slenderstem lessingia, *Lessingia nemaclada*. Studies are currently underway to determine the correct relationship between and distribution of these two plants. Accordingly, there are likely to be more occurrences of smooth lessingia found during the Permit term (Janell Hillman, pers com). As an illustration, since 2005, the number of CNDDDB occurrences has risen from 11 to 30 and there are more waiting to be added. Suitable habitat for smooth lessingia includes serpentine bunchgrass grassland and serpentine rock outcrops.

Impacts: Take of up to six occurrences (16% of known occurrences) is expected, entirely from SCVWD dam projects and this represents the initial maximum take for the species. Assuming other, currently unknown occurrences are found and protected prior to additional take, up to three of the currently undocumented occurrences may be taken. The protected occurrences must be of the same or better quality than the occurrence(s) taken. For the additional occurrences to be taken, two additional new occurrences must be protected prior to each additional take.

Impacts to modeled habitat are expected to be a maximum of 550 acres (5.5% of total in study area) of serpentine bunchgrass grassland and 29 acres (11.2% of total in study area) of serpentine rock outcrop will be permanently affected. A maximum of 98 acres (1% of total in study area) of serpentine bunchgrass grassland and 2 acres (0.7% of total in study area) of serpentine rock outcrop will be temporarily affected.

Mitigation/Conservation (Section 5.4.16): In addition to the avoidance measures associated with Covered Activities, mitigation and conservation will consist of the following:

The Implementing Entity will protect, maintain the viability of, and increase the number and size of occurrences of smooth lessingia by protecting and enhancing a total of 24 extant occurrences (63% of known occurrences) in the permit area (Table 5-16) if no additional occurrences are discovered during the Permit term. Twelve of the 24 protected occurrences must be naturally-occurring populations and will fulfill mitigation requirements for the impact of up to six occurrences. Five of these twelve natural occurrences will be protected through the incorporation of County Park lands into the Reserve System. The other 12 occurrences will be protected by the Implementing Entity through two possible methods, in the order of priority: (1) acquire land for the Reserve System that supports new or rediscovered historical occurrences by Year 45, or (2) create new occurrences within the Reserve System by Year 40. If enough new occurrences are documented during the Permit term and take is increased to 9 occurrences (17%

of known occurrences), the mitigation and conservation for smooth lessingia impacts will be protection and management of at least 30 occurrences (58% of known occurrences).

There are an estimated 10,274 acres of modeled habitat for smooth lessingia in the study area (10,012 acres of serpentine bunchgrass grassland and 262 acres of serpentine rock outcrop). The HCP/NCCP requires acquisition of at least 4,600 acres of serpentine bunchgrass grassland and 120 acres of rock outcrop by year 45 of the Permit term. These acquisitions will result in the permanent protection and management of at least 39% of the modeled habitat of this species.

Targeted studies will be used to attempt to determine factors limiting the expansion of extant occurrences and inform the target occurrence size for managed occurrences. At least 2,000 individuals per occurrence will be established, as recommended in the *Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area* (U.S. Fish and Wildlife Service 1998c); if approved by the Wildlife Agencies, this number will be adjusted as necessary pending research carried out during HCP/NCCP implementation to assure viable occurrences of this species (Biological Goals and Objectives, Objective 20.11 and 20.12, Table 5-1d).

To assist the long-term viability of this species, a permanent conservation seed bank for smooth lessingia will be established in the National Collection of Endangered Plants operated by the Center for Plant Conservation as a national repository of endangered plant seed stock. Seeds will be deposited at a local custodial institution (e.g., a botanic garden) designated by the Center for Plant Conservation. Progeny or seeds may be used in population reintroduction at sites of origin or to expand the geographic distribution of this species.

For an occurrence to count as protected under the HCP/NCCP, there will be a buffer of at least 500 feet between the occurrence and adverse land uses (See Tiburon Indian Paintbrush, page 24 of these findings for full detail of this standard).

Discussion: Smooth lessingia has a broad distribution within the western portion of the study area and it is very likely that there are additional occurrences that will be discovered during the Permit term. Smooth lessingia may also be more common than currently believed because the similarity the plant has to slenderstem lessingia has likely resulted in some misidentifications. Due to these circumstances, it is probable that general acquisition of lands containing the preferred habitats will contain previously unknown occurrences of the plant. The initial take limits are 16% of the known occurrences offset by permanent protection and management of 63% of known occurrences or, if enough new occurrences are discovered, the take limits may be as high as 17% with a corresponding minimum of 58% of occurrences. Along with avoidance measures, seed bank establishment and planned studies, these circumstances and measures reduce impacts which may occur to the smooth lessingia as a result of implementation of the HCP/NCCP to a level that is **less than significant**.

Most beautiful jewelflower

Baseline: Most beautiful jewelflower is a California endemic with 86 occurrences, 39 of which are in the study area. The actual number of occurrences is probably larger than this but cannot be determined at this time. A private parcel on Coyote Ridge contains at least 68 occurrences of a jewelflower, but they have not been differentiated between most beautiful jewelflower or Metcalf Canyon jewelflower (see next) at this time (Arcadis, 2008). It is likely that both subspecies are present on that parcel. The parcel is a high priority acquisition for the Reserve System. The plant is widely distributed across the western portion of the study area, with at least 20 of the 39 identified occurrences being found west of Highway 101. Suitable habitat for this species includes primary habitat in serpentine bunchgrass grassland, serpentine rock outcrops/barren, and mixed serpentine chaparral. Secondary habitat includes non-serpentine rock outcrops.

Impacts: Impacts to most beautiful jewelflower could occur from many of the Covered Activities. The initial take cap for this species is six occurrences (15% of currently identified occurrences). If enough other newly identified occurrences are found, up to two of the newly identified occurrences may be taken, assuming at least two other newly identified occurrences are protected before each additional take occurs (18% of identified occurrences). The protected occurrences must be of equal or greater condition than each taken occurrence.

A maximum of 550 acres (4% of the total in the study area) of primary modeled habitat will be permanently affected by Covered Activities, and a maximum of 92 acres (less than 1% of the total in the study area) of primary modeled habitat will be temporarily affected. No secondary habitat is anticipated to be impacted.

Mitigation/Conservation (Section 5.4.18): In addition to the avoidance measures associated with Covered Activities, mitigation and conservation will consist of the following:

The Implementing Entity will protect, maintain the viability of, and increase the number and size of populations of most beautiful jewelflower by acquiring and enhancing 17 known occurrences in the permit area (44% of known occurrences (Table 5-16)). This includes acquisition of nine known occurrences for the Reserve System and the addition of eight known occurrences when portions of County Parks units are added to the Reserve System. If additional, newly identified occurrences are discovered during the Permit term and the take cap is raised to eight occurrences, then the minimum number of occurrences to be protected and managed in the Reserve System will be 21 occurrences (47% of known occurrences). For this plant, it is not anticipated that creation of new occurrences will be part of the conservation strategy.

There are 14,362 acres of most beautiful jewelflower modeled habitat (primary and secondary) within the study area. Under the HCP/NCCP, a minimum of 4,000 acres of modeled habitat will

be acquired for the Reserve System. In addition, 1,700 acres of modeled habitat will be added to the Reserve System from existing open space.

Land acquired for the Reserve System will protect suitable habitat along Coyote Ridge, in the Santa Teresa Hills, west of Chesbro Reservoir as well as near Morgan Hill and in the southern end of the study area in the Santa Cruz Mountain foothills. Target areas include Coyote Ridge near Metcalf Canyon where 68 occurrences of an unidentified jewelflower have been found (Arcadis 2008).

To successfully manage occurrences of most beautiful jewelflower, targeted studies will be conducted to determine factors that limit occurrence expansion. Adaptive management decisions can then be developed on the basis of monitoring results to mitigate, minimize, or eliminate limiting factors (Biological Goals and Objectives, Objective 20.7 and 20.8, Table 5-1d).

The targeted studies will be used to inform the target size for managed occurrences. At least 2,000 individuals per occurrence will be established, as recommended in the *Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area* (U.S. Fish and Wildlife Service 1998c); if approved by the Wildlife Agencies, this number will be adjusted as necessary pending research carried out during HCP/NCCP implementation to assure viable occurrences of this species.

To assist the long-term viability of this species, a permanent conservation seed bank for most beautiful jewelflower will be established in the National Collection of Endangered Plants operated by the Center for Plant Conservation as a national repository of endangered plant seed stock. Seeds will be deposited at a local custodial institution (e.g., a botanic garden) designated by the Center for Plant Conservation. Progeny or seeds may be used in population reintroduction at sites of origin or to expand the geographic distribution of this species.

For an occurrence to count as protected under the HCP/NCCP, there will be a buffer of at least 500 feet between the occurrence and adverse land uses (See Tiburon Indian Paintbrush, page 24 of these findings for full detail of this standard).

Discussion: The HCP/NCCP proposes to limit the take of occurrences of this plant to 15% of currently identified occurrences or up to 18% if enough newly identified occurrences are documented during the Permit term. Offsetting mitigation and conservation will consist of the permanent protection and management of 44% of the known occurrences (47% if the extended impact cap is reached). The scale of this permanent protection, together with the required avoidance measures, seed bank establishment and planned studies, reduce impacts which may occur to the most beautiful jewelflower as a result of implementation of the HCP/NCCP to a level that is **less than significant**.

Metcalf Canyon jewelflower

Baseline: Metcalf Canyon jewelflower is a Santa Clara endemic with 10 known occurrences, all of which are in the study area. The actual number of occurrences is probably larger than this but cannot be precisely determined at this time. A private parcel on Coyote Ridge contains at least 68 occurrences of a jewelflower, but they have not been positively identified as being either most beautiful jewelflower (see above) or Metcalf Canyon jewelflower (Arcadis, 2008). It is likely that both subspecies are present on that parcel. The parcel is a high priority acquisition for the Reserve System. Most of the occurrences are grouped near Coyote Ridge. Suitable habitat for Metcalf Canyon jewelflower includes serpentine bunchgrass grassland and serpentine rock outcrops.

Impacts: Impacts to two occurrences of Metcalf Canyon jewelflower are expected from SCVWD activities. It is anticipated that the impacts will be partial, but it is not possible to tell if the impact will exceed the threshold to be considered take under the HCP/NCCP (see Note 1, above), therefore the impacts will be considered take. Take of two occurrences amounts to 20% of the occurrences in the study area. No increase in the take cap is proposed for this species.

Impacts to modeled habitat are expected to be a maximum of 550 acres (5.5% of total in study area) of serpentine bunchgrass grassland and 29 acres (11.2% of total in study area) of serpentine rock outcrop will be permanently affected. A maximum of 98 acres (1% of total in study area) of serpentine bunchgrass grassland and 2 acres (0.7% of total in study area) of serpentine rock outcrop will be temporarily affected.

Mitigation/Conservation (Section 5.4.17): In addition to the avoidance measures associated with Covered Activities, mitigation and conservation will consist of the following:

The Implementing Entity will protect, maintain the viability of, and increase the number and size of populations of Metcalf Canyon jewelflower by protecting a total of 13 occurrences in the permit area (130% of currently identified occurrences). To do this, the Implementing Entity will acquire and enhance at least three known occurrences (30%) in the permit area (Table 5-16). The Implementing Entity will also protect 10 new occurrences through two possible methods, in order of priority: (1) acquire land for the Reserve System that supports new or rediscovered historical occurrences by Year 45, or (2) create new occurrences within the Reserve System by Year 40.

There are an estimated 10,274 acres of modeled habitat for Metcalf Canyon jewelflower in the study area (10,012 acres of serpentine bunchgrass grassland and 262 acres of serpentine rock outcrop). The HCP/NCCP requires acquisition of at least 4,600 acres of serpentine bunchgrass grassland and 120 acres of rock outcrop by year 45 of the Permit term. These acquisitions will result in the permanent protection and management of at least 39% of the modeled habitat of this species.

Targeted studies will attempt to determine factors limiting the expansion of extant occurrences and be used to inform the target occurrence size for managed occurrences. At least 2,000 individuals per occurrence will be established, as recommended in the *Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area* (U.S. Fish and Wildlife Service 1998c); if approved by the Wildlife Agencies, this number will be adjusted as necessary pending research carried out during HCP/NCCP implementation to assure viable occurrences of this species (Biological Goals and Objectives, Objective 20.5 and 20.6, Table 5-1d).

To assist the long-term viability of this species, a permanent conservation seed bank for Metcalf Canyon jewelflower will be established in the National Collection of Endangered Plants operated by the Center for Plant Conservation as a national repository of endangered plant seed stock. Seeds will be deposited at a local custodial institution (e.g., a botanic garden) designated by the Center for Plant Conservation. Progeny or seeds may be used in population reintroduction at sites of origin or to expand the geographic distribution of this species.

For an occurrence to count as protected under the HCP/NCCP, there will be a buffer of at least 500 feet between the occurrence and adverse land uses. (See Tiburon Indian Paintbrush, page 24 of these findings for full detail of this standard).

Discussion: The number of currently identified occurrences of Metcalf Canyon jewelflower in the study area is very small (10) and there is only one known additional occurrence outside the study area. Although the impact cap for this plant appears somewhat high, particularly for one with this limited a range, there are mitigating circumstances. First, there may be considerably more occurrences than currently documented. The private parcel on Coyote Ridge with 68 unidentified occurrences is likely to be made up mostly of this subspecies (Hillman, pers.com.). Second, the two occurrences which will be impacted may not be removed entirely and may not even have their long term viability significantly damaged. Finally, the two impacted occurrences are in relatively close proximity to one another and other occurrences, so the overall range of the subspecies will not be overly impacted. The offsetting mitigation and conservation proposed for the plant is the highest of all covered plants, with a commitment to permanently protect and manage more occurrences than are currently known (13). Since there is at least one location thought to contain occurrences of Metcalf Canyon jewelflower, this is not as unlikely a goal as it might appear. The scale of this permanent protection, together with the required avoidance measures, seed bank establishment and planned studies, reduce impacts which may occur to the Metcalf Canyon jewelflower as a result HCP/NCCP implementation to a level that is **less than significant**.

Summary of CEQA Findings for Covered Plant Species

The Department finds that issuance of the Permit could result in significant impacts on these Covered Plant Species from development and other Covered Activities contemplated by the HCP/NCCP. Likewise, the Department finds that all impacts on these species and their habitat

associated with the Department's issuance of the Permit will be avoided or mitigated to below a level of significance under CEQA through adherence to and implementation of the HCP/NCCP. In so doing, the Department's findings under CEQA with respect to these species are consistent with the findings of the lead agency on the same subject (see Final EIR/EIS Chapter 5). The Department's findings are based on the overall conservation strategy, species-specific minimization and avoidance measures, monitoring and management program, and species-specific biological objectives, minimization and avoidance measures (HCP/NCCP Sections 5.3.3-5.3.7., 5.4.10-18, Tables 5-1a,b,d, 5-2a and b, Sections 6.3, Conditions 6, 7, 8, 9, 13, 14, 19 and 20, and Volume 4: Appendix D Species Accounts).

Impact 3.5.2

Approval of the HCP/NCCP authorized under the NCCP Permit could result in potentially significant adverse impacts on the Covered Wildlife Species: San Joaquin kit fox (*Vulpes macrotus mutica*), western burrowing owl (*Athene cunicularia hypugea*), least Bell's vireo (*Vireo bellii pusillus*), tricolored blackbird (*Agelaius tricolor*), California red-legged frog (*Rana aurora draytonii*), foothill yellow-legged frog (*Rana boylei*), California tiger salamander (*Ambystoma californiense*), western pond turtle (*Clemmys marmorata marmorata*), Bay checkerspot butterfly (*Euphydryas editha bayensis*)

Finding 3.5.2

The Department finds that changes or alterations have been required in or incorporated into the HCP/NCCP and CDFW's NCCP Permit which mitigate or avoid the potential significant impacts of the HCP/NCCP on Covered Wildlife Species to below a level of significance. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)

Explanation 3.5.2:

San Joaquin kit fox

Baseline: San Joaquin kit fox (SJKF) are extremely rare in Santa Clara County. Historical records indicate that the fox was likely found in the southern part of the study area (CNDDB, 2012) with three possible records based on pre 1980 range maps. There are also records from northern San Benito County, including one den, but the date is also old and the exact location somewhat vague. There is only one recent Santa Clara County record, at Bell Station, off Highway 152 in the eastern portion of the study area (CNDDB, kit fox occurrence #45, 2002). Local biologists believe that eastern Santa Clara is too hilly for the species and they have likely been extirpated from southern Santa Clara County (Karlton, Joanne, pers com 2002; Allaback, Mark, pers com 2005). SJKF found in Santa Clara County will most likely to be few in number and dispersing individuals rather than breeding pairs or established colonies.

Impacts: Because of the rarity of the species in the study area and the importance of maintaining all individuals that occur, the HCP/NCCP does not authorize take of San Joaquin kit fox in the form of injury or mortality.

Covered Activities that occur along the Pacheco Creek corridor and in the portion of the study area south of Henry W. Coe State Park have the potential to affect SJKF. Any new rural development that occurs along the SR 152 corridor could fragment movement habitat and potentially affect movement patterns. Increased vehicular traffic following road widening or creation of new driveways or access roads within movement habitat may increase the risk of injury or death of kit fox on roadways (injury or death of kit fox by vehicular collisions is not covered by this HCP/NCCP). Any Covered Activities that require the excavation of burrows or removal of habitat with existing California ground squirrel colonies have the potential to degrade kit fox habitat.

A maximum of 225 acres of modeled secondary kit fox habitat (less than 1% of modeled habitat), will be permanently removed or degraded and a maximum of 46 acres (less than 1% of modeled habitat) will temporarily affected by Covered Activities. A maximum of 39 acres of modeled secondary (low use) kit fox habitat (2% of modeled habitat), will be permanently removed or degraded and a maximum of 6 acres (less than 1% of modeled habitat) will temporarily affected by Covered Activities.

Mitigation/Recovery (Section 5.4.9): Because of the very limited presence of this species in the study area, mitigation and conservation will focus on increasing the ability of SJKF to move within and through the study area and increase the likelihood of future breeding. Land acquisition and habitat enhancement will focus on building connections between core populations outside of the study area (such as the San Joaquin Valley and eastern San Benito County SJKF) to contribute to the *Level A Strategy* identified in the *Recovery Plan for Upland Species of the San Joaquin Valley* (U.S. Fish and Wildlife Service 1998a).

Acquisition, enhancement, and restoration of grasslands, oak woodlands, riparian forest and scrub, and seasonal wetlands in the southern and eastern portions of the County is expected to benefit San Joaquin kit fox through foraging and movement habitat conservation and management. There are 40,892 acres of modeled San Joaquin kit fox habitat (includes secondary and low-use secondary habitat) within the study area. Although not modeled, some of this habitat may also be potential breeding habitat.

In addition to the survey and avoidance measures of Condition 18 in Chapter 6 of the HCP/NCCP, several specific actions will be taken by the Implementing Entity to improve passage for SJKF. At locations identified by pre-acquisition assessments and targeted studies and informed by the monitoring and adaptive management program, the Implementing Entity in coordination with agencies responsible for road maintenance, will remove fences, remove or perforate median barriers, enhance culverts, install free span bridges and install directional fencing to allow and encourage wildlife to move freely under roadways.

Finally, the Implementing Entity will conduct a public education campaign in the southeastern portion of the study area to provide landowners with information about management and land use techniques that are more compatible with movement and use by San Joaquin kit fox (Biological Goals and Objectives, Objective 2.3, Table 5-1a, Objectives 14.1 through 14.2, Table 5-1c).

Discussion: Impacts on San Joaquin kit fox are expected to be very low, due to the limited occurrence of the species in the study area. Impacts which do occur will be primarily to modeled habitat. Impacts will be more than offset by acquisition of more than 40,000 acres of modeled habitat, much of it along the Highway 152 corridor or the portion of the Diablo Range that connects to the Pajaro River corridor, the imposition of survey and avoidance measures to limit or eliminate death or injury to individuals, enhancement and reconfiguration of crossing and movement areas and public education. These circumstances and measures reduce impacts which may occur to the San Joaquin kit fox as a result of the implementation of the HCP/NCCP to a level that is **less than significant**.

Western burrowing owl

Baseline: Historically, western burrowing owls were an abundant species in most of the San Francisco Bay area (SFBA), but were most common in Alameda, Contra Costa and Santa Clara Counties. Mirroring declines in the rest of California, the western burrowing owl population in the SFBA declined precipitously by the middle of the 20th century, primarily due to ground squirrel control and habitat conversion (Barclay, et al, 2007). In Santa Clara County, the decline has increased at an even greater pace in the last 20 years and there are now only four known locations with more than five pairs of breeding owls: Shoreline Park in Mountain View, Moffett Field in Sunnyvale, Norman Mineta International Airport in San Jose and a geographic area roughly within a triangle defined by Alviso, northern San Jose and the Water Pollution Control Plant NE of San Jose. In the early 1990s there were an estimated 150–170 breeding pairs in the San Francisco Bay area (DeSante et al. 1997). It was estimated that these numbers represented a 53% decline from the previous census period of 1986–1990 and more recent numbers indicate that, if anything, the downward trend is increasing. In those estimates it was assumed that 75% of the San Francisco Bay Area burrowing owl population occurred in Santa Clara County and nearly all of those owls were congregated around the southern edge of the San Francisco Bay.

Except for the Shoreline population, all of the remaining breeding sites are under threat and none of them have permanent protection. Only one, the geographic area north of San Jose, is partially inside the study area.

Impacts: Because of the limited distribution of western burrowing owls in the study area, direct take of individual owls is very limited and is not authorized at all during the first 10 years except for conservation actions. After the initial 10 year moratorium, take of individual owls due to Covered Activities will be allowed on a limited basis only after it has been demonstrated that the

local population is in a positive growth trend. Sufficient evidence of a positive growth trend can only be obtained through utilization of the Population Viability Analysis (PVA) developed for the HCP/NCCP western burrowing owl conservation strategy. Once the local population growth reaches a positive trajectory, take of owls above the number necessary to maintain the positive increase may be authorized.

Based on what is known about the recent distribution of nesting western burrowing owls in the study area and the propensity of western burrowing owls to forage within 0.5 mile of nest sites during the breeding season (Rosenberg and Haley 2004), there are an estimated 1,348 acres of occupied nesting habitat (defined as breeding sites and associated essential foraging habitat within 0.5 mile of nest sites) in the study area. A maximum of 198 acres (15%) of occupied western burrowing owl nesting habitat could be lost to Covered Activities within the HCP/NCCP study area. Temporary impacts will not exceed 20 acres (2%) of occupied nesting habitat.

Since the NCCP proposes an aggressive strategy to stabilize and restore western burrowing owls in the study area, take of individual owls, primarily capture for translocation, could occur from conservation activities as a result of studies and population management actions.

There are an estimated 62,935 acres of potential nesting habitat in the study area. Potential nesting habitat is valley floor habitat that is outside of 0.5 mile of current nest locations but within 7.5 miles (documented movement distances of banded owls in Santa Clara County) of known nest locations (Figure 5-11). A maximum of 4,000 acres (6%) of potential western burrowing owl nesting habitat in the permit area may be permanently affected by Covered Activities. Temporary impacts will not exceed 40 acres (< 1 %) of potential nesting habitat. Impacts to potential nesting habitat will occur primarily as the result of rural residential development in unincorporated County areas, San José, Gilroy, or Morgan Hill. Additional impacts are expected on some types of agricultural lands on the valley floor, where agricultural lands are converted to other uses.

A maximum of 12,127 acres or 9% of modeled overwintering habitat in the study area will be permanently affected by Covered Activities. Temporary impacts will not exceed 762 acres (less than 1%) of modeled overwintering habitat.

Mitigation/Recovery (Section 5.4.6): A stand-alone conservation strategy has been developed for western burrowing owls as part of the NCCP (Appendix M). The basis of the strategy is the PVA, which provides a defensible process for setting specific population goals to stabilize and recover the species in the study area. The PVA identifies the number of western burrowing owls which need to be added to the local population annually to reverse the current downward trend. Use of the PVA also provides a way to test whether implementation of the conservation actions are working adequately or need to be revised.

The mechanics of the strategy are founded in a three phase approach: a) Stabilize and increase existing occurrences; b) Encourage natural expansion of western burrowing owls from extant breeding sites to new sites within easy dispersal distance; c) Implementation of more aggressive strategies, such as feed supplementation, artificial breeding and other population augmentation strategies if use of a and b alone are not sufficient to reverse the population trend. Phases 'a' and 'b' will be implemented immediately on HCP/NCCP start-up and 'c' will be used any time the PVA growth curve is not in a positive trend. As the PVA curve is currently negative, it is anticipated that measures associated with 'c' will be tested immediately and begin to be implemented once the best techniques are identified. Scientific studies will be used to test any non-passive conservation techniques before they are implemented.

Discussion: Western burrowing owls are present in the HCP/NCCP Area, albeit in very limited numbers and their local population is experiencing severe decline which will lead to extirpation in the near future. Accordingly, take of individual owls is prohibited until (and if) this trend is reversed. Conservation actions, including land and easement acquisition in appropriate areas to provide opportunities for natural expansion, exploration of the possibility of opening currently unavailable areas (such as closed landfills) for colonization and investigation of more active measures after scientific study are the only feasible way to reverse this decline.

The prohibition of take except for conservation purposes, combined with a full suite of passive and active conservation measures and acquisition of a minimum of 5300 acres of potential nesting habitat, provides for full mitigation of impacts. Along with surveys and avoidance measures to be implemented in areas where western burrowing owls might occur, these circumstances and measures reduce impacts which may occur to western burrowing owls and western burrowing owl habitat as a result of implementation of the HCP/NCCP to a level that is **less than significant**.

Least Bell's vireo

Baseline: Least Bell's vireo is naturally very rare in Santa Clara County. The historical breeding range of the species extended to northern Monterey County and into the San Joaquin Valley east of Santa Clara County. Historical records in the area consist of one bird collected in San Mateo County in April 1905 and an active nest along the Pajaro River in the southwestern part of the County (and in the HCP/NCCP Area) in April 1932. As the range of the species contracted significantly in the first 80 years of the 20th century, the bird completely vanished from Santa Clara. Currently, least Bell's vireo consistently breeds no further north than Santa Barbara County. There are a number of more recent out of range records in recent years, including several singing males in Monterey County and one along the Pajaro River in Santa Cruz County in 1996. In May 1997, a confirmed nesting was documented on Llagas Creek, east of Gilroy. It is not known whether the attempt was successful (Santa Clara Valley Audubon Society 2007). Because the least Bell's vireo may be expanding its range, the HCP/NCCP partners decided to seek coverage.

Impacts: Because of the rarity of the species in the study area and the importance of maintaining all individuals that occur, the HCP/NCCP does not authorize take in the form of death, injury or take of active nests or eggs. Covered Activities that result in the removal or alteration of riparian habitat within the study area will impact least Bell's vireo habitat. Moreover, any activity that diminishes dynamic riverine events (i.e., floods) that cause natural disturbance and create early successional habitats will reduce the amount of breeding habitat available for this species.

Covered Activities will not exceed 181 acres of permanent impacts on primary least Bell's vireo modeled habitat, or 6% of the total 2,868 acres of modeled habitat in the study area. Temporary impacts will not exceed 43 acres (1% of total modeled habitat) of modeled habitat.

Because of the limited range of this species in Santa Clara County, covered impacts to modeled habitat are limited to the Santa Cruz Mountains foothill and the valley floor in the South County. Impacts to least Bell's vireo modeled primary habitat are anticipated to occur along riparian corridors in the Uvas and Llagas Creek watersheds.

Mitigation/Recovery (Section 5.4.7): The Implementing Entity will work to facilitate the expansion of breeding least Bell's vireos into the study area and increase reproductive success of the bird. This will be done by acquiring and restoring riparian woodland and forest with and open canopy and understory of willows.

There are 3,097 acres of primary least Bell's vireo modeled habitat in the study area. The HCP/NCCP proposes to acquire a minimum of 600 acres of least Bell's vireo primary modeled habitat for the Reserve System. In addition, 2 acres of primary modeled habitat will be added to the Reserve System from existing open space. In addition to habitat acquisition into the Reserve System, the Implementing Entity will also restore or create a minimum of 50 acres and up to 339 acres of willow riparian forest and scrub or mixed riparian forest and woodland. These acquisitions and enhancements will take place in the Uvas, Llagas, Pacheco and Pajaro drainages, since that is where least Bell's vireos are most likely to be found.

A brown-headed cowbird management program will be implemented if least Bell's vireos become regular nesters in the study area (>3 nests over at least two consecutive years) and brown-headed cowbird eggs are discovered in least Bell's vireo nests. The monitoring and management program will be implemented consistent with guidelines of the North American Cowbird Advisory Council, or the best scientific information available at the time, and with oversight from CDFW and USFWS. If other predators are shown to adversely affect the nest success of least Bell's vireo's (e.g., feral cats, raccoons, skunks), additional predator control may be necessary (Biological Goals and Objectives, Objectives 15.1 through 15.3, Table 5-1c).

Discussion: Impacts to least Bell's vireo are limited to loss of potential habitat. Mitigation and conservation measures include surveys, avoidance measures, implementation of a cowbird control program if least Bell's vireos begin regular breeding in the county, acquisition of 602 acres of primary habitat (20%) in appropriate parts of the study area and creation or restoration

of between 50 and 339 acres of riparian habitat. Because of the very low level of take covered, the scarcity of the species in the study area and the significant amount of habitat acquisition, these circumstances and measures reduce impacts which may occur to least Bell's vireos and least Bell's vireo habitat as a result of implementation of the HCP/NCCP to a level that is **less than significant**.

Tri-colored blackbird

Baseline: This species has always been relatively uncommon in Santa Clara County, but it can be found anywhere on the valley floor and east into the Diablo Range. Breeding colonies are rare, limited in size and tend not to persist. During the seven year period between 1987 and 1993, there were 15 breeding colonies in Santa Clara County. Most (85%) of breeding attempts were located at sites below 800' in elevation, effectively limiting the range of the species in Santa Clara County to the valley floor and a few isolated valleys in the Diablo Range. In Santa Clara County, the bird does not utilize brackish marshes (Santa Clara Valley Audubon Society 2007).

Impacts: Because the species has a limited presence in Santa Clara County, take of or impacts to breeding colonies are not covered (Condition 17, Chapter 6). Due to this limitation, expected impacts will be limited to nesting and foraging habitat losses.

Permanent impacts on tricolored blackbird modeled primary habitat and secondary habitat will not exceed 372 acres (5%) and 12,651 acres (10%) of modeled primary habitat and secondary habitat in the study area, respectively. Temporary impacts on tricolored blackbird modeled primary habitat and modeled secondary habitat will not exceed 93 acres (1%) and 768 (less than 1%), respectively.

Mitigation/Recovery (Section 5.4.8): The Implementing Entity will implement conservation measures to increase the population size of tricolored blackbird in the study area by protecting at least four sites that support, historically supported, or could support tricolored blackbird colonies. Each protected site will have at least 2 acres of breeding (marsh) habitat and will have at least 200 acres of foraging habitat within 2 miles. These breeding sites will either be enhanced or restored breeding habitat in historically/currently occupied areas within the Reserve System or newly created ponds suitable for breeding tricolored blackbirds.

As an additional benefit, acquisition, enhancement, and restoration/creation conservation actions identified for grasslands, valley oak woodlands, riparian forest and scrub and wetlands and ponds will help tricolored blackbirds by providing additional potential nesting and foraging habitat. There are 140,531 acres of tricolored blackbird modeled habitat within the study area. The HCP/NCCP proposes to acquire a minimum of 19,000 acres of modeled primary and secondary habitat for the Reserve System. In addition, 3,840 acres of modeled primary and secondary habitat will be added to the Reserve System from existing open space.

Restoration and enhancement will play a significant role in mitigation and conservation of this species in the study area. Primary components include: offering financial incentives to private landowners to enhance pond and marsh habitat to suit breeding tricolored blackbirds and to modify farming or ranching techniques to ensure that dry-land farming and ranching activities are executed in a way that is compatible with nesting and foraging tricolored blackbirds and restoring freshwater marsh that will support dense reed-like vegetation (cattails) or other native vegetation (nettles) that will attract nesting tricolored blackbirds. Of the 20 acres of newly created ponds within the permit area and the estimated 52 acres of ponds to mitigate for the loss of ponds to Covered Activities, those surrounded by suitable tricolored blackbird foraging habitat will be managed to support dense-reed like vegetation adequate for tricolored blackbird nesting. In areas with nonnative vegetation (e.g., Himalayan blackberry) that support existing tricolored blackbird colonies, the Implementing Entity will initiate a gradual (3–4-year) transition from nonnative vegetation to native vegetation that is structurally similar (only implemented if the USFWS and CDFW determined that the colony was large enough and stable enough to accommodate the change) ((Biological Goals and Objectives, Objectives 18.1 through 18.5, HCP/NCCP, Table 5-1c).

Discussion: Impacts to this species are limited to loss of habitat. Take of or impacts to existing or historic breeding colonies is prohibited. Mitigation and conservation consists of surveys, avoidance, and acquisition of four historical breeding sites with adequate foraging habitat around them, acquisition of at least 22,840 acres of modeled habitat, enhancement of acquired habitat specifically for tri-colored blackbirds and creation of new ponds and wetlands that may provide breeding and foraging habitat for the species. Because of the proposed avoidance measures, the scarcity of the species in the study area, and the limited expected impacts offset by the significant amount of habitat acquisition, enhancement and creation, these circumstances and measures reduce impacts which may occur to tri-colored blackbirds and tri-colored blackbird habitat as a result of implementation of the HCP/NCCP to a level that is **less than significant**.

California red-legged frog, California tiger salamander, Western pond turtle

*** NOTE *** California red-legged frog (CRLF), California tiger salamander (CTS) and western pond turtle (WPT) utilize the same types of habitat in the study area and are treated as similar species with one mitigation and conservation strategy for the group. With the exception of the baseline descriptions, these findings will utilize the same approach.

Baseline (CRLF): Historically, CRLF were likely distributed across most or all of Santa Clara County, including the study area. Consistent with declines in CRLF populations in the rest of California, the distribution and population size of the species has shrunk significantly from the late 19th century until today. The frog can still be found in most sections of the study area, but the overall population is disjunct. In Santa Clara County, CRLF tend to utilize cooler, deeper ponds than CTS or WPT, but they can be found in a wide variety of aquatic environments, both natural and artificial, including perennial and intermittent ponds, wetlands, streams, ditches and

basins. They may be found in ponds that also support CTS and/or WPT. Full distribution data is lacking for the County and the study area, but there is a possibility of finding this species anywhere in the study area with the probable exception of urbanized areas. CRLF are still found on the valley floor, near Kirby Canyon landfill and the Coyote Creek Golf Course. This species can likely be restored to a healthy metapopulation -- i.e., a regional group of connected populations -- utilizing passive efforts such as acquisition of suitable habitat, including dispersal areas, enhancement of protected habitat and creation of ponds in strategic locations to provide additional breeding sites and connectivity.

Baseline (CTS): Like CRLF, CTS were historically found throughout the County and study area and like CRLF, their historic range and numbers have shrunk significantly since the mid 19th century. The local distribution is even more discontinuous than CRLF and connectivity between known occurrences is a significant issue. The species is almost certainly extirpated from urbanized areas and the valley floor, the remaining occurrences that potentially could have connected across the valley being isolated in the last ten years. A review of the CNDDDB records for this species reveals a high number of locations that were extant in the 1980's and forward as now being extirpated. Complete range data is lacking for this species, but there are concentrations of occurrences west of Highway 101 which are west and southwest of Gilroy, southwest of Morgan Hill and southwest of San Jose. The distribution east of Highway 101 is a better picture with a spotty but wide coverage of potential habitat from the foothills of the Diablo Range eastward into Henry Coe State Park. With the exception of cross valley connectivity, this species can likely be restored to a healthy metapopulation utilizing passive efforts such as acquisition of suitable habitat, including dispersal areas, enhancement of protected habitat and creation of ponds in strategic locations to provide additional breeding sites and connectivity.

Baseline (WPT): The historical distribution of WPT in the County and study area is subject to some debate. Although there is general acknowledgement that the species has a much smaller range and exists in much smaller numbers than it did before European settlement, some authorities believe that it exists in new locations compared to its historic distribution because of the turtle's ability to move long distances and utilize artificial habitats. There is no doubt that WPT exhibits the most fragmented population of the three, but it is also found in a wider range than either CTS or CRLF, due to its use of more habitats. WPT can be found in urbanized areas and the valley floor, in small, localized populations. It is also found in isolated occurrences in all parts of the study area. Restoration of a metapopulation approximating a significant fraction of the historical distribution will be much more challenging for WPT than for CTS or CRLF because of the smaller number of occurrences and the distances between them.

Impacts: Covered Activities that adversely affect seasonal wetlands, marshes, ponds, streams, or surrounding upland areas may directly affect these species. Individuals could be killed or injured, habitat could be removed or reduced in value, rodent control activities could reduce upland habitat value and reduce connectivity for CRLF and CTS, and increased development could further fracture already disjunct networks of occurrences, leading to localized extirpations.

The HCP/NCCP estimates that no more than 72 acres of pond and 40 acres of wetland habitat will be permanently affected by Covered Activities, relative to a total of approximately 1,125 acres of pond habitat and 572 acres of wetland habitat throughout the study area (6.4% of pond and 7% of wetland habitat of the totals in the study area). In addition, no more than 11.6 stream miles will be permanently affected by Covered Activities, relative to the total of 3,032 miles of stream miles in the study area (0.4% of the total stream miles in the study area).

Permanent impacts to California red-legged frog modeled primary habitat will not exceed 421 acres (4% of total modeled primary habitat in the study area) and temporary impacts will not exceed 119 acres (1% of total modeled primary habitat in the study area). Permanent impacts on California red-legged frog modeled secondary habitat, which includes areas for refugia and dispersal, will not exceed 13,732 acres (4% of total modeled refugia habitat in the study area) and temporary impacts will not exceed 1,576 acres (less than 1% of total modeled secondary habitat in the study area). Permanent impacts to California tiger salamander modeled breeding habitat will not exceed 77 acres (6% of total modeled breeding habitat in the study area) and temporary impacts will not exceed 14 acres (1% of total modeled breeding habitat in the study area). Permanent impacts on California tiger salamander non-breeding modeled habitat will not exceed 15,823 acres (4% of total non-breeding modeled habitat in the study area) and temporary impacts will not exceed 1,529 acres (less than 1% of total modeled breeding habitat in the study area).

Permanent impacts to western pond turtle modeled primary habitat will not exceed 2,698 acres (3% of total modeled primary habitat in the study area) and temporary impacts will not exceed 440 acres (less than 1% of total modeled primary habitat in the study area). Permanent impacts on western pond turtle modeled secondary habitat will not exceed 10,388 acres (4% of total secondary habitat in the study area) and temporary impacts will not exceed 986 acres (less than 1% of total secondary habitat in the study area).

Mitigation/Recovery (Sections 5.4.2, 5.4.3, 5.4.5): The NCCP conservation strategies for the California red-legged frog, California tiger salamander, and western pond turtle will result in increasing numbers of individuals of each species and expanding the distribution of these species within the Reserve System. This will be accomplished by protecting and enhancing land through fee title purchase or by obtaining easements that are managed as part of the Reserve System, creating new ponds, and enhancing connectivity in the study area.

There are 342,205 acres of California red-legged frog modeled habitat (primary and secondary habitat) within the study area. As part of the HCP/NCCP a minimum of 31,300 acres of modeled habitat will be acquired for the Reserve System. In addition, 11,930 acres of modeled habitat for California red-legged frog will be added to the Reserve System from existing open space. The Reserve System will include 1,430 acres of modeled breeding habitat and 41,800 acres of modeled upland habitat.

There are 333,071 acres of California tiger salamander modeled habitat (breeding and non-breeding) within the study area. As part of the HCP/NCCP a minimum of 30,170 acres of modeled habitat will be acquired for the Reserve System. In addition, 11,745 acres of modeled habitat will be added to the Reserve System from existing open space. This includes 215 acres of modeled breeding habitat and 41,700 acres of modeled upland habitat.

There are 314,916 acres of western pond turtle modeled habitat (primary and secondary) within the study area. As part of the HCP/NCCP, a minimum of 27,000 acres of modeled habitat will be acquired for the Reserve System. In addition, 11,900 acres of modeled habitat will be added to the Reserve System from existing open space.

The Implementing Entity will protect (through acquisition or easement) and enhance a minimum of 50 acres of ponds that either support, or have the potential to support, breeding CRLF, CTS and/or WPT. In addition, a minimum of 20 acres of ponds will be created that either support or have the potential to support breeding of any of the three species. If all projected impacts occur, up to 104 acres of ponds will be protected and enhanced and up to 72 acres of ponds will be created. Ponds that are lost to Covered Activities will be replaced by new ponds created within the Reserve System within the Reserve System at a ratio of 1:1.

Similarly, the Implementing Entity will acquire and enhance a minimum of 10 acres of perennial wetlands and create an additional minimum of 20 acres that either support or have the potential to support breeding CRLF, CTS, and/or WPT. Up to 50 acres of perennial wetlands will be protected and enhanced and up to 45 acres of perennial wetlands will be restored if all estimated impacts occur. Seasonal wetlands will also be acquired to benefit CTS: a minimum of 5 acres protected and as many as 30 acres protected plus 30 acres restored if all impacts occur. Seasonal wetlands are more likely to support adequate breeding habitat for California tiger salamander because nonnative predators and hybrid salamanders are less likely to persist in these habitats. However, some perennial wetlands may still support California tiger salamander if they are periodically drained or nonnative predators are controlled in other ways.

Finally, a minimum of 100 miles of stream will be acquired and protected and a minimum one mile of stream will be restored to benefit CRLF and WPT. If all projected impacts occur, an additional 9.4 miles of stream will be restored.

By the time the Reserve System is fully acquired (which will be at or before Year 45), a minimum of 30% of all ponds and wetlands in the Reserve System will be or will have been occupied by CTS and 25% will be occupied by WPT. By Year 30, at least 25% of all ponds and wetlands will be occupied by CTS and 20% will be occupied by WPT. Each goal must be met for each species, although those ponds which contain more than one species will be counted for each species requirement. CRLF occupancy goals are 40% in each of the two local ESA Recovery units (by Year 45) and 35% by Year 30.

Further, the Implementing Entity will protect 32,840 acres of grassland, oak woodland, riparian, or chaparral habitat to provide upland refugia for the species.

Acquisition of modeled habitat and creation or restoration of ponds and wetlands will be done with a focus on ensuring that connectivity between existing and new occurrences are enhanced, restored or established. This will be done to restore lost redundancy to achieve a natural metapopulation structure.

Management activities to benefit all three species include grazing management of upland areas, control of feral pigs and predators such as bullfrogs and fish, encouraging ground squirrel recruitment and possible active relocation of WPT and CRLF (as approved by the Wildlife Agencies).

Discussion: Impacts for CTS, CRLF and WPT were derived using an analysis of impacts to potential habitats in the HCP/NCCP permit area utilized by these three species. It was then assumed that an equivalent land cover found on an acquired parcel would have the same chance of containing the Covered Species as the impacted parcel. This approach was necessitated by the impossibility of gathering completely accurate data on where impacts to specific populations of each of these specific species might occur. Given the scale of the planned Reserve System and the distribution across the study area, this assumption is valid. Additionally, given that impacts are going to disproportionately occur where CTS, CRLF and WPT are less common and mitigation and conservation will disproportionately occur where the three species are more common, the assumption is even more likely to be true.

Mitigation and conservation for these three species consists of acquisition and enhancement of at least 2.4 times as much conserved land is impacted, the acquisition or restoration of almost 4 times as much perennial wetland acreage as might be impacted, 4 times as much seasonal wetland habitat as might be impacted, 3.4 times as much pond acreage that might be impacted, and more than 10 times as much stream corridor as might be impacted. Additional mitigation and conservation is provided by the scale and preferred layout of the Reserve System, which was designed to increase connectivity between extant and created occurrences of the three species. Management of Reserve System lands to compensate for known limiting factors that might hinder recovery and occupancy goals for potential breeding sites on Reserve System Lands will also have a very significant benefit.

Combined with survey requirements, avoidance measures and best management practices to reduce impacts to potential habitat areas, this mitigation reduces impacts which may occur to individuals and habitats of California red-legged frog, California tiger salamander, and western pond turtle, as a result of implementation of the HCP/NCCP, to a level that is **less than significant**.

Foothill yellow-legged frog

Baseline: Historically, foothill yellow-legged frogs were probably present in all of the larger perennial streams in Santa Clara County with the exceptions of the lower portions of Coyote Creek and Guadalupe River (H.T. Harvey and Associates 1999). There are no CNDDDB records for foothill yellow-legged frogs prior to 1990.

In 1999, H.T. Harvey and Associates summarized the local distribution status of the foothill yellow-legged frog for the Santa Clara Valley Water District. Their findings were that the species had essentially disappeared from the farmed and urbanized lowland areas of the county, as well as many of the perennial streams below major reservoirs. At that time foothill yellow-legged frogs were still present in the Santa Cruz Mountains and fairly abundant in the foothill and mountain ranges of eastern Santa Clara County (H.T. Harvey and Associates 1999).

This species has been found in most perennial streams and rivers in the study area, particularly in the upper reaches. There are several records from the upper reaches of Coyote Creek along with records from nearly all of the streams in the Pajaro River watershed. According to the California Natural Diversity Database (2006), there are nine extant occurrence records of foothill yellow-legged frog in the study area. Seven of the occurrences are on the east side of the valley the northernmost of which is in Penitencia Creek. The others are in the Santa Cruz Mountains west of Gilroy. Of particular importance to the impacts analysis and the conservation strategy, all currently known occurrences are upstream of major reservoirs.

Impacts: Impacts to foothill yellow-legged frogs and foothill yellow-legged frog habitats could occur in a number of ways. The greatest magnitude impacts will occur if streams with the open canopy and clean cobble substrate the frog prefers are disturbed during the breeding/metamorphosis stages of its life cycle. Impacts could also occur at other times of the year, albeit at lower levels, in streams, side drainages, ponds, and associated upland habitats. Because the locations of the remaining occurrences in Santa Clara County are all upstream of reservoirs, impacts should be somewhat limited as stream work in those areas is less common. Impacts from artificial flow management are also much less of a problem upstream of major reservoirs, but could prove a hindrance to attempts to expand populations downstream of those facilities.

Permanent impacts to foothill yellow-legged frog modeled primary habitat will not exceed 1.9 stream miles. Temporary impacts will not exceed 0.7 miles of modeled stream habitat. Permanent impacts on foothill yellow-legged frog modeled secondary habitat will not exceed 4.8 acres and temporary impacts will not exceed 3.5 acres

Mitigation/Recovery (Section 5.4.4): The conservation strategy in the NCCP is focused on maintaining and, where possible, increasing the population of foothill yellow-legged frog in the

permit area. The objectives toward meeting that goal are to acquire, through fee title or conservation easement, streams that have or historically had perennial flows. Additionally, the Implementing Entity will enhance or restore perennial streams to provide higher quality habitat for foothill yellow-legged frog.

Acquisition will be targeted on streams that currently have, or historically had, perennial flows and cobblestone substrate, along with intermittent and ephemeral streams that connect to those perennial streams. A recent study in Tehama County found that foothill yellow-legged frogs utilize perennial systems primarily but also use associated intermittent and ephemeral streams within the same watershed (Bourque 2008). To achieve the biological goals for the foothill yellow-legged frog, acquisition of streams will be prioritized by: (1) sites with documented records of breeding foothill yellow-legged frog; (2) sites with known occurrences, though not necessarily breeding; and (3) sites without known occurrences of foothill yellow-legged frogs but with pond turtle habitat and known occurrences of other covered amphibian species.

The conservation strategy requires restoration of a minimum of 1 mile of stream to support breeding yellow-legged frogs and other Covered Species, regardless of the level of impact. Up to 10.4 miles of stream will be restored if all estimated impacts occur. This could include the perennial stream reaches mentioned above. For foothill yellow-legged frogs this restoration will involve adding sufficient sediment to stream courses so that sand bars will form to create egg laying substrate, or adding large rocks to the stream course for the same purpose. Management will include selectively applying herbicides or other treatments to control nonnative invasive vegetation along creek corridors that might inhibit sediment movement and restrict the creation of egg laying habitat

There are 1,591 stream miles of foothill yellow-legged frog modeled habitat (primary and secondary) within the permit area. The conservation strategy proposes to acquire a minimum of 80 miles of primary and secondary modeled habitat for the Reserve System. In addition, 40 miles of primary modeled habitat will be added to the Reserve System from existing open space. The conservation strategy requires protection of occupied foothill yellow-legged frog habitat in at least four watersheds by year 45 of the NCCP term. The watersheds must be in both the Santa Cruz Mountains and the Diablo Range.

Acquisition, enhancement, and restoration/creation conservation actions identified for streams and riparian forest and scrub, oak woodland, mixed evergreen forest and chaparral will also benefit foothill yellow-legged frog by protecting foraging, cover and dispersal habitat.

Discussion: The current distribution of foothill yellow-legged frogs in Santa Clara County means that most impacts will be limited in scope. Impacts to modeled habitats are extremely low but, more importantly, impacts at the locations of known occurrences are likely to be very limited. Mitigation for this species consists of targeted acquisition of known occurrences and

enhancement of streams and upland habitats in the Reserve System. Combined with survey requirements, avoidance measures and best management practices to reduce impacts to potential habitat areas, this mitigation reduces impacts which may occur to individuals and habitats of foothill yellow-legged frog, as a result of implementation of the HCP/NCCP, to a level that is **less than significant**.

Bay checkerspot butterfly

Baseline: The Bay checkerspot butterfly is one of approximately 30 subspecies of Edith's checkerspot butterfly (*Euphydryas editha*), most of which are differentiated by morphological characteristics and by the larval food plant. Historically, Bay checkerspot butterflies were found in San Francisco, San Mateo, Santa Clara, Alameda and Contra Costa Counties. They are currently extirpated from all but Santa Clara, with the possible exception of isolated occurrences in Contra Costa. In 2007, a program started to reintroduce the butterfly at a historically occupied site, Edgewood Park in San Mateo. The subspecies is found on serpentine soils where conditions are right for the larval host plants, *Plantago erecta* and owl's clover. Since serpentine soils are rare, this means the butterfly is distributed patchily and in small areas. Currently, almost all known extant occurrences are located east of Highway 101 and east to southeast of the City of San Jose. Because of the difficulty in accurately censusing insect populations, it has been assumed in developing the conservation strategy for this species that populations extant during the last major census (2006) are probably still present, albeit in reduced numbers. Bay checkerspot butterflies can be very particular about the micro habitats they utilize and this habit can make them very susceptible to climate change. For example, in dry years, the butterfly prefers cool to moderate locations and in wet years, warmer sites (Weiss, et. al., 1988). The timing of the availability of the host plant also has a significant effect on population levels; in dry years the host plants are present before most of the larvae and the population shrinks considerably (White, 1974). The location of the majority of the extant population, Coyote Ridge, has a wide variety of slopes, slope aspects and elevations, allowing the butterfly population to relocate according to current need. In addition to a limited range due to substrate requirements, losses due to development and very specific micro habitat preferences, one of the most significant current threats is from air pollution. The serpentine soils on which the butterfly exists are nitrogen poor and have evolved a specific and unique flora, many of which are rare in their own right. Most of the covered plant species in this NCCP are from that habitat type. Some forms of air pollution are high in nitrogen and have essentially fertilized local serpentine soils, allowing other plant species to out-compete the species native to the habitat. In addition to reducing the populations of already uncommon plants native to serpentine, Bay checkerspot butterfly host plant populations are also reduced, resulting in significant impacts to populations of the butterfly (Weiss, 1999). Most of this nitrogen appears to originate from motor vehicle emissions in the form of nitrous oxides.

Bay checkerspot butterfly populations within the study area have been studied for many years and are relatively well understood. The population along Coyote Ridge, by far the largest in size

and area, is critical to the persistence of the species. Additionally the only currently known extant populations of the butterfly all occur within the study area, thereby making the HCP/NCCP conservation strategy critical for the continued existence of this species.

Bay checkerspot butterfly habitat units are divided into two broad categories: core and satellite. The definitions for core and satellite habitat units are adapted from the *Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area* (U.S. Fish and Wildlife Service 1998c). Core habitat units are “moderate to large areas of suitable habitat that support persistent Bay checkerspot butterfly populations.” Satellite habitat units are “generally smaller and contain less high-quality habitat than core areas, and may occur some distance from core areas.” The status of the core and satellite habitat units is identified as “occupied”, “potential”, “historic”, or “unknown.” For habitat units defined as “occupied,” the butterfly is known to occupy the patch at least in some years. Where individuals were present historically, but the site is now unoccupied and likely no longer suitable, the habitat unit is defined as “historic.” If the site has not been surveyed thoroughly or surveyed in the last ten years, the habitat unit was classified as “unknown.” Otherwise suitable patches of serpentine grassland within the dispersal distance of known populations were considered “potential” habitat units if land use management practices such as livestock grazing could improve conditions for the species.

Impacts: Most, but not all, serpentine bunchgrass grassland is considered species habitat. As such, most Covered Activities that remove or alter serpentine grassland habitats are potentially detrimental to this species. Expansion of urban areas or rural residential development is most likely to result in the majority of impacts on this species.

Permanent impacts are capped at 550 acres for the most important habitat type, serpentine bunchgrass. An additional 98 acres of temporary impacts to serpentine bunchgrass grassland is anticipated and is the maximum impact allowed. Further, for those serpentine bunchgrass areas mapped as “occupied”, “potential”, or “unknown” for Bay checkerspot butterfly, the cap is limited to 300 acres of permanent impacts and 54 acres of temporary impacts. If surveys determine that Bay checkerspot butterflies inhabit areas not currently mapped as “potential,” impacts to those newly discovered lands would also count toward the maximum 300 acre cap.

The maximum impact to Bay checkerspot butterfly habitat is further limited to 3% of the unprotected portion of any core or satellite habitat unit targeted for conservation, with two exceptions: the Kirby/East Hills core habitat unit which has an 11% allowance to accommodate the Kirby Landfill expansion of 80 acres and the Pound Site core habitat unit which has a 13% allowance to accommodate the Mariposa Lodge/Sheriff’s Firing Range project of approximately 27 acres.

Impacts are predicted to occur in 12 of the 22 habitat units of Bay checkerspot butterfly in the study area, which constitutes the known range of the species at this time. These impacts are distributed across core occupied habitat (Table 5-7), satellite occupied habitat, satellite potential habitat, satellite habitat with occupancy unknown, and satellite habitat with historic occurrences.

The most significant threat to the Bay checkerspot butterfly continues to be nitrogen deposition and lack of management to minimize the effects of nitrogen deposition. Key management techniques include livestock grazing, mowing with string cutters, hand-pulling, prescribed fire, and spot applications of herbicide, all of which may have short-term adverse effects on the butterfly.

Recreational trail access creates local disturbance from trail construction, foot traffic, maintenance, and occasional off-trail use. Most likely trail routes will follow existing roads and careful design of new trails will limit threats to healthy Bay checkerspot butterfly populations, even in the smaller satellite populations.

Covered Activities that facilitate increased vehicular use or electricity generation in the study area will contribute to an increased rate of nitrogen deposition on Bay checkerspot butterfly habitat, especially on Coyote Ridge. The effects of different nitrogen sources were modeled for the study area and the region (see Section 4.4.2 *Direct Effects* subheading *Nitrogen Deposition*, and Appendix E for details). New major point sources of nitrogen deposition that could adversely affect serpentine communities and associated Covered Species could not be adequately analyzed at this time (e.g., new power plant, large diesel generator, or other facilities). Regional mobile and area sources that are closer to the Bay checkerspot butterfly habitat have larger effects than those from more distant counties; Santa Clara County sources within the study area were estimated to provide 63% of the current deposition (Appendix E).

An increased rate of nitrogen deposition will enhance the ability of nonnative species to dominate native serpentine grasslands, systematically supplanting suitable habitat for these species and, ultimately, for Bay checkerspot butterfly. The effects of nitrogen-deposition on serpentine grasslands and the Bay checkerspot butterfly are well documented (e.g., Weiss 1999). In the absence of grazing, increased growth of annual grasses and thatch build-up lead to decreased cover of host plants, nectar sources, and all native forb species over the course of 1–3 years (Weiss et al. 2007). Losses of host plants and nectar sources lead to population crashes, and ultimately local extinctions. In contrast, grazed areas maintain high native cover and support Bay checkerspot butterfly populations as weather and local topography permit.

Covered Activities that facilitate increased vehicular use in the study area will also contribute to an increase in vehicle strikes of Bay checkerspot butterfly. The proportional impact of this level of mortality on existing occurrences is very small within large core populations such as on Coyote Ridge, but vehicular strikes have a greater impact on adult butterflies dispersing between habitat patches. This is particularly critical because Highway 101 (currently an 8 lane freeway with a wide center median) bisects the valley and makes dispersal from Coyote Ridge to the satellite populations to the west extremely difficult.

Mitigation/Recovery (Section 5.4.1): The NCCP conservation strategy will improve the viability of existing Bay checkerspot butterfly populations, increase the total number of populations, and

expand the geographic distribution of the species to ensure its long-term persistence in the study area. This will be accomplished by protecting most serpentine grasslands within the study area to ensure protection of the ranges of slopes, aspects, and microhabitats important to the species. Acquisition, enhancement, and restoration/creation of natural communities adjacent to serpentine grasslands, including grasslands are expected to benefit Bay checkerspot butterfly through the conservation and management of movement habitat.

The Implementing Entity will also improve management in degraded serpentine grasslands in the Reserve System to enhance populations of the larval host plants and adult nectar sources to benefit Bay checkerspot butterfly populations.

The Implementing Entity will acquire 3,800 acres of lands modeled as habitat for the Reserve System and add 754 acres of modeled habitat from existing open space to the Reserve System. With the total Reserve System lands (4,554 acres) added to land already protected (1,336 acres), a total of 5,890 acres of Bay checkerspot butterfly modeled habitat would be protected, or 68% of total modeled habitat in the study area. This conservation strategy for the Bay checkerspot butterfly, in combination with existing protected habitat, protects over 95% of the core habitat for the primary population on Coyote Ridge, extending from north of Metcalf Road south to Anderson Dam. This acquisition will include the core habitats along the ridge tops, which have historically (since 1984) supported the densest populations of Bay checkerspot butterfly. Of the 4,000 acres of serpentine grassland to be preserved, up to 2,900 acres will be located on Coyote Ridge. Extensive land acquisition will occur in all four of the core habitat areas as defined in the Recovery Plan for the species (U.S. Fish and Wildlife Service 1998a): Kirby, Metcalf, San Felipe, and Silver Creek Hills. The primary focus of land acquisition will be Coyote Ridge. The HCP/NCCP also protects secondary sites deemed essential for the recovery of the species, including parts of the Santa Teresa Hills, Tulare Hill and in the foothills west of the valley floor.

The Implementing Entity will acquire and manage enough habitat to ensure occupancy by Bay checkerspot butterfly of each of the four core habitat units identified in the 1998 Serpentine Recovery Plan (Kirby, Metcalf, San Felipe, and Silver Creek Hills). Occupancy in these four core habitat units will be demonstrated at least four out of every 10 consecutive years of the Permit term. The Implementing Entity will also acquire and manage land to ensure occupancy of at least three of the six (50%) satellite habitat units identified in the 1998 serpentine Recovery Plan by Year 45.

Once land is protected it will be managed for the benefit of Bay checkerspot butterflies. The Implementing Entity will also enhance degraded areas to benefit serpentine grasses and encourage growth of host plants and nectar sources for the butterfly through techniques such as exotic plant control and removal, beneficial livestock grazing, and prescribed burning.

It is expected that Bay checkerspot butterflies from core populations will colonize previously unoccupied areas or areas that historically supported the species but lost its habitat value (i.e.,

lack of grazing, etc.). If it becomes apparent that site management is adequate and natural dispersal is not occurring, the Implementing Entity will translocate individuals (i.e., assisted migration) to increase the distribution of the species in the study area. The decision of when this should occur would be made in coordination with species experts and regulatory agencies. This is an important action identified in the Recovery Plan (U.S. Fish and Wildlife Service 1998c).

Public education and outreach is also identified as an important action in the species' Recovery Plan. The HCP/NCCP provides funding for a full-time public education and outreach specialist, as well as public outreach materials. As described in this chapter, the focus of the public outreach and education campaign will be to work with landowners to minimize their impacts and improve their management to benefit Covered Species. Because some Bay checkerspot butterfly habitat will remain in private ownership (even after full implementation of this HCP/NCCP), landowner outreach will be important to ensure populations persist on these sites.

Discussion: Bay checkerspot butterflies are found in limited numbers and are patchily distributed in the study area. The conservation strategy for this species focuses on preserving 95% of the largest remaining occurrence and acquiring and managing enough other serpentine bunchgrass habitat patches to expand the range and numbers of the butterfly until it can be considered stable. Combined with survey requirements, avoidance measures and best management practices to reduce impacts to potential habitat areas, this mitigation reduces impacts which may occur to individuals and habitats of Bay checkerspot butterfly, as a result of implementation of the HCP/NCCP, to a level that is **less than significant**.

Summary of CEQA Findings for Covered Wildlife Species

CDFW finds that issuance of the Permit could result in significant impacts on these Covered Wildlife Species from development and other Covered Activities proposed in the HCP/NCCP. Likewise, CDFW finds that all impacts on these species and their habitat that could result from CDFW's issuance of the Permit will be avoided or mitigated to below a level of significance under CEQA through adherence to, and implementation of, the HCP/NCCP. In so doing, CDFW's findings under CEQA with respect to these species are consistent with the findings of the lead agency on the same subject (Final EIR/EIS Chapter 5). CDFW's findings are based on the overall conservation strategy, species-specific biological objectives, species-specific minimization and avoidance measures, and adaptive management and monitoring programs. (Sections 5.3.3-5.4.9, pages 5-65 through 5-71, Tables 5-1a,b,c, 5-2a and b, Sections 6.3, Conditions 6, 7, 8, 9, 13, 14 through 18, and Volume 4: Appendix D Species Accounts).

3.6 Mitigation Monitoring and Reporting Program

Every agency that makes CEQA findings must adopt a Mitigation Monitoring and Reporting Program (MMRP) to ensure that mitigation measures that are required as conditions of approval

are carried out (CEQA Guidelines, § 15097, subd.(d)). The MMRP document serves the needs of CDFW to ensure that the HCP/NCCP, especially the components designed to avoid and mitigate potentially significant impacts, are properly implemented in compliance with conditions of approval. After reviewing the MMRP prepared by the local partners as part of the HCP/NCCP, and determining that this document meets CDFW's needs with respect to implementation of the HCP/NCCP, CDFW is adopting the MMRP prepared by the lead agency as its own MMRP.

3.7 Alternatives

Where a lead agency has determined that, even after the adoption of all feasible mitigation measures, a project as proposed will still cause one or more significant environmental effects that cannot be substantially lessened or avoided, the lead agency, prior to approving the project as mitigated, must first determine whether, with respect to such impacts, there remain any project alternatives that are both environmentally superior and feasible within the meaning of CEQA. (See, e.g., *Citizens for Quality Growth v. City of Mt. Shasta* (1988) 198 Cal.App.3d 433, 445.)

CDFW faces a similar obligation as a responsible agency under CEQA. (CEQA Guidelines, § 15096, subd. (g); see also Pub. Resources Code, § 21081; CEQA Guidelines, § 15096, subd. (h).) As noted above, however, when considering alternatives and mitigation measures, CDFW “has the responsibility for mitigating or avoiding only the direct or indirect environmental effects of those parts of the project which it decides to carry out, finance or approve” (*Id.*, § 15096, subd. (g)(1)). Those effects, in the present case, are limited to the environmental effects authorized by CDFW under NCCPA for the HCP/NCCP. In that regard, and consistent with CEQA Guidelines, issuance of the NCCP Permit is prohibited if there is “any feasible alternative or feasible mitigation measures within CDFW’s powers that would substantially lessen or avoid any *significant* effect” associated with that decision (*Id.*, § 15096, subd. (g)(2) (emphasis added)).

As demonstrated above in Section 3.5, no significant environmental effects that fall within the responsibility and jurisdiction of CDFW remain unmitigated. That is to say, all potentially significant impacts associated with CDFW’s authorization of the HCP/NCCP are mitigated to below a level of significance under CEQA, so no project alternatives are analyzed by CDFW. (See, e.g., *Laurel Hills Homeowners Assoc. v. City Council* (1978) 83 Cal.App.3d 515, 520-521.) In adopting findings under CEQA, agencies need not consider the feasibility of project alternatives if they adopt mitigation measures that “substantially lessen or avoid” a project’s significant adverse impacts (*Laurel Heights Improvement Assoc. v. Regents of the University of California* (1988) 47 Cal.3d 376, 400-403).

3.8 Statement of Overriding Considerations

Because CDFW's approval of the HCP/NCCP will not result in any adverse environmental impacts that remain significant and unavoidable, CDFW need not adopt a Statement of Overriding Considerations under CEQA.

4.0 FINDINGS UNDER NCCPA

All NCCPs must contain certain substantive elements identified in current or former sections of the NCCPA.

4.1 NCCPA of 2003 and NCCP Findings

The Santa Clara County NCCP must be completed, approved and implemented pursuant to the NCCPA of 2003 and CDFW must evaluate the adequacy of the NCCP by reference to the statute.

Finding 4.1.1 **CDFW finds that the HCP/NCCP has been developed consistent with the process identified in the Planning Agreement as per Section 2820(a)(1).**

Section 2820(a)(1) requires that the HCP/NCCP be developed consistent with the Planning Agreement. CDFW finds that the HCP/NCCP has been developed consistent with the process identified in the Planning Agreement entered into pursuant to Section 2810 (Section 2820 (a)(1)).

The Planning Agreement for the HCP/NCCP was signed by the County of Santa Clara on October 4, 2005, the City of Gilroy on November 2, 2005, the City of Morgan Hill on November 18, 2005, the City of San Jose on December 12, 2005, the Valley Transportation Authority on January 27, 2006, the Santa Clara Valley Water District on March 8, 2006 and the Department of Fish and Wildlife on May 24, 2006.

The terms of the Planning Agreement were implemented as per the roles and responsibilities assigned to the respective parties. Therefore, the Planning Agreement was developed and adopted consistent with 2820(a)(1).

The Planning Agreement Identifies the Geographic Scope (Section 2810(b)(2)) and Participating Parties

The Planning Agreement identifies the initial parties involved in the HCP/NCCP. Initial participating parties include: United States Fish and Wildlife Service, the California Department of Fish and Wildlife, NOAA Fisheries, the County of Santa Clara, the Santa Clara Valley Water

District, the Valley Transportation Authority and the cities of Morgan Hill, Gilroy and San Jose. The HCP/NCCP, through the IA, identifies the Permittees (Section 3.33 of the IA), which include the participating parties identified in the Planning Agreement, and in addition, the Implementing Entity.

The Planning Agreement also defines the scope of the HCP/NCCP generally in Section 2.0, and the geographic scope in Section 3 and Exhibit B. The Plan Area changed significantly twice, by the addition of the western burrowing owl conservation area to the northeast (48,464 acres) and the deletion of the portions of Henry Coe State Park (58,642 acres) and Pacheco State Park (659 acres) to the south east (Figure 1-2).

Therefore, the HCP/NCCP was developed consistent with the Planning Agreement process regarding the geographic scope of the HCP/NCCP and participating parties.

The Planning Agreement Identifies the Natural Communities and Species (Section 2810(b)(3))

Sections 5.1.1 and 5.1.2 and Exhibit A of the Planning Agreement identify the endangered, threatened, proposed, candidate, and other species known or reasonably expected to be found in those natural communities, and to be initially addressed by the HCP/NCCP. The local partners developed a preliminary list of the natural communities and the focus species expected to be found in those communities. The preliminary list identified 52 species in 22 habitat types. These species and communities constituted the broadest list of those to be evaluated for coverage in the HCP/NCCP.

Therefore, the HCP/NCCP has been developed consistent with the Planning Agreement process to identify natural communities and species in those communities, including endangered, threatened, proposed, candidate plants and animals.

The Planning Agreement Establishes a Process for the Collection of Data, Information, and Independent Scientific Input to Meet Scientifically Sound Principles for the Conservation of Species, Reserve Design and Adaptive Management (Section 2810(b)(5))

Sections 5.1.4 and 5.1.5 of the Planning Agreement address the data collection needs of the HCP/NCCP and the use of independent science advisors. It requires that the HCP/NCCP will use the best available scientific information, provides a process for filling data gaps discovered during development of the HCP/NCCP and contains guidelines for creation of an independent team of science advisors.

The HCP/NCCP utilized an extensive data collection process and received input from scientific experts in various fields of biology and conservation biology. During development of the

HCP/NCCP, a comprehensive land cover map of the entire HCP/NCCP Area was developed, as was baseline information and species accounts for the 52 candidate species. Data layers useful for conservation planning were also produced, including information on topography, hydrology, species sightings locations and soils. Using these raw data layers, research on the habitat needs of the candidate species, and its own expertise, the consultant team developed habitat suitability models for those 29 species that were on the final list for inclusion in the HCP/NCCP as Covered Species. These models reflected the best available scientific information on the needs of the selected Covered Species and were used extensively during HCP/NCCP development to guide critical tasks such as identifying biological goals and objectives and designing the land acquisition strategy.

Much of the baseline information and mapping was already underway when the Science Advisory Panel was formed and this information was used by the panel members during their work. The science advisor process was administered by the Conservation Biology Institute and the final report was issued in December 2006 (Spencer, et al, 2006). The Science Advisory Panel was facilitated by Dr. Wayne Spencer with Conservation Biology Institute and was composed of Dr. Spencer and seven other experts. The Science Advisory Panel convened several times during development of the HCP/NCCP, including one public meeting on July 6, 2006 and provided written guidance on a broad range of issues. In addition to directly commenting on conservation strategies for the Covered Species, the reserve design, what data gaps existed and how to fill them, and monitoring and adaptive management plans, the panel provided input on which species should be covered and why, what mapping should be done, the HCP/NCCP permit term, the geographic extent of the HCP/NCCP, Covered Activities, water use, operations and maintenance, and climate change.

Therefore, the HCP/NCCP has been developed consistent with the Planning Agreement process for the collection of data, information and independent guidance to meet scientifically sound principles for the conservation of species.

The Planning Agreement Establishes a Process for Interim Project Review (Section 2810(b)(8))

Section 5.1.7 of the Planning Agreement provides an interim process for the review of projects by the local partners and CDFW and USFWS prior to HCP/NCCP approval. The purpose of the interim project review process was to ensure that discretionary projects submitted to the local partners during the development of the HCP/NCCP did not undermine the conservation objectives of the HCP/NCCP and to provide an opportunity for coordination among agencies on these interim projects.

Guidelines were developed for which projects might potentially conflict with the developing conservation strategy. Those projects were individually flagged for additional consultation with

CDFW and USFWS. Comments were provided when appropriate and some projects were discussed during the regular technical meetings.

Therefore, the HCP/NCCP was developed consistent with the Planning Agreement requirement for an interim review process.

The Planning Agreement Establishes a Process for Public Participation (Section 2810(b)(9))

Section 5.1.6 of the Planning Agreement describes a number of options to involve interested stakeholders and other parties during the development of the HCP/NCCP.

A Stakeholders Group was established that included as many as 22 representatives from various interested parties, including the general public, landowners, environmental groups, developers, the League of Women Voters and agricultural interests. The group met frequently, more than 50 times, often on a monthly basis during most of the HCP/NCCP development and provided significant input into HCP/NCCP development. The meetings were open to the public and public testimony was provided during most meetings.

A Liaison Group, made up of elected representatives from each of the HCP/NCCP partners met regularly to receive updates on HCP/NCCP development and to provide a connection with the elected Boards, Councils and Commissions that would ultimately decide on HCP/NCCP adoption. The Liaison Group met approximately nine times a year during the development period. The meetings were open to the public and testimony was given at most meetings.

During development of the HCP/NCCP, a Speaker's Bureau was established which made Plan staff available to make presentations to local governments, commissions, clubs and other interested parties. The Bureau was most active during 2006-2008, when 27 presentations were given.

At least one publicly noticed meeting was held annually, to provide a venue for interested parties who might not have been involved in one of the other groups to be updated on the HCP/NCCP, to ask questions and to provide input. The meetings were held at various places throughout Santa Clara County and participation was high. The meetings began in 2005 and were held through 2011 when the primary general public meetings began to shift to the local partners' processes.

The local partners developed a website to provide up to date information on the HCP/NCCP and the ongoing process (<http://www.scv-habitatplan.org>). It was noted in the Planning Agreement (5.1.6.2) that HCP/NCCP documents would be made available electronically (in addition to more traditional means) and the website would be the primary way in which this was accomplished.

Draft and final documents, including the HCP/NCCP and EIR/EIS; notices, minutes and baseline data were placed on the website for general availability.

Pursuant to Section 2815 of the Fish and Game Code, all draft documents and materials were made available in a timely manner, meetings were held regularly and the public outreach process was very successful in engaging interested organizations and individuals.

Therefore, the HCP/NCCP was developed consistent with the Planning Agreement with regard to public participation.

The Planning Agreement Requires That Draft Documents Associated With the HCP/NCCP That Are Being Considered for Adoption Be Available for Review and Comment 60 Days Prior to Adoption (Section 2810(b)(9), pursuant to Section 2815))

A notice of preparation for an EIR/EIS was released on September 7, 2007 and comments were accepted until October 26, 2007. During that period, one public meeting was held, on September 26, 2007. The Draft HCP/NCCP and the Draft EIR/EIS for the HCP/NCCP were released on December 10, 2010. The review period was 120 days, from December 10, 2010 to April 15, 2011. Two public meetings were held to receive public comment on the HCP/NCCP and EIR/EIS: February 9, 2011 in the southern part of the County and September 15 2011 in the northern section. During the review period, a total of 794 comments were received from various interested parties. The final NCP/NCCP and EIR/EIS were released August 29, 2012, well past the 60 day review period.

Therefore, the HCP/NCCP was developed consistent with the Planning Agreement regarding review of draft documents.

Finding 4.1.2

CDFW finds that the plan integrates adaptive management strategies that are periodically evaluated and modified based on information from the monitoring program and other sources, which will assist in the conservation of Covered Species and ecosystems within the plan area. (Section 2820(a)(2))

The adaptive management components of the HCP/NCCP are described in Chapter 7 *Monitoring and Adaptive Management*.

The basic goal of the HCP/NCCP regarding adaptive management is a flexible and inductive approach where ecological theory and field measurement and experimentation are combined to monitor the status of a system and respond accordingly. Through adaptive management, the

conservation strategy of the HCP/NCCP will be adjusted in perpetuity, ensuring that the most up-to-date information is utilized in achieving the biological goals and objectives.

A basic framework for adaptive management has been included in the HCP/NCCP (see Figures 7-4 and 7-5, Appendix J), however, details concerning how the actual feedback loop will be structured, how management and monitoring will be prioritized, and which uncertainties are most critical and warrant early study, will be developed in synchrony with the HCP/NCCP monitoring program (see Finding 4.1.7), which will be created during the first five years of HCP/NCCP implementation.

The Implementing Entity will undertake several different types of monitoring, all of which will provide data to be evaluated for adaptive management. These are: monitoring how effective implementation of the HCP/NCCP is in achieving the goals of the HCP/NCCP; accurately tracking status and trends of various factors, such as population size of a Covered Species; effectiveness of a management technique or changes to micro climates over time and tracking; and incorporating the results of directed studies and pilot projects.

The monitoring and adaptive management program will consist of three main components: 1) Inventory of resources, which will take place in an intensive effort during the first five years of the HCP/NCCP term and thereafter, as other lands are added to the Reserve System; 2) Targeted studies, also beginning immediately after adoption of the HCP/NCCP, to resolve many critical questions that will inform management and monitoring; 3) Long term adaptive management and long term monitoring. Building on the data provided by other monitoring efforts and advances in knowledge from other sources such as scientific publications or techniques developed by other land managers, adaptive management will implement the conceptual framework shown in Figures 7-4 and 7-5.

Specific tasks to be carried out include: updating the GIS data at least every five years, monitoring Covered Species responses to management actions and other external events (such as climate change), monitoring restoration and creation for success, tracking the status and trends of Covered Species and their habitats in the Plan Area, monitoring covered plant populations that have only been partially impacted to determine if their long term viability has been compromised, evaluating the efficacy of monitoring protocols, incorporating the best available scientific knowledge into management, evaluating and refining existing assumptions and conceptual models, such as those in Appendix J, carefully examining failures to inform future efforts, and adjusting management and monitoring accordingly. The latter task may involve redefinition of success criteria and/or conservation actions, which may require changes to the HCP/NCCP.

In carrying out adaptive management, the Implementing Entity will be advised by input from CDFW, USFWS, other land managers, science advisors, an Independent Conservation Assessment Team, and the public. The Implementing Entity is responsible for establishing and

carrying out the basic monitoring and adaptive management, carrying out the requirements of those components, coordinating with the advising groups, identifying issues to be dealt with, creating and administering the science advisors panel, convening the Independent Conservation Assessment Team at least every five years to provide a program-wide independent evaluation of the progress of the HCP/NCCP, including monitoring and adaptive management and, in year 20, coordinating with CDFW and USFWS to carry out a more comprehensive review of the progress of the HCP/NCCP.

Regular and ongoing discussions will occur between CDFW, USFWS, and other land managers and the public, and advice will be routinely given as a result of those discussions. The science advisors will be a panel consisting of persons with specific expertise relative to issues directly relevant to implementation of the HCP/NCCP and will be convened as needed. The Independent Conservation Assessment Team will consist of qualified individuals to provide an outside assessment of how well the HCP/NCCP is being implemented and to provide recommendations on changes, when necessary. Finally, the Implementing Entity may form a technical group made up of both private and public landholders (e.g., park managers, local landowners) to solicit feedback regarding the effects of Reserve System management on adjacent lands, to make recommendations for changing specific aspects of Reserve System management, and to facilitate communication between local landowners and the Implementing Entity.

The USFWS and CDFW will provide feedback on the implementation of the monitoring and adaptive management programs described in the annual work plans. Individuals within the Wildlife Agencies with particular expertise in management or monitoring may also participate as Science Advisors. All forms of input will be collected by the Implementing Entity and incorporated into management and monitoring practices, as appropriate.

Adaptive management revisions will be made consistent with the HCP/NCCP's Minor and Major Amendments sections (Sections 10.3.2 and 10.3.3). The Implementing Entity is required to maintain a complete administrative record of all HCP/NCCP revisions resulting from the adaptive management program.

Other sections of the HCP/NCCP also include provisions to update requirements, techniques and procedures as more effective measures are developed. In particular, Section 6.3 *Conditions On All Covered Activities*, establishes a collaborative process with CDFW and USFWS to update best management practices and other protective conditions as more effective ones become available.

Finding 4.1.3

CDFW finds that the plan provides for the protection of habitat, natural communities, and species diversity on a landscape or ecosystem level through the creation and long-term management of habitat reserves (Section 2820(a)(3)).

The HCP/NCCP is designed as a multiple species conservation plan in which species protection will be achieved, in large part, by providing for the protection of habitat, natural communities and species diversity on a landscape level by protecting and managing, in perpetuity, significant amounts of currently unprotected lands. In order to provide the required protections, protected lands will be chosen based on their proximity to other protected or open space lands, known value for the Covered Species and protection and restoration of ecological connectivity. The Reserve System as a whole will protect a wide range of topographic gradients, elevations and exposures and focus on creating the largest possible areas of contiguous lands.

The conservation strategy is based on the creation of a system of new reserves linked to existing protected lands. Acquisition priorities that will shape the Reserve System are described in Section 5.2.3 and 5.3.1 of the HCP/NCCP. The conservation strategy is designed to create a Reserve System that will protect an estimated 46,205 acres for the benefit of Covered Species, natural communities, biological diversity, and ecosystem function. Land acquisition and protection will create a network of reserves that accomplishes the following:

- Acquires, permanently protects and manages in perpetuity, a minimum of 33,205 currently unprotected acres of land for the benefit of Covered Species, natural communities, biological diversity, and ecosystem function.
- In addition to the new protection of a minimum of 33,205 acres of land, incorporates up to 13,291 acres of existing open space that enhances the long-term management and monitoring on those lands within the Reserve System. Therefore, the total size of the Reserve System will be at least 46,496 acres and possibly as much as 46,920 acres (Section 5.1).
- Protects up to 100 miles of streams as part of the Reserve System.
- Provides management and monitoring to achieve the goals and objectives of the HCP/NCCP.
- Preserves major local and regional connections between key habitat areas and between existing protected areas.

The process for delineating and prioritizing land for acquisition corresponds to the scalar approach of the conservation actions (landscape-level, natural community-level, and species-level). First, consideration was given to large, core reserves that could accommodate large blocks of key land cover types, such as serpentine grassland and lands that would support Covered Species with large geographical ranges and specific habitat needs, such as areas with high densities of ponds to accommodate covered amphibians and reptiles. This level of design also assigned a high priority to expanding existing conservation lands to create larger core reserves. Linkages were also considered so that habitat connectivity goals and objectives could

be met. Next, the conservation of rare land cover types (e.g., serpentine seeps and rock outcrops) was added in to the decision making process. Finally, the conservation of species with small ranges was considered (e.g., covered plants). For resources not protected by the core reserves or the habitat linkages, smaller, “satellite” reserves will be proposed when necessary to protect isolated but important resources such as occurrences of covered plants and rare land cover types.

In order to provide a systematic way to prioritize acquisitions eight Conservation Analysis Zones were created and described (See Figure 5-5) and specific targets within the zones and subzones are associated with each. Table 5-18 shows the acreage acquisition requirements for each zone and Figure 5-7 shows the relative concentration to be afforded to each zone. Figure 5-8 shows the location of some of the important local linkages which are targeted for protection under the HCP/NCCP.

The final distribution of the lands in the Reserve System is key to how well the plan provides for the protection of habitat, natural communities, and species diversity on a landscape or ecosystem level. To provide for the local conservation of each of the Covered Species, there must be enough land, in the right locations to ensure each Covered Species will be self-sustaining in perpetuity. The Reserve System design provides this assurance by proposing to protect significant amounts of currently unprotected lands in areas that link to existing open spaces, protect existing occurrences of the Covered Species, allow for creation of new habitat, allow for easier, more cost effective management and monitoring, protects and restores habitat and species connectivity, and minimizes urban/rural conflicts.

Reserve management is designed to maintain and enhance natural communities, habitat for covered and other native species, native biological diversity, and ecosystem function. Management regimes will be tailored to the location they cover. Within 5 years of the acquisition of a property or easement recordation, the Implementing Entity will prepare a management plan, confirm it will be covered under an appropriate existing reserve management plan or modify an existing reserve management plan to incorporate the specific management objectives of the newly protected lands

Separate reserve unit management plans will be prepared for a minimum of six reserve units. These reserve units are expected to support similar land cover types, Covered Species, and habitats, and will therefore face similar management issues. A list of likely reserve units is presented below based on the expected geographic distribution of the Reserve System:

- Upper Penitencia Creek,
- Coyote Ridge,
- Pacheco Watershed,
- Southern Santa Cruz Mountains, and

- Santa Teresa Hills.

The Implementing Entity may decide to prepare additional reserve unit management plans to address more specific geographic areas of the Reserve System. All reserve unit management plans must be prepared in collaboration with the Wildlife Agencies and approved by the Implementing Entity and the Wildlife Agencies.

Finding 4.1.4.A CDFW finds that reserve systems and conservation measures in the plan area provide, as needed for the conservation of species: conservation, restoration, and management of representative natural and seminatural landscapes to maintain the ecological integrity of large habitat blocks, ecosystem function, and biological diversity. (Section 2820(a)(4)(A))

Ecosystems have ecological integrity when their native components are intact enough to support self-sustaining populations of the species that utilize them. This definition includes abiotic components, biodiversity, and ecosystem function.

The Reserve System acquisition strategy fulfills this requirement in a number of ways. The acquisition strategy recognizes that having large core areas makes it easier to achieve ecological integrity. To accomplish this, the HCP/NCCP will prioritize protecting larger parcels over smaller ones, protect lands that are adjacent to other protected lands, prefer parcels with less adjacent land use conflicts (such as rural as opposed to urban-rural interface locations) and prioritize lands that contain habitats or Covered Species that are less represented on currently protected lands (Section 5.2.3).

In addition, the Implementing Entity will acquire smaller lands to protect important localized or narrowly-endemic Covered Species occurrences. Some of the Covered Species can be conserved on much smaller reserves than others. For example, many of the plant species can reasonably be conserved on relatively small parcels.

The specific way this will be implemented is through the Conservation Analysis Zone analysis, which has identified key geographic areas within each of 8 geographic zones of varying sizes (Figure 5-5). One of the primary considerations in this analysis was to create the largest possible contiguous reserves for ecological integrity, protection and restoration of areas of connectivity, reduction of edge effect, and efficiency of management (Sections 5.2.3 and 5.3.1). All of these goals are best served by creating the largest contiguous reserve systems possible. Figure 5-7 illustrates how this will be accomplished, notably in Conservation Analysis Zones Coyote 7/9, Coyote 4,5,6 and Llagas 2, Uvas 1-6 and Pacheco 2-8.

Finding 4.1.4.B CDFW finds that the plan area provide for the conservation of species by establishing: one or more reserves or other measures that provide equivalent conservation of Covered Species within the plan area and

linkages both among reserves and between reserves and adjacent habitat areas outside the HCP/NCCP Area. (Section 2820(a)(4)(B))

To conserve viable populations of Covered Species, multiple populations of Covered Species will be protected and linked through existing or newly protected lands to reduce the risk of local extirpation and ensure the genetic connectivity of populations. This is especially important for species that may function as metapopulations or for species that naturally occur at low densities or small population sizes. Specific conservation strategies are addressed in more detail in Findings 4.7.1 and 4.7.2

The Reserve System configuration and management satisfy the need for connectivity and will ensure viable linkages within and among the lands making up the Reserve System. Species-specific conservation measures for western burrowing owl, California red legged frog, Bay checkerspot butterfly and California tiger salamander describe the creation of new linkages in blocks of suitable habitat to facilitate dispersal and colonization throughout the Reserve System (Sections 5.3.1 and 5.3.2).

Santa Clara County connects with Alameda County to the north, via bay flatlands and the Diablo Range, San Mateo County to the north through bay plains and the Santa Cruz Mountains, Stanislaus County to the northeast, Merced County to the southeast, both through the Diablo Range, San Benito County to the south via the Pajaro River floodplain, Santa Cruz County to the west through the Santa Cruz Mountains and the Pajaro River and a small connection with Monterey County via the Pajaro River.

The connection from the study area to the rest of the Peninsula (San Mateo County) is almost completely blocked by urbanization and no longer viable. Connectivity to the east, through the Diablo Range (Alameda, Stanislaus and Merced Counties) is open and fairly unrestrained, other than by topography. This condition is expected to continue into the future because of the extremely rugged terrain and lack of good access. The same is true for connectivity to the west, into the Santa Cruz Mountains via Coyote Valley and more open lands to the south. Connectivity to the south is constrained by large areas of cultivated agriculture. The biggest challenge to connectivity is US Highway 101, which cuts the study area in half, from north to south. The highway is not a complete barrier but is a very significant hindrance to connectivity for some species.

The Reserve System acquisition priorities (Figure 5-7) result in the creation of a Reserve System that borders on the portions of the study area that connect to other counties where connectivity still exists or where it is constrained but may be restorable in the future (San Benito). Portions of the projected Reserve System in the Pacheco Conservation Analysis Zone connect to Merced and San Benito County, portions of Llagas and Pacheco connect to San Benito County, Portions of Pescadero connect to Monterey County, portions of Pescadero and Uvas connect to Santa

Cruz County, portions of Guadalupe connect to Santa Clara County lands which are not likely to be densely developed and which are adjacent to Santa Cruz County and Coyote and portions of Llagas connect to the Diablo Range which, in turn, connects to Stanislaus and Alameda Counties. Except for San Mateo to the northwest then, every part of the perimeter of the study area connects to adjacent counties either directly or through lands that are unlikely to see significant development (Figure 5-4).

Finding 4.1.4.C **CDFW finds that the reserve systems and conservation measures in the plan area provide for the conservation of species by: protecting and maintaining habitat areas large enough to support sustainable populations of Covered Species. (Section 2820(a)(4)(C))**

A key element of the Reserve System is acquiring land in large blocks. Large reserves provide greater viability as management units, maximize reserve capacity to support viable populations of Covered Species, maintain existing ecological functions, and preserve existing biodiversity. To achieve these beneficial outcomes, it is important to establish large, linked blocks of vegetation communities within the Reserve System.

To conserve viable populations of Covered Species, a specific conservation strategy was developed for each species. Some of these strategies are solely habitat based (San Joaquin kit fox, least Bell's vireo and tri-colored blackbird for example) and will be conserved through overall acquisition of the habitats they utilize. This is possible because these species are rarely found in the study area and the lands proposed for them have roughly equal chances of becoming occupied. . In these cases, relatively smaller areas of land are sufficient to support the Covered Species and the proposed Reserve System is adequate.

The next group of species requires significant blocks of land and high levels of connectivity. This group includes California red-legged frog, California tiger salamander, Santa Clara Valley dudleya and smooth lessingia. In the case of these species, the Reserve System will contain large enough habitat areas to support sustainable populations in part because their preferred habitats are widely spread and in part because the Reserve System was designed to target areas with known concentrations of the species. These two factors combined also result in enhanced connectivity within the study area.

Other Covered Species include those with very limited ranges or habitat needs. This group includes the foothill yellow-legged frog, Bay checkerspot butterfly and most of the plants. Foothill yellow-legged frog currently occurs primarily in riparian areas upstream of large reservoirs. The conservation strategy focuses on protecting known occurrences and enhancing stream conditions in the Reserve System to increase the range of the frog. The Reserve System will be large enough for conservation of this species because a few key occurrences are protected and any of the enhancement measures will result in an expanded distribution of the species. A

similar situation exists for the plants and butterfly. In those cases, the HCP/NCCP requires acquisition of almost all the key habitat on which they can exist. The Reserve System will be large enough for those species because almost all of the existing habitat will be in it.

The conservation strategy for western burrowing owl is necessarily a different strategy from all of the others. The size of the Reserve System for conservation of this species is large enough to support sustainable populations, given its current numbers, location in the study area and proposed conservation strategy. Western burrowing owl recovery is predicated on a number of actions in which location of habitat is more important than habitat extent. For example, to retain connectivity between existing and new owl colonies, the new colonies will need to be < 7.5 miles from the existing ones.

Finding 4.1.4.D CDFW finds that the reserve systems and conservation measures in the plan area provide, as needed for the conservation of species, a range of environmental gradients and high habitat diversity to provide for shifting species distributions due to changed circumstances. (Section 2820(a)(4)(D))

Due to a number of factors, the study area contains a very high number of environmental gradients and high habitat diversity. Santa Clara County is located east of the Pacific Ocean from which it remains isolated by the Santa Cruz Mountains, on the south end of San Francisco Bay and west of the Central Valley. All of these regions influence the county's climate, resulting in highly variable precipitation, depending on area. Precipitation in the area falls mostly as rain during the late fall, winter, and early spring months, and the highest elevations can receive infrequent snowfalls during the winter months. Rainfall can be extremely variable from year to year, ranging from under 5 inches to more than 30 inches in San Jose. Average rainfall ranges from 13 inches in the valley to 45 inches along the crest of the Santa Cruz Mountains. The eastern part of the study area is not influenced by marine air to the same extent as the western part and is generally warmer, although Pacheco Pass acts as a natural funnel through which maritime air masses enter the Central Valley.

In addition to climate variability, geography is extremely diverse due to numerous active faults and erosive soils types. The county is dominated by the Diablo Range in the east and the Santa Cruz Mountains to the west, separated by the Santa Clara Valley. Elevations in the study area range from 10 to 350 feet along the valley and up to 3,790 feet in the Santa Cruz Mountains and 4,370 in the Hamilton Range (Figure 3-1). The presence of two parallel mountain ranges with significant elevation gains, separated by a valley, near sea level means that there is a very broad range of geographic diversity in the study area.

The Reserve System, based on the Conservation Analysis Zone standards, ensures that the broadest possible range of these gradients and the habitat diversity that has developed as a result, will be protected by the end of the Permit Term.

Finding 4.1.4.E CDFW finds that the reserve systems and conservation measures in the plan area provide, as needed for the conservation of species, maintenance of the effective movement and interchange of organisms between habitat areas and the ecological integrity of the habitat areas within the plan area. (Section 2820(a)(4)(E))

Connectivity is a key part of the conservation strategy for all Covered Species and landscape linkages were made a critical component in the design of the Reserve System. For the purposes of this HCP/NCCP, landscape linkages are defined as areas that potentially allow for the movement of species from one area of suitable habitat to another. Linkages can vary narrow strips of habitat that only function as conduits for movement to a large areas of intact habitat that are used for movement, dispersal, and other life functions such as foraging and breeding.

Connectivity requirements differ greatly from species to species. Some species require connectivity for periodic migrations among different habitat types used for breeding, feeding, or roosting. Wildlife movement from one important habitat area to another may vary from daily to seasonal migration depending on the species. Connectivity may also be needed for the permanent immigration or emigration of individuals among habitat patches, allowing for gene flow and recolonization after local extinction (Beier and Noss 2000; Hilty et al. 2006; Groom et al. 2006). Specific characteristics of linkages, such as dimensions, location, and quality of habitat, can influence species use.

To incorporate landscape connectivity in the reserve design process, all known or potential linkages within the study area and in the surrounding areas were identified from numerous sources, including camera and tracking work on the ground and regional meetings addressing connectivity. Potential dispersal routes for plants and wildlife covered by the Plan were also inferred from the land cover data, occurrence data, and habitat distribution models developed for this Plan.

Table 5-9 describes 20 distinct and potential landscape linkages found either entirely within the study area or within the study area that lead to outside the study area. Figure 5-6 illustrates these 20 distinct and potential linkages.

By developing a Reserve System that focuses on establishing large blocks of protected lands in many areas and attempting to link existing open space lands, the resulting configuration results in increased connectivity (compare Figures 5-6 and 5-7). In addition, the Reserve System was designed to help enhance several key linkages (Coyote Valley and Pacheco Pass) and will also benefit the key regional linkage (Pajaro River floodplain).

Finding 4.1.5

CDFW finds that the plan identifies activities, and any restriction on those activities, allowed within the reserve areas that are compatible with the conservation of species, habitats, natural communities, and their associated ecological functions. (Section 2820(a)(5))

The HCP/NCCP identifies activities that will occur inside the Reserve System in Sections 2.3.8 and 4.3.7 (*Conservation Strategy Implementation*) and Chapter 6 (*Conditions on Covered Activities*). Activities required to maintain and operate the new HCP/NCCP Reserve System include habitat and species management, habitat restoration or creation, habitat and species monitoring, limited construction and maintenance of infrastructure such as roads, fences and water supply facilities including up to 49 new wells, limited recreational use (hiking, mountain biking, equestrians), and fire management.

Conservation activities within HCP/NCCP Reserve System are expected to have a net benefit on all Covered Species. However, some conservation activities may have temporary or permanent adverse impacts on Covered Species that may result in take. For example, activities that are designed to benefit one or several Covered Species may directly impact another set of Covered Species. However, the HCP/NCCP Reserve System is designed to be large and diverse enough to ensure that the net effect of all Reserve System activities is beneficial across the system.

Restrictions on these activities are described in Chapter 6 and include numerous conditions and guidelines to protect the habitats and species in the Reserve System. The conditions fall into two main categories; those that apply to all activities covered by the HCP/NCCP, including those in the Reserve System and those specifically targeted to the reserves.

Conditions applying to all covered activities include avoidance of no-take species, including Contra Costa goldfields and State Fully Protected Species (Condition 1), avoidance and minimization measures for in-stream projects (Condition 4), avoidance and minimization measures for in-stream operations and maintenance (Condition 5), rural projects, including road design and construction, facility design and construction and rural road maintenance (Conditions 6, 7 & 8), measures to minimize impacts on natural communities including riparian areas, wetlands and ponds, serpentine habitats and blue oak and valley oak woodlands (Conditions 11-14) and measures to minimize impacts to western burrowing owl, tri-colored blackbird, least Bell's vireo, San Joaquin kit fox and the covered plants (Conditions 15-20).

One condition specific to the Reserve System is the requirement to prepare and implement a recreation plan (Condition 9), to ensure any recreational use is compatible with the primary conservation use of the property. Land acquired for reserves will be closed to all recreational uses until a recreation plan is developed and approved as part of a reserve unit management plan. Reserve unit management plans will be reviewed and approved by the Permittees and the Wildlife Agencies. Also specific to the Reserve System are fuel buffer measures associated with fire hazard control (Condition 10). The conditions and measures are listed in Table 6-2 (Aquatic

Avoidance Measures), 115 measures; Table 6-4 Rural Road Maintenance Measures), 52 measures; Table 6-7 Riparian Buffers) and Table 6-8 (Survey Requirements for Select Wildlife Species).

Finding 4.1.6

CDFW finds that the plan contains specific conservation measures that meet the biological needs of Covered Species and are based upon the best available scientific information regarding the status of Covered Species and the impacts of permitted activities on those species. (Section 2820(a)(6))

The HCP/NCCP contains scientifically supported measures that provide for conservation of all 18 Covered Species in the study area. The measures were developed utilizing a broad range of sources and consultations.

The background material for each species was assembled using the CNDDB, local experts, scientific papers, evaluation of current field knowledge of each species' ecology (provided by species specialists), current protocols, comparison with similar species, air photo interpretation and field work. That material was summarized in a Species Account for each plant or animal (Appendix D).

The Species Accounts were used to predict impacts and develop the conservation strategy and avoidance measures to meet the biological needs of each Covered Species. Concurrent with that task, a series of biological goals and objectives (Tables 5-1a–d) was developed in a series of meetings with CDFW and USFWS. It was decided to use a modeled habitat technique to estimate impacts and provide mitigation and conservation for most species. This approach was used because complete data on the distribution and number of all the Covered Species was not available or obtainable within a reasonable timeframe. The use of this approach was affirmed by CDFW and USFWS.

At each step of the process, the developing analysis was reviewed by CDFW and USFWS and received input from local biologists and species experts. The Species Accounts and techniques for impact assessment, conservation strategy, reserve design, data adequacy, formulation of biological goals and objectives and monitoring and adaptive management protocols also received a thorough review by the Science Advisors (see also Finding 4.1.1).

Finding 4.1.7

CDFW finds that the plan contains a monitoring program. (Section 2820(a)(7))

The monitoring program is described in Chapter 7 and Appendix J of the HCP/NCCP. The purposes of the program are to ensure compliance with the HCP/NCCP; to assess the status of covered and other native species, natural communities, and ecosystem processes within the

Reserve System and in certain habitat types outside of the Reserve System; and to evaluate the effects of management actions such that the conservation strategy described in Chapter 5, including the biological goals and objectives (Tables 5-1a–d) of the HCP/NCCP are achieved. Adaptive management and monitoring are integrated into one cohesive program where monitoring will inform and change management actions to continually improve outcomes for covered and other native species and natural communities.

The monitoring program focuses on two primary components -- compliance monitoring and effectiveness monitoring.

Compliance Monitoring tracks the status of HCP/NCCP implementation to ensure that all requirements of the Plan are being met. Compliance monitoring verifies that the Permittees are carrying out the terms of the HCP/NCCP, permits, and IA. The Implementing Entity will track compliance monitoring internally and provide results to CDFW and USFWS, who will ensure that the Permittees remain in compliance with the permits, IA, and HCP/NCCP. As defined by the HCP/NCCP, compliance monitoring will include: tracking impacts on land cover types and Covered Species modeled habitat to ensure impact limits are not exceeded and to ensure compliance with the Stay-Ahead requirements; tracking the loss of occurrences of covered plants to ensure that impacts do not exceed the level of take authorized under the permit; ensuring that plant occurrences protected in the Reserve System are of the same or better size and condition as those impacted (see Chapter 5); tracking impacts to total critical habitat for the Bay checkerspot butterfly, California tiger salamander, and California red-legged frog; tracking habitat enhancement, restoration, and creation actions; tracking implementation of acquisition requirements; tracking implementation of other conservation actions on and off the Reserve System; tracking implementation of avoidance and minimization requirements (see Chapter 6); and, tracking and reporting of management and monitoring activities.

Effectiveness Monitoring assesses the biological success of the HCP/NCCP —specifically, it evaluates the implementation and success of the conservation strategy described in Chapter 5. Effectiveness monitoring includes monitoring the effects of management activities. The Implementing Entity will design, conduct and report on the results of effectiveness monitoring. CDFW and USFWS, Science advisors and an Independent Conservation Assessment Team will have an opportunity to provide input on and evaluate the proposed effectiveness monitoring and its results (see Section 7.2.3 *Program Implementation*). Effectiveness monitoring includes: status and trends monitoring to provide data on biological resources over time; effects of management; carrying out studies and evaluating the results.

The essential elements of the monitoring and adaptive management program have been organized into three main phases: inventory, targeted studies, and long-term monitoring and adaptive management. In general, activities in the inventory phase will occur during the first 5 years of HCP/NCCP implementation and thereafter as parcels are added to the Reserve System. For individual sites, the inventory phase will begin immediately after land acquisition. Most

targeted studies will be concentrated in the first 5 years of HCP/NCCP implementation, but they will likely continue throughout implementation as management uncertainties are identified and resolved. Activities in the long-term monitoring phase will begin on each site after the inventory phase is complete. Because the Reserve System is being created over several decades there will likely be extensive overlap between activities in each phase during the first 10–20 years of HCP/NCCP implementation (Figure 7-1).

Results of the monitoring activities will be provided to the CDFW and USFWS in the annual reports and after the 5 year reviews by the Independent Conservation Assessment Team (Table 8-1).

Finding 4.1.8 **CDFW finds that the plan contains an adaptive management program.**
(Section 2820(a)(8))

The adaptive management components of the HCP/NCCP are described in Chapter 7 *Monitoring and Adaptive Management*.

The basic goal of the HCP/NCCP regarding adaptive management is a flexible and inductive approach where monitoring is used to gather data on how well proposed activities are working. If actions are not producing the results anticipated, the data are then used to adjust or replace the existing approach with another. Through adaptive management the conservation strategy of the HCP/NCCP will be adjusted, as needed, in perpetuity, ensuring that the most up-to-date information is utilized in achieving the biological goals and objectives.

While the basic process of the adaptive management strategy has been identified (Figures 7-4 and 7-5, Appendix J), the specific processes are necessarily linked to the actual results obtained from the general HCP/NCCP monitoring program (see Finding 4.1.7), which will not be fully developed until at least five years after HCP/NCCP implementation begins.

In carrying out adaptive management, the Implementing Entity will be advised by input from CDFW, USFWS, other land managers, science advisors, an Independent Conservation Assessment Team, and the public. The Implementing Entity is responsible for establishing and carrying out the basic monitoring and adaptive management, coordinating with the advising groups, identifying emerging issues to resolve, creating and administering the science advisor panel, convening the Independent Conservation Assessment Team at least every five years to provide a program wide independent evaluation of the progress of the HCP/NCCP, including monitoring and adaptive management and, in year 20, coordinating with CDFW and USFWS to carry out a more comprehensive review of the progress of the HCP/NCCP.

Adaptive management revisions will also be made consistent with the HCP/NCCP's Minor and Major Amendments sections (Sections 10.3.2 and 10.3.3). The Implementing Entity is required

to maintain a complete administrative record of all HCP/NCCP revisions resulting from the adaptive management program.

Other sections of the HCP/NCCP also include provisions to update requirements, techniques and procedures as more effective measures are developed. In particular, Section 6.3 *Conditions On All Covered Activities*, establishes a collaborative process with CDFW and USFWS to update best management practices and other protective conditions as more effective ones become available.

See also Findings 4.1.2 and 4.1.7.

Finding 4.1.9 **CDFW finds that the plan includes a timeframe and process by which reserves or other conservation measures are to be implemented, including the obligations of landowners, signatories and consequences of the failure to acquire lands in a timely manner (Section 2820(a)(9)).**

The timing and sequence of Reserve System assembly relative to impacts of Covered Activities is critical to the success of the HCP/NCCP. Progress toward assembling the Reserve System must stay ahead of impacts that have occurred under the Permit. This sequence ensures that Reserve System assembly is keeping pace with development and that the Implementing Entity is making steady progress toward completing the assembly of the Reserve System. The Stay-Ahead provision applies to both preservation/enhancement and restoration commitments in the HCP/NCCP.

All land to be incorporated into the Reserve System must be acquired by year 45 of the HCP/NCCP term. Any enhancement or creation actions must be completed by year 40 of the HCP/NCCP to ensure an adequate monitoring period to demonstrate success (Table 8-2). To be incorporated in the Reserve System, either through purchase in fee title or under a conservation easement, lands must meet a detailed list of criteria and go through an acquisition process. Both of these are described in Section 8.6 of the HCP/NCCP (also see Figure 8-3). The overall purpose of these processes is to ensure that the property contributes to the HCP/NCCP conservation strategy and that there are no conflicting uses or conditions associated with the land.

The Stay-Ahead provision requires that the amount of each land cover type conserved, restored, or created by the Implementing Entity as a proportion of the total requirement for each land cover type must be roughly proportional to the impact on that land cover type as a proportion of the total impact expected by all Covered Activities. For example, if 25% of the expected impacts on mixed serpentine chaparral have occurred, then at least 25% of the required land acquisition for mixed serpentine chaparral must also have occurred. To allow time for start-up tasks to occur, the Stay-Ahead provision will only apply two years after the last local ordinance to implement the HCP/NCCP takes effect. In this HCP/NCCP, the Stay-Ahead provision allows

the Implementing Entity to group similar land cover types into broader natural community groups (Table 3-1) and meet the Stay-Ahead for each group as a whole. By the end of the Permit term, however, the IE must meet the target acquisitions for all land cover types, not just the natural community groups.

“Rough proportionality” is defined here as conservation, restoration or creation in an amount within 10% of project impacts. Thus, the Implementing Entity may fall behind by a maximum of 10% of its conservation strategy requirements and still be in compliance with the Stay-Ahead provision for this HCP/NCCP. Once the permits end (i.e., through expiration, suspension, or revocation), the Permittees will be held responsible for any outstanding requirements in the permits, IA, and HCP/NCCP.

The Stay-Ahead provision also applies to the acquisition of covered plant occurrences (Table 5-16). The Stay-Ahead provision applies to each covered plant species separately (i.e., impacts to and conservation of covered plant occurrences cannot be aggregated for purposes of Stay-Ahead).

The Implementing Entity, CDFW and USFWS will monitor the status of the Stay-Ahead provision throughout HCP/NCCP implementation. Beginning with the Year 2 annual report, the Implementing Entity will report on the status of the Stay-Ahead provision. As long as the pace of conservation measure implementation (i.e., preservation, restoration, or creation) does not fall behind the pace of covered activity impacts by more than 10%, the Stay-Ahead provision will have been satisfied.

If the HCP/NCCP is out of compliance with the Stay-Ahead provision, the CDFW and USFWS will determine if the HCP/NCCP has maintained rough proportionality. If CDFW determines that the Implementing Entity has failed to maintain rough proportionality between impacts and conservation, the IA provides a correction process (Sections 9.4.2 and 9.4.2.1 of the IA). Those sections establish a collaborative process that follows formal notification to the Implementing Entity from CDFW of the problem and provides for specific actions that must be taken to bring the HCP/NCCP into compliance. If the HCP/NCCP does not achieve rough proportionality within specified time frames, CDFW may move to modify or revoke the Permit.

Finding 4.1.10 **CDFW finds that the plan contains provisions that ensure adequate funding to carry out the conservation actions identified in the HCP/NCCP. (Section 2820(a)(10))**

The cost of implementing the HCP/NCCP over the 50-year Permit term is estimated at \$657,190,000.00. This includes the cost of land acquisition, HCP/NCCP administration, habitat management, habitat restoration, biological monitoring, the western burrowing owl conservation strategy, HCP/NCCP preparation cost recovery, an endowment for funding the cost of implementation in perpetuity, and a 3% cost contingency.

Funding to implement the HCP/NCCP will come from a variety of sources (Table ES-3). There are two types of funding sources, fee funding and non-fee funding. Fee funding is generated when impacts occur and the entity causing the impacts pays a fee to fund the conservation strategy to offset the impacts and contribute to recovery. Non-fee funding comes from a variety of sources, such as in-lieu land acquisition, interest and investment income and state and federal funds.

Fee Funding from Covered Activities

Funding for mitigating Covered Activities and contributing to recovery will include fees or land dedications from the following categories: land cover fee, nitrogen deposition fee, serpentine habitat fee, western burrowing owl fee, temporary impact fee, participating special entity fee, endowment fee component and preparation fee component, both of which are collected from the other fees. Land dedication and/or conservation actions may be proposed in lieu of fees (pages 9-43 and 9-44). Tables 9-6 and 9-7a document the breakdown in fee structure and the initial fees themselves.

Fees associated with private party impacts will be collected by the applicable jurisdiction and transferred to the Implementing Entity on at least an annual basis. Fees from public projects will be paid directly to the Implementing Entity.

To adjust for cost variation over the Permit term, the HCP/NCCP uses two methods: automatic adjustments and periodic assessments. Automatic adjustments are based on the assumption that costs will continue to rise over time. To compensate for this, the Implementing Entity will update the fees annually based on the Consumer Price Index (operations and maintenance portion of the fees) and the Housing Price Index for the land acquisition portion (Table 9-12). Periodic adjustment of fees will be carried out two ways. At least every 2 years, the Implementing Entity will analyze the fee amounts and compare them to actual and projected costs. The Implementing Entity will then report to the Implementing Entity's governing board on whether the automatic fee adjustments are keeping pace with actual costs to provide an opportunity to adjust fees different than the automatic adjustments. In addition, every 5 years a fee assessment will be completed to review the costs and their underlying assumptions that were developed as part of the original funding plan (Appendix G). The actual costs of operating, maintaining, and managing the Reserve System can also be compared to the original estimates of these costs to determine the actual change in non-land costs. Automatic annual fee increases will resume after the periodic fee assessment and will continue until the next periodic assessment.

Non-Fee Funding from Local, State, and Federal Sources

Non-fee public funding can only be used for portions of the HCP/NCCP that are intended to achieve species recovery (not for mitigation), conservation, management, and monitoring. Local funding will be primarily in-lieu funds associated with acquisition of lands by Santa Clara County Parks and possibly local open space entities such as the Santa Clara Valley Open Space Authority. Federal and state funding sources could include USFWS grants under Section 6 of

federal ESA, Wildlife Conservation Board grants, and state park and resource bond measures. Some of these federal and state funding sources are generally available throughout the state and nation, while others can only be used to implement an approved HCP/NCCP. Other sources of non-fee funding will include interest and investment income and funding from local non-profits.

After the Permit term, all of the Permittees are obligated to continue to protect, manage, and maintain the Reserve System. This includes adaptive management and monitoring at a level sufficient to determine whether management is effective. Detailed assumptions regarding post-Permit costs are presented in Appendix G. Annual costs to operate and maintain the Reserve System in perpetuity are estimated to be approximately 64% of the annual cost for program administration estimated during Years 46–50, 80% of reserve management and maintenance costs, and 34% of monitoring costs (Table 9-4). Total post-Permit costs are estimated to be approximately \$2.9 million annually.

Funding provided by interest on the endowment is expected to fully fund post-Permit costs. Any shortfalls in the endowment during the Permit term will be identified by the 5-year funding assessments conducted by the Implementing Entity. If the endowment is not growing fast enough to reach its target size, then the endowment fee portion of the development fees will be increased to make up the shortfall. With these built-in safeguards in the endowment, post-Permit funding will be adequate to fully offset post-Permit costs of management and monitoring.

Funding adequacy is discussed in Section 9.4.4 of the HCP/NCCP. This section contains a number of options that may be implemented after consultation and agreement with CDFW and USFWS. Some of these options are to defer maintenance in favor of continuing land acquisition, raising fees or reducing the scope of the HCP/NCCP.

Finding 4.2.1 **CDFW finds that the Implementing Agreement contains provisions defining species coverage, including conditions on coverage. (2820(b)(1))**

The IA identifies 18 species for coverage under the NCCP Permit. Take of the Covered Species is authorized contingent on the Permittees implementing the HCP/NCCP as agreed (Section 7, IA), including, but not limited to, adopting local ordinances to implement the HCP/NCCP, administering the HCP/NCCP, using the agreed upon avoidance and minimization measures (Section 8, IA), collecting fees and assembling the Reserve System, managing the Reserve System (Section 9, IA), providing funding so that management will be assured in perpetuity, maintaining a rough proportionality between impacts and conservation, and reporting regularly to CDFW and USFWS.

Finding 4.2.2

CDFW finds that the Implementing Agreement contains provisions for establishing the long-term protection of any habitat reserve or other measures that provide equivalent conservation of Covered Species. (2820(b)(2))

The Implementing Entity shall create a Reserve System by acquiring land and dedicating it in perpetuity to the Reserve System through either a fee interest or conservation easement. The Implementing Entity may also include in the Reserve System lands acquired by the County of Santa Clara Parks and Recreation Department or the Santa Clara Valley Open Space Authority and lands acquired through partnerships with other entities in accordance with Section 9 of the IA.

As detailed in Tables 5-1, 5-2, 5-12 and 5-13 of the HCP/NCCP, the Reserve System will protect at least 46,920 acres as follows:

- Acquires, permanently protects and manages in perpetuity, a minimum of 33,205 currently unprotected acres of land for the benefit of Covered Species, natural communities, biological diversity, and ecosystem function.
- In addition to the new protection of a minimum of 33,205 acres of land, incorporates up to 13,291 acres of existing open space that enhances the long-term management and monitoring on those lands within the Reserve System. Therefore, the total size of the Reserve System will be at least 46,496 acres and possibly as much as 46,920 acres (Section 5.1).
- Protects up to 100 miles of streams as part of the Reserve System.
- Provides management and monitoring to achieve the goals and objectives of the HCP/NCCP.
- Preserves major local and regional connections between key habitat areas and between existing protected areas.

All acquisitions shall adhere to the principles and priorities for Reserve System design, and for species population and habitat preservation and enhancement, as set forth in Sections 5.2.3, 5.2.4 and 5.3.1 of the HCP/NCCP including, but not limited to, following the reserve design principles, meeting the identified requirements of the Covered Species, restoring, enhancing, managing and monitoring the Reserve System, protecting each property with a permanent conservation easement, and providing assured funding for management in perpetuity.

All conservation easements shall be recorded in perpetuity pursuant to Civil Code Section 815 et seq. and the terms and conditions of Chapter 8.6.3 of the HCP/NCCP. Conservation easements

shall be dedicated to the Implementing Entity, CDFW and USFWS or another entity approved by the CDFW and USFWS, including but not limited to land trusts, park agencies, and other qualified nonprofit organizations. Where not a Grantee, the CDFW and USFWS shall be named as third party beneficiaries on all conservation easements.

Finding 4.2.3 **CDFW finds that the Implementing Agreement contains specific terms and conditions, which, if violated, would result in the suspension or revocation of the permit, in whole or in part. The IA shall include a provision requiring notification to the plan participant of a specified period of time to cure any default prior to suspension or revocation of the permit in whole or in part. (2820(b)(3))**

Section 6.6 of the IA contains the basic provisions for resolution of disputes. The initial step is to work informally at the staff level to resolve differences. If that is unsuccessful, either or both of the Wildlife Agencies may write a letter to the Implementing Entity and Permittee describing the dispute. The Implementing Entity and Permittee have up to 30 days to respond with proposed solutions. If the dispute is not resolved at that stage, CDFW and/or USFWS will notify the other parties then the various parties will meet within 30 days to attempt to resolve the issue(s) (Section 6.6.1). If differences are still not resolved, each party will elevate the issue to its chief executives who will then meet within 45 days to attempt a resolution (Section 6.6.2).

Section 16.3 contains the provisions for suspending the NCCP Permit, in whole or in part, for a material violation or breach of the IA. The notice may be given only after attempting the resolution process outlined above, requesting the Permittees to take action when the action is reasonable and warranted and after providing written notice as to the issue and giving the Permittee(s) opportunity to demonstrate why the suspension isn't warranted or to take acceptable steps to resolve it.

If this process is unsuccessful in producing a mutually satisfactory solution, CDFW may suspend the state Permit. Within 10 days of that action, CDFW will confer with the Permittees and will identify reasonable, sufficient remedies to resolve the issue. Within 30 days of the meeting, CDFW will so provide the Permittees with this information in writing. Upon completion of these actions by the Permittee(s), the Permit will be restored (Section 16.4). If the Permittee(s) does not complete these actions, the Permit shall continue to be suspended or shall be revoked.

The process for revocation of the Permit, in whole or in part, is in Section 16.6 of the IA. If CDFW finds that there are no other courses of action to resolve the dispute and that the action must be taken to avoid jeopardizing the continued existence of a Covered Species, and CDFW has given written notice to the Permittee and has allowed 45 days for an agreement to be signed or the issue to be resolved, then CDFW will revoke the Permit, in whole or in part, in accordance with Fish and Game Code Section 2820.

Section 9.4.2 contains an exception to the resolution and suspension processes. If CDFW determines that the Permittees have failed to maintain rough proportionality and the situation has not been resolved or an agreement has not been entered into to resolve the issue within 45 days of written notice of the breach, CDFW will suspend the Permit in accordance with Fish and Game Code Section 2820.

In accordance with Section 16.8 of the IA, CDFW and/or USFWS may suspend their permit(s) for no more than 90 days, on an emergency basis, without following the above process. This may only be done if new circumstances arise which appreciably reduce the chances of survival of a state or federally listed species. If CDFW or USFWS intend for the suspension to last beyond 90 days, the provisions of Section 16 for formal suspension in the IA must be followed.

Finding 4.2.3A **CDFW finds that the Implementing Agreement specifies the action CDFW shall take if the participant fails to provide adequate funding. (2820(b)(3)(A))**

Section 13 of the IA requires that the Permittees ensure implementation of the HCP/NCCP is adequately funded through and beyond the HCP/NCCP term.

In the event there is inadequate funding to implement the HCP/NCCP during and beyond the permit term, USFWS and CDFW will assess the impact of the funding deficiency on the scope and validity of the permits. Unless the Permittees exercise the authority to withdraw pursuant to Section 17 of the IA or the Wildlife Agencies revoke the Permits pursuant to Section 16 of the IA, the Parties agree that they will meet and confer to cooperatively develop a strategy to address the funding shortfall, and to undertake all practicable efforts to maintain the level of conservation and take authorization afforded by the Permits until the funding situation can be remedied.

Finding 4.2.3B **CDFW finds that the Implementing Agreement specifies the action CDFW shall take if the participant fails to maintain rough proportionality between impacts on habitat or Covered Species and conservation measures. (2820(b)(3)(B))**

If CDFW determines that rough proportionality is not being met, it will notify the Permittees in writing and the parties will meet and confer to reach a mutually acceptable solution. If the rough proportionality deficit may be addressed by requiring a dedication of land instead of fees, then CDFW may notify the Permittees in writing that they must provide land in lieu of fees until the HCP/NCCP restores rough proportionality (Section 9.4.2)

If at any time CDFW provides written notification that rough proportionality has not been met, then the Permittees will either: (1) regain rough proportionality within forty-five (45) days; or

(2) enter into an agreement with CDFW within forty-five (45) days which will set a course of action to expeditiously regain rough proportionality. The agreement may include any of a variety of commitments or adjustments to the HCP/NCCP designed to expeditiously regain rough proportionality, including but not limited to, acquiring, creating, or restoring appropriate land-cover types (Section 9.4.2.1).

In the event that CDFW has determined that the Permittees have failed to meet the rough proportionality standard provided in Section 9.3 of the IA, and if the Permittees have failed to cure the default or have failed to enter into an agreement to do so within forty-five (45) days of the written notice of such determination, CDFW shall suspend the NCCP Permit in whole or in part pursuant to California Fish and Game Code Section 2820.

Finding 4.2.3C **CDFW finds that the Implementing Agreement specifies the action CDFW shall take if the plan participant adopts, amends, or approves any plan or project without the concurrence of the wildlife agencies that is inconsistent with the objectives and requirements of the approved plan. (2820(b)(3)(C))**

Section 5.1 of the IA specifies the obligations of the parties to correctly implement the HCP/NCCP and notes that both the IA and HCP/NCCP are necessary for this process. The HCP/NCCP is a plan and the IA is the contract that requires the provisions of the HCP/NCCP to be carried out as agreed. Additionally, the HCP/NCCP is expressly incorporated into the IA in this section (see also Section 18.4). Section 6.1 of the IA requires the Permittees, individually and collectively, to perform all obligations under the HCP/NCCP, the IA, and the permits issued by CDFW and USFWS.

Adoption, amendment or approval of any plan or project that is inconsistent with the objectives and requirements of the HCP/NCCP is potentially a violation of the provisions of the HCP/NCCP and, by incorporation, the IA. In the event of this occurring, CDFW and USFWS staff would meet and confer with the Implementing Entity and Permittees to discuss the issue. If there was no immediate resolution, all parties would enter into the dispute resolution process beginning in Section 6.6. Potentially, failure to resolve the issue could conclude with suspension or revocation of the state and/or federal permits, pursuant to the procedures in Section 16 (See also finding 4.2.3).

Finding 4.2.3D **CDFW finds that the Implementing Agreement specifies the action CDFW shall take if the level of take exceeds that authorized by the Permit. (2820(b)(3)(D))**

Section 4.4 of the HCP/NCCP describes how the cap on impacts was developed, how it will be tracked and explicitly states that once the impact caps are reached, no further take is permitted

pursuant to the HCP/NCCP. Because the HCP/NCCP is incorporated into in IA Sections 5.1 and 18.4, take beyond the caps would be considered a potential violation of the IA and in the event of this occurring, CDFW and USFWS staff would meet and confer with the Implementing Entity and Permittees to discuss the issue. If there was no immediate resolution, all parties would enter into the dispute resolution process described in Section 6.6 of the IA. Failure to resolve the issue could result in suspension or revocation of the state and/or federal permits, pursuant to the procedures in IA Section 16 (See also Finding 4.2.3).

Finally, Section 11.2.6 of the IA specifies that there can be no adaptation to the design and management of the Reserve System that results in an increase in the amount of approved take without a major amendment.

Finding 4.2.4 **CDFW finds that the Implementing Agreement contains provisions specifying procedures for amendment of the HCP/NCCP and the Implementing Agreement. (2820(b)(4))**

Section 15 of the IA contains provisions specifying procedures for amending the HCP/NCCP, the IA and the permits issued by CDFW and USFWS.

Finding 4.2.5 **CDFW finds that the Implementing Agreement contains provisions ensuring implementation of the monitoring program and adaptive management program. (2820(b)(5))**

Section 10.4 of the IA requires all Reserve System Lands to be monitored according to the program described in Chapter 7 of the HCP/NCCP.

Section 11 of the IA requires the Implementing Entity to carry out the monitoring on behalf of the Permittees and to use the adaptive management process (also described in Chapter 7 of the HCP/NCCP) to inform and refine the HCP/NCCP to best achieve the goals of the conservation strategy. Monitoring and adaptive management will be done collaboratively with CDFW and USFWS and utilize guidance from the Science Advisors and Independent Conservation Assessment Team.

See also Findings 4.1.2, 4.1.7 and 4.1.8.

Finding 4.2.6 **CDFW finds that the Implementing Agreement contains provisions for oversight of HCP/NCCP implementation for purposes of assessing mitigation performance, funding, and habitat protection measures. (2820(b)(6))**

Oversight of the implementation of the HCP/NCCP is provided by two parties; the Wildlife Agencies (CDFW and USFWS) and the Independent Conservation Assessment Team.

The role of the Wildlife Agencies is to oversee implementation of the HCP/NCCP, management plans and monitoring and adaptive management plans, collaborate with the Implementing Entity in developing studies and plans, approve any proposed participating special entities, track compliance with rough proportionality between take and conservation and monitor the level of take being authorized (Sections 7.2, 9.4.2, 10.1.1, 10.1.2, 11.2.1 of the IA). The Wildlife Agencies will carefully review the annual and five year reports to ensure compliance with the HCP/NCCP. Specific Wildlife Agency approval is required for, but not limited to, reserve unit management plans, site restoration plans, plant and pond creation, Covered Species translocation, Tier 3 western burrowing owl conservation activities, western burrowing owl management agreements, western burrowing owl passive relocation, conservation easements and land acquisitions (Section 8.7.3 of the HCP/NCCP). Finally, Section 16.10 of the IA allows the Wildlife Agencies to conduct inspections and monitor any covered activity, the Reserve System Lands, activities listed under Neighboring Landowner Assurances (see Chapter 10.2.7 *Assurances*), and to inspect any data or records required by the permits.

Together with monitoring of the funding stream and the dispute resolution and Permit suspension/revocation processes in IA Sections 6, 15 and 16, these measures, specified in the IA provide adequate opportunity to detect problems with implementing the conservation strategy as planned and carry out corrective actions.

In addition to the Wildlife Agencies oversight, the Implementing Entity will convene an Independent Conservation Assessment Team every five years to provide an outside appraisal of the progress of HCP/NCCP implementation. The team will be made up of experts outside of the HCP/NCCP structure and will provide policy recommendations to the Implementing Entity (Section 7.2.3 of the HCP/NCCP).

See also Finding 4.2.7.

Finding 4.2.7 **CDFW finds that the Implementing Agreement contains provisions for periodic reporting to the Wildlife Agencies and the public for purposes of information and evaluation of plan progress. (2820(b)(7))**

Section 14 of the IA contains requirements for reporting to the Wildlife Agencies. This section refers to Chapter 7 and Section 8.11 of the HCP/NCCP.

Periodic reporting takes several forms. The primary reporting mechanism will be the annual report. This report will be submitted to the Wildlife Agencies by March 15 of each year and will document Permit compliance, impacts, conservation actions, management actions,

restoration/creation actions, and monitoring results. Annual reports will be submitted to the designated representatives of the Wildlife Agencies, and other interested parties, and will be available to the public and posted on the HCP/NCCP web site. The Implementing Entity will also distribute these reports to the Independent Conservation Assessment Team and science advisors, as appropriate, for their review. A detailed list of the items covered in the reports is found in Section 8.11 of the HCP/NCCP.

In addition to the annual reports, the Implementing Entity will create and maintain a database which will track all aspects of compliance with the permits, IA, and HCP/NCCP (section 8.10.2). The database will contain data on impacts, land acquisition, the status of each conservation action, legal documents, species occupancy requirements, the efficacy of conservation measures in meeting the biological goals and objectives, restoration and creation activities. This information will be made available to the Wildlife Agencies on request. The Wildlife Agencies may also request other information from the Implementing Entity to verify compliance with the Plan and the Wildlife Agencies' decision documents (e.g., CEQA and NEPA mitigation measures, impacts to critical habitat units).

Lastly, the Wildlife Agencies will have access to the Science Advisors reports as well as the five year reviews from the Independent Conservation Assessment Team.

Finding 4.2.8 **CDFW finds that the Implementing Agreement contains mechanisms to ensure adequate funding to carry out the conservation actions identified in the HCP/NCCP. (2820(b)(8))**

Section 13 of the IA requires that the Implementing Entity, County, Cities, Water District, and VTA shall ensure that all conservation, mitigation, monitoring and reporting measures are adequately funded and that certain monitoring, reporting and adaptive management measures are adequately funded in perpetuity. The financial aspects of the HCP/NCCP are described in detail in Chapter 9 of the HCP/NCCP.

In the event there is inadequate funding to implement the HCP/NCCP, the Wildlife Agencies will assess the impact of the funding deficiency on the scope and validity of the permits. Unless the Permittees exercise the authority to withdraw, as provided in Section 17 of the IA, or the Wildlife Agencies revoke the permits, in whole or in part, as provided in Section 16, the parties will meet and confer to develop a strategy to address the funding shortfall and to undertake all practicable efforts to maintain both the level of conservation and the level of take coverage until the funding deficiency can be remedied. Temporary or permanent solutions could include using the contingency fund, requiring land in lieu of fees, deferring non-essential maintenance, identifying new funding sources, and postponing implementation tasks (Table 8-1) with the Wildlife Agencies' approval (Section 9.4.4 HCP/NCCP).

If overall fee revenues for the Permit term fall short of projections because fewer Covered Activities are proposed or implemented, the resulting shortfall in funding could prevent or constrain the Permittees' ability to implement the HCP/NCCP fully. If it appears that the full amount of allowed take will not be used during the term of the permits, substantially reducing fee revenues, the parties will either apply for an extension of the Permit term or will apply for an amendment in accordance with Section 15.5 of the IA.

Finding 4.2.9

CDFW finds that the Implementing Agreement contains provisions to ensure that implementation of mitigation and conservation measures on a plan basis is roughly proportional in time and extent to the impact on habitat or Covered Species authorized under the HCP/NCCP. These provisions identify the conservation measures, including assembly of reserves where appropriate and implementation of monitoring and management activities, that will be maintained or carried out in rough proportion to the impact on habitat or Covered Species and the measurements that will be used to determine if this is occurring. (2820(b)(3)(D)(9))

Section 5.1 of the IA specifies the obligations of the parties to correctly implement the HCP/NCCP and notes that both the IA and HCP/NCCP are necessary for this process. The HCP/NCCP is a plan and the IA is the contract that requires the provisions of the plan to be carried out as agreed. Additionally, the HCP/NCCP is incorporated into the IA in this section (see also Section 18.4). Section 6.1 of the IA requires the Permittees to perform all obligations, individually and collectively, under the HCP/NCCP, the IA, and the permits issued by the Wildlife Agencies.

Section 9.4 of the IA contains the provisions for compliance with the rough proportionality standard. The Implementing Entity will ensure that lands are added to the Reserve System, and that required habitat restoration and creation occurs, at or faster than the pace at which impacts occur, fulfilling the NCCP requirement to ensure that implementation of mitigation and conservation measures on a plan basis is roughly proportional in time and extent to the impact on habitat or Covered Species. As further described in Chapter 8.6.1, Table 5-12 and Table 5-14 of the HCP/NCCP, the amount of each land cover type restored, created, and added to the Reserve System as a proportion of the total requirement for each land cover type will be equal to or greater than the impact on that land cover type as a proportion of the total impact. The Implementing Entity will ensure that the pace at which the Reserve System is created, and at which required habitat restoration and creation occurs on Reserve System lands, does not fall behind the pace at which impacts occur by more than ten percent (10%) for any land cover type. The Implementing Entity will measure and report on rough proportionality as described in Chapter 8.6.1.

Finding 4.3

CDFW finds that the Implementing Agreement contains provisions for suspension or revocation of the permit, in whole or in part, if the HCP/NCCP participant does not maintain proportionality between take and conservation measures specified in the Implementing Agreement and does not either cure the default with 45 days or enter into an Agreement with the Department within 45 days to expeditiously cure the default. (2820(c))

See Finding 4.2.3B

Finding 4.4

CDFW finds that any required data and reports are available for public review and that the Implementing Entity shall also conduct public workshops annually to provide information and evaluate progress toward attaining the conservation objectives of the HCP/NCCP. (2820(d))

Section 8.2.7 of the HCP/NCCP requires that all data and reports associated with the monitoring program for the HCP/NCCP will be available to the public, with the exception of reports documenting surveys on private lands considered for acquisition or conservation easements not yet acquired by the Implementing Entity. Monitoring reports will also be posted on the HCP/NCCP web site.

The Implementing Entity will establish and appoint a public advisory committee to solicit input from stakeholders with interest in HCP/NCCP implementation. The committee will advise the Implementing Entity. Meeting frequency will be determined by the Implementing Entity and the committee; quarterly meetings are recommended initially. Meetings will be open to the public.

At least once annually, the Implementing Entity will convene a meeting to report on the progress of implementation directly to the public. The Implementing Entity will summarize habitat losses and gains, habitat restoration and creation, and management and monitoring accomplishments for, but not limited to, the previous year. The meeting will provide an informal forum for the public to pose questions and provide comments directly to the Implementing Entity on the overall progress of HCP/NCCP implementation. Periodic formal review of HCP/NCCP progress in a public forum may also be done at the same time as the 5-year conservation audits by the Independent Conservation Assessment Team.

Finding 4.5

CDFW finds that the HCP/NCCP participant that is the lead agency or responsible agency shall incorporate in the review of any subsequent project in the plan area the feasible mitigation measures and alternatives related to the biological impacts on Covered Species and their habitat developed in the program environmental impact report. (2820(e))

The EIR/EIS for the Santa Clara HCP/NCCP covered impacts to covered and non-Covered Species by essentially incorporating the elements of the HCP/NCCP conservation strategy as mitigation measures for impacts under CEQA. Covered Activities that occur after HCP/NCCP implementation must therefore be consistent with the EIR/EIS mitigation measures as well as the HCP/NCCP itself.

The EIR/EIS summarizes the HCP/NCCP conservation strategy in Section 2.4.3. Additionally, in the discussion of impacts and mitigation for each species, the EIR/EIS includes brief summaries of the relevant parts of the conservation strategy for that species.

Mitigation to comply with CEQA consists of two components; implementing the conservation strategy in the HCP/NCCP and applying the appropriate avoidance and minimization measures in Chapter 6 of the HCP/NCCP. The process for implementing and tracking this procedure is described in Section 6.7.1 of the HCP/NCCP.

Private applicants seeking coverage under the HCP/NCCP, will apply to their local jurisdiction by submitting a *Habitat Plan application package* (Section 6.8). A checklist for evaluating these applications will be developed by the Implementing Entity prior to the first ordinance implementing the HCP/NCCP taking effect. The local jurisdiction will review the Habitat Plan application package for completeness in accordance with the checklist. All applicable conditions will be identified and fees paid at (or before) the time of issuance of the first authorization of ground disturbance (typically a grading permit or building permit). In cases where there is no grading or other ground disturbance permit, the fees will be due upon issuance of the first permit that authorizes construction (Figure 6.6)

If a Permittee undertakes a covered activity, the Permittee must document compliance with the HCP/NCCP, including paying any appropriate fee, carrying out any special actions for that species and/or habitat type and applying the appropriate avoidance and minimization measures. The Permittee must provide a copy of this documentation to the Implementing Entity for tracking purposes (Figure 6.5)

When Permittees initiate projects that are also subject to CEQA, the conditions of the HCP/NCCP will be integrated into the CEQA environmental review process and conditions of the HCP/NCCP will be used to inform site design and selection of the preferred alternative. Projects exempt from CEQA that are Covered Activities under the HCP/NCCP will still be required to comply with the conditions of the HCP/NCCP.

Finding 4.6

CDFW finds that the level of assurances provided to the HCP/NCCP participants is commensurate with long-term conservation assurances and associated implementation measures pursuant to the approved HCP/NCCP. (2820(f))

The HCP/NCCP is designed as a multiple species conservation plan in which species protection will be achieved, in large part, by providing for the protection of habitat, natural communities, and species diversity on a landscape level by protecting and managing, in perpetuity, significant amounts of currently unprotected lands. To provide the required protections, protected lands will be chosen based on their proximity to other protected or open space lands, known value for the Covered Species, and protection and restoration of ecological connectivity. The Reserve System as a whole will protect a wide range of topographic gradients, elevations and exposures and focus on creating the largest possible areas of contiguous lands.

The conservation strategy is based on the creation of a system of new reserves linked to existing protected lands. Acquisition priorities that will shape the Reserve System are described in Section 5.2.3 and 5.3.1 of the HCP/NCCP. The conservation strategy is designed to create a Reserve System that will protect an estimated 46,205 acres for the benefit of Covered Species, natural communities, biological diversity, and ecosystem function. Land acquisition and protection will create a network of reserves that accomplishes the following long term conservation assurances:

- Acquires, permanently protects and manages in perpetuity, a minimum of 33,205 currently unprotected acres of land for the benefit of Covered Species, natural communities, biological diversity, and ecosystem function.
- In addition to the new protection of a minimum of 33,205 acres of land, incorporates up to 13,291 acres of existing open space that enhances the long-term management and monitoring on those lands within the Reserve System. Therefore, the total size of the Reserve System will be at least 46,496 acres and possibly as much as 46,920 acres (Section 5.1).
- Protects up to 100 miles of streams as part of the Reserve System.
- Provides management and monitoring to achieve the goals and objectives of the HCP/NCCP.
- Preserves major local and regional connections between key habitat areas and between existing protected areas.

Given the overall scale of conservation to impacts, these assurances are commensurate with the long-term conservation assurances provided by the Permittees through the HCP/NCCP and IA.

Finding 4.6.1A

CDFW finds that the level of and time limits for assurances specified in the Implementing Agreement were based on the level of knowledge of the status of the Covered Species and natural communities. (2820(f)(1)(A))

The HCP/NCCP contains scientifically supported measures that provide for conservation of all 18 Covered Species in the study area. The measures were developed utilizing a broad range of sources and consultations.

The background material for each species was assembled using the CNDDDB, local experts, scientific papers, evaluation of current field knowledge of each species ecology (provided by species specialists), current protocols, comparison with similar species, air photo interpretation, and field work. That material was summarized in a Species Account for each plant or animal (Appendix D).

The Species Accounts were used to predict impacts and develop the conservation strategy and avoidance measures for each Covered Species. Concurrent with that task, a series of biological goals and objectives (Tables 5-1a–d) was developed in a series of meetings with the Wildlife Agencies. It was decided to use a modeled habitat technique to estimate impacts and provide mitigation and conservation for most species. This approach was used because complete data on the distribution and number of all the Covered Species was not available or obtainable. The use of this approach was affirmed by the Wildlife Agencies.

At each step of the process, the developing analysis was reviewed by CDFW and USFWS and received input from local biologists and species experts. The Species Accounts and techniques for impact assessment, conservation strategy, Reserve System design, data adequacy, formulation of biological goals and objectives, and monitoring and adaptive management protocols also received a thorough review by the Science Advisors (see also Finding 4.1.1).

The sum of these efforts was deemed adequate by the Wildlife Agencies to provide sufficient knowledge of each Covered Species to carry out reasonable impact analyses and develop species specific conservation strategies. Therefore, there is enough known about the status of each of the Covered Species and the natural communities to warrant provision of long term assurances to Permittees.

Finding 4.6.1B

CDFW finds that the level of and time limits for assurances specified in the Implementing Agreement were based on the adequacy of analysis of the impact of take on Covered Species. (2820(f)(1)(B))

Implementation of the Covered Activities will result in take of some Covered Species. Where feasible, the HCP/NCCP identifies the level of take. For most species, take has been quantified on the basis of impacts on habitat assumed to be suitable for each species (see Sections 3.3.3 and 3.3.5 and Appendix D, HCP/NCCP). Estimates of take are based on the habitat models developed for the 18 Covered Species. These estimates are likely to be inflated because (1) habitat models may overestimate the actual extent of suitable habitat (see species profiles in Appendix D for details on each model), and (2) not all suitable habitat is occupied by the subject species.

The major direct effects to Covered Species will result from habitat loss associated with urban development. Because the HCP/NCCP utilizes a habitat-based approach for most species, the determination of direct and indirect effects on Covered Species is based on the habitat disturbed for each species. Overlays of habitat models with the permit area are shown in Figures 4-1 through 4-4. Impacts are described for each taxonomic group. Finally, impacts were capped to ensure that the level of take will not exceed the proposed mitigation and conservation. Maximum allowed impacts on Covered Species with habitat models are provided in Table 4-4.

Some of the Covered Species do not have habitat-derived impacts analyses. Most of these are plants where enough information was available to accurately predict impacts based on direct knowledge of the specific locations of the plant occurrences. To some extent, the same approach was used with some of the animal species, including Bay checkerspot butterfly and foothill yellow-legged frog. For western burrowing owl, the strategy reversed the approach used on all the other species and linked take directly to a demonstrated population growth (Appendix M).

The sum of these efforts was deemed adequate by the Wildlife Agencies to provide sufficient knowledge of each Covered Species to carry out reasonable impact analyses and develop species specific conservation strategies. Therefore, there is enough known about the status of each of the Covered Species and the natural communities to warrant providing long term assurances to the HCP/NCCP participants.

Finding 4.6.1C **CDFW finds that the level of and time limits for assurances specified in the Implementing Agreement were based on the use of the best available science to make assessments about the impacts of take, the reliability of mitigation strategies, and the appropriateness of monitoring techniques. (2820(f)(1)(C))**

The HCP/NCCP was developed using the best currently available scientific information. The process for collecting the data and information necessary for the HCP/NCCP, and for filling data gaps that were discovered during development of the HCP/NCCP, is described in the Planning Agreement (Sections 5.1.3-5.1.4) and Section 3.3.2 of the HCP/NCCP.

The HCP/NCCP utilized an extensive data collection process and received input from scientific experts in various fields of biology and conservation biology.

Development of the HCP/NCCP was also guided by working with the Wildlife Agencies and utilizing the Science Advisors report and input (Section 5.1.5: Planning Agreement). The Science Advisory Panel convened several times during development of the HCP/NCCP, including one public meeting on July 6, 2006 and it provided written guidance on a broad range of issues. In addition to directly commenting on conservation strategies for the Covered Species, the Reserve System design, the data gaps and how to fill them and monitoring and adaptive management plans, the panel provided input on which species should be covered and why, what mapping should be done, the length of the HCP/NCCP term, the geographic extent of the HCP/NCCP, Covered Activities, water use, operations and maintenance, and climate change.

There is sufficient available scientific information about impacts, mitigation and conservation strategies, and monitoring methodology to warrant providing long term assurances to the HCP/NCCP participants.

Finding 4.6.1D **CDFW finds that the level of and time limits for assurances specified in the Implementing Agreement were based on the appropriateness of the size and duration of the HCP/NCCP with respect to quality and amount of data. (2820(f)(1)(D))**

The HCP/NCCP utilized an extensive data collection process and received input from scientific experts in various fields of biology and conservation biology. Study and permit area boundaries were based on a combination of watershed boundaries, political, ecological, and hydrologic factors.

The description of Covered Species in the HCP/NCCP area was based on information gathered on status, population trends, distribution, threats, and conservation and management efforts. One criterion used to determine whether a species would be covered was whether there was sufficient data on the species' life history, habitat requirements, and occurrence in the study area to adequately evaluate impacts on the species and to develop conservation measures to mitigate these impacts in accordance with regulatory standards.

To provide all the elements necessary for a successful implementation of the conservation strategy, including habitat connectivity, a large study area was necessary. This allows more opportunities for protecting occurrences of the Covered Species and linking them together, provides for more topographic variation (elevation, exposure, microclimates, etc.), and allows for more habitat restoration and creation, as well as new occurrences of plants and some animals.

Because of very high local land costs and the large geographic scope of this plan, the local partners concluded a longer Permit term was necessary to fund the conservation strategy and post-term implementation.

Size and duration of the HCP/NCCP Permit term was informed by abundant high-quality data about land use, ecological processes, Covered Species, natural communities, stressors, and management and monitoring techniques; this warrants the provision of long term assurances to the HCP/NCCP participants.

Finding 4.6.1E **CDFW finds that the level of and time limits for assurances specified in the Implementing Agreement were based on the sufficiency of mechanisms for long-term funding of all components of the HCP/NCCP and contingencies. (2820(f)(1)(E))**

The cost of implementing the HCP/NCCP over the 50-year Permit term is estimated at \$657, 190,000.00. This includes the cost of land acquisition, HCP/NCCP administration, habitat management, habitat restoration, biological monitoring, the western burrowing owl conservation strategy, plan preparation cost recovery, an endowment for funding the cost of implementation in perpetuity, and a 3% cost contingency.

Funding to implement the HCP/NCCP will come from a variety of sources (Table ES-3). There are two types of funding sources, fee funding and non-fee funding. Fee funding is generated when impacts occur and the entity causing the impacts pays a fee to fund the conservation strategy to offset the impacts and contribute to recovery. Non-fee funding comes from a variety of sources, such as in-lieu land acquisition, interest and investment income, and state and federal funds.

After the Permit term, all of the Permittees are obligated to continue to protect, manage, and maintain the Reserve System. This includes adaptive management and monitoring at a level sufficient to determine whether management is effective. Detailed assumptions regarding post-Permit costs are presented in Appendix G. Annual costs to operate and maintain the Reserve System in perpetuity are estimated to be approximately 64% of the annual cost for program administration estimated during Years 46–50, 80% of Reserve System management and maintenance costs, and 34% of monitoring costs (Table 9-4). Total post-Permit costs are estimated to be approximately \$2.9 million annually. See Finding 4.1.10 for a more detailed description of funding.

Funding provided by interest on the endowment is expected to fully fund post-Permit costs. Any shortfalls in the endowment during the Permit term will be identified by the 5-year funding assessments conducted by the Implementing Entity. If the endowment is not growing fast enough to reach its target size, then the endowment fee portion of the development fees will be increased to make up the shortfall. With these built-in safeguards in the endowment, post-Permit

funding is expected to be adequate to fully offset post-Permit costs of management and monitoring.

There are sufficient mechanisms for long-term funding of the mitigation for and conservation of the Covered Species and the natural communities to warrant providing long term assurances to the HCP/NCCP participants.

Finding 4.6.1F **CDFW finds that the level of and time limits for assurances specified in the Implementing Agreement were based on the degree of coordination and accessibility of centralized data for analysis and evaluation of the effectiveness of the HCP/NCCP. (2820(f)(1)(F))**

The Implementing Entity will develop and maintain a comprehensive, centralized data repository to track and report on implementation of all aspects of the HCP/NCCP (Sections 8.10 and 8.11 of the HCP/NCCP). The data repository to track Permit compliance will be operating within 12 months after all local ordinances take effect. The data repository will be structured to be user friendly, such that a trained staffer (as opposed to a technician or programmer) can enter data. Additionally, the data repository will allow for future expansion and integration with an external database (e.g., linkage to agency or other GIS map libraries). The data repository will be structured to facilitate the following requirements.

- Data documentation such that future users can determine why, how, and where data were collected.
- Provide for quality assurance and control of the data.
- Allow access and use of the most current information in assessment and decision making.
- Provide for storage of spatial information in a GIS-linked or similar database.
- Allow easily accessed data queries and reports.

The primary types of information for which the data repository will be developed and maintained are listed below.

- Status of Covered Activities, including implementation and impacts on Covered Species and natural communities.
- Status of HCP/NCCP natural community preservation/enhancement/creation/restoration conservation measures.
- HCP/NCCP funding and expenditures.
- Monitoring and directed study results.

- Adopted changes to the HCP/NCCP, including administrative changes, minor amendments, or substantial revisions (all defined in Chapter 10).
- All reports and documents generated by the Implementing Entity or the Permittees related to the HCP/NCCP.

When the database is first operational after the first year of implementation, it will support as many of the components listed above as will be needed to report on HCP/NCCP compliance. For example, funding and expenditures will begin in the first year but the results of directed studies will not be available for several more years.

The Implementing Entity will comply with the data sharing requirements of the IA (Section 14.3 of the IA). If the Implementing Entity allows additional access to the project databases, such access will require strict controls and monitoring to ensure that the integrity of the database is maintained (e.g., use of passwords to limit access to selected database functions, consistent data entry forms to ensure that entered information is complete, compatible, and accurate).

There are sufficient mechanisms for coordination, centralized storage, and accessibility of data to warrant providing long term assurances to the HCP/NCCP participants.

Finding 4.6.1G

CDFW finds that the level of and time limits for assurances specified in the Implementing Agreement were based on the degree to which a thorough range of foreseeable circumstances are considered and provided for under the adaptive management program. (2820(f)(1)(G))

Section 2805, subdivision (c) of the Fish and Game Code identifies a ‘foreseeable’ circumstance in the following way: "Changed circumstances" are reasonably foreseeable circumstances that could affect a Covered Species or geographic area covered by the plan. Section 2805, subdivision (k) of the Fish and Game Code further defines an ‘unforeseeable’ circumstance as a change or changes affecting one or more species, habitat, natural community, or the geographic area covered by a conservation plan that could not reasonably have been anticipated at the time of plan development, and that result in a substantial adverse change in the status of one or more Covered Species.

The HCP/NCCP approached this issue by developing a list of issues/circumstances that could potentially result in a substantial adverse change in the status of one or more Covered Species and then defining at what level the effect changed from one that could be reasonably foreseeable to one which was not (Chapter 10). Generally, these thresholds were based on the probability of an extreme event occurring during the Permit term. The categories evaluated were: a Covered Species is listed, a non-Covered Species is listed, global climate change, fire, nonnative species or disease, flooding, drought or earthquakes.

Other potential changed circumstances were considered but rejected. For example, emergency situations and their corresponding remedial actions are not addressed under the HCP/NCCP. While we can predict that over the course of a 50-year Permit term there will be emergency situations, it is impossible to predict exactly what these emergencies will be. Past emergency situations in the study area that have resulted in the take of Covered Species include chemical spills, oil run-off, and spills of garlic processing waste in creeks. Because of difficulty in predicting the size, type, frequency and effect of emergency situations, the Permittees do not consider such events to be changed circumstances under the HCP/NCCP. If such an event occurs as a result of a Permittee facility or action, the Permittee is responsible for any take that may occur. Each Permittee will assume responsibility for the emergency situation and remedial measures if and when they do occur in the future, just as they would if there were no HCP/NCCP.

With varying degrees of analysis and discussion with the Wildlife Agencies, the local partners developed detailed criteria for when something would change from being a foreseen to an unforeseen circumstance. For example, an average temperature increase greater than 2.8°C in the study area will be considered an unforeseen circumstance. Temperature increases will be measured for the three baseline periods measured as a 10-year running average. This threshold was set after considering the average temperature increase in the area between 1961 and 1990 (.6 degrees C), searching the literature for predictions on expected temperature increases over the Permit term of fifty years and establishing a standard which is not expected to be exceeded. This process was followed for each circumstance and the results incorporated into the HCP/NCCP (Table 10-1).

Through this process, a thorough range of foreseeable circumstances were considered and provided for in the HCP/NCCP. Therefore, providing long term assurances to the HCP/NCCP participants is warranted.

Finding 4.6.1H **CDFW finds that the level of and time limits for assurances specified in the Implementing Agreement were based on the size and duration of the HCP/NCCP. (2820(f)(1)(H))**

Santa Clara County has a land area of 835,449 acres and the study area encompasses 519,506 acres, or approximately 62% of the county. The boundary of the study area was based on political, ecological, and hydrologic factors. As noted in Findings 4.1.4A- 4.1.4E, the Reserve System was designed to be large enough to maintain the ecological integrity of large habitat blocks, ecosystem function, and biological diversity; provide equivalent conservation of Covered Species within the HCP/NCCP area and linkages between them and adjacent habitat areas outside the HCP/NCCP area; protection and maintenance of habitat areas large enough to support sustainable populations of Covered Species; incorporation of a range of environmental gradients and high habitat diversity to provide for shifting species distributions due to changed circumstances and provide for the effective movement and interchange of organisms between

habitat areas, and maintenance of the ecological integrity of the habitat areas within the HCP/NCCP area

To meet these requirements, the HCP/NCCP proposes creation of a Reserve System that will protect an estimated 46,920 acres for the benefit of Covered Species, natural communities, biological diversity, and ecosystem function. Land acquisition and protection will create a network of reserves that accomplish the following:

- Acquires, permanently protects and manages in perpetuity, a minimum of 33,205 currently unprotected acres of land for the benefit of Covered Species, natural communities, biological diversity, and ecosystem function.
- In addition to the new protection of a minimum of 33,205 acres of land, incorporates up to 13,291 acres of existing open space that enhances the long-term management and monitoring on those lands within the Reserve System. Therefore, the total size of the Reserve System will be at least 46,496 acres and possibly as much as 46,920 acres (Section 5.1).
- Protects up to 100 miles of streams as part of the Reserve System.
- Provides management and monitoring to achieve the goals and objectives of the HCP/NCCP.

Preserves major local and regional connections between key habitat areas and between existing protected areas.

The Permittees are seeking permits from the Wildlife Agencies that have terms of 50 years. Accordingly, all assessments in the HCP/NCCP are based on a 50-year time period. Prior to Permit expiration, the Permittees may apply to renew or amend the HCP/NCCP and its associated permits and authorizations to extend their terms. The Permit term of 50 years was selected because it allows for the full and successful implementation of the Covered Activities, the conservation strategy, the monitoring and adaptive management program and the funding strategy (Section 1.2.3 of the HCP/NCCP).

Therefore, the size of the study area, Reserve System, and duration of the Permit are sufficient to warrant providing long term assurances to the HCP/NCCP participants.

Finding 4.7.1

CDFW finds that the following species are authorized for take under the plan and coverage is warranted based on regional or landscape level consideration, such as healthy population levels, widespread distribution throughout the plan area, and life history characteristics that respond to habitat-scale conservation and management actions (2821(a)(1)).

No species covered by this HCP/NCCP were found to fit these criteria.

Finding 4.7.2

CDFW finds that the following species are authorized for take under the plan and coverage is warranted based on regional or landscape level considerations with site specific conservation and management requirements that are clearly identified in the plan for species that are generally well-distributed, but that have core habitats that must be conserved (2821(a)(2)).

Adequate landscape level considerations, with additional species-specific conservation measures (management) and monitoring in an adaptive management framework will be implemented for the following species: Mount Hamilton thistle, Santa Clara Valley dudleya, Loma Prieta hoita, smooth lessingia, California red-legged frog, California tiger salamander, tri-color blackbird, western pond turtle.

Mount Hamilton thistle

Mount Hamilton thistle is found in Santa Clara, Stanislaus and Alameda Counties. There are two rough clusters of occurrences within the range, one in the Santa Cruz Mountains and one in the Diablo Ranges. Of 48 known occurrences, 40 are within the study area, all of which have been documented within the last 20 years.

Within the study area, occurrences are grouped in two areas: along Coyote Ridge and drainages from the ridge to the west (the majority of the occurrences) and in the Santa Teresa Hills, west of Highway 101 (five occurrences).

Mount Hamilton thistle occurs on serpentine soils in seeps and springs and along intermittent and perennial streams. The surrounding habitat is often serpentine bunchgrass grassland, although sometimes the occurrences are within foothill pine woodland or coast live oak forest and woodland. The occurrences range in elevation from 320 feet to 2,900 feet. Known occurrences appear to be in good health and have not shown any signs of population decline or range contraction. Primary habitat within the study area is defined as serpentine seeps or serpentine soils or grasslands within 25 feet of riverine habitat. This species is only found within the Guadalupe and Coyote watersheds.

Mount Hamilton thistle generally occurs in small stands of a few plants to several thousand plants, although some larger stands are known (U.S. Fish and Wildlife Service 1998; California Natural Diversity Database 2012). One location in Santa Clara County in 1992 supported over 18,000 plants. The reproductive biology and demography of this species are unknown.

The highly restricted habitat requirements of this species greatly limit the species' distribution and abundance. Insects likely play an important role as does water transport of seeds down drainages.

Known threats to populations of Mount Hamilton thistle in the study area include alteration of hydrologic regimes, urbanization, and cattle grazing (U.S. Fish and Wildlife Service 1998; California Natural Diversity Database 2012). Urbanization potential is very limited within the range of the species due to its occurrence outside areas designated for urban development. The effects of livestock grazing on this species are unknown. The spiny leaves likely limit grazing of plant tissue, but Mount Hamilton thistle may be susceptible to trampling by cattle due to its occurrence in and near livestock water sources. Road construction or future landfills may pose a threat. Expansion of the Kirby Canyon Landfill is expected to remove at least one population or portion of a population of Mount Hamilton thistle. It is also possible that exotic insects introduced to control non-native thistles could also forage on Mount Hamilton thistle.

The impact limit for this species, assuming no additional occurrences are found, is six occurrences (15% of local occurrences). All of the impacted occurrences will be from the larger grouping along Coyote Ridge. If more occurrences are discovered during the Permit term, then up to two more occurrences may be taken, as long as at least three additional occurrences are protected in the Reserve System prior to each additional impact. The additional protected occurrences must be of equal or better condition than the impacted occurrence.

Impacts to modeled habitat are limited to a maximum of 26 acres of permanent impact (5% of total modeled habitat) and 4 acres of temporary impacts (1%).

In addition to the avoidance measures associated with Covered Activities, mitigation and conservation will consist of the following:

The HCP/NCCP will protect, maintain the viability of, and increase the number and size of populations of Mt. Hamilton thistle by acquiring and enhancing at least 22 known, extant occurrences if no additional occurrences are discovered during the Permit term. Two of the 22 occurrences are located in Santa Teresa County Park and Anderson Lake County Park and will be incorporated into the Reserve System. The Santa Teresa occurrence is from the smaller cluster, west of Highway 101. New population creation in lieu of protection of natural occurrences is not proposed for this species. Additional occurrences, previously unknown, will be subject to both additional take and conservation.

There are 487 acres of primary modeled habitat for Mt. Hamilton thistle within the study area. Under the HCP/NCCP, a minimum of 150 acres of modeled habitat will be acquired for the Reserve System. In addition, 60 acres of primary modeled habitat will be added to the Reserve System from existing open space. These acquisitions and additions will increase the proportion

of primary modeled habitat in the study area to about 43% of the total primary modeled habitat. It is expected that primary modeled habitat, not yet surveyed, will likely contain new occurrences.

The Implementing Entity will manage and monitor the 22 occurrences so that each maintains a minimum occurrence size of 2,000 individuals as recommended by the Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area (U.S. Fish and Wildlife Service 1998c).

To successfully manage existing occurrences of Mt. Hamilton thistle, targeted studies will be conducted to determine factors limiting the expansion of extant occurrences. Such studies will include examining the effects of livestock grazing on the species by experimentally excluding livestock and monitoring the effects on occurrences; control sites will be incorporated into these studies. Other studies may focus on various factors related to management and microsite needs of the species at all life stages from germination through maturity (Objectives 20.9 and 20.10, Table 5-1d).

To assist the long-term viability of this species, a permanent conservation seed bank for Mount Hamilton thistle will be established in the National Collection of Endangered Plants operated by the Center for Plant Conservation as a national repository of endangered plant seed stock. Seeds will be deposited at a local custodial institution (e.g., a botanic garden) designated by the Center for Plant Conservation. Progeny or seeds may be used in population reintroduction at sites of origin or to expand the geographic distribution of this species.

For an occurrence to count as protected under the HCP/NCCP, there will be a buffer of at least 500 feet between the occurrence and adverse land uses.

Because the HCP/NCCP will protect and manage such a large proportion of occurrences and modeled habitat, while taking into account the distribution of those occurrences in the study area; requires studies to better understand species management; and includes back up measures such as use of a seed bank to preserve seeds, CDFW finds that that Mount Hamilton thistle will be conserved in the study area and coverage is therefore warranted.

Santa Clara Valley dudleya

Santa Clara Valley dudleya is only found in Santa Clara County in the vicinity of Coyote Valley, from San José south about 20 miles, to San Martin, at elevations of 300–900 feet.

Two hundred and seven occurrences have been documented within the study area between 1989 and 2010, and all of these are presumed to be extant (California Natural Diversity Database 2012). The estimated number of individuals known for the species varies greatly due in part to the variation in the methodology of counting the rosettes which are formed as individual plants spread vegetatively.

Santa Clara Valley dudleya is restricted to rocky outcrops in serpentine grassland and oak woodland at elevations between 300 and 900 feet. Some work suggests that suitable rock outcrops must have deep enough crevices for this species' roots, which are at least 6 inches long. Not all serpentine rock outcrops, therefore, may be suitable for Santa Clara Valley dudleya.

The rock outcrops where this species is found are otherwise largely unvegetated. Santa Clara Valley dudleya may also occur on serpentine rock outcrops in oak woodland or savanna, where coast live oak (*Quercus agrifolia*) and valley oak (*Quercus lobata*) have been reported as associates (California Natural Diversity Database 2012).

Santa Clara Valley dudleya produces wind-dispersed seeds (McCarten 1993) and also reproduces vegetatively by forming rosettes that either remain attached to the parent plant or separate from it. Seedling germination is high in wet years, but seedling survival is low, often less than 5%. The highest seedling survival rates were on east- and north-facing slopes, suggesting that dessication may be a major source of seedling mortality (McCarten 1993). A lack of suitable microhabitats on rock outcrops (crevices with enough soil to retain moisture) may greatly limit the population size of this species.

Insufficient data are available to characterize long-term demographic trends within populations, however, it has been suggested that populations of Santa Clara Valley dudleya may be stable because of the stability of their microhabitats in crevices on serpentine rock outcrops (S. Weiss pers. comm.)

The primary threats to Santa Clara Valley dudleya are overgrazing, development, and competition from non-native species (U.S. Fish and Wildlife Service 1998; California Natural Diversity Database 2012). Overcollecting is also a significant threat to Santa Clara Valley dudleya because of its attractiveness to collectors, accessible population sites, and slow growth rate. Other threats may include feral pigs, off-road vehicle use, and foot traffic (CNDDDB 2012).

The general habitat requirements of Santa Clara Valley dudleya and the species distribution within its narrow range are relatively well understood. For example, a County-wide survey for this species was conducted in 2000 and local botanists with the California Native Plant Society have been devoting significant attention to identifying and protecting local populations. The species' microhabitat requirements are not well understood, nor are the species' demography or pollination biology. The management needs of the species also need investigation.

The initial impact limit for the species is 11 occurrences (5% of the Santa Clara County occurrences). If additional occurrences are found, a maximum of 3 additional occurrences may be taken (6%). For additional occurrences to be taken, four new occurrences must be protected prior to each additional impact. The additionally protected occurrences must be of the same or better condition than the impacted occurrence. Permanent impacts to modeled habitat are expected to be a maximum of 550 acres (5.5% of total in study area) of serpentine bunchgrass

grassland and 29 acres (11.2% of total in study area) of serpentine rock outcrop. A maximum of 98 acres (1% of total in study area) of serpentine bunchgrass grassland and 2 acres (0.7% of total in study area) of serpentine rock outcrop will be temporarily affected.

The Implementing Entity will protect, maintain the viability of, and increase the number and size of populations of Santa Clara Valley dudleya by acquiring and enhancing at least 55 known occurrences if no additional occurrences are discovered during the Permit term. Additional occurrences, previously unknown, will be subject to both additional take and conservation. However, for this species, it is not anticipated that creation of new occurrences will take place.

There are an estimated 10,274 acres of modeled habitat for Santa Clara Valley dudleya in the study area (10,012 acres of serpentine bunchgrass grassland and 262 acres of serpentine rock outcrop). The HCP/NCCP requires acquisition of at least 4,600 acres of serpentine bunchgrass grassland and 120 acres of rock outcrop by year 45 of the Permit term. These acquisitions will result in the permanent protection and management of at least 39% of the modeled habitat of this species.

To successfully manage existing occurrences of Santa Clara Valley dudleya, targeted studies will be conducted to determine the ecological definition of a population and the relationship between known occurrences and genetically-defined populations. Studies will also be conducted to determine factors limiting the expansion of extant occurrences (Biological Goals and Objectives, Objective 20.3 and 20.4, Table 5-1d).

The targeted studies will be used to inform the target occurrence size for managed occurrences. For this species, the relationship between population and recorded occurrence is unclear. It is possible that multiple occurrences compromise a single population. At least 2,000 individuals per population will be established, as recommended in the *Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area* (U.S. Fish and Wildlife Service 1998c).

To assist the long-term viability of this species, a permanent conservation seed bank for Santa Clara Valley dudleya will be established in the National Collection of Endangered Plants operated by the Center for Plant Conservation as a national repository of endangered plant seed stock. Seeds will be deposited at a local custodial institution (e.g., a botanic garden) designated by the Center for Plant Conservation. Progeny or seeds may be used in population reintroduction at sites of origin or to expand the geographic distribution of this species.

For an occurrence to count as protected under the HCP/NCCP, there will be a buffer of at least 500 feet between the occurrence and adverse land uses.

Conservation measures for Santa Clara Valley dudleya consist of protection of at least 27% of known occurrences and at least 39% of the modeled habitat in the study area for this species. The Implementing Entity will acquire occurrences on both sides of Coyote Valley and at least one

occurrence at the southern end of the range to ensure protection of the full distribution of the species. Because the HCP/NCCP: protects and manages a significant proportion of occurrences and modeled habitat, while taking into account the distribution of those occurrences in the study area; requires studies to better understand species management; and, includes back up measures such as use of a seed bank to preserve seeds, CDFW finds that Santa Clara Valley dudleya will be conserved in the study area and coverage is therefore warranted.

Loma Prieta hoita

Loma Prieta hoita is endemic to California, where it occurs primarily in the Santa Cruz Mountains of Santa Clara and Santa Cruz Counties. The species also occurs in the Diablo Range in Santa Clara, Alameda, and Contra Costa Counties. There are 29 known occurrences of Loma Prieta hoita (CNDDDB 2013).

Fourteen occurrences of Loma Prieta hoita have been reported from the study area (CNDDDB 2012). Almost all of the occurrences are scattered along the eastern slope of the Santa Cruz Mountains; the lone exception being a population at the western base of Coyote Ridge, east of Highway 101. Historically, the range of the plant in Santa Clara extended at least to Gilroy, but extant occurrences have not been found in that part of the study area for over 80 years. Nine of the 14 occurrences are in partially protected areas such as County Parks or other areas dedicated to open space uses.

Loma Prieta hoita generally occurs as an understory element of coast live oak forest and woodland, generally in riparian woodland or on shaded slopes, between 100 and 2,000 feet elevation. Some sources state that the plant is primarily a serpentine species although this is somewhat at odds with its description as an oak woodland and riparian plant.

Populations generally consist of one to several stands composed of about a hundred plants, sometimes with up to a thousand plants in a stand (CNDDDB 2012).

Few population threats are known for Loma Prieta hoita. Populations at roadsides or in power line rights-of-way are subject to vegetation clearing. At least one population is reported to be subject to cattle grazing and trampling and feral pig rooting. Wild pigs commonly root under oak canopies in the study area, severely disturbing the soil and uprooting most herbaceous plants. At least one population may be threatened by development.

In part because of the high proportion of occurrences of this plant which are in partially protected habitats, it is not expected that any occurrences will be taken as a result of Covered Activities. Accordingly, no take of occurrences is covered under the HCP/NCCP, unless additional, currently undocumented populations are discovered. If enough additional occurrences are discovered and protected and managed during the Permit term, up to two occurrences of Loma Prieta hoita may be taken. For an occurrence of this species to be taken, at least two

previously unknown occurrences of equal or better quality must be permanently protected and managed first.

Maximum impacts to modeled primary habitat are expected to be approximately 3,072 acres (3%) of permanent impacts and 413 acres (less than 1 %) of temporary impacts. A maximum of 359 acres (1%) of modeled secondary habitat may be permanently impacted, and 60 acres (less than 1%) may be impacted temporarily impacted

In addition to the avoidance measures associated with Covered Activities, mitigation and conservation will consist of the following:

The Implementing Entity will protect, maintain the viability of, and increase the number and size of populations of Loma Prieta hoita by acquiring and enhancing four extant occurrences within the study area (28% of known occurrences) (Table 5-16), if no additional occurrences are found during the Permit term. Of the four occurrences targeted for protection and management, three are currently located in County parks. Up to two currently unknown occurrences of this species may be taken if two additional unknown occurrences of equal or greater condition are acquired and managed before each additional take (40% protection).

Because it is found in a broad range of habitats, Loma Prieta hoita is expected to benefit from acquisition and enhancement of natural communities that serve as primary or secondary modeled habitat and/or contain known or undiscovered occurrences, including chaparral and coastal scrub. There are 121,871 acres of Loma Prieta hoita modeled habitat (primary and secondary) within the study area. Under the HCP/NCCP, the Implementing Entity will acquire a minimum of 10,000 acres of modeled habitat for the Reserve System. In addition, 4,100 acres of modeled habitat will be added to the Reserve System from existing open space.

To successfully manage existing occurrences of Loma Prieta hoita, targeted studies will be conducted to determine factors limiting the expansion of extant occurrences. Other studies may focus on factors related to management and microsite needs of the species at all life stages from germination through maturity. Adaptive management decisions can then be developed on the basis of monitoring results (Biological Goals and Objectives, Objective 20.17 and 20.18, Table 5-1d).

The targeted studies will be used to inform the target occurrence size for managed occurrences. The specific target occurrence size will be developed by Year 10 of implementation, based on empirical data collected about occurrences in the Reserve System and other best available science.

To assist the long-term viability of this species, a permanent conservation seed bank for Loma Prieta hoita will be established in the National Collection of Endangered Plants operated by the Center for Plant Conservation as a national repository of endangered plant seed stock. Seeds

will be deposited at a local custodial institution (e.g., a botanic garden) designated by the Center for Plant Conservation. Progeny or seeds may be used in population reintroduction at sites of origin or to expand the geographic distribution of this species.

For an occurrence to count as protected under the HCP/NCCP, there will be a buffer of at least 500 feet between the occurrence and adverse land uses.

Loma Prieta hoita exists in a small number of occurrences in the study area and most of the extant occurrences are unlikely to be impacted by development due to geographic isolation and difficult terrain. In terms of absolute numbers, the amount of occurrences to be conserved is small (4), but this number represents 28% of the known occurrences. The HCP/NCCP recognizes this limitation by not covering take of the plant at all, unless other occurrences are discovered. If this does happen, the number of occurrences conserved will climb to as much as 40% of the known occurrences. Acquisition will specifically include the lone occurrence east of Highway 101 to ensure the maximum extent of the known range in the study area is protected. Significant amounts of modeled habitat will be protected and managed under the HCP/NCCP, protecting either additional, currently unknown occurrences or providing opportunities to establish new ones. Because the HCP/NCCP will protect and manage such a large proportion of occurrences and modeled habitat, while taking into account the distribution of those conserved occurrences in the study area; requires studies to better understand species management; and, includes back up measures such as use of a seed bank to preserve seeds, CDFW finds that Loma Prieta hoita will be conserved in the study area and coverage is therefore warranted.

Smooth lessingia

Smooth lessingia is a Santa Clara County endemic with 38 of 39 known occurrences in the study area. Most of the smooth lessingia occurrences are located west of Highway 101 with the exception of several occurrences that are located directly adjacent to Highway 101 to the east. Occurrences are located primarily on private land although there are several occurrences in Santa Teresa County Park and one occurrence each in Calero and Mt. Madonna County Parks.

This species may be more common than is currently known as it is easily confused with slenderstem lessingia, *Lessingia nemaclada*. Studies are currently underway to determine the correct relationship between and distribution of these two plants. Accordingly, there are likely to be more occurrences of smooth lessingia found during the Permit term (Janell Hillman, pers com).

Smooth lessingia inhabits serpentine outcrops and in rocky soils in serpentine bunchgrass grassland. It appears to prefer areas with low vegetation cover, sometimes occurring on roadcuts or at roadsides. The occurrences range in elevation from 400 to 1,600 feet.

The ecology and demography of smooth lessingia is unknown and remains unstudied. Population size appears to vary considerably between occurrence sites. Four populations had

fewer than 200 individuals, whereas three other populations were reported to contain tens of thousands of plants (CNDDDB 2012).

Reported threats to populations of smooth lessingia in the study area include cattle grazing, foot traffic (trampling), competition from invasive exotic plants, and road and trail maintenance.

Take of up to six occurrences (16% of known occurrences) is expected, entirely from SCVWD dam projects and this represents the initial maximum take for the species. Assuming other, currently unknown occurrences are found and protected prior to additional take, up to three of the currently undocumented occurrences may be taken. The protected occurrences must be of the same or better quality than the occurrence(s) taken. For the additional occurrences to be taken, two new occurrences must be protected prior to each additional take.

Impacts to modeled habitat are expected to be a maximum of 550 acres (5.5% of total in study area) of serpentine bunchgrass grassland; 29 acres (11.2% of total in study area) of serpentine rock outcrop will be permanently affected. A maximum of 98 acres (1% of total in study area) of serpentine bunchgrass grassland and 2 acres (0.7% of total in study area) of serpentine rock outcrop will be temporarily affected.

In addition to the avoidance measures associated with Covered Activities, mitigation and conservation will consist of the following:

The Implementing Entity will protect, maintain the viability of, and increase the number and size of occurrences of smooth lessingia by protecting and enhancing a total of 24 extant occurrences (63% of known occurrences) in the permit area (Table 5-16) if no additional occurrences are discovered during the Permit term. Twelve of the 24 protected occurrences must be naturally-occurring populations and will fulfill mitigation requirements for the impact of up to six occurrences. Five of these 12 natural occurrences will be protected through the incorporation of County Park lands into the Reserve System. The other 12 occurrences will be protected by the Implementing Entity through two possible methods, in the order of priority: (1) acquire land for the Reserve System that supports new or rediscovered historical occurrences by Year 45, or (2) create new occurrences within the Reserve System by Year 40. If enough new occurrences are documented during the Permit term and take is increased to nine occurrences (17% of known occurrences), the mitigation and conservation for smooth lessingia impacts will be protection and management of at least 30 occurrences (58% of known occurrences).

There are an estimated 10,274 acres of modeled habitat for smooth lessingia in the study area (10,012 acres of serpentine bunchgrass grassland and 262 acres of serpentine rock outcrop). The HCP/NCCP requires acquisition of at least 4,600 acres of serpentine bunchgrass grassland and 120 acres of rock outcrop by year 45 of the Permit term. These acquisitions will result in the permanent protection and management of at least 39% of the modeled habitat of this species.

Targeted studies will be used to attempt to determine factors limiting the expansion of extant occurrences and inform the target occurrence size for managed occurrences. At least 2,000 individuals per occurrence will be established as recommended in the *Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area* (U.S. Fish and Wildlife Service 1998c); this number will be adjusted as necessary pending research carried out during HCP/NCCP implementation to assure viable occurrences of this species (Biological Goals and Objectives, Objective 20.11 and 20.12, Table 5-1d).

To assist the long-term viability of this species, a permanent conservation seed bank for smooth lessingia will be established in the National Collection of Endangered Plants operated by the Center for Plant Conservation as a national repository of endangered plant seed stock. Seeds will be deposited at a local custodial institution (e.g., a botanic garden) designated by the Center for Plant Conservation. Progeny or seeds may be used in population reintroduction at sites of origin or to expand the geographic distribution of this species.

For an occurrence to count as protected under the HCP/NCCP, there will be a buffer of at least 500 feet between the occurrence and adverse land uses.

Although smooth lessingia appears fairly well distributed through some parts of the HCP/NCCP area, there are challenges associated with the species: little is known about its life cycle and it appears very similar to another local lessingia. The conservation strategy for this plant requires protection and management of a large percentage of known occurrences (63% initially and 58% if enough additional occurrences are discovered). The uncertainty in identification likely means there are additional occurrences already known that have been misidentified. Completion of the Reserve System design for the HCP/NCCP will result in the acquisition of at least 39% of the modeled habitat for the species, providing significant opportunity for discovery of new occurrences on reserve lands and protected habitats for creation of new occurrences.

Because the HCP/NCCP protects and manages such a large proportion of occurrences and modeled habitat, while taking into account the distribution of those conserved occurrences in the study area; requires studies to better understand species management; and, includes back up measures such as use of a seed bank to preserve seeds, result in a reasonable conclusion that smooth lessingia will be conserved in the study area and coverage is therefore warranted.

California red-legged frog

CRLF was historically found in all or almost all of Santa Clara County. As a result of ongoing development in the County, the species has mostly vanished from the urbanized lowland areas of the county as well as from the brackish marshlands bordering the San Francisco Bay (HT Harvey and Associates, 1997). Extant riparian habitats within those areas are largely channelized and/or

contain a wide variety of introduced predatory fishes and bullfrogs. The frog can still be found in most sections of the study area, but the overall local population is very disjunct.

There are at least 93 extant occurrences of CRLF in the study area, although at least half of those are in Henry Coe State Park which is no longer a HCP/NCCP participant. Since much of the remaining potential habitat for this species has not been adequately surveyed, it is anticipated that there are more occurrences to be discovered, particularly along the drainages on the east slope of the Santa Cruz Mountains.

Within their range, CRLF occur from sea level to about 5,000 feet above sea level (U.S. Fish and Wildlife Service 2002a) although almost all of the documented occurrences of this species are located below 3,500 feet. Breeding sites include a variety of aquatic habitats—larvae, tadpoles, and metamorphs use streams, deep pools, backwaters within streams and creeks, ponds, marshes, sag ponds, dune ponds, and lagoons. Breeding adults are commonly found in deep (more than 2 feet) still or slow-moving water with dense, shrubby riparian or emergent vegetation (Hayes and Jennings 1989). Adult frogs have also been observed in shallow sections of streams that are not shrouded by riparian vegetation. Generally, streams with high flows and cold temperatures in spring are unsuitable for eggs and tadpoles. Stock ponds are frequently used by this species if the ponds provide suitable hydroperiods, pond structure, vegetative cover, and lack of nonnative predators. In Santa Clara County, CRLF tend to utilize cooler, deeper ponds than CTS or WPT, but they can be found in a wide variety of aquatic environments, both natural and artificial, including perennial and intermittent ponds, wetlands, streams, ditches and basins. This species can likely be restored to a healthy metapopulation locally utilizing passive efforts such as acquisition of suitable habitat, including dispersal areas, enhancement of protected habitat and creation of ponds in strategic locations to provide additional breeding sites and connectivity.

CRLF may move over 2 miles up or down drainages from breeding sites and have been observed using adjacent riparian woodlands up to 100 feet from the water (Rathbun et al. 1993). Dispersing frogs have been recorded to cover distances from 0.25 mile to more than 2 miles without apparent regard to topography, vegetation type, or riparian corridors (Bulger 1998). These dispersal movements are generally straight-line, point-to-point migrations rather than following specific habitats. Dispersal distances are believed to depend on the availability of suitable habitat and prevailing environmental conditions. Generally speaking, CRLF will use the extent of a riparian corridor no matter how narrow or wide it is. The primary features driving the use of this habitat are cool moist soil under shrubs or other vegetation where frogs can find refuge for short periods before returning to the water.

On rainy nights, red-legged frogs may roam away from aquatic sites as much as one mile. CRLF often move away from the water after their first winter, causing sites where red-legged frogs were easily observed in the summer months to appear devoid of this species.

Within the study area, stock ponds are frequently used as breeding sites by this species. All existing ponds and streams within the study area were, therefore, considered potential suitable breeding habitats for CRLF in the HCP/NCCP.

As ponds dry out, CRLF disperse from their breeding sites to other areas with water or to temporary shelter or aestivation sites. For this reason, all grassland, chaparral and coastal scrub, oak woodland, riparian forest/scrub, and conifer woodland land cover types within 100 feet of primary habitat are characterized as upland refugia in the HCP/NCCP.

Threats to CRLF in the study area include ongoing development, channelization of waterways, removal of breeding ponds, predation by and competition with invasive species and continued fragmentation of local populations.

CRLF is one of the Covered Species for which impacts were calculated using a habitat proxy. Permanent impacts to CRLF modeled primary habitat will not exceed 421 acres (4% of total modeled primary habitat in the study area) and temporary impacts will not exceed 119 acres (1% of total modeled primary habitat in the study area). Permanent impacts on CRLF modeled secondary habitat, which includes areas for refugia and dispersal, will not exceed 13,732 acres (4% of total modeled refugia habitat in the study area) and temporary impacts will not exceed 1,576 acres (less than 1% of total modeled secondary habitat in the study area).

There are 342,205 acres of CRLF modeled habitat (primary and secondary habitat) within the study area. As part of the HCP/NCCP a minimum of 31,300 acres of modeled habitat will be acquired for the Reserve System. In addition, 11,930 acres of modeled habitat for CRLF will be added to the Reserve System from existing open space. The Reserve System will include 1,430 acres of modeled breeding habitat and 41,800 acres of modeled upland habitat. In addition to protecting modeled habitats, the Implementing Entity will protect and enhance a minimum of 50 acres of ponds that either support, or have the potential to support, breeding CRLF. In addition, a minimum of 20 acres of ponds will be created that either support or have the potential to support breeding by CRLF. If all projected impacts occur, up to 104 acres of ponds will be protected and enhanced and up to 72 acres of ponds will be created. Ponds that are lost to Covered Activities will be replaced by new ponds created within the Reserve System within the Reserve System at a ratio of 1:1.

The Implementing Entity will also acquire and enhance a minimum of 10 acres of perennial wetlands and create an additional minimum of 20 acres that either support or have the potential to support breeding CRLF. Up to 50 acres of perennial wetlands will be protected and enhanced and up to 45 acres of perennial wetlands will be restored if all estimated impacts occur. Finally, a minimum of 100 miles of stream will be acquired and protected and a minimum one mile of stream will be restored to benefit CRLF. If all projected impacts occur, an additional 9.4 miles of stream will be restored.

Acquisition of modeled habitat and creation, enhancement, and/or restoration of ponds and wetlands will facilitate connectivity between existing and new occurrences. This will be done to restore lost redundancy in order to achieve a natural metapopulation structure.

Management activities to benefit CRLF include grazing management of upland areas, control of feral pigs and predators such as bullfrogs and fish, encouraging ground squirrel recruitment, and possible active relocation of CRLF (as approved by the Wildlife Agencies).

The factors that provide assurance that CRLF will be conserved in Santa Clara County are as follows:

- * The land acquisition strategy includes a focus on restoring connectivity between isolated occurrences and enhancing existing and new areas of connectivity. More than anything else, the success of this component would lead to conservation in the study area.

- * By the time the Reserve System is fully acquired (which will be at or before Year 45), a minimum of 40% of all ponds and wetlands in the Reserve System in each of the two local ESA Recovery Units will be or will have been occupied by CRLF.

- * Land acquisition for CRLF consists of acquisition and enhancement of at least 2.6 times as much conserved land as is impacted, the acquisition or restoration of almost 4 times as much perennial wetland acreage as might be impacted, 3.4 times as much pond acreage that might be impacted and more than 10 times as much stream corridor as might be impacted. These multipliers increase the probability that there will be more mitigation than impact.

Together with avoidance measures, studies, and management, implementation of this strategy will conserve CRLF in the study area and coverage is therefore warranted.

California tiger salamander

CTS was historically found in most of Santa Clara County. There are at least 100 extant occurrences in the study area. The number could be higher as many areas have not been adequately surveyed, but it could also be lower since many CTS breeding sites are found in areas where development has been occurring and will continue to occur. In some areas, the local distribution is more discontinuous than CRLF and connectivity between known occurrences is a significant issue. The species is almost certainly extirpated from urbanized areas and the valley floor, with the remaining occurrences that potentially could have connected across the valley becoming isolated in the last ten years. A review of the CNDDDB records for this species reveals a high number of locations that were extant in the 1980's and more recently as now being extirpated. Complete range data is lacking for this species, but there are concentrations of occurrences west of Highway 101 which are west and southwest of Gilroy, southwest of Morgan Hill and southwest of San Jose. The distribution east of Highway 101 is spottier with a spotty, but wide coverage of potential habitat from the foothills of the Diablo Range eastward into

Henry Coe State Park. With the exception of cross valley connectivity, this species can likely be restored to a healthy metapopulation utilizing passive efforts such as acquisition of suitable habitat, including dispersal areas, enhancement of protected habitat, and creation of ponds in strategic locations to provide additional breeding sites and connectivity.

CTS inhabit valley and foothill grasslands and the grassy understory of open woodlands, usually within one mile of water (Jennings and Hayes 1994). Most populations occur at elevations below 1,500 feet, but CTS have been recorded at elevations up to 3,660 feet, just below Rose Peak in the Ohlone Regional Wilderness, Alameda County. Following metamorphosis CTS are terrestrial animals which spend most of their time in underground refugia. Underground retreats are usually California ground squirrel (*Spermophilus beechyii*) or pocket gopher (*Thomomys bottae*) burrows and, occasionally, human-made structures. Adults emerge from underground to breed, but only for brief periods during the year. CTS breed and lay their eggs primarily in vernal pools and other ephemeral ponds that fill in winter and often dry out by summer and they occasionally use permanent human-made ponds (e.g., stock ponds), reservoirs, and small lakes that do not support predatory fish or bullfrogs. Streams are rarely used for reproduction.

CTS must spend at least ten weeks living in ponded water to complete metamorphosis but in general development is completed in 3–6 months (Petranka 1998). Adult CTS have been observed up to 1.3 miles (2.1 km) from breeding ponds (U.S. Fish and Wildlife Service 2004). A recent trapping effort in Contra Costa County captured CTS at distances ranging from 2,641 feet to 3,960 feet from the nearest aquatic breeding site (U.S. Fish and Wildlife Service 2004). In a study in winter 2002–2003, Trenham and Shaffer (2005) found that 95% of CTS resided within 2040 feet (620 meters) of their breeding pond in Solano County.

Breeding and Foraging. Potential breeding habitat within the study area is assumed to be all ponds (excluding percolation ponds), coastal and valley freshwater marshes, natural lakes, and seasonal wetlands within riparian, grassland, oak woodland, and conifer woodland land cover types.

Upland Refugia and Dispersal Habitat. Upland habitats that provide subterranean refugia for this species are assumed to be within 1.3 miles of primary habitat in grassland, chaparral and coastal scrub, oak woodland, riparian forest/scrub, riparian forest/woodland wetlands, conifer woodlands, and agricultural areas.

Threats to CTS in the study area include ongoing development, removal of breeding ponds, predation by and competition with invasive species, western burrowing mammal control, continued fragmentation of local populations and hybridization with *Ambystoma tigrinum*.

CTS is one of the Covered Species for which impacts were calculated using a habitat proxy. Permanent impacts to CTS modeled breeding habitat will not exceed 77 acres (6% of total modeled breeding habitat in the study area) and temporary impacts will not exceed 14 acres (1%

of total modeled breeding habitat in the study area). Permanent impacts on CTS non-breeding modeled habitat will not exceed 15,823 acres (4% of total non-breeding modeled habitat in the study area) and temporary impacts will not exceed 1,529 acres (less than 1% of total modeled breeding habitat in the study area).

There are 333,071 acres of CTS modeled habitat (breeding and non-breeding) within the study area. As part of the HCP/NCCP a minimum of 30,170 acres of modeled habitat will be acquired for the Reserve System. In addition, 11,745 acres of modeled habitat will be added to the Reserve System from existing open space. This includes 215 acres of modeled breeding habitat and 41,700 acres of modeled upland habitat.

In addition to protecting modeled habitats, the Implementing Entity will protect and enhance a minimum of 50 acres of ponds that either support, or have the potential to support, breeding CTS. In addition, a minimum of 20 acres of ponds will be created that either support or have the potential to support breeding of CTS. If all projected impacts occur, up to 104 acres of ponds will be protected and enhanced and up to 72 acres of ponds will be created. Ponds that are lost to Covered Activities will be replaced by new ponds created within the Reserve System within the Reserve System at a ratio of 1:1.

The Implementing Entity will also acquire and enhance a minimum of 10 acres of perennial wetlands and create an additional minimum of 20 acres that either support or have the potential to support breeding CTS. Up to 50 acres of perennial wetlands will be protected and enhanced and up to 45 acres of perennial wetlands will be restored if all estimated impacts occur. Finally, a minimum of 100 miles of stream will be acquired and protected and a minimum one mile of stream will be restored to benefit CTS. If all projected impacts occur, an additional 9.4 miles of stream will be restored. Seasonal wetlands will also be acquired to benefit CTS: a minimum of 5 acres protected and as many as 30 acres protected and 30 acres restored if all impacts occur. Seasonal wetlands are more likely to support adequate breeding habitat for CTS because nonnative predators and hybrid salamanders are less likely to persist in these habitats. However, some perennial wetlands may still support CTS if they are periodically drained or nonnative predators are controlled in other ways.

Further, the Implementing Entity will protect 32,840 acres of grassland, oak woodland, riparian, or chaparral habitat within modeled habitat the CTS to provide upland refugia for the species.

Finally, a minimum of 100 miles of stream will be acquired and protected and a minimum one mile of stream will be restored to benefit CRLF and WPT. If all projected impacts occur, an additional 9.4 miles of stream will be restored.

Acquisition of modeled habitat and creation or restoration of ponds and wetlands will be done with a focus on ensuring that connectivity between existing and new occurrences are enhanced,

restored or established. This will be done to restore lost redundancy that may achieve a natural metapopulation structure.

Management activities to benefit all three species include grazing management of upland areas, control of feral pigs and predators such as bullfrogs and fish and encouraging ground squirrel recruitment.

The factors that provide assurance that CTS will be conserved in Santa Clara County are as follows:

- * The land acquisition strategy includes a focus on restoring connectivity between isolated occurrences and enhancing existing and new areas of connectivity. More than anything else, the success of this component would lead to conservation in the study area.

- * By the time the Reserve System is fully acquired (which will be at or before Year 45), a minimum of 30% of all ponds and wetlands in the Reserve System will be or will have been occupied by CTS and by Year 30, at least 25% of all ponds and wetlands will be occupied.

- * Land acquisition for CTS consists of acquisition and enhancement of at least 2.4 times as much conserved land as is impacted, the acquisition or restoration of almost 4 times as much perennial wetland acreage as might be impacted, 3.4 times as much pond acreage that might be impacted, and more than 10 times as much stream corridor as might be impacted. These multipliers increase the probability that there will be more mitigation than impact.

Together with avoidance measures, targeted studies and management, CDFW finds that implementation of this strategy will conserve CTS in the study area and coverage is therefore warranted.

Western pond turtle

The historical distribution of western pond turtle (WPT) in Santa Clara County and the study area is subject to some debate. Although there is general acknowledgement that the species has a much smaller range and exists in much smaller numbers than it did before European settlement, some authorities feel that it exists in new locations compared to its historic distribution because of the turtle's ability to move long distances and utilize artificial habitats. WPT occurrences are generally more isolated than those of CRLF or CTS, but it is also found in a larger area of Santa Clara County, because it uses more habitats. WPT can be found in urbanized areas and the valley floor, in small, localized populations. It is also found in isolated occurrences in all parts of the study area.

There are at least 50 known recent occurrences of this species within the study area (CNDDDB 2012), the majority of which (37) were recorded in the southern half of Santa Clara County. Most are associated with reservoirs or creeks (namely Uvas and Llagas Creeks) as they enter

reservoirs. The occurrence data may be biased in favor of areas where observers are likely to make incidental observations (reservoirs, Henry W. Coe State Park, and other park facilities). WPT have been documented throughout the Coyote Creek drainage from the upper reaches in Henry W. Coe State Park to the urbanized reaches in San José (CNDDDB 2012).

Restoration of a metapopulation approximating a significant fraction of the historical distribution will be much more challenging for WPT than for CTS or CRLF because of the smaller number of occurrences and the distances between them.

WPT occur in a variety of aquatic habitats from sea level to elevations of 6,500 feet. They are found in rivers, streams, lakes, ponds, wetlands, reservoirs, and brackish estuarine waters (Holland 1994). WPT use aquatic habitats primarily for foraging, thermoregulation, and avoidance of predators. They prefer habitats with large areas for cover (such as logs, algae, and vegetation) and basking sites (such as boulders or other substrates). The species has been observed to avoid areas of open water lacking these habitat features (Holland 1994). Both adult and juvenile turtles favor aquatic habitats with access to areas of deep, slow water with underwater refugia. Hatchlings are relatively poor swimmers and tend to seek areas with shallow, warm water, with fewer predatory aquatic vertebrates, and with at least some aquatic vegetation (Holland 1994).

WPT overwinter in both aquatic and terrestrial habitats. Aquatic refugia consist of rocks, logs, mud, submerged vegetation, and undercut areas along banks. Terrestrial overwintering habitat consists of burrows in leaf litter or soil. The presence of a duff layer seems to be a general characteristic of overwintering habitat (Holland 1994).

WPT utilize a home range on the order of several hundred meters (2296 feet; Holland 1994), with males using a larger aquatic home range than females. Individuals may occasionally make sporadic long-distance aquatic movements outside their home range. Gravid females usually leave the water to nest on land in the late afternoon or evening, returning to the water by morning, although this is quite variable (Crump 2001). Nest sites have been found as far as 400 meters (1312 feet) from the water (Reese 1996). Reese (1996) found that over the summer months (May–September), juvenile turtles have an average maximum dispersal distance of approximately 84 meters (275 feet). Their mean weekly aquatic travel is 19.9 meters (65 feet). Their home range is smaller than that of adults but larger than previously recognized and also includes terrestrial components (Reese 1996). Juveniles sometimes travel back and forth between low-flow portions of the river and adjacent ponds.

Primary Habitat—Nest Sites, Basking, Overwintering. All ponds, streams, canals/ditches, and coastal and valley freshwater marsh are considered primary habitat. In addition, areas within 150 feet of these landcover types are considered suitable nesting and overwintering habitat, unless the landcover within this 150 foot buffer consists of rock outcrops, vineyards, orchards or urban areas.

Secondary Habitat—Nest Sites and Movement. Movement habitat includes all land cover types within 1,200 feet of primary habitat with the exception of areas within this buffer that consist of rock outcrops, vineyards, orchards, or urban areas.

There are 314,916 acres of WPT modeled habitat (primary and secondary) within the study area. As part of the HCP/NCCP, a minimum of 27,000 acres of modeled habitat will be acquired for the Reserve System. An additional 11,900 acres of modeled habitat will be added to the Reserve System from existing open space.

The Implementing Entity will protect (through acquisition or easement) and enhance a minimum of 50 acres of ponds that either support, or have the potential to support, WPT. In addition, a minimum of 20 acres of ponds will be created that either support or have the potential to support WPT. If all projected impacts occur, up to 104 acres of ponds will be protected and enhanced and up to 72 acres of ponds will be created. Ponds that will be lost to Covered Activities will be replaced by new ponds created within the Reserve System within the Reserve System at a ratio of 1:1.

Similarly, the Implementing Entity will acquire and enhance a minimum of 10 acres of perennial wetlands and create an additional minimum of 20 acres that either support or have the potential to support WPT. Up to 50 acres of perennial wetlands will be protected and enhanced and up to 45 acres of perennial wetlands will be restored if all estimated impacts occur.

Finally, a minimum of 100 miles of stream will be acquired and protected and a minimum one mile of stream will be restored to benefit WPT. If all projected impacts occur, an additional 9.4 miles of stream will be restored.

By Year 30, at least 20% of all ponds and wetlands will be occupied by WPT. By the time the Reserve System is fully acquired (which will be at or before Year 45), a minimum of 25% of all ponds and wetlands must be occupied by WPT.

Acquisition of modeled habitat and creation or restoration of ponds and wetlands will be done with a focus on ensuring that connectivity between existing and new occurrences are enhanced, restored or established. This will be done to restore lost redundancy to achieve a natural metapopulation structure.

Management activities to benefit CTS, CRLF, as well as WPT include grazing management of upland areas, control of feral pigs and predators such as bullfrogs and fish, encouraging ground squirrel recruitment, and possible active relocation of WPT (as approved by the Wildlife Agencies).

The factors that provide assurance that WPT will be conserved in Santa Clara County are as follows:

* The land acquisition strategy includes a focus on restoring connectivity between isolated occurrences and enhancing existing and new areas of connectivity. More than anything else, the success of this component will lead to conservation in the study area.

* The pond occupancy criteria explained above adds an assured presence factor not normally found in habitat proxy approaches.

* Land acquisition for WPT consists of acquisition and enhancement of at least 2.7 times as much conserved land as impacted, the acquisition or restoration of almost 4 times as much perennial wetland acreage as might be impacted, 3.4 times as much pond acreage as might be impacted and more than 10 times as much stream corridor as might be impacted. These multipliers increase the probability that there will be more mitigation than impact.

Together with avoidance measures, studies and management, CDFW finds that implementation of this strategy will conserve WPT in the study area and coverage is therefore warranted.

Tricolored blackbird

This species has always been relatively uncommon in Santa Clara County, but it can be found anywhere on the valley floor and east into the Diablo Range. Breeding colonies are rare, limited in size, and tend not to persist. During the seven year period between 1987 and 1993, there were 15 breeding colonies in Santa Clara County, although the colonies were fairly small (100-500 birds). Most (85%) of breeding attempts were located at sites below 800' in elevation, effectively limiting the range of the species in Santa Clara County to the valley floor and a few isolated valleys in the Diablo Range or Santa Cruz Mountains. In Santa Clara County, the bird does not utilize brackish marshes (Santa Clara Valley Audubon Society 2007).

Tricolored blackbirds are considered "itinerant breeders" (i.e., nomadic breeders) where individuals or colonies can breed in different regions within the same year (Hamilton 1998; Hamilton 2004). Because this species wanders considerably during the breeding season, individuals could successfully breed within the study area if suitable breeding and/or foraging habitat were available.

Tricolored blackbirds have three basic requirements for selecting their breeding colony sites: open, accessible water; a protected nesting substrate, including flooded, thorny, or spiny vegetation; a suitable foraging space providing adequate insect prey within a few miles of the nesting colony (Hamilton et al. 1995). Almost 93% of the 252 breeding colonies reported by Neff (1937) were in freshwater marshes dominated by cattails and bulrushes (*Schoenoplectus* spp.). The remaining colonies in Neff's study were in willows (*Salix* spp.), blackberries (*Rubus* spp.), thistles (*Cirsium* and *Centaurea* spp.), or nettles (*Urtica* spp.). In contrast, only 53% of the colonies reported during the 1970s were in cattails and bulrushes (DeHaven et al. 1975a). More recently, an increasing percentage of tricolored blackbird colonies have been reported in non-native vegetation such as Himalayan blackberry (*Rubus discolor*), silage and grain fields,

giant cane (*Arundo donax*), tamarisk trees (*Tamarix* spp.) and poison oak (*Sambucus* spp. and *Toxicodendron diversilobum*).

Ideal foraging conditions for tricolored blackbirds are created when shallow flood-irrigation, mowing, or grazing keeps the vegetation at an optimal height (<15 cm) (Tricolored Blackbird Working Group 2007). Preferred foraging habitats include agricultural crops such as rice, alfalfa, irrigated pastures, and ripening or cut grain fields (e.g., oats wheat, silage, and rice), as well as annual grasslands, cattle feedlots, and dairies. Tricolored blackbirds also forage in remnant native habitats, including wet and dry vernal pools and other seasonal wetlands, riparian scrub habitats, and open marsh borders (Tricolored Blackbird Working Group 2007).

Primary Habitat—Breeding and Foraging. Habitats suitable for breeding and foraging during the breeding season were modeled using all riparian woodland and scrub land cover types, coastal and valley freshwater marsh and ponds within grassland, oak woodland, riparian forest/scrub, grain/row-crop/hay/pasture, and barren land cover types.

Secondary Habitat—Foraging and Wintering. Areas that provide suitable foraging and wintering habitats include seasonal wetlands, all grasslands, and all agricultural land cover types.

Because the species has a limited presence in Santa Clara County, take of or impacts to breeding colonies are not covered (Condition 17, Chapter 6). Due to this limitation, expected impacts will be to foraging habitat and unused nesting habitat.

Permanent impacts on tricolored blackbird modeled primary habitat and secondary habitat will not exceed 372 acres (5%) and 12,651 acres (10%) of modeled primary habitat and secondary habitat in the study area, respectively. Temporary impacts on tricolored blackbird modeled primary habitat and modeled secondary habitat will not exceed 93 acres (1%) and 768 (less than 1%), respectively.

The Implementing Entity will implement conservation measures to increase the population size of tricolored blackbird in the study area by protecting at least four sites that support, historically supported, or could support tricolored blackbird colonies. Each protected site will have at least two acres of breeding (marsh) habitat and will have at least 200 acres of foraging habitat within two miles. These breeding sites will either be enhanced or restored breeding habitat in historically or currently occupied areas within the Reserve System or newly created ponds suitable for breeding tricolored blackbirds.

As an additional benefit, acquisition, enhancement and restoration/creation conservation actions identified for grasslands, valley oak woodlands, riparian forest and scrub and wetlands and ponds will help tricolored blackbirds by providing additional potential nesting and foraging habitat. There are 140,531 acres of tricolored blackbird modeled habitat within the study area.

The HCP/NCCP proposes to acquire a minimum of 19,000 acres of modeled primary and secondary habitat for the Reserve System. In addition, 3,840 acres of modeled primary and secondary habitat will be added to the Reserve System from existing open space.

Restoration and enhancement will play a significant role in mitigation and conservation of this species in the study area. Primary components include: offering financial incentives to private landowners to enhance pond and marsh habitat to suit breeding tricolored blackbirds; to modify farming or ranching techniques to ensure that dry-land farming and ranching activities are executed in a way that is compatible with nesting and foraging tricolored blackbirds; and restoring freshwater marsh that will support dense reed-like vegetation or other native vegetation that will attract nesting tricolored blackbirds. Of the 20 acres of newly created ponds within the permit area and the estimated 52 acres of ponds to mitigate for the loss of ponds to Covered Activities, those surrounded by suitable tricolored blackbird foraging habitat will be managed to support dense reed-like vegetation adequate for tricolored blackbird nesting. In areas with nonnative vegetation that support existing tricolored blackbird colonies, the Implementing Entity will initiate a gradual (three to four year) transition from nonnative vegetation to native vegetation that is structurally similar. The transition will only be implemented if the Wildlife Agencies determined that the colony was large enough and stable enough to accommodate the change (Biological Goals and Objectives, Objectives 18.1 through 18.5, HCP/NCCP, Table 5-1c).

Since this bird is not common in the study area and breeding sites are small and occasional, the measures described above to increase the chances of stable breeding sites in Santa Clara County are by far the best strategy for achieving a conservation standard in the HCP/NCCP. By committing to protect and enhance four sites, along with the limitation on take and other measures described above, CDFW finds that tricolored blackbirds will be conserved in the study area and coverage is therefore warranted.

Finding 4.7.3 CDFW finds that the following species are authorized for take under the plan and coverage is warranted based on site specific considerations and the identification of specific conservation and management conditions for species within a narrowly defined habitat or limited geographic area within the plan area (2821(a)(3)).

Adequate landscape level considerations and species-specific conservation measures (management) within narrowly defined areas will be implemented for the following species:

Tiburon Indian paintbrush, Coyote ceanothus, fragrant fritillary, Metcalf Canyon jewelflower, most beautiful jewelflower, Bay checkerspot butterfly, foothill yellow-legged frog, western burrowing owl, least Bell's vireo, San Joaquin kit fox.

Tiburon Indian paintbrush

Tiburon Indian paintbrush is a California endemic with nine known occurrences in Marin, Napa, and Santa Clara Counties. The full range of the plant is approximately 30 miles (east-west) by 70 miles (north-south) (U.S. Fish and Wildlife Service 1995). The two occurrences of the species in Santa Clara County are found along Coyote Ridge north of Morgan Hill. One occurs on land owned by Santa Clara County Waste Management, and one occurs on land owned by Castle and Cook and leased by Santa Clara County Waste Management. The northernmost of the two occurrences (the Castle and Cook occurrence) contains the most plants of any of the known occurrences. One location (near the landfill) is in the process of becoming a mitigation site and the other is on property being considered for mitigation (Castle and Cook).

Tiburon Indian paintbrush is a strict serpentine endemic species found in rocky serpentine bunchgrass communities between 250 and 1,300 ft in elevation (Safford et al. 2005).

Take of Tiburon Indian paintbrush is not authorized in the HCP/NCCP, with the exception that individual plants may be taken in the course of managing the plant. Take will therefore consist of activities such as seed collection, contract growing, and studies.

Conservation will consist of acquisition, management and enhancement of one occurrence, the northernmost of the two on Coyote Ridge. Management activities will protect and enlarge the occurrence to at least 2,000 plants, the target goal of the USFWS Serpentine Recovery Plan (USFWS, 1998). In addition, seeds will be stored in a seed bank and studies will be carried out to guide management.

Conservation consists of significantly limiting take of the species combined with protection, management and enhancement of the largest of two occurrences in the study area, protection of seed in a seed bank, and conducting studies to guide management. Additionally, the second occurrence in Santa Clara is intended to be protected and managed under a permanent conservation easement. CDFW finds that these measures will ensure conservation of the species at its historic levels in Santa Clara County and coverage is therefore warranted.

Coyote ceanothus

Coyote ceanothus is a Santa Clara endemic with three known occurrences. Two of the occurrences are in the Diablo Range, one near Anderson Reservoir and one to the north of the reservoir. The third is across the valley, near Morgan Hill and may be genetically distinct from the other two.

Coyote ceanothus is generally found growing on dry slopes in chaparral, grassland, and coastal scrub on serpentine soils, from approximately 400–1,500 feet (U.S. Fish and Wildlife Service 1998).

The three documented occurrences include approximately 189,475 plants in total based on estimates from the Recovery Plan (U.S. Fish and Wildlife Service 1998) and a field survey conducted in 2009 by the SCVWD of the population near Anderson Dam (SCVWD, unpublished data). The largest population by far, approximately 188,475 individuals, is near Anderson Dam. The majority of the plants in the larger of the two subpopulations near the dam emerged following a fire in 2003 (U.S. Fish and Wildlife Service 2011). The smallest population also burned during a fire in Kirby Canyon in 1992. Although only 5% of the individuals survived, around 2,000 seedlings were seen in the spring of 1993. Approximately 150 plants were observed during a survey of the Kirby Canyon population in the fall of 2010 (U.S. Fish and Wildlife Service 2011). The third population is around 600 to 650 individuals, based on observations at this location during a site visit conducted in the fall of 2010 (U.S. Fish and Wildlife Service 2011).

Threats to Coyote ceanothus include habitat loss and fragmentation, residential development, illegal trash dumping, recreation, landfill activities, lack of natural recruitment, altered fire regimes, grazing, and genetic isolation and limited insect-mediated gene flow (U.S. Fish and Wildlife Service 1998; 2011). The largest occurrence at Anderson Dam is bisected by a PG&E pipeline and is likely to be impacted by maintenance work in the future.

Impacts covered by the HCP/NCCP for this species are limited to 5% or 3,650 plants, whichever is less, from the Anderson Dam occurrence.

Mitigation and conservation for Coyote ceanothus consists of protecting and managing a minimum of five occurrences of the species by the end of the Permit term. That number includes the three known occurrences and two more occurrences, either newly discovered or created. Coyote ceanothus has been shown to be very responsive to fire management (U.S. Fish and Wildlife Service 2011) and there is a high level of confidence that additional occurrences can be successfully created. Because the occurrence to the west is subject to the greatest threat, every effort will be made to establish the new occurrences to the west. As with the other plants, seeds will be permanently stored in a seed bank, protective buffers will be placed around the plants and studies will be undertaken to provide guidance to restoration and management efforts.

Although the plant has a very limited number of occurrences, impacts will also be restricted. In addition, the largest occurrence by far is already in an area where it will not be impacted by development and where it can be protected and managed (Anderson Dam, owned and operated by SCVWD, an HCP/NCCP partner). The species has been found to be responsive to fire management and occurrence creation has a high probability of success. Because of these measures, combined with the use of a seed bank and studies, CDFW finds that Coyote ceanothus will be conserved in the study area and coverage is therefore warranted.

Fragrant fritillary

Fragrant fritillary is a California endemic with 59 known occurrences, eight of which are in the study area. One of these occurrences, in Alum Rock Park, was first discovered in 1941 but was not found in a re-survey in 1994. Of the other seven occurrences, two are in the Santa Cruz Mountains and the other five are immediately east of Highway 101 in mid-county. Of these, four are clustered around Coyote Ridge near Metcalf Road. Of the seven known extant occurrences, four are on private land, although one of these is covered by a conservation easement.

Fragrant fritillary occurs in grasslands, woodland, and coastal scrub up to 1,345 feet (California Natural Diversity Database 2012) and in vernal pool areas (California Natural Diversity Database 2006; Sawyer and Keeler-Wolf 1995). The species typically occurs on serpentine soils, although occurrences on heavy clay soils and other soil types have also been reported.

Primary habitat is defined as serpentine bunchgrass grassland between 0 and 1,500 feet elevation on slopes with all degrees of steepness.

Secondary habitat is defined as annual grassland, northern coastal scrub/Diablan sage scrub, and all oak woodland land cover types on slopes with all degrees of steepness between 0 and 1,500 feet elevation.

Impacts to fragrant fritillary are limited to one occurrence which is expected to be removed as a consequence of urban development. The occurrence had nine plants in 2000 (CNDDDB, 2012). An additional two occurrences may be taken if, during the Permit term, additional, previously unknown occurrences are discovered (19% of occurrences in Santa Clara).

Four known extant occurrences of fragrant fritillary will be acquired for the Reserve System. Of these four, two are located along Coyote Ridge, the third is located in Calero County Park and the fourth is in the Santa Cruz Mountains.

If enough new occurrences are found and acquired, a maximum of two additional occurrences may be taken. At least three new occurrences, of equal or greater condition to the occurrence to be impacted, must be acquired prior to each additional take. It is not anticipated that occurrence creation will be attempted for this species.

There are 165,455 acres of fragrant fritillary modeled habitat (primary and secondary) within the study area. The HCP/NCCP requires a minimum of 23,000 acres of modeled habitat to be acquired for the Reserve System (14% of modeled habitat). In addition, 4,000 acres will be added to the Reserve System from existing open space. Land acquisition that will protect primary and secondary modeled habitat will occur in almost all portions of the study area in which land acquisition will occur.

Fragrant fritillary has seven (possibly eight) occurrences in the study area. The plant occurs on both sides of Highway 101, albeit in lower numbers in the west (two to the west, five or six to the east). The minimum conservation will consist of protection and management of at least four occurrences, two of which will be to the west. Assuming one occurrence will be removed, 12.5% of the occurrences will be impacted and 57% protected. If enough additional occurrences are discovered and three are removed (20%), 10 will be protected and managed (67%). As with the other plants, seeds will be deposited in a seed bank and protective buffers will be established around protected occurrences. Because of the significant amount of protection planned, particularly with the requirements to preserve occurrences from all parts of the range in the study area, CDFW finds that fragrant fritillary will be conserved in the study area and coverage is therefore warranted.

Metcalf canyon jewelflower

Metcalf Canyon jewelflower is a Santa Clara endemic with 10 known occurrences, all of which are in the study area. The actual number of occurrences is probably larger than this but cannot be precisely determined at this time. A private parcel on Coyote Ridge contains at least 68 occurrences of a jewelflower, but they have not been positively identified as being either most beautiful jewelflower (see above) or Metcalf Canyon jewelflower (Arcadis, 2008). It is likely that both subspecies are present on that parcel and the parcel is a high priority acquisition for the Reserve System.

Most of the known occurrences are grouped around Coyote Ridge near Metcalf Road. Only three of the known occurrences are west of Highway 101 and two of those are threatened by development.

Metcalf Canyon jewelflower is a serpentine endemic that can be found between 200 and 1,200 feet in elevation. It grows in serpentine grasslands and on serpentine outcrops and road cuts that have little soil development and are surrounded by grasslands.

Mitigation and conservation for this plant consists of protection of a total of 13 occurrences in the permit area. To do this, the Implementing Entity will acquire and enhance at least three known occurrences (30%) in the permit area (Table 5-16). The Implementing Entity will also protect 10 new occurrences through two possible methods, in order of priority: (1) acquire land for the Reserve System that supports new or rediscovered historical occurrences, or (2) create new occurrences within the Reserve System.

There are an estimated 10,274 acres of modeled habitat for Metcalf Canyon jewelflower in the study area (10,012 acres of serpentine bunchgrass grassland and 262 acres of serpentine rock outcrop). The HCP/NCCP requires acquisition of at least 4,600 acres of serpentine bunchgrass grassland and 120 acres of rock outcrop by year 45 of the Permit term. These acquisitions will

result in the permanent protection and management of at least 39% of the modeled habitat of this species.

Targeted studies will attempt to determine factors limiting the expansion of extant occurrences and be used to inform the target occurrence size for managed occurrences. At least 2,000 individuals per occurrence will be established, as recommended in the *Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area* (U.S. Fish and Wildlife Service 1998c); if approved by the wildlife agencies, this number will be adjusted as necessary pending results of research carried out during HCP/NCCP implementation to assure viable occurrences of this species.

The key to conserving this species is to protect and manage the core habitat on Coyote Ridge. Although there are some outlying occurrences for the plant, many are threatened by development and the locations and/or taxonomy of the others is not precisely known. The HCP/NCCP proposes to acquire or create more occurrences than are currently confirmed to exist. There is strong confidence that this is possible because of the large cluster of *Streptanthus* on Coyote Ridge which has not been identified to species. It is extremely likely that some of those plants are Metcalf Canyon Jewelflower. Because of this strategy, combined with preservation of seeds in a seed bank, creation of protective buffers and completion of studies guiding creation and management of the species, CDFW finds that Metcalf Canyon jewelflower will be conserved in the study area and coverage is therefore warranted.

Most beautiful jewelflower

Most beautiful jewelflower is a California endemic found in Contra Costa, Alameda and Santa Clara Counties. There are 39 known occurrences of the plant in the study area, the majority of which are found in the foothills of the Santa Cruz Mountains. As with Metcalf Canyon jewelflower, it is likely there are additional occurrences of this plant in the currently unidentified cluster of occurrences on Coyote Ridge.

Most beautiful jewelflower is almost entirely restricted to serpentinite outcrops or soils derived from serpentinite. Most beautiful jewelflower is generally found in grasslands dominated by native perennial grasses and in open grasslands dominated by nonnative annual grasses with relatively low cover. It is also found on rock outcrops and grassy openings in serpentine chaparral or where serpentine grassland and chaparral habitats transition to oak woodland. It can also occur on serpentine roadcuts and road surfaces. It has been found at elevations ranging from 360 to 3280 feet.

Potential threats to most beautiful jewelflower include cattle grazing, competition from invasive exotic species (notably yellow star thistle *Centaurea solstitialis*), and habitat loss from residential development and road construction. Competition from non-native species threatens occurrences in the study area. Grazing threatens some populations in the study area west of

Highway 101 (U.S. Fish and Wildlife Service 1998). Additional threats in the study area include rooting by feral pigs and disturbance from landfill operations.

Primary habitat is defined as serpentine bunchgrass grassland, serpentine rock outcrops/barren, and mixed serpentine chaparral between 0 and 3,500 feet elevation on slopes with all degrees of steepness. Secondary habitat is defined as non-serpentine rock outcrops between 0 and 3,500 feet elevation on slopes with all degrees of steepness.

The initial take cap for this species is six occurrences (15% of currently identified occurrences). If enough other newly identified occurrences are found, up to two of the newly identified occurrences may be taken, assuming at least two of the newly identified occurrences are protected before each additional take occurs (18% of identified occurrences). The protected occurrences must be of equal or greater condition than each taken occurrence.

Mitigation and conservation for this plant consists of acquiring and enhancing 17 known occurrences in the permit area (44% of known occurrences, Table 5-16). This includes acquisition of nine known occurrences for the Reserve System and the addition of eight known occurrences when portions of County Parks units are added to the Reserve System. If additional, newly identified occurrences are discovered during the Permit term and the take cap is raised to eight occurrences, then the minimum number of occurrences to be protected and managed in the Reserve System will be 21 occurrences (47% of known occurrences). For this plant, it is not anticipated that creation of new occurrences will be part of the conservation strategy. Land acquisition for this species will include occurrences both east and west of Highway 101, protecting as much as possible of the existing range.

There are 14,362 acres of most beautiful jewelflower modeled habitat (primary and secondary) within the study area. Under the HCP/NCCP, a minimum of 4,000 acres of modeled habitat will be acquired for the Reserve System. In addition, 1,700 acres of modeled habitat will be added to the Reserve System from existing open space.

To successfully manage occurrences of most beautiful jewelflower, targeted studies will be conducted to determine factors that limit occurrence expansion. Adaptive management decisions can then be developed on the basis of monitoring results to mitigate, minimize, or eliminate limiting factors (Biological Goals and Objectives, Objective 20.7 and 20.8, Table 5-1d).

The targeted studies will be used to inform the target size for managed occurrences. At least 2,000 individuals per occurrence will be established, as recommended in the *Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area* (U.S. Fish and Wildlife Service 1998c); if approved by the Wildlife Agencies, this number will be adjusted as necessary pending results of research carried out during HCP/NCCP implementation to assure viable occurrences of this plant.

The HCP/NCCP conservation strategy proposes protection and management of close to 50% of the known occurrences for this species across a substantial portion of the current range. In addition, there are likely other occurrences that are not currently known, given the distribution of the plant in the study area and the presence of the large cluster of unidentified *Streptanthus* on Coyote Ridge. Because of this strategy, combined with preservation of seeds in a seed bank, creation of protective buffers and completion of studies guiding creation and management of the species, CDFW finds that most beautiful jewelflower will be conserved in the study area and coverage is therefore warranted.

Bay checkerspot butterfly

Historically, Bay checkerspot butterflies were found in San Francisco, San Mateo, Santa Clara, Alameda, and Contra Costa Counties. They are currently extirpated from all but Santa Clara, with the possible exception of isolated occurrences in Contra Costa. The subspecies is found on serpentine soils where conditions are right for the larval host plants, *Plantago erecta* and owl's clover. This means the butterfly is distributed patchily and in small areas. Currently, almost all known extant occurrences are located east of Highway 101 and east to southeast of the City of San Jose. Because of the difficulty in accurately censusing insect populations, it has been assumed in developing the conservation strategy for this species that populations extant during the last major census (2006) are probably still present, albeit in reduced numbers. Many of those occurrences are west of Highway 101.

The conservation strategy for this species is to protect and manage core populations of the butterfly while acquiring, restoring and managing four of the core habitat units and at least three of the six satellite units by year 45 of the Permit term. If Bay checkerspot butterflies do not naturally re-colonize these sites, the Implementing Entity will translocate starter colonies. Aggressive management of the occupied sites will compensate for encroachment of non-native plants. These measures will ensure protection and enhancement of the extant occurrences and a significant expansion in range and numbers within the study area. It therefore can reasonably be concluded that Bay checkerspot butterfly will be conserved in the study area and coverage is therefore warranted.

Bay checkerspot butterflies utilize very specific micro habitats, which can make them very susceptible to climate change. For example, in dry years, the butterfly prefers cool to moderate locations and in wet years, warmer sites (Weiss, et. al., 1988). The timing of the availability of the host plant also has a significant effect on population levels; in dry years the host plants are present before most of the larvae, causing the population to shrink considerably (White, 1974). The location of the majority of the extant population, on Coyote Ridge, has a wide variety of slopes, slope aspects and elevations, allowing the butterfly population to relocate according to its current needs. Nitrogen deposition from air pollution is also a major threat since host plant populations are reduced by competition with non-native plants (Weiss, 1999). Most of this nitrogen appears to originate from motor vehicle emissions in the form of nitrous oxides.

Bay checkerspot butterfly populations within the study area have been studied for many years and are relatively well understood. The population along Coyote Ridge, by far the largest in size and area, is critical to the persistence of the species. Additionally the only currently known extant populations of the butterfly all occur within the study area, thereby making this HCP/NCCP conservation strategy critical for the continued existence of this species.

Bay checkerspot butterfly habitat units are divided into two broad categories: core and satellite. The definitions for core and satellite habitat units are adapted from the *Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area* (U.S. Fish and Wildlife Service 1998c). Core habitat units are “moderate to large areas of suitable habitat that support persistent Bay checkerspot populations.” Satellite habitat units are “generally smaller and contain less high-quality habitat than core areas, and may occur some distance from core areas.” The status of the core and satellite habitat units is identified as “occupied”, “potential”, “historic”, or “unknown.” For habitat units defined as “occupied,” species is known to occupy the patch at least in some years. Where individuals were present historically, but now the site is unoccupied and likely no longer suitable, the habitat unit is defined as “historic.” If the site has not been surveyed thoroughly or surveyed in the last ten years, the habitat unit was classified as “unknown.” Otherwise suitable patches of serpentine grassland within the dispersal distance of known populations were considered “potential” habitat units if land use management practices, such as livestock grazing, could improve conditions for the species.

Most, but not all, serpentine bunchgrass grassland is considered habitat or potential habitat for the species. As such, most Covered Activities that remove or alter serpentine grassland habitats are potentially detrimental to this species. Expansion of urban areas or rural residential development is most likely to result in the majority of impacts on this species.

Permanent impacts are capped at 550 acres for the most important habitat type, serpentine bunchgrass. An additional 98 acres of temporary impacts to serpentine bunchgrass grassland is anticipated and is the maximum impact allowed. Further, for those serpentine bunchgrass areas mapped as “occupied”, “potential”, or “unknown” for Bay checkerspot butterfly, the cap is limited to 300 acres of permanent impacts and 54 acres of temporary impacts. If surveys determine that Bay checkerspot butterflies are inhabiting areas not currently mapped as “potential”, those newly discovered lands would also count toward the maximum 300 acre cap.

Impacts are predicted to occur in 12 of the 22 habitat units of Bay checkerspot butterfly in the study area, which constitutes the known range of the species to date. These impacts are distributed across core “occupied” habitat (Table 5-7), satellite “occupied” habitat, satellite “potential” habitat, satellite habitat with occupancy “unknown”, and satellite habitat with “historic” occurrences.

The most significant threat to the Bay checkerspot butterfly continues to be nitrogen deposition and lack of management to minimize the effects of nitrogen deposition. Key management techniques include livestock grazing, mowing with string cutters, hand-pulling, prescribed fire,

and spot applications of herbicide, all of which may have short-term adverse effects on the butterfly.

Covered Activities that facilitate increased vehicular use or electricity generation in the study area will contribute to increased rate of nitrogen deposition on Bay checkerspot butterfly habitat, especially on Coyote Ridge. The effects of different nitrogen sources were modeled for the study area and the region (see Section 4.4.2 *Direct Effects* subheading *Nitrogen Deposition*, and Appendix E for details). An increased rate of nitrogen deposition will enhance the ability of nonnative species to dominate native serpentine grasslands, systematically supplanting suitable habitat for these species and, ultimately, for Bay checkerspot butterfly. In the absence of grazing, increased growth of annual grasses and thatch build-up lead to decreased cover of host plants, nectar sources, and all native forb species over the course of 1–3 years (Weiss et al. 2007). Losses of host plants and nectar sources lead to population crashes, and ultimately local extinctions. In contrast, grazed areas maintain high native cover and support Bay checkerspot butterfly populations as weather and local topography permit.

Covered Activities that facilitate increased vehicular use in the study area will also contribute to an increase in vehicle strikes of Bay checkerspot butterfly. The proportional impact of this level of mortality on existing occurrences is very small within large core populations such as on Coyote Ridge, but vehicular strikes have a greater impact on adult butterflies dispersing between habitat patches. This is particularly critical because Highway 101 (currently an 8 lane freeway with a wide center median) bisects the valley and makes dispersal from Coyote Ridge to the satellite populations to the west extremely difficult.

The NCCP conservation strategy for this species is to improve the viability of existing Bay checkerspot butterfly populations, increase the total number of populations and expand the geographic distribution of the species to ensure its long-term persistence in the study area. This will be accomplished by protecting most serpentine grasslands within the study area to ensure protection of the ranges of slopes, aspects, and microhabitats important to the species. Acquisition, enhancement, and restoration/creation of natural communities adjacent to serpentine grasslands, including grasslands are expected to benefit Bay checkerspot butterfly through the conservation and management of movement habitat.

The Implementing Entity will also improve management in degraded serpentine grasslands in the Reserve System to enhance populations of the larval host plants and adult nectar sources to benefit Bay checkerspot butterfly populations.

The Implementing Entity will acquire 3,800 acres of lands modeled as habitat for the Reserve System and add 754 acres of modeled habitat from existing open space to the Reserve System. With the total Reserve System lands (4,554 acres) added to land already protected (1,336 acres), a total of 5,890 acres of Bay checkerspot butterfly modeled habitat would be protected, or 68% of total modeled habitat in the study area. This conservation strategy for the Bay checkerspot

butterfly, in combination with existing protected habitat, protects over 95% of the core habitat for the primary population on Coyote Ridge, extending from north of Metcalf Road south to Anderson Dam. This acquisition will include the core habitats along the ridge tops, which have historically (since 1984) supported the densest populations of Bay checkerspot butterfly. Of the 4,000 acres of serpentine grassland to be preserved, up to 2,900 acres will be located on Coyote Ridge. Extensive land acquisition will occur in all four of the core habitat areas as defined in the Recovery Plan for the species (U.S. Fish and Wildlife Service 1998c): Kirby, Metcalf, San Felipe, and Silver Creek Hills. The primary focus of land acquisition will be Coyote Ridge. The HCP/NCCP also protects secondary sites deemed essential for the recovery of the species, including parts of the Santa Teresa Hills, Tulare Hill, and in the foothills west of the valley floor.

The Implementing Entity will acquire and manage enough habitat to ensure occupancy by Bay checkerspot butterfly of each of the four core habitat units identified in the 1998 Serpentine Recovery Plan (Kirby, Metcalf, San Felipe, and Silver Creek Hills). Occupancy in these four core habitat units will be demonstrated at least four out of any 10 consecutive years. The Implementing Entity will also acquire and manage land to ensure occupancy of at least three of the six (50%) satellite habitat units identified in the Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area (U.S. Fish and Wildlife Service 1998c) by Year 45.

Once land is protected it will be beneficially managed for Bay checkerspot butterflies. The Implementing Entity will also enhance degraded areas to benefit serpentine grasses and encourage growth of host plants and nectar sources for the butterfly through techniques such as exotic plant control and removal, beneficial livestock grazing, and prescribed burning.

It is expected that Bay checkerspot butterflies from core populations will colonize previously unoccupied areas or areas that historically supported the species but lost its habitat value (i.e., lack of grazing, etc.) once habitat is enhanced. If it becomes apparent that site management is adequate and natural dispersal is not occurring, the Implementing Entity will translocate individuals (i.e., assisted colonization) to expand the distribution of the species in the study area. The decision of when this should occur would be made in coordination with species experts and Wildlife Agencies. This is an important action identified in the Recovery Plan (U.S. Fish and Wildlife Service 1998c).

Public education and outreach is also identified as an important action in the species' Recovery Plan. The HCP/NCCP provides funding for a full-time public education and outreach specialist, as well as public outreach materials. As described in this chapter, the focus of the public outreach and education campaign will be to work with landowners to minimize their impacts and improve their management to benefit Covered Species. Because some Bay checkerspot butterfly habitat will remain in private ownership (even after full implementation of this HCP/NCCP), landowner outreach will be important to ensure populations persist on these sites.

Foothill yellow-legged frog

Historically, foothill yellow-legged frogs were probably present in all of the larger perennial streams in Santa Clara County with the exceptions of the lower portions of Coyote Creek and Guadalupe River (H.T. Harvey and Associates 1999).

In 1999, H.T. Harvey and Associates summarized the local distribution status of the foothill yellow-legged frog for SCVWD. They found that the species had essentially disappeared from the farmed and urbanized lowland areas of the county, as well as many of the perennial streams below major reservoirs. At that time foothill yellow-legged frogs were still present in the Santa Cruz Mountains and fairly abundant in the foothill and mountain ranges of eastern Santa Clara County (H.T. Harvey and Associates 1999).

This species has been found in most perennial streams and rivers in the study area, particularly in the upper reaches. There are several records from the upper reaches of Coyote Creek along with records from nearly all of the streams in the Pajaro River watershed. According to the CNDDDB (2006), there are nine extant occurrence records of foothill yellow-legged frog in the study area. Seven of the occurrences are on the east side of the valley the northern most of which is in Penitencia Creek. The others are in the Santa Cruz Mountains west of Gilroy. Of particular importance to the impacts analysis and the conservation strategy, all currently known occurrences are upstream of major reservoirs.

Permanent impacts to foothill yellow-legged frog modeled primary habitat will not exceed 1.9 stream miles. Temporary impacts will not exceed 0.7 miles of modeled stream habitat. Permanent impacts on foothill yellow-legged frog modeled secondary habitat will not exceed 4.8 acres and temporary impacts will not exceed 3.5 acres

The conservation strategy in the HCP/NCCP is focused on maintaining and, where possible, increasing the population of foothill yellow-legged frog in the study area. The objectives toward meeting that goal are to acquire, through fee title or conservation easement, streams that have or historically had perennial flows. Additionally, the Implementing Entity will enhance or restore perennial streams to provide higher quality habitat for foothill yellow-legged frog.

Acquisition will focus on streams that currently have, or historically had, perennial flows and cobblestone substrate, along with intermittent and ephemeral streams that connect to those perennial streams. To achieve the biological goals for the foothill yellow-legged frog, acquisition of streams will be prioritized by: (1) sites with documented records of breeding foothill yellow-legged frog, (2) sites with known occurrences, though not necessarily breeding, and (3) sites without known occurrences of foothill yellow-legged frogs but with pond turtle habitat and known occurrences of other covered amphibian species.

Up to 10.4 miles of stream will be restored if all estimated impacts occur. This could include the perennial stream reaches mentioned above. For foothill yellow-legged frogs this restoration will involve adding sufficient sediment to stream courses so that sand bars will form to create egg laying substrate or adding large rocks to the stream course for the same purpose. Management will include selectively applying herbicides or other treatments to control nonnative invasive vegetation along creek corridors that might inhibit sediment movement and restrict the creation of egg laying habitat.

There are 1,591 stream miles of foothill yellow-legged frog modeled habitat (primary and secondary) within the study area. The conservation strategy proposes to acquire a minimum of 80 miles of primary and secondary modeled habitat for the Reserve System. In addition, 40 miles of primary modeled habitat will be added to the Reserve System from existing open space. The conservation strategy requires protection of occupied foothill yellow-legged frog habitat in at least four watersheds by year 45 of the Permit term. The watersheds must be in both the Santa Cruz Mountains and the Diablo Range.

Acquisition, enhancement, and restoration/creation conservation actions identified for streams and riparian forest and scrub, oak woodland, mixed evergreen forest, and chaparral will also benefit foothill yellow-legged frog by protecting foraging, cover, and dispersal habitat.

In the study area, foothill yellow-legged frogs appear to exist only in a very spotty distribution in a limited number of drainages above major reservoirs. Although the headwaters of these occupied drainages are often more isolated from one another than the downstream reaches, conservation potential is highest in the headwaters. Successful establishment of yellow-legged frogs to achieve connectivity across the downstream reaches is highly unlikely due to the existing management of those channels for flood control. On the other hand, impacts upstream of reservoirs are limited in size due to the lack of development. It is likely that both of these circumstances will continue. –Protecting the range of the species as it occurs in the headwaters, by prioritizing acquisition of perennial reaches with foothill yellow-legged frog populations and enhancing streams, is the best conservation strategy for this species in the study area. Based on these considerations, coverage for foothill yellow-legged frog is warranted.

Western burrowing owl

Historically, western burrowing owls were an abundant species in most of the San Francisco Bay Area (SFBA), but were most common in Alameda, Contra Costa and Santa Clara Counties. Mirroring declines in the rest of California, the western burrowing owl population in the SFBA declined precipitously by the middle of the 20th century, primarily due to ground squirrel control and habitat conversion (Barclay, et al, 2007). In Santa Clara County, the decline has increased at an even greater pace in the last 20 years and there are now only four known locations with more than five pairs of breeding owls: Shoreline Park in Mountain View, Moffett Field in Sunnyvale, Norman Mineta International Airport in San Jose and a geographic area roughly within a triangle

defined by Alviso, northern San Jose and the Water Pollution Control Plant NE of San Jose. In the early 1990s there were an estimated 150–170 breeding pairs in the SFBA (DeSante et al. 1997). It was estimated that these numbers represented a 53% decline from the previous census period of 1986–1990 and more recent numbers indicate that, if anything, the downward trend is increasing. In those estimates it was assumed that 75% of the SFBA western burrowing owl population occurred in Santa Clara County and nearly all of those owls were congregated around the southern edge of the San Francisco Bay.

Except for the Shoreline population, all of the remaining breeding sites are under threat and none of them have permanent protection. Only one, the geographic area north of San Jose, is partially inside the study area.

Because of the limited distribution of western burrowing owls in the study area, direct take of individual owls is very limited and is not allowed at all during the first 10 years except for conservation actions. Take of habitat will be authorized during the entire 50 year Permit term. After the initial 10 year moratorium, take of individual owls due to Covered Activities will be allowed on a limited basis only after it has been demonstrated that the local population is in a positive growth trend. Sufficient evidence of a positive growth trend can only be obtained through utilization of the Population Viability Analysis (PVA) developed for the HCP/NCCP burrowing owl conservation strategy (Appendix M). Once the local population growth reaches a positive trajectory, take of owls above the number necessary to maintain the positive increase will be authorized.

Based on what is known about the recent distribution of nesting western burrowing owls in the study area and the propensity of western burrowing owls to forage within 0.5 mile of nest sites during the breeding season (Rosenberg and Haley 2004), there are an estimated 1,348 acres of occupied nesting habitat (defined as breeding sites and associated essential foraging habitat within 0.5 mile of nest sites) in the study area. A maximum of 198 acres (15%) of occupied western burrowing owl nesting habitat could be lost to Covered Activities within the study area. Temporary impacts will not exceed 20 acres (2%) of occupied nesting habitat.

Since the HCP/NCCP proposes an aggressive strategy to stabilize and restore western burrowing owls in the study area, take of individual owls could occur from conservation activities as a result of studies and population management actions.

A stand-alone conservation strategy has been developed for western burrowing owls as part of the HCP/NCCP (Appendix M). The basis of the strategy is the PVA, which provides a scientifically defensible process for setting specific population goals to stabilize and recover the species in the study area. The PVA identifies the number of western burrowing owls which must be added to the local population annually to reverse the current downward trend. Use of the PVA also provides a way to test whether implementation of the conservation actions are working adequately or need to be revised.

The mechanics of the strategy are founded in a three phase approach: a) Stabilize and increase existing occurrences; b) Encourage natural expansion of western burrowing owls from extant breeding sites to new sites within short dispersal distance; c) Implementation of more aggressive strategies, such as feed supplementation, artificial breeding, and other population augmentation strategies if use of a and b alone are not sufficient to reverse the population trend. Phases 'a' and 'b' will be implemented immediately on HCP/NCCP start-up and 'c' will be used any time the PVA growth curve is not in a positive trend. As the PVA curve is currently negative, it is anticipated that measures associated with 'c' will be tested immediately and begin to be implemented once the best techniques are identified. Scientific studies will be used to test any non-passive conservation techniques before they are implemented.

Conservation of western burrowing owl in the study area will be challenging, given the current status and trend of the local population and the threats to the remaining occupied sites. The conservation strategy aims at acquiring and managing more outlying lands to provide a more stable environment for the species in the study area. If owls do not naturally colonize these lands in the Reserve System, more active measures will be implemented as a last resort. Monitoring and studies will be ongoing, to track the status of the western burrowing owl population in the study area and to provide guidance on what types of management strategies to implement. Adaptive management will be used constantly for implementation of this strategy. Depending on how successful the initial measures are, efforts will be made to encourage natural recruitment in the southern portion of the study area (from San Benito County). Taken together, these measures provide the best hope for conserving western burrowing owls in the study area and coverage is therefore warranted.

Least Bell's vireo

Least Bell's vireo is naturally very rare in Santa Clara County. The historical breeding range of the species extended to northern Monterey County and the San Joaquin Valley, east of Santa Clara County. Historical records in the area consist of one bird collected in San Mateo County in April 1905 and an active nest along the Pajaro River in the southwestern part of Santa Clara County (and in the HCP/NCCP permit area) in April 1932. As the range of the species contracted significantly in the first 80 years of the 20th century, the bird completely vanished from Santa Clara County. Currently, least Bell's vireo consistently breeds no further north than Santa Barbara County. There are a number of more recent out of range records in recent years, including several singing males in Monterey County and one along the Pajaro River in Santa Cruz County of 1996. In May 1997, a confirmed nesting was documented on Llagas Creek, east of Gilroy. It is not known whether the attempt was successful (Santa Clara Valley Audubon Society 2007). Because the vireo may be expanding its range, the HCP/NCCP partners decided to seek coverage.

Because of the rarity of the species in the study area and the importance of maintaining all individuals that occur, the HCP/NCCP does not authorize take in the form of death, injury, nor take of active nests or eggs. However, Covered Activities that result in the removal or alteration of riparian habitat within the study area will impact vireo habitat. Moreover, any activity that diminishes dynamic riverine events (i.e., floods) that cause natural disturbance and create early successional habitats will reduce the amount of breeding habitat available for this species.

The Implementing Entity will work to facilitate the expansion of breeding least Bell's vireos in the study area and increase reproductive success of the bird. This will be done by acquiring and restoring riparian woodland and forest with an open canopy and understory of willows.

There are 3,097 acres of primary least Bell's vireo modeled habitat in the study area. The HCP/NCCP proposes to acquire a minimum of 600 acres of least Bell's vireo primary modeled habitat for the Reserve System. In addition, two acres of primary modeled habitat will be added to the Reserve System from existing open space. In addition to habitat acquisition, the Implementing Entity will also restore or create a minimum of 50 acres and up to 339 acres of willow riparian forest and scrub or mixed riparian forest and woodland. These acquisitions and enhancements will take place in the Uvas, Llagas, Pacheco and Pajaro drainages, since that is where least Bell's vireos are most likely to occur.

A brown-headed cowbird management program will be implemented if least Bell's vireos become regular nesters in the study area (more than three nests over at least two consecutive years) and brown-headed cowbird eggs are discovered in vireo nests. The monitoring and management program will be implemented consistent with guidelines of the North American Cowbird Advisory Council, or the best scientific information available at the time, and with oversight from the Wildlife Agencies. If other predators are shown to adversely affect the nest success of vireo's (e.g., feral cats, raccoons, skunks), additional predator control may be necessary (Biological Goals and Objectives, Objectives 15.1 through 15.3, Table 5-1c).

Mitigation and conservation measures include surveys, avoidance measures, implementation of a cowbird control program if least Bell's vireos begin regular breeding in the county, acquisition of 602 acres of primary habitat (20%) in appropriate parts of the study area and creation or restoration of between 50 and 339 acres of riparian habitat. Because of the very low level of take anticipated, the scarcity of the species in the study area and the significant amount of habitat acquisition, and conservation measures for the species, CDFW finds that least Bell's vireo will be conserved in the study area and coverage is warranted.

San Joaquin kit fox

San Joaquin kit fox (SJKF) is extremely rare in Santa Clara County. Historical records indicate that the fox was likely found in the southern part of the study area (CNDDDB, 2012) with three

possible records based on pre-1980 range maps. There are also records from northern San Benito County, to the south, including one den, but that record is old and the exact location somewhat vague. There is only one recent Santa Clara County record, at Bell Station, off Highway 152 in the eastern portion of the study area (CNDDDB, kit fox occurrence #45, 2002). Local biologists believe that eastern Santa Clara County is too hilly for the species and they have likely been extirpated from southern Santa Clara County (Karlton, Joanne, pers com 2002; Allaback, Mark, pers com 2005). SJKF found in Santa Clara County will most likely to be few in number and dispersing individuals rather than breeding pairs or established colonies.

Because of the rarity of the species in the study area and the importance of maintaining all individuals that occur, the HCP/NCCP does not authorize SJKF through injury or mortality. However, take is authorized in the form of habitat loss.

Covered Activities that occur along the Pacheco Creek corridor and in the portion of the study area south of Henry W. Coe State Park have the potential to affect SJKF. Any new rural development that occurs along the SR 152 corridor could fragment movement habitat and potentially affect movement patterns. Increased vehicular traffic following road widening or creation of new driveways or access roads within movement habitat may increase the risk of injury or death of kit fox on roadways (injury or death of kit fox by vehicular collisions is not covered by this HCP/NCCP). Any Covered Activities that require the excavation of burrows or removal of habitat with existing California ground squirrel colonies have the potential to degrade SJKF habitat.

Because of the very limited presence of this species in the study area, mitigation, and recovery will focus on increasing the ability of SJKF to move within and through the study area and increasing the likelihood of future breeding. Land acquisition and habitat enhancement will focus on building connections between core populations outside of the study area (such as the San Joaquin Valley and eastern San Benito County) to contribute to the *Level A Strategy* identified in *Recovery Plan for Upland Species of the San Joaquin Valley* (U.S. Fish and Wildlife Service 1998a).

Acquisition, enhancement, and restoration of grasslands, oak woodlands, riparian forest and scrub, and seasonal wetlands in the southern and eastern portions of Santa Clara County are expected to benefit SJKF through foraging and movement habitat conservation and management. There are 40,892 acres of modeled SJKF habitat (includes secondary and low-use secondary habitat) within the study area. Although not modeled, some of this habitat may also be potential breeding habitat.

In addition to the survey and avoidance measures of Condition 18 in Chapter 6 of the HCP/NCCP, several specific actions will be taken by the Implementing Entity to improve passage for SJKF. At locations indicated by pre-acquisition assessments and targeted studies and informed by the monitoring and adaptive management program, the Implementing Entity in

coordination with agencies responsible for road maintenance, will remove fences, remove or perforate median barriers, enhance culverts, install free span bridges, and install directional fencing to allow and encourage wildlife to move freely under roadways.

Finally, the Implementing Entity will conduct a public education campaign in the southeastern portion of the study area to provide landowners with information about management and land use techniques that are more compatible with movement and use by SJKF (Biological Goals and Objectives, Objective 2.3, Table 5-1a, Objectives 14.1 through 14.2, Table 5-1c).

Because of the limited presence of SJKF in Santa Clara County and an absence of breeding records, the conservation strategy for this species focuses on not allowing individual take, protecting broad swaths of potential habitat for movement, foraging and possible breeding, and removing barriers to movement, such as along Highway 152. Acquisition of more than 40,000 acres of modeled habitat, much of it along the Highway 152 corridor or the portion of the Diablo Range that connects to the Pajaro River corridor, the imposition of survey and avoidance measures to limit or eliminate death or injury to individuals, enhancement and reconfiguration of crossing and movement areas, and public education provide a strategy which will protect SJKF and potential habitats in the study area. As these measures will substantially enhance SJKF habitat value and protect those foxes that enter the County, CDFW finds that the species is conserved relative to its current condition and coverage is warranted.

Finding 4.8

CDFW finds that the mitigation measures specified in the plan and imposed by the plan participants are consistent with subdivision (d) of Section 2801. (2821(b))

For the reasons set forth in the preceding findings, CDFW has determined that the HCP/NCCP specifies and imposes mitigation measures that meet the standards of 2801 (d) regarding coordination and cooperation, cumulative impact concerns, conservation and management of unfragmented diverse habitat for multiple species, options to ensure rough proportionality of impacts to conservation, and conservation of broad-based natural communities and species diversity (Findings 4.1.1, 4.1.3, 4.1.4, 4.2.2, 4.2.9, 4.4, 4.5, 4.6.1 NCCP Permit).

NCCP PERMIT

5.0 APPROVAL OF THE NCCP

Based on the foregoing findings, CDFW concludes that the HCP/NCCP meets all necessary requirements for approval as an NCCP. CDFW hereby approves the HCP/NCCP for implementation as an NCCP and authorizes the Permittees to take the species identified below in Section 5.2 (subject to the limitations in this Permit) incidental to the activities described below in Section 5.1. This Permit is specifically conditioned on the Permittees' compliance with requirements of the HCP/NCCP and the IA.

5.1 Covered Activities

This Permit authorizes take of Covered Species resulting from Covered Activities defined in the IA and listed in Chapter 2, Section 2.3, of the HCP/NCCP. Covered Activities in the HCP/NCCP fall into seven categories:

- Urban Development
- In-stream Capital Projects
- In-stream Operations and Maintenance
- Rural Capital Projects
- Rural Operation and Maintenance
- Rural Development
- Conservation Strategy Implementation

Urban Development

This category of Covered Activities includes projects and activities that occur inside the planning limits of urban growth (Figure 2-2) but excluding those areas identified in Section 2.1.1 *Planning Limits of Urban Growth* and excluding Covered Activities discussed in Sections 2.3.3 *In-Stream Capital Projects* and 2.3.4 *In-Stream Operations and Maintenance*. Urban Development is intended to be as inclusive a category as possible to accommodate urban growth and all ground-disturbing activities within designated urban areas. It includes the construction and maintenance of typical urban facilities, public and private, consistent with local general plans and local, state, and federal laws. Covered Activities include, but are not limited to, the construction, maintenance, and use of urban facilities associated with residential, commercial, and industrial development in the cities of Gilroy, Morgan Hill, and San José.

In-stream Capital Projects

The term *in-stream* is defined for the purposes of this HCP/NCCP as the stream bed and bank, and the surrounding adjacent riparian corridor. This category addresses public infrastructure projects that occur within streams. Activities within streams are those activities or projects that occur in or immediately adjacent to creeks and that may result in impacts to a creek or canal. This category includes activities in the stream channel, along the stream bank, and adjacent lands at top-of-bank within the riparian corridor. These Covered Activities occur in both urban and rural areas. Known locations of in-stream capital projects are shown in Figure 2-6. Examples of in-stream capital projects and activities that are covered under this HCP/NCCP include: levee reconstruction, flood protection projects, dam repair and reconstruction, implementation of the SCVWD's Three Creeks Habitat Conservation Plan geomorphic rehabilitation and gravel program, in channel groundwater recharge facilities, repairs to and decommissioning of canals, bridge construction, repair and replacement, fish passage barrier removal, and culvert installation.

In-stream Operations and Maintenance

Operations and Maintenance activities within streams are those routine activities or projects that occur in or immediately adjacent to streams and adjacent riparian vegetation that may result in impacts on a stream or canal. This includes activities at dams, reservoirs, and on-stream ponds. This category includes operations and maintenance activities in the stream channel, along the stream bank, and adjacent lands at top-of-bank within the riparian corridor, including maintenance of access roads and trails. These Covered Activities occur in both urban and rural areas. Examples include: facility maintenance, storm damage repair, erosion control, vegetation management, maintenance of water supply facilities, and sediment removal.

Rural Capital Projects

This category addresses public infrastructure projects outside the cities' planning limits of urban growth. Examples include: landfill development, transportation projects, development of parks, implementation of the South County Airport Plan, new stormwater management, and water supply projects.

Rural Operations and Maintenance

This category addresses the rural operations and maintenance activities to be covered under the HCP/NCCP. Examples include: utility line or facility operations and maintenance, and trail, vegetation, and pond maintenance outside the Reserve System.

Rural Development

Rural development includes private development that will occur in accordance with existing general plans at the time of Permit issuance. This includes activities that are subject to a ministerial or discretionary approval by Santa Clara County or cities. Most of this type of

development is expected to be residential development in areas outside the planning limits of urban growth. This generally occurs in the unincorporated county, but some development may occur within city limits. Rural development may occur in areas designated in Figure 2-2 as rural residential or ranchland/woodland land use categories. Rural development is also anticipated in agriculture land use areas as is currently allowed and identified in local general plans.

Specific projects covered under this category are expansion of the Pacheco Pass landfill, the Z-Best Composting site south of Gilroy, and the Freeman Quarry.

Conservation Strategy Implementation

The HCP/NCCP will provide take authorization for projects and activities associated with implementation of the HCP/NCCP's conservation strategy as described in detail in Chapter 5. Most of these activities will take place within the Reserve System assembled to implement the conservation strategy.

All conservation actions will take place within the permit area and the expanded permit area for western burrowing Owl Conservation (Figure 1-2), except for the possibility that land spanning the mapped boundary of the permit area will be acquired. On parcels acquired for the Reserve System that extend beyond the permit area boundary, management, restoration, and monitoring activities are covered on the entire parcel within unmapped portions of the permit area as long as more than half of each parcel is located within the permit area. These Covered Activities would occur on no more than a total of 250 acres.

Covered Activities include habitat restoration, enhancement, and creation, surveys and monitoring, vegetation management, public access facilities, emergency activities, and activities listed under Neighboring Landowner Assurances (see Chapter 10.2.7 *Assurances*).

Activities or projects that do not fall clearly within the descriptions provided in Chapter 2 will be evaluated on a case-by-case basis. If the Implementing Entity determines that a specific type of project or activity is not included within the descriptions in this chapter, then it will not receive coverage under the HCP/NCCP. Any uncertainties regarding whether a type of project or activity can receive coverage under the HCP/NCCP will be resolved by the Implementing Entity and the Wildlife Agencies. A described activity or project will be determined to be covered under the HCP/NCCP if all of the following conditions are met:

- the activity or project does not preclude achieving the biological goals and objectives of the HCP/NCCP (see Chapter 5 *Conservation Strategy*) as determined by the Implementing Entity, in coordination with the Wildlife Agencies, at the time the covered activity is proposed;

- the activity or project is conducted by, or is subject to the jurisdiction of, one of the Permittees (see Chapter 8 *Plan Implementation* for a mechanism for a non-Permittee to receive coverage under the HCP/NCCP);
- the activity or project is a type of impact evaluated in Chapter 4 of the HCP/NCCP; and
- adequate take coverage under the permits remains available for other Covered Activities.

Project-specific identification as a covered activity, either in this chapter or through a future determination by the Implementing Entity, does not imply or grant entitlement for implementation. Project applicants are required to gain other project approvals from local jurisdictions and other regulatory agencies as necessary.

All Covered Activities described in this chapter apply to the two permits (CDFG and USFWS), with one exception. The use of pesticides, including herbicides and rodenticides, is not covered by the federal permit because USFWS has not authorized the Environmental Protection Agency to certify their use.

5.2 Covered Species

5.2.1 List of 18 Covered Species

Plants

Coyote ceanothus *Ceanothus ferrisiae* (California Rare Plant, Federal Endangered,)
 Fragrant fritillary *Fritillaria liliacea* (California Rare Plant)
 Loma Prieta hoita *Hoita strobilina* (California Rare Plant)
 Metcalf Canyon jewelflower *Streptanthus albidus* ssp. *Albidus* (California Rare Plant, Federal Endangered)
 Mount Hamilton thistle *Cirsium fontinale* var. *campylon* (California Rare Plant)
 Most beautiful jewelflower *Streptanthus albidus* ssp. *Peramoenus* (California Rare Plant)
 Santa Clara Valley dudleya *Dudleya abramsii* ssp. *Setchellii* (California Rare Plant, Federal Endangered,)
 Smooth lessingia *Lessingia micradenia* var. *glabrata* (California Rare Plant)
 Tiburon Indian paintbrush *Castilleja affinis* ssp. *Neglecta* (California Rare Plant, Federal Endangered)

Invertebrates

Bay checkerspot butterfly *Euphydryas editha bayensis* (Federal Threatened)

Amphibians

California red-legged frog *Rana aurora draytonii* (California Species of Special Concern, Federal Threatened)

California tiger salamander *Ambystoma californiense* (State Threatened, Federal Threatened)

Foothill yellow-legged frog *Rana boylei* (California Species of Special Concern)

Reptiles

Western pond turtle *Emy marmorata* (California Species of Special Concern)

Birds

Least Bell's vireo *Vireo bellii pusillus* (State Endangered, Federal Endangered)

Tricolored blackbird *Agelaius tricolor* (California Species of Special Concern)

Western burrowing owl *Athene cunicularia hypogea* (California Species of Special Concern)

Mammals

San Joaquin kit fox *Vulpes macrotus mutica* (State Threatened, Federal Endangered)

5.2.2 Species by Coverage Categories

Species that can be taken upon Permit issuance

The Applicants are requesting take coverage under this Permit for a total of 18 species ("Covered Species"). Upon issuance, this Permit allows incidental take, in all forms, of the following 12 species:

- Coyote
- Ceanothus
- Fragrant fritillary
- Metcalf Canyon jewelflower
- Mount Hamilton thistle
- Most beautiful jewelflower
- Santa Clara Valley dudleya
- Smooth lessingia
- Bay checkerspot butterfly
- California tiger salamander
- California red-legged frog
- Foothill yellow-legged frog
- Western pond turtle

Upon issuance, this Permit allows incidental take with the following limitations of the following four species:

- Tiburon Indian paintbrush may only be taken for management activities intended to recover the plant.
- Least Bell's vireo coverage is only for take of habitat.
- Tricolored blackbird coverage is only for take of non-breeding habitat.
- San Joaquin kit fox coverage is only for take of habitat.

This Permit authorizes take of the following two species as described below:

- Loma Prieta hoita: No take of this plant is initially allowed. If newly discovered occurrences are found during the Permit term, a maximum of two occurrences (one at a time) may be taken. For that to happen, two additional new occurrences must be found and protected before the take of each of the two occurrences.
- Western burrowing owl: Take coverage is restricted to habitat only until the PVA curve shows the population is experiencing a positive growth trend (See Appendix D for details). After that, take of owls is limited to the number above that necessary to keep the curve positive on an annual basis.

Species protected by the Migratory Bird Protection Act

The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, or possessing of migratory birds. The MBTA identifies a variety of prohibited actions including the taking of individual birds, young, feathers, eggs, nests, etc. Actions conducted under the HCP/NCCP and its IA will comply with the provisions of the MBTA and avoid taking, killing, or possessing Covered Species that are protected by the MBTA (tricolored blackbird and Western burrowing owl) unless an applicant obtains an MBTA Special Purpose Permit consistent with the terms of the HCP/NCCP. Since Least Bell's vireo is state and federally endangered, the HCP/NCCP will constitute a Special Purpose Permit for that species.

5.3 Limitations

This take authorization does not constitute or imply compliance with, or entitlement to proceed with, any project under laws and regulations beyond the authority and jurisdiction of CDFW. The Permittees have independent responsibility for compliance with any and all applicable laws and regulations.

6.0 AMENDMENTS

This Permit may be amended in a manner consistent with Section 15.4 of the IA and Section 10.3.3 of the HCP/NCCP.

7.0 SUSPENSION AND TERMINATION

This Permit is subject to suspension, revocation, or termination by action of the Director of CDFW in accordance with the terms of Section 16 of the IA.

Under these provisions, should any or all of the Permittees, except for the Implementing Entity, request early termination of this Permit, the Permittee or Permittees (except for the Implementing Entity) would be required to fulfill their implementation obligations to the point of termination.

CDFW may suspend or revoke this Permit, in whole or part, as a result of a violation of the Permit and/or pursuant to any applicable State laws or regulations. If this Permit is revoked or suspended, the Permittee or Permittees remain obligated to fulfill all of their responsibilities under this Permit for any permitted activity approved, authorized, or carried out by the Permittee or Permittees between the effective date of this Permit and date of Permit suspension or revocation.

Withdrawal by a Permittee shall not diminish or otherwise affect the obligations of the remaining Permittees under the IA, the HCP/NCCP, or the permits. The Permittees acknowledge that if one or more Permittees withdraws from the IA and, as a result of the withdrawal, it is no longer feasible or practicable to implement the HCP/NCCP successfully, it may be necessary to amend the HCP/NCCP and/or to amend the permits in response to the withdrawal (Sections 15 and 17.5 of the IA).

Because the Implementing Entity (*or its agents*), in carrying out its Reserve System acquisition, monitoring, and management activities, is acting on behalf of Santa Clara County and cities, noncompliance by the Implementing Entity (*or its agents*) with the terms and conditions of this Permit, the HCP/NCCP or IA, shall be considered a failure of the County and Cities to comply with their obligations under the HCP/NCCP and may result in suspension and/or revocation of the Permit.

8.0 DURATION

This Permit shall remain effective for 50 (fifty) years from the date this Permit is approved by CDFW, unless suspended, terminated or extended by earlier action of CDFW.

Approved by:



Sandra Morey, Deputy Director
Ecosystem Conservation Division
California Department of Fish and Wildlife

Date: 31 July 2013

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Personal Communications

Allaback, Mark

Hillman, Janelle

Karlton, Joanne

Weiss, Stuart