

Chapter 2

Land Use and Covered Activities

2.1 Introduction

This chapter examines existing land use conditions and land use plans in the study area, and describes activities covered under the Plan. The land use component of this chapter provides an overview of the major land use and open space management agencies operating within the study area and provides a brief description of each agency's mission and jurisdiction. The description of land use provides the necessary context for the covered activities upon which the impact analysis (Chapter 4) is based. This chapter provides history and context for future development in the study area, reviews existing land-use conditions and relevant land use plans; presents the criteria used to determine land use categories for the Plan; discusses significant existing open spaces in the study area and open space type classification; and describes the projects and activities within the permit area that will be covered under the incidental take permits.

2.2 Land Use and Jurisdictions

2.2.1 Existing Conditions

Santa Clara County encompasses 835,449 acres (1,305 square miles), 519,506 acres (810 square miles, or 62% of the County) of which are included in the study area of this Plan. The fertile Santa Clara Valley (Valley) runs the entire length of the County from north to south, ringed by the rolling hills of the Diablo Range on the east and the Santa Cruz Mountains on the west. Salt marshes, tidal wetlands, and mostly abandoned salt ponds lie in the northern part of the County, adjacent to San Francisco Bay (County of Santa Clara 2006a) (see **Figure 1-1** for the regional location of the Plan study area).

The Valley is generally split into two geographic regions, the North Valley and the South Valley. The North Valley is extensively urbanized and houses approximately 90% of the County's residents. Thirteen of the County's fifteen cities are located in the North Valley, while the remaining two cities, Gilroy and Morgan Hill, are located in the South Valley. The South Valley remains predominantly rural, with the exception of Gilroy, Morgan Hill, small unincorporated community of San Martin, and scattered residential areas generally having parcels of five acres or smaller that were created in or before the

1960s. Low-density residential developments are also scattered along the Valley floor and foothill areas (County of Santa Clara 2006b).

Once known as the “Valley of Heart’s Delight,” orchards and other agriculture dominated this area in the early to mid-20th century. Over the past several decades, the County has transformed into “Silicon Valley,” a major global center of high-tech development and the Internet boom of the 1990s. The population growth of the County reflected this dramatic shift in local industry. Between 1980 and 1990, Santa Clara County grew by 202,506 people (16%). Similarly, between 1990 and 2000, the County grew by an additional 185,008, a 12% increase in population. Between 1990 and 2000, most of the population growth in Santa Clara County occurred in San José and in the North Valley cities (Campbell, Cupertino, Los Altos, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Mountain View, Palo Alto, Santa Clara, Saratoga, and Sunnyvale). Although North Valley cities experienced a larger increase in population numbers, the South Valley cities of Morgan Hill and Gilroy experienced a larger-than-average percentage increase in population (County of Santa Clara 2006b).

The County’s current population of over 1.7 million is one of the largest in the state and is the largest of the nine Bay Area counties. Its population constitutes approximately one-fourth of the Bay Area’s total population and the County provides more than 25% of all jobs in the Bay Area. Nearly 92% of the County population lives in its cities (County of Santa Clara 2006a). Of the fifteen cities located in Santa Clara County, only Gilroy, Morgan Hill, and San José are covered by the Plan.

It is predicted that the County’s population will continue to grow, but at a slower rate than in the recent past. Moderate rates of growth in employment and housing development may account for this slowdown in population growth (County of Santa Clara 2006b). According to the Association of Bay Area Governments, Santa Clara County’s population is projected to reach 1,855,500 by 2010 and 2,073,300 by 2020 (Association of Bay Area Governments 2005).

The Association of Bay Area Governments develops population projections for Bay Area cities and counties every two years. City populations generally include the full Local Agency Formation Commission (LAFCO)-defined sphere of influence. In 2005, the cities of Gilroy, Morgan Hill and San José had a total population of 1,079,500, 62% of the County’s population. The population of these cities is projected to reach 1,310,400 by 2010 and 1,455,800 by 2020, 62% and 63% of projected County population, respectively. The population of Santa Clara County exclusive of the cities was 15,400 (Association of Bay Area Governments 2005).

As early as 1970, the County and cities of the Valley anticipated this type of rapid growth and began implementing policies that would help guide development, curtail sprawl, and protect the abundant natural resources of the region. A critical policy was and is that urban growth would occur within cities and not in unincorporated Santa Clara County. After several decades, the County remains keenly aware of the need to guide development so that social, economic, and environmental resources are protected. Many of the policies in the current

County general plan address land use issues involving the rural unincorporated areas of the County over which the County has direct land use authority. The overall direction of these policies is to maintain the scenic rural character of these areas and to promote conservation and productive use of their natural resources for agriculture, ranching, watershed, public recreation, and wildlife habitat.

An important cornerstone of the County general plan is a vision of “compact development” as an overall approach to managing future growth. Compact development means that most future growth is directed into appropriate locations within existing urban areas, particularly along transit corridors and closer to employment centers rather than sprawling outward into the hillsides and the rural countryside.

The Cities of Gilroy, Morgan Hill, and San José maintain a strong commitment to protect the natural and agricultural resources surrounding their respective cities. Reflecting this vision, Morgan Hill and San José, have adopted an ultimate buildout line (termed the “planning limit of urban growth” for the purposes of this Plan). Gilroy’s General Plan 2020 urban expansion line may be extended in future general plan updates (for additional detail, see Section 2.4 *Projects and Activities Not Covered by this Plan*). More detail on each city’s development and open space policies, and planning limit of urban growth boundaries is provided below.

Background information for each of the Local Partners is provided below.

Gilroy

Gilroy, known as the “Garlic Capital of the World,” is located close to the southern border of Santa Clara County where U.S. 101 intersects with State Route (SR) 152. Gilroy is known for its rural residential environment, its award-winning parks, and for its “urban forest,” for which the City has won Tree City USA awards annually since 1979 (City of Gilroy 2006a).

The City of Gilroy adopted its most recent general plan on June 13, 2002 (City of Gilroy 2002a). This document is a statement of community values and priorities, projecting out to the year 2020. The vision for Gilroy’s future emphasizes a compact pattern of development, surrounded by open space and working agricultural lands, helping to retain the City’s small-town character and rural atmosphere. In addition to the general plan, Gilroy recently developed the Hecker Pass Specific Plan to “protect and enhance the Hecker Pass Area’s rural character, open space, and agricultural uses” (City of Gilroy 2005b).

The City of Gilroy anticipates buildout of the city will occur within the existing general plan boundary over the course of the Plan permit term. Therefore, the City’s general plan boundary will be used to represent the City’s planning limit of urban growth for this Plan. The general plan boundary is the area of evaluation in the City of Gilroy General Plan that represents a 20-year

development time frame. The general plan was adopted in 2002 and represents a buildout to 2020 (C. Casper pers. comm.).

Population, Housing, and Employment

The population of Gilroy was 47,671 people in 2005 and is projected to reach 64,600 in 2020 and 66,400 in 2030, an increase of 36% and 39% over 2005 values, respectively¹.

Households in Gilroy numbered 15,450 in 2005. The number of households is projected to reach 18,350 in 2020 and 19,050 in 2030, an increase of 19% and 23% over 2005 values, respectively.

Jobs in Gilroy numbered 22,430, or 2.1% of total jobs Countywide, in 2005. The number of jobs is projected to reach 32,690 in 2020 and 34,950 in 2030, 2.8% and 2.6% of projected jobs Countywide, respectively (Association of Bay Area Governments 2005).

Conservation and Open Space Policies

The City of Gilroy has adopted several policies related to protection and conservation of open space. A selection of these policies from the general plan and from the Hecker Pass Specific Plan is listed below (City of Gilroy 2002a, 2005b).

Gilroy General Plan

Policy 20.01, Open Space Areas; Policy 20.02, Creek Protection. Ensure protection of creeks (including small canyons and seasonal creeks) that flow through the area, preserving their natural drainage function through adequate setbacks and easements.

Policy 1.09, Clustered Development; Policy 20.01, Open Space Areas; Policy 20.03, Plant and Wildlife Habitats; Policy 20.04, Rare and Endangered Species. Ensure protection of natural resource and wildlife habitat areas.

Policy 1.09, Clustered Development; Policy 20.01, Open Space Areas. Respect the natural topography to the greatest extent possible, retaining significant natural features such as hillsides, trees, and heavily vegetated areas.

¹ Population, housing, and employment information presented in this chapter is taken from the Association of Bay Area Governments 2005 projections. The projections for each city include lands currently annexed to the city, as well as all currently unincorporated lands within its sphere of influence. Projections for Santa Clara County do not include unincorporated lands within the sphere of influence of the cities. These boundaries are inconsistent with the local growth boundaries of the study-area cities, as discussed later in this chapter.

Hecker Pass Specific Plan

Development Controls and Design Standards: Open Space. A variety of open space areas should be created through the design and development process, including active recreation areas, habitat protection areas, agricultural areas, scenic open spaces, and neighborhood open spaces (interspersed between clusters of residential development). For all open spaces, the Specific Plan should ensure (a) that open space dedications are permanent, and (b) that appropriate mechanisms are in place to address ongoing maintenance and management issues.

Morgan Hill

Morgan Hill is located in southern Santa Clara Valley, approximately 12 miles south of San José, 10 miles north of Gilroy, and 15 miles inland from the Pacific Coast (City of Morgan Hill 2006). The City of Morgan Hill developed its current general plan in 2001 and made revisions to the plan in 2006 to adopt an urban limit line and greenbelt policies. The general plan envisions:

Morgan Hill keeping its small-town character while offering new opportunities for businesses and amenities for residents. Agriculture will continue at the outskirts, and new housing for a range of incomes will be accommodated in a variety of locations. Urban land uses will be encouraged around the downtown, and incentives would foster infill development instead of sprawl. (City of Morgan Hill 2006.)

The City of Morgan Hill anticipates ultimate buildout of the city will occur within its Urban Limit Line adopted in April, 2006. Therefore, the City's Urban Limit Line will be used to represent the City's planning limit of urban growth for this Plan. The Urban Limit Line separates urban and future urban areas from rural areas. The Urban Limit Line is a longer-term version of the City's Urban Growth Boundary and is intended to reflect the City's long-term policy for growth in Morgan Hill, beyond the 20-year time frame of the Urban Growth Boundary. The purpose of the Urban Limit Line is to encourage more efficient growth patterns, minimize public costs, and protect environmental resources. Some, but not all, of the land outside the Urban Limit Line has been identified as Greenbelt (S. Golden pers. comm.).

Population, Housing, and Employment

The population of Morgan Hill was 36,423 people in 2005 and is projected to reach 48,000 in 2020 and 50,000 in 2030, an increase of 32% and 37% over 2005 levels, respectively.

Households in Morgan Hill numbered 13,330 in 2005. The number of households is projected to reach 15,590 in 2020 and 16,140 in 2030, an increase of 17% and 21% over 2005 values, respectively.

Jobs in Morgan Hill numbered 14,520, or 1.4% of total jobs Countywide, in 2005. The number of jobs is projected to reach 21,760 in 2020 and 25,570 in 2030, 1.9% and 2.1% of projected jobs Countywide, respectively (Association of Bay Area Governments 2005).

Conservation and Open Space Policies

The City of Morgan Hill General Plan contains many policies supporting habitat conservation and preservation. The following policies are just a few examples taken from the Open Space and Conservation element of the general plan (City of Morgan Hill 2001a, 2001b, 2006).

- 1a.** Work with the County, the Santa Clara Valley Open Space Authority, appropriate conservancy organizations and land trusts, and property owners to preserve large open space areas, such as agricultural lands and outdoor recreation areas to conserve natural resources, retain the city's unique identity.
- 1b.** Support agricultural uses that can preserve open space.
- 1c.** Preserve and maintain the wide variety of open spaces in the South County. Greenbelts should delineate and provide contrast between the city and adjacent urban areas. A system of city and regional parks should be linked by pedestrian ways, trails, and streamside parks. (South County Joint Area Plan [SCJAP] 16.00.)
- 5a.** Encourage reclamation of degraded streams and riparian areas.
- 5b.** Maintain riparian systems, stream banks and floodways in open space or related open space uses such as wildlife habitat, recreation or agriculture. (SCJAP 16.10.)
- 5c.** A proposed streamside park along West Little Llagas Creek should be actively implemented and connected to the County trail system. (SCJAP 16.10 & 16.12.)
- 5d.** Retain natural streamside and riparian areas in their natural state in order to preserve their value as percolation and recharge areas, natural habitat, scenic resources, recreation corridors and for bank stabilization. (SCJAP 15.08.)
- 5e.** Where flood control projects are needed to protect existing development, minimize disruption of streams and riparian systems, maintaining slow flow and stable banks through design and other appropriate mitigation measures. (SCJAP 15.08.)
- 6a.** Preserve all fish and wildlife habitats in their natural state whenever possible. Consider development impacts upon wildlife and utilize actions to mitigate those environmental impacts.

The City of Morgan Hill also adopted in 2003 and is now implementing a habitat mitigation plan for the western burrowing owl (City of Morgan Hill 2003). To

date, Morgan Hill has preserved one approximately 30-acre site to provide suitable habitat for burrowing owl (Live Oak Associates 2006).

San José

San José, founded in 1777, was California’s first civilian settlement. San José is located in the North Valley, on the eastern side of the Valley and adjacent to the southern tip of the San Francisco Bay. San José is by far the largest city in Santa Clara County, the third largest city in California (after Los Angeles and San Diego), and the tenth largest city in the United States.

Most of the City of San José lies within the study area. Approximately 9% of the city (10,543 acres) is excluded from the study area. (See Chapter 1 for a discussion of how the study area was defined.) Land use in San José is varied and includes a large urban core, as well as approximately 13,780 acres (12% of the incorporated city) of non-urban hillside.

The City of San José 2040 General Plan identifies several “Major Strategies” that represent central themes of planning in the City through 2040. The Greenline/Urban Growth Boundary Major Strategy is directed at preserving the scenic backdrop of the hillsides surrounding San José, preserving land that protects water, habitat, or agricultural resources, and offers recreational opportunities (City of San José 2011).

The City adopted Measure K, the establishment of the Greenline/Urban Growth Boundary, in 2000 with over 81% of voter support. The stated intention of the ballot measure was to develop a clearer geographic identity for San José as well as to preserve valuable open space resources. This line is the anticipated ultimate boundary of urban growth for San José, and the city has several policies in place that would prohibit the expansion of the Greenline/Urban Growth Boundary. As a requirement of the 2000 ballot measure, the boundary may only be repealed or amended by the voters of the City of San José (M. Mena pers. comm.). Therefore, the City’s Greenline/Urban Growth Boundary will be used to represent the City’s planning limit of urban growth for this Plan.

The City of San José adopted the *Envision San José 2040 General Plan* in November 2011. The revisions do not include an expansion of the Greenline/Urban Growth Boundary.

Population, Housing, and Employment

The population of San José was 985,000 people in 2005 and is projected to reach 1,196,900 in 2020 and 1,339,400 in 2030, an increase of 22% and 36% over 2005 values, respectively.

Households in San José numbered 309,020 in 2005. The number of households is projected to reach 370,620 in 2020 and 417,790 in 2030, an increase of 20% and 35% over 2005 levels, respectively.

Jobs in San José numbered 375,750, or 36% of jobs Countywide, in 2005. The number of jobs is projected to reach 514,220 in 2020 and 617,790 in 2030, 44% and 46% of projected jobs Countywide, respectively (Association of Bay Area Governments 2005).

Conservation and Open Space Policies

The City of San José has adopted several policies related to the Greenline/Urban Growth Boundary, controlled growth, and protection and conservation of open space. A selection of these policies from the general plan is listed below (City of San José 2011).

- The Greenline/Urban Growth Boundary establishes the maximum extent of urban development. All urban and suburban development should occur within the Greenline/Urban boundary. Areas outside of this boundary are intended to remain permanently rural in character and to contribute to the establishment of a permanent green belt along the City's eastern and southern edges (pp.6-29).
- Prohibit significant modifications of the Greenline/Urban Growth Boundary, as defined by Title 18 of the municipal code, except through a Major General Plan Update process (pp. 6-29).
- Design development at the urban/natural community interface of the Greenline/ Urban Growth Boundary to minimize the length of the shared boundary between urban development and natural areas by clustering and locating new development close to existing development (pp. 3-31).
- Minimize grading on hillsides and design any necessary grading or recontouring to preserve the natural character of the hills and to minimize the removal of significant vegetation, especially native trees such as Valley oaks (pp. 6-26).
- Encourage the preservation of hillside vegetation and require appropriate revegetation and planting of non-invasive plant materials that do not require routine irrigation for projects in hillside areas, if existing vegetation must be removed or substantially disturbed (pp. 6-28).

Riparian Corridors (pp. 3-27)

- Preserve, protect, and restore the City's riparian resources in an environmentally responsible manner to protect them for habitat value and recreational purposes.
- New public and private development adjacent to riparian corridors should be consistent with the provisions of the Riparian Corridor Policy Study and any adopted Santa Clara Valley Habitat Conservation Plan/ Natural Communities Conservation Plan.

- Ensure that a 100-foot setback from riparian habitat is the standard to be achieved in all but a limited number of instances, only where no significant environmental impacts would occur.
- New development should be designed to protect adjacent riparian corridors from encroachment of lighting, exotic landscaping, noise and toxic substances into the riparian zone.
- The City encourages appropriate native plant restoration projects along riparian corridors, upland wetlands, and in adjacent upland areas.
- Develop a City Council Policy based on the City’s Riparian Corridor Policy Study and HCP/NCCP to successfully implement the riparian goals and policies of the *Envision General Plan*, which recognizes that a 100-foot setback is the standard to be achieved in all but a limited number of instances, where no significant environmental impacts would occur.

Contemplates Adoption of HCP

The *Envision San José 2040 General Plan* also specifically contemplates the adoption of the Habitat Plan and incorporates the goals of the Habitat Plan as follows.

- A long-range plan to protect and enhance ecological diversity and function within a large section of Santa Clara County, while allowing for currently planned development and growth.
- Providing a framework for the protection of natural resources while streamlining and improving the environmental permitting process for both private and public development, including activities such as road, water, and other infrastructure construction and maintenance work.
- Providing environmental benefit resulting in the creation of a number of new habitat reserves larger in scale and more ecologically valuable than the fragmented, piecemeal habitats yielded by mitigating projects on an individual basis,

The San José 2040 General Plan further contemplates the adoption of the Habitat Plan and includes specific strategies to further the goals of the Habitat Plan by:

- Shaping growth in the City to minimize impacts on resource consumption, reduce contribution to global warming, and to preserve and enhance its natural environment (pp. 1-22, Major Strategy #7 – Measurable Sustainability/Environmental Stewardship.)
- Implementing the Habitat Plan to mitigate for land and stream development impacts and provide additional conservation, restoration, and enhancement efforts (pp. 3-27, ER-1.8).
- Ensuring that new public and private development adjacent to riparian corridors in San José are consistent with the Habitat Plan (pp. 3-27, 28).
- Locating trail right-of-ways consistent with the provisions of the Habitat Plan (pp. 4-54 PR-7.2).

- Including public and private habitat conservation as an authorized land use in the “Open Hillside” land use designation (pp. 5-18).
- Considering habitat conservation objectives as part of hillside development proposals (pp. 6-28, LU-17.7).
- Retaining the City’s urban growth boundary to limit urban development in order to, among other purposes, preserve as open space substantial areas of surrounding hillsides, baylands, and other lands to conserve natural resources (pp. 6-29-35, “Land Use Policies – Non-Urban Areas”).

Unincorporated Areas of Santa Clara County

Approximately 77% of the study area—398,250 acres—is in unincorporated areas of Santa Clara County. Existing development within the unincorporated area is concentrated in the small community of San Martin, located between Morgan Hill and Gilroy, and in the foothills adjacent to either side of the Santa Clara Valley. Other unincorporated communities and development areas in the County include New Almaden in San José’s South Almaden Valley urban reserve, Paradise Valley at the east end of Chesbro Reservoir, and along SR 152. In addition, small “pockets” of unincorporated urban areas exist within the urban service areas of San José and to a smaller extent, Morgan Hill and Gilroy.

Most of the County’s cultivated agricultural land is located along the floor of the South Valley, outside of the urbanized areas. Economically, agriculture is a small component of the County’s economy. The importance of agriculture relates primarily to the amount of land used for agricultural activities. Currently in Santa Clara County, approximately 20,900 acres are in irrigated agriculture; 87% of this agriculture is in unincorporated areas of the County, while 13% is in incorporated areas. Nearly all of this land is within the Plan study area. In addition to irrigated land, significant parts of the study area have historically been grazed by cattle and managed by ranchers. Cattle ranching continues over much of the lands in the study area, including on some public lands.

While some agriculture is located within cities, the majority of agricultural areas are located in the unincorporated County. Existing agricultural uses include bushberries and strawberries, field crops, floral crops (e.g., cut flowers), forest products, fruits and nuts (including grapes for wine making), livestock and poultry, milk and eggs, nursery crops, seed crops, and vegetable crops (County of Santa Clara, Division of Agriculture 2005). Range that is grazed constitutes the largest agricultural use. The Santa Clara County Division of Agriculture provides annual reports on the amount of acreage annually used for agriculture as well as the value of each crop in the County. Crops vary from year to year with the level at which a given crop is produced influenced by the annual value of the crop.

Ranchland and woodland land uses comprise a significant portion of the unincorporated portion of the County (approximately 49% of the entire County). Rangeland is generally located in the hills east and west of developed areas of the North and South Valleys.

The County of Santa Clara regulates land development within unincorporated areas (i.e., those areas in the County not under jurisdiction of any city). The County has not adopted any growth boundaries within its jurisdiction (R. Aggarwal pers. comm.). However, it does have policies and zoning which restrict denser development in the unincorporated areas (see *Conservation and Open Space Policies* section below).

Population, Housing, and Employment

The population of the unincorporated areas of the County was 15,400 people in 2005 and is projected to reach 16,600 in 2020 and 16,900 in 2030, an increase of 8% and 10% over 2005 values, respectively.

Households in the unincorporated County numbered 5,260 in 2005. The number of households is projected to reach 5,500 in 2020 and 5,600 in 2030, an increase of 5% and 6% over 2005 values, respectively.

Jobs in the unincorporated County numbered 2,590, or 0.2% of jobs Countywide, in 2005. The number of jobs is projected to reach 3,120 in 2020 and 3,180 in 2030, 0.3% and 0.2% of projected jobs Countywide, respectively (Association of Bay Area Governments 2005).

Conservation and Open Space Policies

The County developed its current general plan in 1995 and updated it in 2001. The County of Santa Clara, Parks and Recreation Department (County Parks) developed the *Strategic Plan for the Santa Clara County Parks and Recreation System* (County Parks Strategic Plan) in 2003 (County of Santa Clara, Parks and Recreation Department 2003). A selection of general plan and County Park Strategic Plan policies related to conservation and open space is listed below (County of Santa Clara 1994; County of Santa Clara, Parks and Recreation Department 2003).

County General Plan

R-PR 3². The County's regional park system should:

- a. utilize the county's finest natural resources in meeting park and open space needs; and
- b. provide a balance of types of regional parks with a balanced geographical distribution.

R-RC 37. Lands near creeks, streams, and freshwater marshes shall be considered to be in a protected buffer area, consisting of the following:

- 1. 150 feet from the top bank on both sides where the creek or stream is predominantly in its natural state;

² Policy labels are from the County or city document in which the policy is identified.

2. 100 feet from the top bank on both sides of the waterway where the creek or stream has had major alterations; and

3. In the case that neither (1) nor (2) are applicable, an area sufficient to protect the stream environment from adverse impacts of adjacent development, including impacts upon habitat, from sedimentation, biochemical, thermal and aesthetic impacts.

R-RC 38. Within the aforementioned buffer areas, the following restrictions and requirements shall apply to public projects, residential subdivisions, and other private non-residential development:

a. No building, structure or parking lots are allowed, exceptions being those minor structures required as part of flood control projects.

b. No despoiling or polluting actions shall be allowed, including grubbing, clearing, unrestricted grazing, tree cutting, grading, or debris or organic waste disposal, except for actions such as those necessary for fire suppression, maintenance of flood control channels, or removal of dead or diseased vegetation, so long as it will not adversely impact habitat value.

c. Endangered plant and animal species shall be protected within the area.

R-RC 47. Impacts from new development on woodland habitats should be minimized by encouraging:

a. clustering of development to avoid critical habitat areas, where clustering is permitted;

b. inclusion of important habitat within open space areas for project requiring open space dedication;

c. siting and design of roads, utility corridors and other infrastructure to avoid fragmentation of habitat; and

d. acquisition or avoidance of critical habitat areas.

R-RC 95. The scenic and aesthetic qualities of both the natural and built environments should be preserved and enhanced for their importance to the overall quality of life for Santa Clara County.

R-RC 96. The general approach to scenic resource preservation for the rural unincorporated areas consists of the following strategies:

1. Minimize scenic impacts in rural areas through control of allowable development densities.

2. Limit development impacts on highly significant scenic resources, such as, ridgelines, prominent hillsides, streams, transportation corridors and county entranceways.

R-LU 25. Non-residential land uses allowed in 'Hillsides' areas shall be of a generally low density or low intensity nature, depending on the use, as is consistent with the basic intent of the Hillsides designation to preserve the resources and rural character of the land.

R-LU 59. Residential development may be clustered, provided that the open space portions of the development are protected as permanent open space.

R-LU 20. Proposed cluster residential developments shall adhere to the following:

- 2. Open Space:** it is mandatory that no less than 90% of the land area shall be preserved permanently as open space through dedication of an open space or conservation easement precluding any future development:
 - a.** those portions of the land permanently preserved as open space shall be configured as large, contiguous and usable areas;
 - b.** the open space may be dedicated through easements over portions of individually-owned parcels or may be configured as separate parcels owned in common or individually;
 - c.** the open space area shall be privately controlled and not accessible to the public unless the area is deeded to a public agency or entity willing to undertake responsibilities of ownership, maintenance, and public access [designated trail corridors may traverse such areas if proposed as part of the Regional Parks, Trails, and Scenic Highways Plan]; and
 - d.** land uses allowed within the area dedicated as permanent open space shall be limited to agricultural or other limited resource-related uses, and to non-commercial recreational facilities of an ancillary nature to the cluster residential development and for use by residents only.

County Parks Strategic Plan

Strategy #1.1.1: Acquire New Parks – New regional park acquisitions should be considered on lands that:

- expand the boundaries of existing parks or connect these areas;
- provide parks in underserved areas; and
- conserve representative diverse natural landscapes and historic resources of the County.

Strategy #4.1.1: A regional parks and trails system should be designed that is consistent with the County General Plan and other County policies associated with protecting and enhancing natural resources, including but not limited to: rich biological habitat areas including wetlands, baylands, and riparian areas; areas of serpentine geology; natural, cultural, and historic areas; and other significant natural features.

Strategy #4.1.2: Park and trail use levels and a monitoring system should be developed to ensure recreation and biological resources are balanced in a manner that protects resource qualities.

Strategy #4.1.3: Recreational uses and facilities should be planned and located on suitable lands to avoid impacts to rich biological habitat areas.

Strategy #4.1.4: When park development might impact natural areas, appropriate mitigation to enhance/improve the habitat values should be employed.

Strategy #4.3.1: Natural habitat areas in the County Parks should be enhanced through active stewardship programs and using best management practices (BMPs) based on the most current, reliable scientific information available.

San Martin Planning Area

San Martin is an approximately 12.3-square-mile unincorporated community located between the sphere of influence lines of the cities of Morgan Hill and Gilroy. San Martin is a rural residential community built around a village dating back to the early 1900s. This community, surrounded by farms, orchards and ranchlands, retains a pastoral rural character (County of Santa Clara 1994). As of the 2000 census, San Martin had a total population of 4,230 (U.S. Census Bureau 2006).

The Santa Clara County General Plan anticipates that this area will remain rural residential. However, there is concern within the San Martin community that local land use control will be diminished as housing pressure for the growing County population increases.

Relevant General Plan Policies for San Martin

R-LU 114. San Martin should be viewed as a distinct entity, containing unique rural characteristics. Care should be taken to prevent premature commitment of land for uses that would restrict future options for the community.

Santa Clara Valley Water District

SCVWD is the primary water resource agency for Santa Clara County (Santa Clara Valley Water District 2006), providing water to the residents and businesses of Santa Clara County as a water wholesaler and managing local groundwater. SCVWD is also a flood-protection agency and is the main steward for urban streams and creeks in the County and its underground aquifers. Stewardship activities include creek restoration and wildlife habitat projects, pollution prevention, and a commitment to natural flood protection (Santa Clara Valley Water District 2006).

The mission of SCVWD is to maintain “a healthy, safe, and enhanced quality of living in Santa Clara County through watershed stewardship and comprehensive management of water resources in a practical, cost-effective, and environmentally sensitive manner” (Santa Clara Valley Water District 2006). This mission reflects the current approach to water management utilized by SCVWD that balances water supply, flood protection, and environmental sensitivity. SCVWD has developed several programs including the Stream Maintenance Program and Watershed Stewardship Program that also reflect this management approach.

There are 768 miles of creeks with watersheds greater than 320 acres. SCVWD owns 178 miles or 26% of these creeks; other public agencies own 87 miles or 19% of the creeks; private owners own 400 miles or 52% of the creeks and the remaining 46 miles or 6% of the creeks are owned by unidentified entities. SCVWD holds easements on approximately 100 miles of creeks which are owned in fee title by others.

SCVWD is a conjunctive-use agency. Conjunctive use is a system of water supply management that utilizes both aboveground (reservoir) and below-ground (aquifer) storage facilities to ensure water supply reliability. Conjunctive use typically entails reservoir or pipeline releases to groundwater recharge ponds—which are either on-channel (i.e., in a natural stream bed) or off-channel—where water percolates into an aquifer and is stored for later extraction. Water stored this way may be rainfall collected in the reservoirs in the County, or reclaimed water. In addition to local water resources, SCVWD also imports water from the State Water Project and the Central Valley Pipeline. SCVWD’s conjunctive use strategy involves managing the available water supplies and the water supply system to:

- meet on-going demand for water from a variety of local and imported sources;
- fill reservoirs in the wet season; and
- transfer water from reservoirs to underground storage in the dry season, making room in the reservoirs for the next wet season.

In order to ensure water will always be available to meet flow requirements and water supply needs, SCVWD utilizes a network of reservoirs, pipelines, and canals to transfer water into the county and also between watersheds within the study area. Imported water (State Water Project and Central Valley Project) enters the county via pipelines and is either deposited in reservoirs, recharge ponds, canals, or into local stream channels. Water transfers between reservoirs are facilitated by pipelines and canals. The canals were built to transport water between creek systems, from creeks to percolation ponds, and to generally support the management of water supply resources in the Valley. They also assist with stormwater management, helping to drain high flows. Water extracted from the system for use is directed to water treatment plants via pipelines and pumping stations.

Operating such a system requires detailed timing of flow releases from reservoirs, management of imported water, operation of in-channel facilities and canals, operation of pumping stations, and maintenance of the infrastructure required to support the system. It also requires maintenance of a complex system of water supply pipelines, canals, dams, reservoirs, pumping stations, diversions, drop structures, streamflow gauges, fish ladders, fish screens, water treatment plants, canals, and associated facilities. An overview of SCVWD water conveyance, treatment, and distribution system is shown in **Figure 2-1**.

SCVWD owns and operates ten reservoirs, with a main function of providing water supply and a secondary function of providing flood control. The reservoirs

also serve a tertiary need for recreation. Only one reservoir, Chesbro Reservoir, was designed as a multipurpose facility with a dedicated flood-storage level and an outlet that can significantly reduce storage in a short time (Santa Clara Valley Water District 2005). Eight of the ten reservoirs are located in the study area: Vasona, Guadalupe, Almaden, Calero, Anderson, Coyote, Chesbro, and Uvas reservoirs (see **Figure 1-2** for a study area map that includes reservoirs). The remaining two reservoirs, Stevens Creek and Lexington Reservoirs, are outside the study area.

SCVWD is responsible for inspection; operations; and maintenance, repair, and replacement of facilities on properties it owns or for which it holds an easement. SCVWD is also responsible for operations and maintenance of the San Felipe Division facilities that are owned by the Bureau of Reclamation. These properties and easements account for approximately 35% of the total creek and canal length in the county, including the Coyote, Almaden-Calero, and Coyote-Alamitos canals and the Coyote canal extension.

Factors Affecting Conjunctive Use Operations

Factors influencing how water supply is managed vary over time and by site, depending on the time of year, availability of water supply from outside sources, SCVWD's legally defined rights to water supplies from each source, conditions at each site, the local demand for water, and the condition and operability of SCVWD facilities. Factors that affect reservoir operation include water rights, water contracts, safety, recharge and fish flows, facility maintenance, climactic variation, and the California Division of Safety of Dams (DSOD) interim storage or other restrictions. Each of these factors is described below. Conjunctive use operations are affected by the factors described below.

Water Rights

SCVWD holds water right licenses and a permit from the State Water Resources Control Board to appropriate a specified maximum volume of water for storage in any given year. In terms of on-the-ground operations, the right to appropriate water at a reservoir is effectively the right to divert or capture this water behind the dam and store it to provide for some beneficial use. These diversions are generally limited to the wet season, generally defined as October 1 through April 30. However the authorized diversion period for each water right varies. During periods when SCVWD does not have authorization to divert at the reservoirs (generally May 1 through October 30), SCVWD must release flow at the rate of inflow to the reservoir. For example, if inflow to a reservoir outside of the authorized diversion period is two cubic feet per second (cfs), then SCVWD must release at least 2 cfs, and it cannot divert this flow downstream. However, if SCVWD releases water from storage, that is water in excess of the natural inflow, SCVWD may release that water for recharge, either in-stream or by diversion to off-stream facilities, or release the water for other SCVWD purposes.

SCVWD has water rights to divert natural inflow at the site of its off-channel recharge facilities. These rights specify a total annual volume that may be

diverted and a diversion period. In addition to limitations imposed on SCVWD's diversions to storage imposed by its water rights and the design of diversion dams, diversions are also governed by the capacity of fish screens, CDFG bypass flow requirements, and placement of flashboards.

Water Contracts

SCVWD has two primary water supply contracts: one with DWR for 100,000 acre-feet from the State Water Project and one with the Bureau of Reclamation for 152,500 acre-feet from the Central Valley Project. The combined water supply contracts provide a total of 252,500 acre-feet to SCVWD annually. Both contract supplies are subject to annual shortages, and both provide access in wet years to additional temporary deliveries. To improve long-term reliability, SCVWD also has a contract with Semitropic Water Storage District (Semitropic) for 350,000 acre-feet of banking capacity, and enters into a variety of imported water management contracts, including annual, short-term, and long-term water exchange, transfer, sale, conveyance, and management agreements with various parties. New contracts and contract renewals and amendments are for the purpose of improved reliability and, when combined with the allocation under each of the Central Valley Project and State Water Project contracts, would not exceed a maximum annual delivery of 252,500 acre-feet to Santa Clara County over the course of the permit term of this Plan. Because the amount of imported water is not anticipated to increase over existing planned water imports, and population growth according to existing general plans is covered (described in Section 2.3.2 *Urban Development*), this Plan covers any direct, indirect, cumulative, or growth-inducing effects of delivering and utilizing imported water under existing and future contracts if the amounts and points of delivery remain as projected.

Delivery of imported water by the Department of Water Resources and the Bureau of Reclamation to SCVWD's service area and contract renewal between SCVWD and the Bureau of Reclamation is not a covered activity under this Plan. However, this Plan does cover the reconstruction of facilities located within the permit area (described below in Section 2.3.3 *In-Stream Capital Projects* and Section 2.3.5 *Rural Capital Projects*) required to transport imported water throughout the study area (e.g., reservoirs, canals, groundwater recharge ponds), and the operation and maintenance of facilities located within the permit area (described in this section and in Section 2.3.6 *Rural Operations and Maintenance*) required to manage water supply (e.g., Dam Maintenance Program, reservoir operations, recharge operations, Pipeline Maintenance Program).

Safety

Reservoirs also function to reduce the potential for very large storms to cause flooding, and operators may slow down the rate of reservoir filling or make post-storm releases to avoid having a full reservoir too early in the wet season. To the extent that it is feasible, SCVWD operates to ensure that there is appropriate "space" in the reservoir to store anticipated storm flows and monitors weather on an on-going basis; releases may be made prior to a storm if needed to ensure adequate storage space. Following a storm, SCVWD may make additional releases to restore needed space for subsequent storm flows. As a result,

reservoir operations in the wet season are not characterized by a steady increase in storage, but by episodes of storage and release of water, with a general trend towards increasing the volume of water stored as the wet season progresses.

Fish Flows

SCVWD maintains flow in the channels using local and imported water supplies to maintain fish and wildlife habitat below the dams. In order to benefit the fisheries within the watersheds in which SCVWD's conjunctive use water supply operations take place, SCVWD may re-operate its conjunctive use operations (i.e., alter how conjunctive use operations are currently managed in order to further enhance fish habitat). This re-operation is described in this chapter under the *Proposed Three Creeks HCP Conservation Program Operations and Maintenance Actions* and *Proposed Operating Rules for Water Supply Facilities in the Uvas and Llagas Watersheds*. Such re-operation may alter the existing pattern of storage and recharge which may result in take of covered amphibians and reptiles.

SCVWD will not re-operate its conjunctive use operations until it receives authorization from NMFS and CDFG. In the proposed Three Creeks HCP study area this will be accomplished through the Three Creeks HCP. In the Uvas and Llagas watersheds, this may be accomplished through an informal consultation with NMFS and CDFG, a new HCP process, or through formal consultation with NMFS pursuant to Section 7 of the ESA.

Facility Maintenance

Facility maintenance may require SCVWD to reduce reservoir releases temporarily. For example, recharge basins may require cleaning, and SCVWD would reduce diversions accordingly. At the dam, valves may need routine calibration and maintenance, resulting in short-term reductions in releases.

Climate Variation

Groundwater recharge is possible in all seasons because of the intermittent nature of precipitation and inflow to the study area watersheds. For example, there are many times in a typical wet season when natural flow is minimal and SCVWD makes releases from reservoirs and other facilities to maintain a wetted channel and to provide for off-channel recharge. In addition to intra-annual variation in conditions, conjunctive use operations also respond to year-to-year conditions. In dry years, initial wet-season storage may be quite low, resulting in an initial period of limited releases as storage reaches the baseline values for seasonal storage. When this occurs, a more normal pattern of storage and release is implemented.

Flood Management

In addition, the SCVWD will continue to operate its reservoirs to provide for safe conditions for downstream communities. This involves managing reservoir storage to ensure that there is adequate capacity to contain high levels of projected inflow during storm events. Reservoirs capture flood flows from the upper watershed and protect downstream reaches from overbanking. When a large storm is predicted, reservoir storage is drawn down to a level that allows room to capture upstream flood flows. SCVWD developed probability flood

curves which are used to determine how much flood storage room should be freed up. Prior to a major storm, SCVWD may increase releases to provide for storage adequate to prevent flooding, followed by a shift to reduce releases when the threat of flooding has passed.

Water Resources Protection Ordinance

In October 2006, SCVWD enacted the Water Resources Protection Ordinance. This ordinance established the regulations by which, beginning on February 28, 2007, SCVWD issues permits for modifications, entry, use, or access to SCVWD facilities with the approval and enactment of ordinance O6-1, and where SCVWD has either a fee title or easement property right. This ordinance was developed and enacted to codify the Water Resources Protection Ordinance: Guidelines and Standards for Land Use Near Streams developed by the Santa Clara Valley Water Resources Protection Collaborative³ (Collaborative).

The Collaborative was formed in 2003 to address the needs of flood management, drinking water quality and quantity, surface and groundwater quality and quantity, and habitat protection and enhancement throughout the county (Santa Clara Valley Water District 2006). With the enactment of these measures, SCVWD, the cities, and the County are better equipped to protect the integrity of streams in the context of the goals of cleaner, healthier, and more sustainable water resources.

Other agencies do not comply directly with ordinance O6-1, but instead can adopt the guidelines of O6-1 or determine that existing zoning code and/or policies fulfill the guidelines. San José and the County approved resolutions, finding that their existing codes comply with the guidelines, Morgan Hill adopted the guidelines, and Gilroy added a new Water Resources Protection chapter to its zoning code, thereby incorporating the guidelines. An encroachment permit is required for all projects that modify, enter, use, or access SCVWD lands and/or easements. It is through the administration and issuance of the encroachment permit that the guidelines and standard are enforced and tracked.

The issuance of the encroachment permit is subject to an environmental assessment and must be found to be in compliance with CEQA. In addition, a number of findings must be made, including, but not limited to, that the proposed modifications will not impede, restrict, slow down, pollute, change the direction of water flow, catch or collect debris carried by the water, and banks will not be damaged, weakened, eroded, increase siltation, be reduced in their effectiveness to withhold storm and flood waters.

³ The Santa Clara Valley Water Resources Protection Collaborative is formed by several member agencies and private community members including SCVWD, the County of Santa Clara, all of the cities and towns within Santa Clara County.

Santa Clara Valley Transportation Authority

The VTA is an independent special district responsible for bus and light rail operations, congestion management, specific highway improvement projects, and Countywide transportation planning. As such, VTA is both a transit provider and a multi-modal transportation planning organization involved with transit, highways and roadways, bikeways, and pedestrian facilities (Santa Clara Valley Transportation Authority 2006).

The mission of VTA is to provide “sustainable, accessible, community-focused, transportation options that are innovative, environmentally responsible, and promote the vitality of our region” (Santa Clara Valley Transportation Authority 2008).

The responsibilities of VTA include transit service, transit planning, highway planning, commuter train service (Caltrain), the Congestion Management Program, and regional transit partnerships. VTA is primarily a funding agency for local transportation and related projects such as bikeways.

VTA often partners or works in conjunction with other agencies and jurisdictions. A manifestation of this is apparent in the Valley Transportation Plan 2035 (VTP 2035) recently completed by VTA (Santa Clara Valley Transportation Authority 2009). This document contains hundreds of projects submitted to VTA by cities in Santa Clara County and by the County. Although these projects are spearheaded by the jurisdiction, the VTP 2035 helps the jurisdictions present the projects as part of a long-range planning package, as well as seek funding sources for the projects. Almost all projects in the VTP 2035 are projects that VTA will implement with other local or state agency partners.

2.2.2 Land Use Categories

Understanding the future land use in the Plan study area is an important step in developing the impact analysis for covered activities in Chapter 4. The adopted general plans for the cities of Gilroy, Morgan Hill and San José and Santa Clara County were used to identify future extent and location of urban and rural development in the study area that could be covered by the Plan. General plan land use designations and discussions with the participating jurisdictions were used to refine the land use assumptions for the areas that are designated to become urban.

General plan land-use designations vary across jurisdictions and are generally in more categories than necessary for the Plan, so they need to be simplified and standardized. The process by which a land use map was developed and how land use categories for the Plan were assigned is described below.

Methodology for Developing the Land Use Categories Map

Land-use designations for Santa Clara County and Cities of Gilroy, Morgan Hill, and San José were used to develop a single land use map for the Plan. Future land uses were assumed to be consistent with the general plans of the County (2001), City of Gilroy (2002a, 2002b), City of Morgan Hill (2006), City of San José (2006a, 2011), and the City of Gilroy Hecker Pass Specific Plan (City of Gilroy 2005b). The County of Santa Clara general plan projects future land use to 2010, the Gilroy general plan projects future land use to 2020, the Morgan Hill general plan includes growth and development management measures that extend to 2025, and the San José general plan projects land use to 2040. Using these projections for this Plan with a significantly longer time horizon is regarded as appropriate given the strength of each jurisdiction's commitment to constraining future growth within established urban growth boundaries (see discussion above under *Existing Conditions*).

Over 80 land-use designations from the four jurisdictions were aggregated into the following six categories.

- Urban Development.
- Rural Residential.
- Ranchland/Woodland.
- Agriculture.
- Urban Parks and Open Space.
- Rural Parks and Open Space.

Development of these six categories was guided by the nature of the covered activities within each land use category and their relative impact on biological resources. For example, the many urban land use categories (e.g., residential, commercial, industrial) were combined into a single land use category for this Plan because they all result in similar effects on biological resources. **Table 2-1** shows general plan land uses and the Plan land use categories to which they were converted.

Most of the jurisdictional land-use designations translate in their entirety to a Plan land use category. One exception, however, is parks and open space designations in each city. Some city parks are large, located on the urban fringe, and may function well as habitat for covered species or as a part of a movement corridor. In these cases, the park was designated as Rural Parks and Open Space. Therefore, city designations for parks and open space will be individually considered and certain sites will be categorized as Rural Parks and Open Space.

Plan Land Use Categories

Figure 2-2 shows the Plan land use categories in the study area. This map depicts development land use designations that include both developed and undeveloped areas (for actual land *cover*, see Chapter 3).

The Urban Development land use category includes residential densities greater than 1 dwelling unit per 2.5 acres, as well as all industrial, commercial, institutional, public facilities, public/quasi-public, and major educational facilities land-use designations. The study area is 519,506 acres of which 100,143 acres (19%) are categorized as Urban Development.

The Rural Residential category includes low-density residential development density of 1 dwelling unit per 2.6 to 20 acres. Rural residential lands tend to be located in the unincorporated areas of the County; however, each of the three cities covered by the Plan also maintain land use densities that correspond to the Plan's Rural Residential category. The Rural Residential land use category comprises 13,141 acres (3%) of the study area.

The Ranchland/Woodland category includes rural lands with a development density of 1 dwelling unit per 20.1 to 160 acres. This category is comprised of all lands not otherwise designated. It includes open lands common in the western slopes of the Diablo Range as well as the woodlands common to the eastern slopes of the Santa Cruz Mountains. According to the County general plan, ranchlands are defined as "lands predominantly used as ranches in rural unincorporated areas of the County, remote from urbanized areas and generally less accessible than other mountain lands." The Ranchland/Woodland land use category comprises 253,098 acres (49%) of the study area.

County lands designated as Agriculture may be used for: "agriculture and ancillary uses; uses necessary to directly support local agriculture; and other uses compatible with agriculture which clearly enhance the long term viability of local agriculture and agricultural lands" (County of Santa Clara 1994). In addition to the County, the City of Gilroy supports some agriculture in the Hecker Pass Special Use District and Specific Plan. Agriculture in this area includes low intensity crops such as vineyards, orchards, and some row crops (City of Gilroy 2005b). For this Plan, land uses identified by the Hecker Pass Specific Plan are incorporated with land-use designations of the City of Gilroy. The Agriculture land use category comprises 23,852 acres (5%) of the study area.

The Plan category of Urban Parks and Open Space includes lands designated by cities or the County for parks and recreation, and for open space that is surrounded by urban development or is itself highly developed or landscaped. These sites are all located within incorporated city limits and are unlikely to be used by any of the species covered by this Plan except along some rivers and creeks. The Urban Parks and Open Space land use category comprises 7,289 acres (1%) of the study area.

The Plan Rural Parks and Open Space category encompasses parks and open space in rural areas, including larger parcels of land located on the urban fringe,

and indicates that the landscape may be used by covered species. This category includes federal land; local, state, and regional parks; private lands that are protected with conservation easements or dedicated development rights, or that are used in a manner that would allow use by covered species (including large golf courses on the urban fringe); and public watershed lands. Some of the sites categorized as Rural Parks and Open Space are expected to be important components of the Plan conservation strategy. The Rural Parks and Open Space land use category comprises 121,072 acres (23%) of the study area.

2.2.3 Planning Limits of Urban Growth

Urban development covered by the Plan includes the growth anticipated by approved or drafted general plans at the time of permit issuance. Identifying the extent of expected urbanization within the Plan study area, or the “planning limit of urban growth,” informs the impact analysis and identifies the extent of take coverage for urban development needed under the Plan.

One important factor in identifying the planning limit of urban growth is defining where road projects enter and exit the urbanized area. Road projects outside urban areas are expected to have greater impacts on some covered species than road projects within urban areas, so they may be treated differently by the Plan. The anticipated planning limits of urban growth are discussed for each city under the Existing Conditions section above, are shown in **Figure 2-2**, and are summarized below.

- Gilroy: General Plan Boundary (City of Gilroy 2002a).
- Morgan Hill: Urban Limit Line (adopted April 2006).
- San José: Urban Growth Boundary, also known as the “Greenline” (adopted by voters in 2000).

There are three exceptions to the assumption of full urban development within the planning limits of urban growth over the course of the permit term.

1. The City of San José Coyote Valley Urban Reserve and the South Almaden Valley Urban Reserve.
2. The City of Morgan Hill Southeast Quadrant.
3. The City of Gilroy Hecker Pass Specific Plan (City of Gilroy 2005b).

These three areas are assumed to be developed consistent with rural development land uses and not urban land uses.

The County does not permit urban growth in its jurisdictions except within urban “pockets” of unincorporated lands that occur in small patches within the three cities. The County has identified a general plan Strategy of promoting eventual annexation of these urban pockets to the city in which the pocket is located (County of Santa Clara 1994). Therefore, it is anticipated that all County pockets currently inside a city’s planning limit of urban growth will be incorporated into

a city over the course of the permit term of the Plan. As such, a planning limit of urban growth is not defined for the County in this Plan.

2.2.4 Existing Open Space and Parkland

Dating back to the 1970s, the County of Santa Clara, SCVWD, and the cities of Gilroy, Morgan Hill, and San José have had a close connection to the natural landscapes of the Santa Clara Valley and an awareness of the importance of protecting open space. Of the 519,506-acre study area, 151,727 acres (29%) are currently protected as open space of some kind. These areas range from urban parks to County and state parks of varying size. The following section provides an overview of existing open space agencies with holdings in the study area and the major open space units that they operate. Significant open space units in the study area which help support the Plan's conservation strategy are described in **Table 2-2** and shown in **Figure 2-3**.

United States Bureau of Land Management

The Bureau of Land Management owns several parcels of land in Santa Clara County. Two of those parcels are located within the study area just north of Middle Fork of Coyote Creek, north of Henry W. Coe State Park. The Bureau of Land Management has transferred large parcels of land to California Department of Parks and Recreation (State Parks) to become part of Henry W. Coe State Park. The remaining parcels totaling approximately 1,025 acres are still under the ownership of the Bureau of Land Management, but may be transferred to the park in the future.

California Department of Parks and Recreation

State Parks owns two large parks that occur, in part, in the study area: Henry W. Coe State Park and Pacheco State Park. State Parks also jointly owns Martial Cottle Park with the County of Santa Clara. Henry W. Coe State Park and Pacheco State Park are discussed below. Martial Cottle Park is discussed under *County of Santa Clara, Parks and Recreation Department*.

Henry W. Coe State Park

Henry W. Coe State Park is the largest state park in northern California at 85,843 acres, 58,642 acres of which (68%) are within the study area. The remaining 27,201 acres of the park are in Santa Clara and Stanislaus Counties. Much of the park was originally donated by Sada Coe Robinson to Santa Clara County in 1953, when it became Henry Willard Coe County Park. In 1958, the park was added to the state park system. The park's original size was approximately 13,000 acres. Since the 1980s, the park has expanded

considerably through the purchase of adjacent properties on all sides. The park is still growing.

Elevations in this rugged park range from approximately 1,000 feet to 3,560 feet. The park has a diverse mix of habitat types including grassland, oak woodland, ponderosa pine forest, mixed chaparral, riparian woodland, and over 100 ponds. The park also supports two large man-made lakes, Mississippi Lake and Coit Lake, as well as the headwaters of Coyote Creek and several miles of Pacheco and Orestimba creeks. The 23,300-acre Orestimba Wilderness, a state-designated wilderness area that accounts for approximately 27% of the total acreage of the park, is entirely within Stanislaus County, adjacent to the study area. The park is open year-round for hikers, mountain bikers, backpackers, equestrians, picnickers, and photographers on over 100 miles of trails and roads. Access to the park by car is extremely limited, with only four entrances and paved roads that stop at the margins of the park. The main entrance and park headquarters is approximately 13 miles east of U.S. 101 northeast of Gilroy and accessed via the Dunne Avenue exit from U.S. 101 in Morgan Hill (California Department of Parks and Recreation 2004).

Natural resources management at Henry W. Coe State Park is focused on high-priority threats, such as an overabundance of wild pigs, which can cause considerable damage to wetland and grassland areas. To address this threat, park managers contract with trained hunters to help reduce wild pig populations. Yellow star-thistle and other invasive weeds also present a threat to the native grasslands in the park. Grassland areas are managed through the use of small prescribed burns which reduce the spread of invasive plant species. An important unmet need in park management is maintenance of existing but unused stock ponds that provide important habitat for California red-legged frog and California tiger salamander (A. Palkovic pers. comm.). There is no livestock grazing in the park. Wildfire management is also an issue for the park. In 2007, the Lick fire burned 47,760 acres and resulted in a temporary the closure of affected areas in the park. Currently there are fewer than three full-time staff devoted to this park. Staff and budget limitations severely constrain State Park's ability to conduct extensive habitat and species management in this large park.

Pacheco State Park

Pacheco State Park came into existence through a donation in 1992 by Paula Fatjo, a direct descendant of Francisco Pacheco for whom the Pacheco Pass is named. Visitors on the park's trails enjoy views of the San Luis Reservoir and the San Joaquin Valley to the east and views of the Santa Clara Valley to the west. The park supports rolling hills of mostly grassland and oak woodland habitats. Approximately 734 acres of the 6,921-acre park are within the study area. The remaining 6,187 acres are in adjacent Merced County. The western 2,600 acres of the park (including the portion in Santa Clara County) are open to the public (California Department of Parks and Recreation 2004).

California Department of Fish and Game

The CDFG owns the Cañada de los Osos Ecological Area, formerly the Stevenson Ranch, located on Jamieson Road, about ten miles east of Gilroy. The CDFG purchased the 4,400-acre ranch in 2001 with the assistance of The Nature Conservancy. Two hundred acres of the property were sold to the State Parks as a trailhead into Henry W. Coe State Park. The remaining 4,200 acres are managed by the CDFG in cooperation with the California Deer Association for youth outdoor education programs and the improvement of wildlife habitat on the property. A grazing management plan has been developed for this site, although the plan has not been implemented.

County of Santa Clara, Parks and Recreation Department

The mission of County Parks is to provide, protect and preserve regional parklands for the enjoyment, education and inspiration of this and future generations (County of Santa Clara, Parks and Recreation Department 2003). Since its inception in 1956, County Parks' park system has grown to encompass approximately 45,000⁴ acres in 28 park units that provide a variety of urban and rural recreational amenities. For more than four decades, County Parks has focused on purchasing and developing a network of regional parks and trails along the hillsides adjacent to the urban fringe and along the creeks that pass through the urban service area. This "necklace of parks" vision was put into place in the early 1960s and has guided park acquisition and development ever since (County of Santa Clara, Parks and Recreation Department 2003). County Parks balances access and recreation with resource protection. In addition to providing recreation opportunities in the County, County Parks conducts resource preservation, protection, conservation, enhancement, and restoration.

Strategic Plan

With the goal of accommodating the growing outdoor recreation needs of an increasing urban population, the County Parks Strategic Plan (County of Santa Clara, Parks and Recreation Department 2003) lays out a vision that will allow the system to continue to meet the needs of the County's residents. The vision of the Plan is captured in the following statement.

We create a growing and diverse system of regional parks, trails, and open spaces of Countywide significance that connects people with the natural environment, offers visitor experiences that renew the human spirit, and balances recreation opportunities with resource protection (County of Santa Clara, Parks and Recreation Department 2003).

⁴ While County Parks manages all 45,000 acres for recreation, approximately 5,000 of the 45,000 acres are owned by SCVWD.

The County Parks Strategic Plan focuses on the balance of recreation and natural resource protection, guiding the improvement and expansion of the County park and countywide trail system to meet the growing demand for high-quality recreational opportunities in Santa Clara County while also supporting and protecting local natural resources (County of Santa Clara, Parks and Recreation Department 2003).

Countywide Trails Master Plan

The Santa Clara County Countywide Trails Master Plan Update, an update to the 1980 County General Plan Trails element, was completed in November 1995 by the County of Santa Clara, Parks and Recreation Department. The Board of Supervisors adopted the updated trail policies and trails map as an amendment to the County General Plan. This update provides a vision for a network of contiguous trails that connects County parks, open space areas and other trails systems with northern and southern urbanized areas. As part of the update, the countywide trails policies and design guidelines were updated and developed to guide continued planning, define a process for implementing trails and coordinating with private property owners, establishing priorities, mitigating environmental impacts, and directing trail use, design, operations, and management (County of Santa Clara, Parks and Recreation Department 1995).

Natural Resources Management

County Parks maintains a small but active natural resources management program guided by the County Parks Strategic Plan and natural resources management guidelines (County of Santa Clara, Parks and Recreation Department 2004). The Natural Resources Management Program is comprised of four full-time staff for the entire County park system. Management or restoration projects are often implemented by natural resource staff, park maintenance staff, park rangers or contractors.

County Parks is in the process of developing comprehensive natural resource management plans for all of its park units and grazing management plans for some of its park units. The Ed R. Levin, Joseph D. Grant, and Coyote Lake-Harvey Bear Ranch County parks were the first County parks for which County Parks developed formal natural resource management plans in the study area. The Coyote Creek Parkway Integrated Master Plan (a combined natural resource management plan and master plan) was adopted in March 2007 (County of Santa Clara, Parks and Recreation Department 2006a). Interim natural resource management plans have been completed for most of the parks.

The current focus of the natural resources management program is conducting system-wide assessments of resources within the parks to identify and prioritize management actions. Site-specific management projects have been limited due to funding and staffing constraints and the need for management plans. Recent projects and programs have included riparian enhancement, invasive weed

control, oak woodland enhancement programs, vegetation management projects and programs, grassland enhancements, wildlife enhancements throughout the park system, livestock grazing programs, wetland restoration, and prescribed burns. Many of these actions have taken place at Joseph D. Grant County Park.

In 2004 a Grazing Management Plan was completed for Calero/Canada del Oro to address Bay checkerspot butterfly mitigation and habitat enhancement. In 2011 County Parks completed a Grazing Management Plan for Santa Teresa County Park to address management of annual grasslands and oak woodlands for the benefit of native species, management of wildfire risks, control of non-native plant species, while addressing continuing public access to these special areas. This Grazing Management Plan is in response to the need to manage serpentine grassland habitats as well as the implementation of the USFWS's *Recovery Plan for Serpentine Species of the San Francisco Bay Area* (U.S. Fish and Wildlife Service 1998). Through federal grant funding assistance from the USFWS and the Bureau of Reclamation, County Parks will be implementing the goals of the Grazing Management Plan to return cattle to the park in order to manage the serpentine grassland habitats.

Major County Parks

Several large regional parks within the study area are owned and/or managed by County Parks. Collectively, these parks are representative of the diverse resources available in Santa Clara County and support a variety of recreational interests including hiking, mountain bicycling, horseback riding, picnicking, golf, archery, hang gliding, model aircraft areas, dog parks, boating, water skiing, fishing, camping, velodrome races, and natural and cultural interpretation. A brief discussion of County parks that may contribute to the Plan conservation strategy is included below and summarized in **Table 2-2** (also see **Figure 2-3** for map of open space in the study area, including County parks).

Almaden Quicksilver County Park

Almaden Quicksilver County Park is located on the western border of the study area, surrounding much of Guadalupe and Almaden Reservoirs. The park was historically used for mining activities and was once home to more than 1,800 miners and their families. The park encompasses 4,152 acres, occupying a majority of Capitancillos Ridge. The park is known for its early spring wildflowers and history surrounding the late 19th century mining era.

The park provides over 34 miles of hiking trails, including 23 miles of equestrian trails and 10 miles of bike trails. All trails in the park are open to hikers with pets to walk their dogs on leash (County of Santa Clara, Parks and Recreation Department 2006b).

Anderson Lake County Park

Anderson Lake County Park is located in the foothills of the Diablo Range east of Morgan Hill and almost entirely (except in the northeast) surrounds Anderson Reservoir, the largest reservoir in Santa Clara County. The 3,144-acre park incorporates other parks including segments of the Coyote Creek Parkway

multiple use trails, the historic Jackson Ranch, the Moses L. Rosendin area, and the Burnett area (County of Santa Clara, Parks and Recreation Department 2006b).

Calero County Park

Calero County Park is located in the eastern foothills of the Santa Cruz Mountains, south San José. The approximately 4,455-acre park offers picnicking, boating and fishing on Calero Reservoir and 18.6 miles of trails in the adjoining oak woodlands. The park contains a trails staging area at the Park office near McKean Road. Additional access is available from the Santa Clara County Open Space Authority (Open Space Authority) Rancho Canada del Oro staging area on Casa Loma Road. Certain uses, such as equestrian group camping, horse and cart activities and special events are by permit only (County of Santa Clara, Parks and Recreation Department 2012). Portions of this park historically have been grazed (J. Mark pers. comm.)

County Parks is developing a Trails Master Plan for Calero County Park to incorporate the 966-acre Rancho San Vicente property acquired in November 2009 into the park (this parcel is also expected to be enrolled in the Habitat Plan Reserve System; see Chapter 5 for interim conservation actions). The Trails Master Plan will also consider expanding the types of trail uses allowed in the park in accordance with provisions of the *Santa Clara County Parks and Recreation System: Strategic Plan* which states that the purpose of a park-specific Trails Master Plan is “to identify opportunities to increase multiple-use trails and to ensure consistency with the Countywide Trails Master Plan and Strategic Plan” (County of Santa Clara, Parks and Recreation Department 2003).

Portions of this park have been grazed in the past (D. Rocha pers. comm.). A Grazing Management Plan was completed for the Canada del Oro property of Calero County Park in 2004 (County of Santa Clara, Parks and Recreation Department 2011; Rana Creek Habitat Restoration 2004). Infrastructure to support implementation of the Grazing Plan is under development. The Rancho San Vicente property of Calero is currently grazed under a managed grazing program through a grazing license with a private operator (D. Rocha pers. comm.).

Coyote Creek Parkway

Coyote Creek Parkway is a 1,694-acre park that meanders along Coyote Creek for 15 miles, bridging the gap between rural and urban parks along the valley floor within the study area. Coyote Creek Parkway ends at Hellyer County Park to the north and Anderson Lake County Park to the south. The Coyote Creek Trail features a 15-mile, 10-foot wide multi-use paved trail between Hellyer County Park and Anderson Lake County Park. The trail is identified in the Countywide Trails Master Plan as a regional trail (Bay Area Ridge Trail and Juan Bautista de Anza National Historic Trail) and as a subregional trail. The north portion features a paved multi-use trail popular with bicyclists, rollerbladers, and hikers. South of Metcalf Road, an equestrian trail parallels the paved trail (County of Santa Clara, Parks and Recreation Department 2006b).

County Parks is implementing the Coyote Creek Park Integrated Plan which is a combined Natural Resources Management Plan and Master Plan adopted by the County Board of Supervisors in 2007. Please refer to the Covered Activities section of this chapter for more details on the resource management plan and master plan.

Coyote Lake-Harvey Bear Ranch County Park

Coyote Lake-Harvey Bear Ranch County Park is located in the western foothills of the Diablo Range, east of San Martin. This 4,595-acre park encompasses Coyote Lake (Coyote Reservoir), providing opportunities for power boating, jetskiing, waterskiing, sailing, canoeing/kayaking and fishing. The lake contains bluegill, black crappie, channel catfish, carp, and black bass. In spring the lake is stocked with rainbow trout. The Bear and Mendoza Ranch sections of the park provide over 18 miles of hiking, biking and equestrian trails. The park is currently grazed under a managed grazing program (J. Mark pers. comm.). A master plan and natural resource management plan were adopted for this park in 2003 (County of Santa Clara, Parks and Recreation Department 2003; Rana Creek Habitat Restoration 2004).

Ed R. Levin County Park

Ed R. Levin County Park is located in the northern most tip of the study area. This 1,541-acre park combines the traditional features of an urban park with the trail system of a regional park. One of the highest points in the study area, Monument Peak, is located in the park. Hikers, equestrians, and cyclists enjoy sections of the park's 19-mile trail system. The southern portion of the park, known as the Spring Valley Area, is named for the many springs that flow freely in this area (County of Santa Clara, Parks and Recreation Department 2006b). In portions of the park, Ed R. Levin County Park supports cattle grazing which is monitored under a natural resource management plan and managed under grazing program (D. Rocha pers. comm.).

Joseph D. Grant County Park

The 9,560-acre Joseph D. Grant County Park is the largest of Santa Clara County's regional parks. It is located on the eastern border of the study area in the Diablo Range. Cattle grazing is allowed in some parts of the park, managed under a grazing program (D. Rocha pers. comm.) and monitored under a natural resource management plan. Hikers and equestrians have access to an extensive 52 mile trail system. Mountain bikes are permitted on nearly half of the park's trails. The diverse trail system at the park makes this a popular place to stage large-scale organized trail events such as equestrian endurance rides, mountain bike events and foot races (County of Santa Clara, Parks and Recreation Department 2006b).

Martial Cottle Park

In 2004, 151 acres of mostly agricultural lands were donated to the County of Santa Clara and 136 acres were sold to State Parks by the owners for preservation as a historic agricultural park. The property is located in the city limits of San José but outside of San José's planning limit of urban growth. This park is entirely surrounded by suburban development but retains some habitat value in its undeveloped state, particularly for western burrowing owls (J. Barclay pers.

comm.). While jointly owned by the County and State Parks, County Parks is responsible for the planning, development and long-term management of the park. In 2011 State Parks and County Parks completed a collaborative master planning process to define guidelines and policies for the site's development, management, operations of recreational, educational and agricultural use opportunities. Due to deed restrictions those long term operations will include intensive agricultural practices which will make it less habitable for native species.

Motorcycle County Park

Motorcycle County Park is the County's only off-road vehicle park. This 442-acre park is located in the foothills of the Diablo Range, east of the southern tip of San José, outside of San José's planning limit of urban growth. The park supports 20 miles of dirt trails (County of Santa Clara, Parks and Recreation Department 2006b).

Mount Madonna County Park

This 3,677-acre park is dominated by redwood forests characteristic of the Santa Cruz Mountains. To the east, the park overlooks the Valley; to the west, Monterey Bay. As the slopes of Mount Madonna descend toward the valley, the landscape changes from redwood forest to oak woodland, dense chaparral and grassy meadows. Hikers and equestrians have access to an extensive 20-mile trail system.

Santa Teresa County Park

Santa Teresa County Park is located in the Santa Teresa Hills ten miles south of downtown San José. This diverse 1,646-acre park offers a variety of recreational opportunities including golf, archery range, an equestrian staging area, and picnic sites for large groups. Additionally, the park offers over 18 miles of unpaved trails for equestrian, hiking and bicycle use, as well as historic resources and interpretive sites. County Parks completed a Grazing Management Plan for the park in 2011; grazing will take place once infrastructure upgrades are completed (D. Rocha pers. comm.). The Coyote Alamos Canal, a facility owned and operated by SCVWD, crosses through the park (County of Santa Clara, Parks and Recreation Department 2006b).

Uvas Canyon County Park

Uvas Canyon County Park is located in the Santa Cruz Mountains, west of Morgan Hill and San Martin, adjacent to Uvas Reservoir. This wooded 1,133-acre park offers hiking, camping, and picnicking opportunities throughout most of the year. The park has seven miles of hiking trails.

Uvas Reservoir County Park

Uvas Reservoir County Park is located in the Santa Cruz Mountains, west of Morgan Hill and San Martin. This park is 626-acre, including the 286-acre reservoir, and is open year round for non-gas powered boating and fishing. No designated trails are available at this park (County of Santa Clara, Parks and Recreation Department 2008).

Santa Clara County Open Space Authority

The Open Space Authority was created on February 1, 1993 by the California State Legislature, in response to efforts by citizens and local governments of Santa Clara County to protect the open spaces that were being threatened by development. The Authority is governed by an elected seven-member board of directors, each representing a unique district. The Authority comprises the cities of Campbell, Milpitas, Morgan Hill, Santa Clara, and San José, as well as much of the unincorporated areas of Santa Clara County. The Open Space Authority's current annual funding is \$4.1 million. The Open Space Authority administers an Urban Open Space Program, which allocates annual funding to the cities within its jurisdiction for open space, habitat and recreational purposes.

The Open Space Authority's Board has defined its purpose as follows.

Preservation of Open Space and creation of greenbelts between communities, lands on the valley floor, hillsides, viewsheds and watersheds, baylands and riparian corridors, are immediate high priorities. These are needed to counter the continuing and serious conversion of these lands to urban uses, to preserve the quality of life in the County and to encourage outdoor recreation and continuing agricultural activities.

Development and implementation of land management policies that provide proper care of open space lands and allow public access appropriate to the nature of the land for recreation are consistent with ecological values and compatible with agricultural uses (Santa Clara County Open Space Authority 2005).

The Open Space Authority operates in approximately the same area as that Plan study area. As of June 2009, the Open Space Authority has preserved 14,494 acres within the study area. Acquisitions have included Rancho Cañada del Oro Open Space Preserve, Sierra Vista Open Space Preserve, and Palassou Ridge Open Space Preserve, which are located in the study area and may contribute to the Plan's conservation strategy (see following discussion below). The Open Space Authority has protected other lands in the Coyote Valley and eastern Diablo Range foothills, as well as agricultural lands located in the southern portion of the county. The Open Space Authority's properties are protected through a combination of conservation easements, fee title purchase, and management agreements (Santa Clara County Open Space Authority 2005). Field staff oversee a wide variety of environmental stewardship, restoration, and monitoring projects. Docents and volunteers provide additional stewardship, interpretation, and outdoor education services.

Rancho Cañada del Oro Open Space Preserve

The 3,602-acre Rancho Cañada del Oro Open Space Preserve is located adjacent to Calero County Park, southwest of San José. Opened in 2004, the facility includes a parking area, restrooms, picnic tables, and an equestrian staging area.

The preserve currently supports more than 13 miles of trails. (Santa Clara County Open Space Authority 2010).

Palassou Ridge Open Space Preserve

The 3,515-acre Palassou Ridge Open Space Preserve (formerly Lakeview Meadows) is located at the eastern edge of Coyote Reservoir, west of Henry W. Coe State Park. This area provides opportunities for preserving uninterrupted habitat corridors and significant riparian and watershed resources between Henry W. Coe State Park and Coyote Lake Harvey Bear Ranch County Park. Trail connections to Henry W. Coe State Park and potentially to the Nature Conservancy lands could provide public access and a component of a future regional trail network.

Sierra Vista Open Space Preserve

The 1,676-acre Sierra Vista Open Space Preserve is located adjacent to Alum Rock Park in the eastern foothills above San José. The preserve encompasses oak woodlands, chaparral, and rolling grasslands, and provides habitat for numerous rare plant and wildlife species. The preserve currently includes more than 10 miles of trails including a portion of the Bay Area Ridge Trail. The Open Space Authority has received grant funding for planning, design, and construction of additional trails and a visitor parking and staging area.

City Parks

Each of the three cities covered by the Plan supports a network of parks and open space. The majority of these parks are managed for intensive recreational use and include such features as athletic facilities, community centers, turf fields, picnic areas, and trails.

Few of the city parks provide important plant or wildlife habitat. One exception is Alum Rock Park in San José. This 740-acre park provides habitat for a variety of wildlife including mountain lions, bobcats, deer, and many small animals. Other city parks that may have important habitat value include Penitencia Creek Park in San José, and Eagle Ridge open space, Uvas Creek Park Preserve, and Christmas Hill Park in Gilroy.

Development Mitigation Sites

All three cities and the county frequently require development projects with significant habitat or scenic resources to set aside a portion of their parcel and dedicate it as permanent open space. In other cases, development projects without enough resources on site are required to conserve land off site. These dedications are often conservation, open space, or scenic easements that are recorded with the property title. Older easements were often dedicated without

any provision for habitat maintenance or monitoring. However, newer easements often contain these provisions and provide endowments or other funding mechanisms to ensure long-term maintenance and monitoring. Sometimes the mitigation sites are transferred to or managed by local land agencies such as the Open Space Authority.

The Nature Conservancy

Since its founding in 1958, The Nature Conservancy has developed in-depth, science-driven conservation plans for areas throughout the US and the world and has worked on more than 100 projects and preserves in California. Currently, The Nature Conservancy is working to preserve land in central California's Diablo Range between the Silicon and Central Valleys, including Mount Hamilton and its surrounding foothills. The Conservancy's Mount Hamilton Project seeks to protect the most ecologically critical 500,000 acres of this landscape by working with local cattle ranchers, public agencies, and other partners. The Mount Hamilton Project, launched in 1998 with the acquisition of the 32,800-acre Simon Newman Ranch in Stanislaus and Merced Counties, and the 28,100-acre Romero Ranch in Stanislaus and Santa Clara Counties, seeks to protect 250,000 acres of wilderness land through outright acquisitions and conservation easements (The Nature Conservancy 2006). In early 2008, this effort was bolstered by the establishment of a conservation easement on the 28,359-acre San Felipe Ranch. To date, The Nature Conservancy has permanently protected roughly 110,000 acres in the Mount Hamilton Range, approximately 51,350 acres of which are in the study area (**Table 2-2**).

The Nature Conservancy's strategy is to protect ecologically sensitive or unique sites and to connect the extensive public lands in the area—state, County and regional parks; university lands; and water district holdings—by securing the permanent protection of key private properties that surround and link them through conservation easement or purchase in fee title. The Nature Conservancy has been involved as a stakeholder in NCCP planning processes since the creation of the NCCP Act and has a long history of successful acquisition and stewardship efforts in NCCP reserve areas throughout the state.

Within the study area, The Nature Conservancy has acquired both permanent conservation easements and fee title to ranches east of U.S. 101. Land acquired in fee title has been transferred to land management agencies such as Henry W. Coe State Park, the CDFG, and the Open Space Authority (The Nature Conservancy 2006).

2.2.5 Protection and Resource Management Status of Open Space Lands

Public and private open space lands within the study area are subject to a variety of resource-management regimes. As a result, existing open space provides

different habitat quality for the covered species and natural communities. Because some of these existing open space lands may be relied upon to support the Reserve System, existing open space areas need to be distinguished by their values for the Plan conservation strategy. To do this, open space lands have been categorized as described below.

The value of protected open space areas for covered species and natural communities is greatest when land use protections are in place in perpetuity. The value of open space for the Plan is similarly improved when a natural resource management plan is in place and adequate funding exists to maintain or enhance populations or natural communities. Open space areas that do not have land use protections in perpetuity but do have ecological protection as their primary management goal may still support the Reserve System. However, unless permanent conservation easements are acquired for these areas, they will not be part of the Reserve System because of the risk of changes in land use or resource management emphasis.

The following classification of open space was developed to account for differences in land use protections and resource management emphasis and to assist in the development of the Plan conservation strategy.

Open Space Classification

Protection and resource management status of open space lands has been evaluated and classified based on the level of land use protection and the general level of ecological management. Each open space unit within the study area was assigned one of four resource management types as shown in **Table 2-3**. The decision-making process used to assign open space lands to these types is shown in **Figure 2-4**.

Lands assigned to Type 1 and Type 2 open space categories have natural resource management and ecological protection as their primary purpose. Type 1 open space lands are protected from land use change by irrevocable means such as a conservation easement in perpetuity; or a local, state, or federal law. Local examples of Type 1 open space include lands owned by The Nature Conservancy, lands that are under a permanent conservation easement, and habitat or species mitigation lands subject to permanent easement. It is understood that the extent of ecological protection and management that actually occurs on these lands is subject to the availability of funding. The designation of Type 1 or Type 2 open space notes that the land use protections are in place on those lands, provided the funding becomes available.

If land use protections are not in perpetuity, but the purpose of land management is still ecological protection, then the land is assigned to Type 2 open space. If ecological protection is not the primary goal, but the land is managed as open space with some ecological value⁵, then it is assigned to Type 3 open space. If

⁵ Allows multiple species to complete some portion of their life cycle (e.g., reproduction, growth, foraging) or provides critical refuge and movement opportunities (e.g., migration corridor).

the land is managed as open space, but offers little or no long-term or measurable ecological value, then it is assigned to Type 4 open space.

There are various types of open space in the unincorporated county in the study area including: 45,786 acres of Type 1 open space; 76,606 acres of Type 2; 37,065 acres of Type 3; and 4,109 acres of Type 4. Ninety one percent (91%) of all open space in the unincorporated county within the study area is owned by five entities: the California Department of Fish and Game owns 2%, the Open Space Authority owns 7%, The Nature Conservancy owns 23%, County Parks owns 24%, and State Parks owns 35%.

2.3 Covered Activities

This section describes the activities and projects within the permit area that will be covered by the final permits and for which the Plan will provide avoidance, minimization, and compensation (i.e., conservation) for impacts to covered species and natural communities. “Activities” are actions that occur repeatedly in one location or throughout the permit area. “Projects” are well-defined actions that occur once in a discrete location. Together, these activities and projects are the *covered activities* for which incidental take authorization from the Wildlife Agencies will be obtained. All activities described in Section 2.3 *Covered Activities* are covered activities that have been analyzed in Chapter 4 *Impact Assessment and Level of Take* unless specifically identified as not covered. Covered activities described in Sections 2.3.1 through 2.3.7 are covered activities that will be implemented by the Local Partners and private developers subject to the jurisdiction of the Local Partners. Covered activities described in Section 2.3.8 *Conservation Strategy Implementation* are associated with implementation of the Plan’s conservation strategy or recreation in the Reserve System and will be the responsibility of the Implementing Entity or, in the case of recreation, the owner of the land in the Reserve System (e.g., Implementing Entity, County Parks, Open Space Authority).

All parties seeking coverage for activities and projects under the Plan must obtain approval from the Permittee with jurisdiction over the activity or project or the location where the activity or project is proposed for implementation (city, County, or special district; see Chapter 6 *Conditions on Covered Activities and Application Process* for a description of the approval process).

All covered activities must incorporate the relevant conditions on covered activities described in Chapter 6 in order to avoid or minimize impacts to covered species and natural communities. Part of the approval process for parties seeking coverage under the Plan is demonstration that the conditions have been incorporated or will be incorporated properly into proposed projects. The descriptions of covered activities in this chapter have been written to be as consistent as possible with the conditions in Chapter 6. If any inconsistencies remain, the condition takes precedence over the description in this chapter. For complete details on the conditions on covered activities, see Chapter 6.

Projects and activities may only be covered if a Local Partner has control over design, avoidance and minimization, and mitigation associated with the project (as described in Chapter 5 *Conservation Strategy* and Chapter 6 *Conditions on Covered Activities and Application Process*). Local Partners may partner with other federal or state agencies, (e.g., the Corps or the California Department of Transportation) to develop the project, but the Local Partner must have control over the above described aspects of the project in order to ensure the terms of this Plan are implemented.

Development projects, or portion thereof, that are in the process of receiving local jurisdiction approvals at the time the Habitat Plan is adopted (i.e., “pipeline projects”) will not be subject to the Habitat Plan if all of the following apply:

1. it has received at least one of the following approved development entitlements with a specified expiration date (including allowed renewals/extensions) prior to Habitat Plan adoption: site and architectural permit/approval, planned development approval, conditional use approval, or a tentative map; and
2. it is issued a grading or building permit within 1 year of issuance of the Habitat Plan’s state and federal incidental take permits; and
3. the project review process identified no impacts to any of the Habitat Plan’s covered species.

This provision applies only to the portion of a project that is issued grading and/or building permit(s) within the 1-year period.

Activities or projects that do not fall clearly within the descriptions provided in this chapter 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 this Plan. Any uncertainties regarding whether a type of project or activity can receive coverage under this Plan will be resolved by the Implementing Entity.

A described activity or project will be covered under the Plan if:

- the activity or project does not preclude achieving the biological goals and objectives of the Plan (see Chapter 5 *Conservation Strategy*) as determined by the Implementing Entity at the time the covered activity is proposed. For projects where there is some question whether or not the biological goals and objectives of the Plan may be precluded, the determination will be made by the Implementing Entity in coordination with the Wildlife Agencies;
- 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 Plan);
- the activity or project is a type of impact evaluated in Chapter 4 of the Plan; and

- adequate take coverage⁶ under the permits remains available for other covered activities.

This definition includes projects that are currently anticipated and identified in this chapter, but that do not yet have fully developed project descriptions or plans. Provided that these projects meet the criteria above, they may be covered by this Plan. 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 EPA to certify their use.

2.3.1 Methods for Identifying Covered Activities

To begin the process of determining covered activities, the Permittees developed comprehensive lists of activities and projects under their direct control or jurisdiction that might have a need for take coverage. The following five criteria were used to screen the lists. Candidate activities and projects needed to meet all five criteria to be considered covered activities under the Plan.

1. **Location:** The project, activity, or government service will occur within the Plan permit area.
2. **Timing:** Construction of the project or implementation of activities is scheduled to begin after the Plan is approved and the project is completed within the term of the permit.
3. **Impact:** The project or activity has a reasonable potential or likelihood to take a covered species. Highly unlikely or speculative take will not meet this criterion.
4. **Definition:** The location, size, and other relevant aspects of the project or activity can be defined well enough such that direct and indirect impacts to covered species can be evaluated and conservation measures developed to mitigate those impacts.
5. **Practicability:** Inclusion of the project, activity, or government service as a covered activity will not result in undue delays or substantial additional cost to Plan development and permitting process relative to the benefit of including the project/activity in the permit. In other words, it will not be more cost effective to permit the project/activity separately. Examples of impractical covered activities are ones that, on their own, would add

⁶ Take coverage is defined in this Plan in terms of land cover type, modeled habitat (see **Tables 4-2 and 4-4**), and occurrences of covered plants (see **Table 4-6**) adversely affected as a result of covered activities.

additional covered species, generate substantial controversy, or significantly complicate the impact analysis.

Covered Activity Categories

For the purposes of this Plan, covered activities fall into seven general categories.

- Urban Development.
- In-stream Capital Projects.
- In-stream Operations and Maintenance.
- Rural Capital Projects.
- Rural Operation and Maintenance.
- Rural Development.
- Conservation Strategy Implementation (activities within the lands managed, enhanced, restored, and monitored to conserve the natural resources targeted by this Plan).

Covered activities are identified below for each of these seven categories. The activities described are those activities for which incidental take authorization will be requested by the Permittees.

The activities identified below broadly define all of the different types of activities covered by this Plan. In some cases, specific projects are identified as examples to illustrate the general category. However, if a given project meets the guidelines for covered activities as described in the first part of this section, then that project is a covered activity.

It is expected that the Permittees will develop additional activities and projects over the course of the permit term of this Plan. To the extent that these additional activities and projects are generally and qualitatively described below, meet the criteria in Section 2.3 *Covered Activities* above, are not expressly limited by this chapter, and are adequately evaluated in Chapter 4 of this Plan, these future activities and projects will also be covered by this Plan.

Descriptions of covered activities in this chapter are mostly qualitative. Additional quantitative assumptions of covered activity footprints and frequency of occurrence are described in the impact analysis methodology in Chapter 4.

2.3.2 Urban Development

This category includes projects and activities that occur inside the planning limits of urban growth (see **Figure 2-2**) but outside of in-stream areas (streams and adjacent riparian vegetation) and excluding those areas identified in Section 2.2.3 *Planning Limits of Urban Growth* as these will be developed consistent with

rural development land use patterns. In-stream covered activities are discussed in Sections 2.3.3 *In-Stream Capital Projects* and 2.3.4 *In-Stream Operations and Maintenance*. This category is intended to be as inclusive 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. This category of covered activities includes, but is not limited to, the construction, maintenance, and use of the following urban facilities.

- Residential, commercial, industrial, and other types of urban development within the cities of Gilroy, Morgan Hill, and San José planning limits of urban growth in areas designated for urban or rural development, including areas that are currently in the unincorporated County (i.e., in “pockets” of unincorporated land inside the cities’ planning limits of urban growth).
- Residential, commercial, industrial, and other types of urban development within the San José–designated North Coyote Campus Industrial Area in areas with land use designated for urban development, rural development, and agricultural development as identified in **Figure 2-2**.
- Transportation facilities including sidewalks, bike paths, paved and unpaved roads, bridges, culverts, and transit facilities.
- Public service and cultural facilities including new fire stations, police stations, community policing centers, communications facilities, public administration centers, convention centers, theatres, museums, community centers, community gardens, and concession buildings.
- Recreational facilities such as neighborhood parks, dog parks, soccer fields, golf courses, indoor and outdoor sports centers, racetracks, campgrounds, and trails, and associated infrastructure including roads, bridges, parking areas, and restrooms.
- Public and private utilities including electric transmission and distribution lines, telecommunications lines, and gas pipelines. Solar energy projects are covered by the Plan as long as their impacts to covered species and natural communities are consistent with the evaluation of effects in Chapter 4.
- City water delivery and storage facilities including water treatment plants, water supply pipelines, percolation ponds, and pump stations (SCVWD is the water wholesaler in the county and serves local water suppliers).
- Stormwater management facilities such as storm sewer systems, nonpoint source reduction, outfalls, and drainage improvements.
- Waste-management facilities including sewage-treatment plants, sanitary sewer systems and rehabilitation, water recycling, recycling centers, transfer stations.
- Funeral/interment services including mortuaries, crematorium, columbaria, mausoleums, and similar services when in conjunction with cemeteries.
- Vegetation management including fuel reduction (including hand and mechanized removal and controlled burns), tree removal and pruning,

grazing activities, exotic vegetation control/removal, hazardous tree work, weed abatement, algae control in ponds.

- Hazardous material remediation for, and restoration related to, abandoned dumps (e.g., Singleton Landfill).

The Cities of San José, Gilroy, and Morgan Hill have developed several planning documents that outline strategies and projects consistent with current general plans. Examples of current plans that apply to planning in urban areas within the study area include the following.

- City of San José Greenprint (City of San José 2000).
- City of San José Alum Rock Park Riparian Management Plan (Biotic Resources Group 2001).
- City of San José Sanitary Sewer Master Plan (City of San José 2004).
- City of San José Storm Sewer System Capital Program (City of San José 2006b).
- City of San José Sanitary Sewer System Capital Program (City of San José 2006c).
- City of San José and City of Santa Clara Draft San Jose/Santa Clara Water Pollution Control Plant Master Plan (City of San José and City of Santa Clara 2011)⁷.
- City of Morgan Hill Redevelopment Agency Implementation Plan (City of Morgan Hill 2004).
- City of Morgan Hill Downtown Specific Plan (City of Morgan Hill 2009).
- City of Morgan Hill Parks, Facilities & Recreation Programming Master Plan (City of Morgan Hill 2001c).
- City of Morgan Hill Bikeways Master Plan Update (City of Morgan Hill 2008).
- City of Morgan Hill Trails and Natural Resources Study (City of Morgan Hill 2007).
- City of Morgan Hill Capital Improvement Program (City of Morgan Hill 2002a).
- City of Morgan Hill Sewer System Master Plan (City of Morgan Hill 2002b).
- City of Morgan Hill Storm Drainage System Master Plan (City of Morgan Hill 2002c).
- City of Morgan Hill Water Master Plan (City of Morgan Hill 2002d).
- City of Morgan Hill Environmental Programs (City of Morgan Hill 2007).
- City of Gilroy Bicycle Master Plan (City of Gilroy 2002c).

⁷ Only those portions of the San José/Santa Clara Water Pollution Control Plant Master Plan area that are inside the study area (which does not include the extended study area for burrowing owl conservation) may be covered by the Habitat Plan.

- City of Gilroy Parks and Recreation Systems Master Plan (City of Gilroy 2002d).
- City of Gilroy Sanitary Sewer Master Plan (City of Gilroy 2004a).
- City of Gilroy Storm Drain Master Plan (City of Gilroy 2004b).
- City of Gilroy Traffic Master Plan (City of Gilroy 2004c).
- City of Gilroy Water Master Plan (City of Gilroy 2004d).
- City of Gilroy Glen-Loma Specific Plan (City of Gilroy 2005a).
- City of Gilroy Trails Master Plan (City of Gilroy 2005c).
- City of Gilroy Wastewater Treatment Plant Master Plan (City of Gilroy 2006b).
- South County Recycled Water Master Plan (Santa Clara Valley Water District and South County Regional Wastewater Authority 2004).

Additional plans will be developed over the course of the permit term of this Habitat Plan. Activities proposed in these future plans that are consistent with the criteria in Section 2.3 *Covered Activities* and that have been adequately addressed in the impacts analysis contained in Chapter 4 and the conservation strategy described in Chapter 5 will also be covered by this Plan.

Private Development Subject to the Plan

Private development activities that require ground disturbance are subject to the Habitat Plan if the activity meets the following criteria.

1. The activity is subject to either ministerial or discretionary approval by the County or one of the cities;
2. The activity is described in Section 2.3.2 *Urban Development* or in Section 2.3.7 *Rural Development*; and
3. In **Figure 2-5**⁸, the activity is located in an area identified as “Private Development is Covered,” OR

The activity is equal to or greater than 2 acres AND the project is located in an area identified as “Rural Development Equal to or Greater than 2 Acres is

⁸ **Figure 2-5** *Private Development Areas Subject to the Plan* was developed to distinguish areas where, with respect to future rural development, there is higher biodiversity and a greater chance for “take” of covered species versus areas where habitat values are lower and the potential for “take” is relatively low. Information sources used in defining these areas included USFWS critical habitat; areas mapped by the Plan (**Figure 3-10**) as serpentine, wetland, stream, riparian, or pond land cover types; conservation analysis zones with a “high” conservation effort designation (**Figure 5-7**); and mapped occurrences of covered wildlife species. In areas where this information indicated a higher potential for presence of covered species, rural development projects are subject to the Habitat Plan. In areas where the information indicates a low probability that covered species are present, rural development projects are not subject to the Habitat Plan. **Figure 2-5** will be updated throughout the permit term to reflect new information collected during Plan implementation.

Covered,” or “Urban Development Equal to or Greater than 2 Acres is Covered” OR

The activity is located in an area identified as “Rural Development is not Covered” but, based on land cover verification of the parcel (inside the Urban Service Area) or development area (for rural development projects; see Section 6.8 *Habitat Plan Application Package*), the project is found to impact serpentine, wetland⁹, stream, riparian, or pond land cover types; or the project is located in occupied or occupied nesting habitat for western burrowing owl (see **Figure 5-11** and **Appendix D Species Accounts**).

In addition, private development additions of less than 5,000 square feet of new impervious surface to existing developed sites, regardless of parcel size, are not subject to the Plan.

Projects that are not subject to the Habitat Plan because they do not meet these criteria are *not exempt from compliance with the ESA or CESA*. If a project has the potential to take a federally or state listed species, the applicant must contact USFWS and/or CDFG to determine whether a take authorization should be obtained. Project applicants may request to “opt in” to the Habitat Plan and receive take coverage by complying with all of the conditions and application processes described in this Plan (see Chapter 6). Opt in coverage is not guaranteed and will be authorized by the local jurisdiction in consultation with the Implementing Entity.

This coverage determination process only applies to private urban and rural development that requires a permit from a city or the County. It does not apply to activities initiated by the Local Partners or Participating Special Entities (see Section 8.4 *Participating Special Entities* for more information).

2.3.3 In-Stream Capital Projects

The term *in-stream* is defined for the purposes of this Plan 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**. The operation and maintenance of these projects, as well as existing facilities, are described in Section 2.3.4 *In-Stream Operations and Maintenance*.

In-stream capital projects and activities that are covered under this Plan include the following activities.

⁹ If during the environmental review process it is shown that a project has adverse indirect impacts to a wetland’s function (change in hydrological functions, etc.), the project will be subject to the Plan.

- Activities described above under Section 2.3.2 *Urban Development* that overlap with streams. Activities include transportation, water supply, wastewater management, and stormwater management.
- Construction or reconstruction of flood protection projects and maintenance of associated access roads (see discussion in following section).
- Reconstruction of levees.
- Three Creeks Habitat Conservation Plan geomorphic rehabilitation and gravel program.
- Reconstruction, realignment, and decommissioning of SCVWD canals.
- Dam-related capital projects.
- In-channel groundwater recharge facilities.
- Bridge construction, replacement, and major repair including vehicular, train, and pedestrian bridges (see discussion in following section below).
- Bridge construction in County parks including vehicular bridges, multi-use bridges, footbridges, puncheons, and rock bridges (i.e., rocks placed across a small stream along a single-track trail).
- Culvert installation and maintenance.
- Creekside trail projects and associated bridges (trails are discussed in more detail in Section 2.3.5 *Rural Capital Projects*).
- Implementation of SCVWD's Dam Instrumentation Project. Activities include a field geotechnical exploratory drilling program and providing a corresponding Automated Data Acquisition System for the eight SCVWD dams within the study area (see discussion below).
- Fish passage barrier removals.

Capital projects that are covered under this Plan are discussed in more detail in the following sections.

Flood Protection Projects

SCVWD maintains a rolling 5-year Capital Improvement Program that determines which projects are developed over time. SCVWD has several capital projects planned to address flood protection. These projects have been identified through various programs that provide different funding mechanisms and guiding principles of how projects will be planned and designed. Two such programs are the Clean, Safe Creeks and Natural Flood Protection Plan and the Coyote Watershed Stream Stewardship Plan. Each plan is briefly described below. Flood protection projects identified in these plans are described at the end of this section.

The Clean, Safe Creeks and Natural Flood Protection Plan is a single, countywide special tax-funded 15-year plan, part of the SCVWD flood

protection and stream stewardship program. Performing public oversight for this program is an independent monitoring committee, which annually reviews the implementation of the Program. As part of the Clean, Safe Creeks and Natural Flood Protection Program, SCVWD is directed to protect public health and safety and enhance the quality of life within Santa Clara County. Initiated in 2000, it identifies four outcomes: provide flood protection, protect water quality, enhance and restore in-stream and riparian ecosystems, and provide recreational access. The first outcome, flood protection, includes the flood control capital control projects. During project planning, flood protection projects are prioritized by flooding history, damage estimates, and economic impacts. Project design protects against a 1% flood while improving water quality, restoring natural habitat, and providing recreational and operations and maintenance access (Santa Clara Valley Water District 2000). Of the covered flood protection capital projects described below, improvements to Berryessa Creek, Coyote Creek, and Upper Penitencia Creek are partially funded by the Clean, Safe Creeks and Natural Flood Protection Plan.

The Coyote Watershed Stream Stewardship Plan addresses flooding and environmental issues through an integrated approach to watershed management. SCVWD developed the Coyote Watershed Stream Stewardship Plan to provide a strategic approach for implementing the Ends Policy using a watershed management approach to provide stream stewardship within the Coyote watershed. The Ends Policy, in part, envisions a watershed in which (1) there is a healthy and safe environment for residents and visitors, and (2) there is an enhanced quality of life in Santa Clara County (Santa Clara Valley Water District 2002). This plan documents long-range projections of several agencies, incorporates information from ongoing SCVWD projects, and defines future projects and strategies to achieve SCVWD's Ends Policy in the watershed. Projects implemented under this plan include, but are not limited to, flood control projects, new trails, acquisition of open space, and stormwater detention and infiltration (Santa Clara Valley Water District 2002). Examples of projects partially funded through the Coyote Watershed Stream Stewardship Plan include the Berryessa Creek Project and the Lower Silver Creek between Interstate 680 (I-680) and Lake Cunningham. In designing projects through both programs, SCVWD uses methods that balance flood protection with protection of streams and natural resources. Examples of these methods include expanding the in-channel flood plain in areas where the existing channel is highly constrained, and installing bypass channels to reduce the quantity of water flowing through natural streams during high flows, thus reducing flooding and scouring potential. These flood-protection technologies help keep streams as natural as possible.

Flood Protection Project Design Elements

Flood protection capital improvement projects incorporate design elements that provide onsite impact avoidance, minimization, and mitigation for both in-stream and riparian habitat. Enhancement and creation of riparian habitat is coupled with removal of invasive species and planting of native species. In-stream design elements include fish passage improvement through the removal of fish barriers, placement of fish ladders, and other in-stream habitat enhancements. Finally,

design elements protect in-stream water quality by reducing erosion, sedimentation, and turbidity, as well as removing unauthorized storm drain outfalls (Santa Clara Valley Water District 2000).

Flood control design components that may be utilized include those listed below.

- Regrading of bank slopes.
- Realignment of the historic full channel or active low-flow channel.
- Installation of hardscape, including at stream crossings (concrete or riprap).
- Installation of grade control features (e.g., check dams, vortex weirs, cross vanes, drop structures, step pools, and rock riffles) to control erosive velocities.
- Temporary stream diversion during construction.
- Planting¹⁰.
- Channel widening.
- Levee reconstruction activities including installation or improvement of floodwalls and/or levees. Flood protection levee work may result in a raised or expanded levee. (Reconstruction activities are further described in the following section *Levee Reconstruction*.)
- Permanent bypass or diversion channel construction.
- Acquisition of right-of-way and maintenance road construction.
- Installation of culverts or outfall structures, including inlet and outlet structures for detention basins.
- Off-channel detention basins.

Planning and design of flood protection projects requires several years to decades to complete. Construction may take weeks or years to complete, depending on whether the project is phased over time and the nature of the project in a given reach. The process is often complicated when multiple agencies are participating in the project. As such, it is difficult to identify a timeline within which these projects may be implemented. SCVWD will apply all conditions as described in Chapter 6 when implementing flood protection projects, including review and approval by the Wildlife Agencies as described in Section 8.7.3 *Wildlife Agency Responsibilities*.

Those projects for which project descriptions are currently available are described below. For those projects for which no project description has been developed, a brief description of project location is provided. These projects will contain the same types of design elements as those for which a project description has been developed because of SCVWD's commitment to flood protection and stream stewardship as described above. **Tables 4-5a and 4-5b**

¹⁰ All planting will be implemented to allow proper flood conveyance and will consist of hydroseeding on all earthen surfaces above the channel bed and tree planting at the top of bank, with a few additional trees planted on bank slopes and at toe-of-slope.

describe key assumptions used to estimate impacts associated with these projects that could not be fully described during Plan development.

Coverage for SCVWD flood protection projects is limited to 64 miles of total project length with a maximum of 3.1 miles of permanent stream impacts.

Coyote Watershed

Berryessa Creek—I-680 to Old Piedmont Road. Berryessa Creek is a tributary of Coyote Creek located in San José. The project extends approximately 2 miles between I-680 and just upstream of Old Piedmont Road. Currently the creek has sections that are natural, a section that is a trapezoidal concrete channel, and a concrete lined in-stream sediment basin. Specific design details for this project area have not been developed at this time; however, they will be consistent with the design elements described above.

Coyote Creek—U.S. 101/I-85 to Metcalf Road. Coyote Creek is an urban stream within San José. This reach is 5.6 miles and is bordered by the Coyote Creek Park. Between I-85/U.S. 101 interchange and Metcalf Road, the reach is modified to form the Parkway Lakes. The project extends from the I-85/U.S. 101 to Metcalf Road. Specific design elements for this project have not been developed at this time; however, they will be consistent with the design elements described above.

Coyote Creek—I-280 to U.S. 101. Coyote Creek is an urban stream within San José. This reach is 6.7 miles and is bordered by the Coyote Creek Park. The project extends from I-280 to U.S.101. Specific design elements for this project have not been developed at this time; however, they will be consistent with the design elements described above.

Fisher Creek—Bailey Avenue to Hale Avenue. Fisher Creek is a tributary of Coyote Creek. The reach is 5.4 miles and flows from Morgan Hill through unincorporated San José and into Coyote Creek at its intersection with Monterey Highway in San José. The project extends from Bailey Avenue in unincorporated San José to Hale Avenue in Morgan Hill. Specific design elements for this project have not been developed at this time; however, they will be consistent with the design elements described above. It is possible that the City of San José will be the lead on this project instead of SCVWD.

Mid-Coyote Creek—Montague Expressway to I-280. The project extends approximately 6.1 miles between Montague expressway and I-280, all in the City of San José. Still in the planning phases, the project is expected to include channel capacity improvements such as levee construction, channel excavation, bridge replacement, property acquisition and structural removal. Specific design elements for this project have not been developed at this time; however, they will be consistent with the design elements described above.

Quimby Creek—Thompson Creek to Headwaters. Quimby Creek is a tributary of Thompson Creek. Within San José it is highly channelized. The

project extends 1.2 miles from Thompson Creek to its headwaters. Specific design elements for this project have not been developed at this time; however, they will be consistent with the design elements described above.

Sierra Creek—Berryessa Creek to Headwaters. Sierra Creek is a tributary of Berryessa Creek in San José. Within the urban limits it is highly channelized, composed of a concrete trapezoidal channel. The project extends 2.4 miles from the stream’s headwaters to Berryessa Creek. Specific design elements for this project have not been developed at this time; however, they will be consistent with the design elements described above.

South Babb Creek—Lower Silver Creek to Headwaters. South Babb Creek is a tributary of Lower Silver Creek extending from unincorporated San José into San José. It is currently a culvert/trapezoidal concrete channel. Specific design elements for this 0.9 mile project have not been developed at this time; however, they will be consistent with the design elements described above.

Upper Penitencia Creek—Coyote Creek to Dorel Drive. This project occurs along approximately 4.2 miles of Upper Penitencia Creek, from the confluence with Coyote Creek to Dorel Drive. Project goals include the following.

- Provide one-percent flood protection to more than 5,000 homes, businesses and public buildings;
- Improve stream habitat values and fisheries potential;
- Reduce sedimentation and maintenance requirements;
- Identify opportunities to integrate recreation improvements consistent with the Master Plan of the City of San José and Santa Clara County Parks;
- Obtain a Letter of Map Revision from the Federal Emergency Management Agency (FEMA); and
- Incorporate SCVWD’s Clean, Safe Creeks and Natural Flood Protection Program objectives.

Design elements include a concrete culvert, percolation pond, realignment of the creek at I-680, levees and floodwalls, modified floodplains, and residential home floodproofing.

Upper Silver Creek—U.S. 101 to Coyote Creek. Upper Silver Creek is a tributary of Coyote Creek within San José. They converge just south of Coyote Creek’s intersection with Capitol Expressway and northwest of U.S. 101. The channel is composed of earthen levees and excavated earth. The project extends 0.7 mile from U.S. 101 to Coyote Creek. Specific design elements for this project have not been developed at this time; however, they will be consistent with the design elements described above.

Upper Silver Creek—U.S. 101 to Silver Creek Road. Upper Silver Creek is a tributary of Coyote Creek within San José. They converge just south of Coyote Creek’s intersection with Capitol Expressway and northwest of U.S. 101. The channel is composed of earthen levees and excavated earth. The 1.2 mile project

extends from U.S. 101 to Silver Creek Road. Specific design elements for this project have not been developed at this time; however, they will be consistent with the design elements described above.

Guadalupe Watershed

Alamitos Creek—Guadalupe River to Almaden Dam. The project extends 7.4 miles from Almaden Dam to the Guadalupe River. Specific flood protection design elements for this project have not been developed at this time; however, they will be consistent with the design elements described above. In addition, design elements will also include fish barrier modifications both at the gabion structure upstream of Mazzone Drive and at the creek’s confluence with the Guadalupe River.

Arroyo Calero—Alamitos Creek to Calero Dam. Arroyo Calero runs from Calero Reservoir to Alamitos Creek through unincorporated County into San José. The project extends the entire 4 mile extent of the arroyo. Specific design elements for this project have not been developed at this time; however, they will be consistent with the design elements described above.

Canoas Creek—Guadalupe River to Cotle Road. The project extends 7.4 miles from Canoas Creek’s confluence with the Guadalupe River to Cotle Road. Design elements include the construction of 3.5-foot-high floodwalls along Canoas Creek from Almaden Expressway to the end of Nightingale Drive (Santa Clara Valley Water District 1999).

Los Gatos Creek—Kirk Dam to Lark Avenue. Los Gatos Creek is a tributary of the Guadalupe River. The project extends 0.7 mile from Kirk Dam to Lark Avenue within the cities of Los Gatos and Campbell, within a right-of-way owned by SCVWD. Specific design elements for this project have not been developed at this time; however, they will be consistent with the design elements described above.

Randol Creek—Alamitos Creek to Bret Harte Drive. Randol Creek is a highly channelized tributary of Alamitos Creek in San José. It is primarily a trapezoidal earthen channel with periodic concrete structures for flood control purposes. The project extends approximately 0.5 mile from Bret Harte Drive to Alamitos Creek. Specific design elements for this project have not been developed at this time; however, they will be consistent with the design elements described above.

Ross Creek—Guadalupe River to Kirk Avenue. Ross Creek is a highly channelized tributary of the Guadalupe River. It is primarily a trapezoidal earthen channel with periodic and various hard structures for flood and bank protection purposes. The approximately 1.6-mile project reach extends from Guadalupe River to Kirk Avenue in San José. Currently, Ross Creek is primarily a trapezoidal earthen channel. Design elements include widening the channel bottom to 30 feet with 1:1 side slopes and lining both banks with articulated concrete mat. An 18-foot maintenance road will be established on the south top

of bank and depressed 3 feet below grade for security of adjacent properties. If necessary, the existing streamflow gauge station will be replaced in coordination with technical support staff. In addition, a second 20- by 10-foot RCB culvert will be added on the north side of the existing culvert under Almaden Expressway. A concrete apron will be constructed at the outlet of the culvert. The existing sewer line in Almaden Expressway will be relocated in coordination with the City. Similarly, at Jarvis Avenue, a second 13- by 9.5-foot box culvert will be constructed. Design elements will also include fish passage modifications (Santa Clara Valley Water District 1999). Where applicable, revegetation and other riparian habitat enhancements will be included.

Uvas Watershed

Gavilan Creek—Uvas Creek to Headwaters. Gavilan Creek varies from a trapezoidal earthen channel to a clay-lined channel and contains a variety of flow control structures including culverts, energy dissipaters, drop structures, pipelines, and sacked concrete riprap lining. The 3.1-mile project runs from Uvas Creek to the headwaters Gavilan Creek. Specific design elements for this project have not been developed at this time; however, they will be consistent with the design elements described above.

Uvas-Carnadero Creek—Pajaro River to Watsonville Road. Uvas-Carnadero Creek, in the vicinity of Gilroy, is the major river in the Uvas watershed. The project will extend 13.8 miles from the Pajaro River to Watsonville Road as the upper boundary. Specific design elements for this project have not been developed at this time; however, they will be consistent with the design elements described above. Design elements will also include fish passage and habitat modifications.

Llagas Watershed

East Little Llagas Creek—U.S. 101 to Headwaters. East Little Llagas Creek is in the vicinity of Gilroy. The project will be conducted in a rural setting and extends 0.8 mile from U.S. 101 to the creek's headwaters. Specific design elements for this project have not been developed at this time; however, they will be consistent with the design elements described above.

Jones Creek—Llagas Creek to Alamias Creek. Jones Creek is in the vicinity of Gilroy. The project will be conducted in a rural setting and extends 2.4 miles from Llagas Creek to Alamias Creek. Specific design elements for this project have not been developed at this time; however, they will be consistent with the design elements described above.

Lions Creek—Sta 102+00 to Headwaters. Lions Creek is in the vicinity of Gilroy. The 1.1-mile project will be conducted in a rural setting and extends from U.S. Geological Survey (USGS) gauge station 102+00 to the headwaters of Lions Creek. Specific design elements for this project have not been developed

at this time; however, they will be consistent with the design elements described above.

West Little Llagas Creek—Wright Avenue to Llagas Road. The project extends 0.6 mile from Wright Avenue to Llagas Road and includes two reaches: 7 and 8a. Reach 7 is further subdivided into Reach 7a and 7b, as different design elements will be applied to each subsection. Design elements for Reach 7 are uncertain. In the Llagas Creek EIR (U.S. Department of Agriculture 1982), design elements for Reach 7a (1.6 miles) include 1 mile of excavated trapezoidal/earthen channel with depressed maintenance roads and a rock-lined pilot channel, as well as installation of a grade stabilization structure. Design elements for Reach 7b (0.9 mile) include earthen channel excavation with a depressed maintenance road and a pilot channel. Design elements for reach 8a (1.0 mile) include installation of a rectangular concrete channel. In the more recent Llagas Status Report (Santa Clara Valley Water District 2007c), design elements for Reach 7 are not subdivided and are described as construction of an earthen channel diversion and an earthen channel.

Levee Reconstruction

SCVWD owns or maintains approximately 91 miles of levees or similar flood reduction facilities. Approximately 23 miles of these levees are within the study area. Sections of these levees are currently under the jurisdiction of the Corps, but jurisdiction is not constant and may change over the course of the permit term (e.g., a section of levee currently under Corps jurisdiction may not be under Corps jurisdiction in 20 years). Reconstruction of 10 miles of the approximately 23 miles of levees are covered by this Plan (see Section 2.4 *Projects and Activities not Covered by this Plan* for information on levee reconstruction projects that are led by the Corps). The 10 miles of levee reconstruction assumed for this Plan is additive to levee improvements conducted as part of a flood protection project. As described in Chapter 8, the Wildlife Agencies will have design review and approval authority over flood protection projects and levee reconstruction projects that are covered by the Habitat Plan.

The Corps has revised its inspection standards and compliance (enforcement) requirements for levee systems under their jurisdiction which are maintained by local agencies. Levee maintenance activities, including vegetation removal and burrow and rodent control on all levees, are permitted under SCVWD's Stream Maintenance Program and are not covered by this Plan. When structural improvements to the levees are required, either for increased flood protection or major failures in structural integrity, the Plan would provide take authorization for this levee reconstruction activity so long as they are part of another covered project such as a flood protection project or described below in this section.

Levee reconstruction activities are those that improve the existing facility through structural changes such as expanding the footprint, increasing the height of the levee, or adding new material to support the levee. Reconstructed levees will generally be constructed with in-kind materials and within the footprint of existing levees. Some changes to levee design and material may be required

based on safety and design requirements. This may include adding new hardscape to the channel banks.

Levee reconstruction areas will be outside mitigation sites associated with this Plan or past projects. No reconstruction or associated clearing of riparian vegetation that provides baseline shaded riverine aquatic cover will be conducted as part of this covered activity. Furthermore, SCVWD is only seeking coverage for reconstruction of 10 of the 23 miles of SCVWD levees in the study area. The levees, or portions thereof, identified below may be reconstructed under this Plan if the Plan requirements for avoidance described in this paragraph and in Chapter 6 are met. Levee reconstruction projects are covered by this Plan only if they are specifically named below or are part of another covered project such as a flood protection project. Although there are a total of 25.1 miles of levees referenced below, this Plan only covers impacts associated with 10 miles of levee reconstruction. See **Table 4-5a** for a description of assumptions made for this covered activity.

Coyote Watershed

Berryessa Creek. Berryessa Creek is an urban creek in the Coyote watershed. It is connected to the Lower Penitencia Creek by an engineered canal. Levee reconstruction will occur between the boundary of the City of San José and Piedmont Road (approximately 0.4 miles).

Coyote Creek. Coyote Creek is the main stem of the Coyote watershed. In San José, it is primarily maintained with riparian vegetation on both sides. This vegetation extends into a chain of riverside parks along its upper extent. Levee reconstruction will occur on both sides of the creek in three different locations between the confluence with Upper Penitencia Creek and the northern edge of the permit area, north of (downstream) SR 237 (approximately 1 mile).

Thompson Creek. Thompson Creek is an urban stream in the Coyote watershed. It flows through San José constrained by both a natural and modified floodplain. For much of its extent, riparian vegetation lines the banks. Levee reconstruction will occur on both sides of the creek between Aborn Road and Quimby Road (approximately 0.5 mile).

Upper Penitencia Creek. Upper Penitencia Creek is in the Coyote watershed. Levee reconstruction will occur to the west of I-680 between Berryessa Road and Mayberry Road (approximately 1.1 mile).

Guadalupe Watershed

Alamitos Creek. Alamitos Creek is a large tributary of the Guadalupe River in the Guadalupe watershed. Riparian vegetation is maintained on both sides as it flows through San José. Levee reconstruction will occur at three separate locations. Levees will be reconstructed along 3.6 miles of Alamitos Creek

upstream of its confluence with Guadalupe Creek (also where Guadalupe River begins).

Canoas Creek. Canoas Creek is a tributary of the Guadalupe River in the Guadalupe watershed. Levee reconstruction will occur immediately upstream of its confluence with Guadalupe River (approximately 0.5 miles).

Guadalupe Creek. Guadalupe Creek is a tributary of Guadalupe River in the Guadalupe Watershed. Levee reconstruction will occur between where the creek approaches Coleman Road and just downstream of the confluence with Alamitos Creek (i.e., in the initial upstream reaches of Guadalupe River). Total length of levee reconstruction is approximately 1.5 miles.

Guadalupe River. Guadalupe River is the major river of the Guadalupe watershed. It is primarily maintained with riparian vegetation on both sides. Levee reconstruction will occur in several locations along Guadalupe River. From the upstream end, the first reconstruction section starts just north and ends just south of where the creek crosses the SR 85. Downstream, a short reach of levee is located just upstream of the confluence of Guadalupe River and Los Gatos Creek, between the I-280 and West Humboldt Street. Finally, levee reconstruction will occur between U.S. 101 and I-880. Total length of levee reconstruction is approximately 2.9 miles.

Los Gatos Creek. Los Gatos Creek is a large tributary of the Guadalupe River in the Guadalupe Watershed. It flows through Campbell, Los Gatos and Monte Sereno. Levees are located in three separate locations downstream of Vasona Reservoir and upstream of the San José city limits. Total length of levees is approximately 1.8 miles.

Randol Creek. Randol Creek is a highly channelized tributary of Alamitos Creek in San José. It is primarily a trapezoidal earthen channel with periodic concrete structures for flood control purposes. Levee reconstruction will occur on the east side between Camden Avenue and Bret Harte Drive (approximately 0.5 mile).

Uvas Watershed

Uvas Creek. Uvas Creek is the main stem of the Uvas watershed. Levee reconstruction will occur only on the north side of the creek between U.S. 101 and Santa Teresa Boulevard (approximately 2.2 miles) in Gilroy and unincorporated Santa Clara County near Gilroy.

Llagas Watershed

Jones Creek. Jones Creek is a small earthen tributary of Alamais Creek (a tributary to Llagas Creek) in the Llagas watershed. It flows through the agricultural landscape of unincorporated Santa Clara County, east of Gilroy and

west of SR 152. Levee reconstruction will occur on its west side between its confluence with Alamais Creek between Leavesley Road and Dunlap Road (approximately 0.6 mile).

Llagas Creek. Llagas Creek is the main stem river in the Llagas watershed. It is primarily an earthen channel and passes through both unincorporated Santa Clara County and the city of Gilroy. Levee reconstruction will occur on the west side of Llagas Creek from the confluence with the West Branch Llagas Creek north to Gilman Road (approximately 0.8 mile) in agricultural areas.

Levee reconstruction is also planned for lower Llagas Creek between Southside Drive and the creek's confluence with the Pajaro River. Levee reconstruction will occur on both sides of the creek (approximately 2.4 miles).

Levees near Llagas Creek. A network of irrigation channels divert water from Llagas Creek in the Llagas watershed. Levee reconstruction will occur on one side between the Pacheco Pass Highway and Bloomfield Avenue (approximately 5.9 miles). These levees do not border Llagas Creek.

Lions Creek. Lions Creek is located partially within the planning limit of urban growth of Gilroy. The proposed levee reconstruction would occur just upstream of the confluence with West Branch Llagas Creek (approximately 0.5 miles).

West Branch Llagas Creek. West Branch Llagas Creek is a highly channelized tributary of the Llagas Creek flowing through the city of Gilroy. Levee reconstruction will occur on both sides of the creek between its confluence with the main Llagas branch and U.S. 101, predominantly in agricultural areas (approximately 1.1 miles).

Canal Reconstruction, Realignment, and Decommissioning

SCVWD anticipates needing to fully reconstruct, realign, or decommission its water conveyance canals over the course of the permit term. These canals, their associated diversions, and release points include the following.

- Almaden-Calero Canal
- Coyote Canal Extension
- Cochrane Channel
- Coyote-Alamitos Canal
- Vasona Canal
- Madrone Channel

Coyote Canal may be extended to Metcalf Road by reconstruction in place, or by replacement with a pipeline in the existing alignment or within the alignment of existing multi-use trails in this reach of Coyote Creek. Subsequent phase

activities may include a pipeline to Ford Road Ponds from the Coyote Steel Dam and the Coyote Canal Extension.

Other canals will be reconstructed or replaced with pipelines in the existing footprint of current canals. Canals will be reconstructed of in-kind materials to the extent possible. Depending on the history of erosion in a canal, certain reaches may be reconstructed using gunite or other types of concrete. Most straight reaches without a history of erosion will be of compacted earth. Reconstruction of canals is assumed to result in complete loss of existing, non-developed, land cover types.

SCVWD anticipates possibly decommissioning one or more of its canals. This would be conducted only as needed and when there is a desire to use the canal site for another purpose or to use for restoration credits. Each decommission would be unique, but in general would entail removal of unnecessary concrete and other materials from the site. It is likely that decommissioning would restore canals to an enhanced state for natural resource management purposes; credits for such enhancement are not assumed in the impact analysis in Chapter 4.

Three Creeks HCP In-Stream Capital Projects

Capital projects associated with the proposed Three Creeks HCP are the seismic safety retrofit of five SCVWD dams in the permit area (Almaden, Anderson, Calero, Guadalupe, and Vasona dams) and the proposed conservation measures in the Three Creeks HCP Conservation Program. Seismic safety retrofit activities are described in the following section *Dam Seismic Safety Retrofit*. The Three Creeks HCP Conservation Program is described in the following section.

Three Creeks HCP Conservation Program

The proposed Three Creeks HCP includes activities to enhance stream conditions for steelhead, while maintaining use of these watersheds to meet the water supply needs of northern Santa Clara County. The proposed Three Creeks HCP Conservation Program will provide a comprehensive program to address the impacts of SCVWD's operation and maintenance of eight reservoirs (six of which are in the permit area), multiple diversions dams and drop structures and associated facilities (i.e., appurtenances) such as fish ladders, fish screens, and on-channel ponds; an extensive system of off-channel recharge ponds, and facilities that provide for water to be released to various channels. Although fish are not covered by this Plan, covered species such as the California red-legged frog, foothill yellow-legged frog, and California tiger salamander may be affected by implementation of the Three Creeks Conservation Program.

The Three Creeks Conservation Program is still under development by SCVWD; thus, while this Plan provides coverage for covered species that are affected by the activities described below, the discussion of these activities are at a programmatic level. Once the Three Creek HCP Conservation Program has been

adopted the range of activities and impacts will be better understood. Therefore, for specific project impacts that cannot be evaluated, coverage under this Plan would be conditioned upon additional review and approval by the Wildlife Agencies (see Section 8.7.3). The covered activities are described to encompass as much of the activities in the Three Creeks HCP Conservation Program as is currently expected to occur.

The proposed Three Creek HCP Conservation Program includes seven components that will receive take coverage under this Plan.

- Geomorphic Rehabilitation
- Alamos Creek/Almaden Reservoir Fish Passage
- Gravel Enhancement
- Reservoir and Recharge Re-Operation
- Upper Penitencia Creek Management Program
- Supplemental Flow Program
- Monitoring Program

Geomorphic rehabilitation, Almaden Reservoir fish passage, and the in-stream enhancement program are discussed generally below. Reservoir and recharge re-operation, Upper Penitencia Creek management, supplemental flows, and monitoring are described in Section 2.3.4 *In-Stream Operations and Maintenance* subheading *Three Creeks HCP Conservation Program Operations and Maintenance Actions*.

All construction-type projects will require heavy equipment including but not limited to bull dozers, dump trucks, excavators, backhoes, water trucks, welding equipment, concrete laying equipment, paving equipment, drilling rigs, and other similar equipment. Construction may include transport and use of rock, other soils, concrete, and metals. Following construction, these facilities will require on-going and periodic maintenance similar to the maintenance of recharge facilities described in this chapter.

Geomorphic Rehabilitation

Geomorphic rehabilitation is proposed in the Three Creeks HCP Conservation Program. Under this activity, certain reaches of study area streams below the reservoirs would be substantially modified to improve fish passage. Enhancement may include physical re-configuration of channels, installation of structures to enhance channel complexity (based on CDFG and NMFS guidelines for salmonid habitat enhancement), and riparian planting. Specific projects may include the following.

- Ogier Ponds separation from the channel.
- Coyote Percolation Pond separation from the channel.
- Channel enhancements the Coyote Canal diversion to downstream of Pond 10b, including separation of the channel from Pond 10b.

- Geomorphic rehabilitation in the Coyote Creek Watershed below Anderson dam. Geomorphic rehabilitation entails implementation of actions to enhance the channel for the benefit of anadromous fish (e.g., channel complexity, shading, etc.).
- Geomorphic rehabilitation in the Guadalupe River Watershed below Calero, Almaden, and Guadalupe dams. Project sites include Guadalupe dam to downstream of the Alamos diversion dam and the upstream end of Almaden Lake to the confluence of Alamos Creek and Guadalupe Creek.

Upon completion of project construction, sites will be monitored to ensure the actions are successful. If actions are not successful, adaptive management actions may be applied. All actions related to construction, monitoring, and adaptive management are covered activities under this Plan.

Alamos Creek/Almaden Reservoir Fish Passage

SCVWD proposes to improve steelhead passage to upstream habitat. One of the goals of this program is to isolate juvenile salmonids emigrating downstream from the lake due to threat of predation. SCVWD has not yet identified preferred approaches to achieve these goals. If selected, trapping fish below the dam would require construction of a fish collection facility at the base of the dam. Fish may also need to be conveyed around the reservoir as they migrate downstream. If selected, this option would require construction of a collection facility on Twin Creek, a tributary of Almaden Reservoir. Under this option, SCVWD would construct an operable dam to divert juveniles from the channel to a collection facility. This location would also likely be the site to release adults migrating upstream that were trapped below the dam and trucked around the reservoir.

Because a design has not yet been identified for this project, coverage under this Plan is conditioned upon additional review and approval by the Wildlife Agencies. For the purposes of the impact analysis, a scenario with the greatest impacts to the covered species (i.e., full construction of a new fish ladder and associated facilities in non-developed land cover types) is discussed in Chapter 4 *Impact Analysis and Level of Take* and provided in **Tables 4-5a and 4-5b**. In addition, SCVWD will apply all applicable avoidance and minimization measures as described in Chapter 6 when implementing a fish passage projects.

Gravel Enhancement Program

Installation of gravel traps in the upstream reaches of Coyote, Anderson, Almaden, and Guadalupe reservoirs (below the high-water line) are proposed. The traps are needed to sort and wash gravel to remove fine sediments to improve spawning habitat for native fish. Washed gravel would then be transported to locations beneficial to fish habitat. Excavation may occur a maximum of one time per year per gravel trap if needed, but is expected to generally occur once every 3 years per gravel trap. The need to conduct excavation depends on the number of storms in a given season, how much gravel comes out of the watershed, and the need for gravel enhancement in downstream locations. Excavation will occur in the summer when the reservoir level has

dropped below the location of the gravel trap such that the gravel trap will be dry. If excavated gravel needs to be stockpiled, placement will avoid sensitive natural communities such as wetlands and serpentine grassland. Whenever possible, existing access roads will be used to transport gravel from the excavation sites to processing facilities in the respective downstream watershed.

The following locations are being considered for the gravel enhancement program. One or more of these locations are expected to be selected:

- Anderson Dam to below Coyote Percolation Pond
- Almaden Dam to Lake Almaden
- Guadalupe Dam to the confluence with Alamitos Creek
- Camden Avenue Drop Structure downstream to the confluence with the Guadalupe River

In-Stream Cover Enhancement

In-stream habitat improvements may be undertaken that may include localized installation of boulders, large woody debris, or biotechnical treatments along stream banks to improve cover and riparian functions for salmonids. Activities may also include removal of exotic vegetation and replanting with native riparian vegetation. To implement these improvements, short reaches of channel may require dewatering and bypass of flow around the construction points. For the purposes of the Habitat Plan impacts analysis, a total of 1 mile of stream is assumed to be enhanced with in-stream cover.

Fish Passage Enhancement

The activity incorporates an on-going program to remove small physical and hydrologic barriers to movement of salmonids and other fish and wildlife. Activities include replacement of small culverts with bridged weir structures to provide access to tributary streams. To implement these improvements, short channel segments may require temporary dewatering or bypass to allow construction.

Use of heavy equipment such as bulldozers, dump trucks, excavators, backhoes, water trucks, welding equipment, concrete laying equipment, paving equipment, and drilling rigs may be necessary for these activities.

Dam-Related Capital Projects

Dam Seismic Safety Retrofit

As discussed above in this chapter, SCVWD operates eight large dams and three small flashboard dams in the study area. This Plan covers the retrofit of four SCVWD dams (Almaden, Anderson, Calero, and Guadalupe dams). Other Permittees, including County Parks, and the City of San José, also operate smaller dams. County Parks operates six smaller dams; five on Grant Lake at Joseph D. Grant County Park, and one on Sandywool Lake in Ed R. Levin

County Park. The City of San José operates Cherry Flat Reservoir. All of these dams are operated under regulation by the California DSOD, a division of the California Department of Water Resources. In addition, Anderson Dam is also regulated by the Federal Energy Regulatory Commission (FERC). DSOD and FERC periodically inspect and evaluate the safety of dams based on current seismic safety standards for the design of dams. If either regulatory agency determines that an existing dam does not meet current safety standards, DSOD or FERC may require either dam retrofit or reduction of the level of water in the reservoir to increase freeboard, thus reducing storage capacity.

As dams within the study area age and as safety design standards become more rigorous, it is likely that several regulated dams in the permit area will require seismic retrofitting within the permit term of the Plan. Retrofitting would not require full reconstruction of the dam, but may require extensive upgrades to dam infrastructure such as intakes or outlets. Retrofitting includes the addition of new fill or features to stabilize a structure, with the existing structure remaining either mostly or somewhat intact. Common approaches to retrofit of earthfill and rockfill dams are described briefly below. These approaches can be used individually or in combination for a specific dam.

- **Strengthening the upstream embankment.** Requires raising the dam and increasing the size and slope of the upstream embankment;
- **Strengthening the downstream embankment.** Requires raising the dam and increasing the size and slope of the downstream embankment; raising the dam and bracing the lower portion of the dam with a "bench" or "berm"; and buttressing the embankment.
- **Strengthening the dam internally.** Installing concrete-type cores in the dam to prevent rupture of the internal zone of the dam and seal the foundation.

Given the age of dam facilities, the length of the permit term, and the potential for major seismic events in the Plan study area, it is reasonable to anticipate that some substantial safety retrofits will be required for each of SCVWD's and County Park's dams. Upgrading of dam embankments to meet DSOD-mandated safety standards (safety retrofit) may involve upstream and/or downstream extension of embankments, dewatering of the reservoir (for any safety retrofit requiring work on the upstream embankment), increases in embankment height to increase reservoir freeboard, and reconstruction of the dam face and associated facilities such as spillways and inlet-outlet facilities. For the purposes of the impact analysis described in Chapter 4, it is assumed that four of SCVWD's eight dams in the permit area, the six County Park dams listed above, and the City of San José's Cherry Flat Dam will require retrofit during the permit period.

SCVWD Dams

Because there are many construction options related to dam seismic safety retrofits, some limitations were identified to qualify for coverage under this Plan. These limitations were developed to allow for reasonable description of the impacts and also to limit the impacts to covered species. The following activities are not covered by this Plan.

1. Seismic retrofit work that is conducted outside of the footprint assessed in the impact analysis (**Table 4-5a**)¹¹.
2. Dewatering events longer than 2.5 years at all reservoirs except Anderson for safety seismic retrofit which will not exceed 3.5 years (dewatering events are further described in the following section).
3. More than one dewatering event at a time conducted per watershed (this includes dewatering required for retrofit and dewatering required for activities described under *SCVWD Dam Maintenance Program* below).
4. More than four dewatering events for seismic retrofit (at Almaden, Anderson, Calero, and Guadalupe reservoirs).
5. More than 14 additional dewatering events for other maintenance activities (at all covered SCVWD dams; described below under *SCVWD Dam Maintenance Program*) over the permit term.
6. New earth or rockfill dams.
7. Expansion of design storage capacity or increase in the reservoir surface level as designed (i.e., no additional area of inundation; the crest of the dam might be raised to increase freeboard, but not to increase storage).
8. Dewatering rates inconsistent with **Table 2-4**¹².

The schedule for each dam seismic safety retrofit is not known at this time. Retrofits on dams that are currently operating under DSOD/SCVWD interim storage restrictions will be initiated according to DSOD requirements and funding constraints. Retrofits will encompass other major dam repairs, including dam outlets and spillways.

Retrofitting four of the eight dams in the permit area operated by SCVWD (all dams except Vasona, Coyote, Chesbro, and Uvas dams), including a dewatering event that is required as part of retrofitting, is a covered activity under this Plan. An increase in existing reservoir size (i.e., increasing the area of inundation or design capacity) is not covered by this Plan.

Borrow Sites

Borrow sites are locations where earth and rock material are removed for construction purposes elsewhere. The materials needed for dam seismic safety retrofits will vary substantially, depending on the type of retrofit. For all retrofits except concrete-type grouting and similar methods, retrofits will require substantial quantities of earth fill and/or rock fill materials including sedimentary soils, rock of various sizes, and concrete. The quantities, quality, and type of materials needed depend on the specific design of the retrofit; materials must meet rigid performance standards in order to ensure safety.

¹¹ Because the specific retrofit method for each dam was not known at the time of the impact analysis, the impact analysis described in Chapter 4 and **Table 4-5a** assumes that downstream embankment strengthening would be employed for all dams because it represents the worst-case scenario.

¹² The Wildlife Agencies may require adjustments to maximum flows in **Table 2-4** for future projects based on monitoring results (see *Dewatering Event*) below.

To address this fill requirement, SCVWD will consider obtaining fill from a number of sources, including the following.

- The upstream delta of the reservoir.
- The reservoir.
- Existing quarries.
- New quarries in the reservoir basin, in the canyon below the dam, and in the alluvial plain within the Habitat Plan permit area.

Although SCVWD will prefer to obtain materials from sites near the dam and sites with a low potential for impacts to covered species and their habitats, borrow materials must meet engineering criteria for the dam seismic safety retrofit and this requirement will necessarily limit sources for borrow. SCVWD will use the following criteria to avoid and minimize impacts.

- Use fill from the reservoir delta and basin to the extent feasible.
- Select borrow sites based on general feasibility criteria such as suitability of materials, haul distance, cost, and potential impact to covered species. If two or more potential borrow sites are capable of providing materials that meet geotechnical requirements, select the site with the lowest potential for impacts to covered species.
- Avoid wetlands.
- Avoid sites in areas designated as high or medium conservation priority in this Plan.
- Avoid sites within designated habitat preserves.
- Select haul routes to minimize the potential for traffic to impact special status plants and animals.

Borrow sites will not be located directly in streams or immediately adjacent to streams such that permanent stream impacts would occur, except where the stream is also in a reservoir (consistent with the first bullet above). The following worst case assumptions were used to define the maximum allowable impact covered by this Plan.

- Earth fill will be obtained from locations in the alluvial plain in the north valley area.
- Earth fill excavations will range from 30 to 40 feet deep.
- The side slopes of the borrow pits will be 1 (vertical) to 2 (horizontal) and would add 10% to the permanent impact area.
- The area of temporary impact around borrow areas will equal 30% of the area of excavation.
- Rock fill will be obtained from within the reservoir.

Following use of a borrow area in the alluvial plain, SCVWD may use the site as a recharge area (if it is appropriate for recharge) or it may be converted to other uses such as recreation and environmental enhancement.

Borrow sites developed to support reconstruction of dams in the Habitat Plan study area are expected to be located inside of the permit area of the Habitat Plan. Take associated with borrow sites located in the portion of the proposed Three Creeks HCP permit area that does not overlap with the permit area of the Habitat Plan are possible but are not covered activities under the Habitat Plan and would require authorization through the Three Creeks HCP or another regulatory mechanism. Selection of borrow sites located inside the Habitat Plan permit area covered by the Habitat Plan are subject to Wildlife Agency review and approval during implementation of the Plan (see Section 8.7.3 *Wildlife Agency Responsibilities*).

Dewatering Event

Prior to dam seismic safety retrofit, a reservoir must be dewatered. Once emptied, the reservoir is maintained free, or almost free, of water until construction is completed. The reservoir refills the following winter. In the case of a drought, refilling could take longer. The time between the beginning of reservoir dewatering and when the reservoir is re-operated according to applicable rule curves¹³ is called a *dewatering event*. SCVWD expects that up to four dewatering events will be required for safety retrofit of the four SCVWD dams covered for this activity. Four dewatering events are associated with seismic safety retrofits, but multiple dewatering events could occur at a single dam over the permit term. In addition, SCVWD anticipates dewatering may be required for some maintenance activities. These activities are discussed in Section 2.3.4 *In-Stream Operations and Maintenance* subheading *SCVWD Dam Maintenance Program*.

Each SCVWD dewatering event is covered under this Plan for up to 2.5 years except at Anderson Reservoir for implementing a seismic safety retrofit. It is expected that Anderson Dam will require two seasons to reconstruct and thus requires 3.5 years for a dewatering event. If SCVWD anticipates a dewatering event will take more than 3.5 years for seismic safety retrofit at Anderson Dam or more than 2.5 years for any dewatering event at other dams, SCVWD will begin a separate consultation process with USFWS and CDFG and may be required to provide additional mitigation beyond that required by the Habitat Plan.

Timing of a dewatering event varies from reservoir to reservoir due to capacity constraints of each dam's outlet system. However, draining a reservoir generally takes months. Construction will be planned so that the reservoir is ready to begin receiving water again in November after construction or maintenance is completed. The reservoir refilling begins during the following (second) season. The amount of time the reservoir requires to refill depends largely on the weather and if the reservoir is a storage facility for imported water. See **Table 2-4** for

¹³ There are multiple types of rule curves by which SCVWD operates its reservoirs and not all of them are for species conservation purposes.

maximum covered release flows from reservoirs for the draining phase of dewatering events.

Before a reservoir is dewatered for the first time (whether for dam seismic safety retrofit or other dam maintenance described in Section 2.3.4 below), SCVWD will prepare a reservoir-specific dewatering plan to minimize impacts to covered species (in particular, California red-legged frog and western pond turtle). This plan will be submitted to the Wildlife Agencies for review and approval¹⁴. Dewatering plans will be updated prior to subsequent dewatering events during the permit term in the event that a single reservoir is dewatered more than once. Dewatering events involve the following components.

- **Draining.** A period generally between 6 months to 1 year of reservoir releases in excess of then-current flow targets. The SCVWD will specify the timing, frequency, and duration of reservoir releases in each dewatering plan.

Maximum covered release flows were developed to be higher than the flows which will be implemented by SCVWD and are provided as a maximum flow release covered by the Plan.

If, at the time of developing a dewatering plan, SCVWD determines the flow releases will be higher than those in **Table 2-4**, additional consultation with the Wildlife Agencies will be required and additional mitigation may also be required.

The effects of stream flow regulation on amphibians and reptiles are poorly understood. If California red-legged frog western pond turtle, or yellow-legged frog populations are found in streams hydrologically affected by existing dams in the permit area, the Implementing Entity will monitor the effects of flow regulation (including dewatering events) on the species as specified in (Section 7.3.3 *Species-Level Actions*). Effects of draining will be documented and reported to the Wildlife Agencies within 60 days of the conclusion of each dry season and wet season dewatering event. After coordinating with the Implementing Entity, the Wildlife Agencies may require an adjustment in the maximum reservoir release flows in **Table 2-4**. For example, if targeted studies show that maximum reservoir release flows allowed during the wet season scoured a significant amount of California red-legged frog egg masses, the Wildlife Agencies may require that the maximum covered reservoir release flow be decreased from those currently specified in **Table 2-4** for future projects on that facility. Conversely, if monitoring data suggests that reservoir release flows described in **Table 2-4** are not having adverse effects on covered species, flows may be increased with Wildlife Agency approval.

- **Construction/repair.** A period of about 6–8 months when the reservoir will be dry, and natural inflow and groundwater upwelling will be bypassed around the dam for release to the downstream channel. The entire footprint

¹⁴ Chapter 6, Condition 4 *Avoidance and Minimization for In-Stream Projects*, subheading *Requirements for SCVWD Dewatering Events* requires a dewatering plan to be approved by the Wildlife Agencies. Condition 4 also identifies the minimum required content of a dewatering plan and avoidance and minimization measures that may be applied. See Chapter 8, Section 8.7.3, subheading *Additional Review* for details of the review process.

of the dry reservoir may or may not be continuously disturbed during this time.

- **Refilling.** A period when the reservoir is re-filling and downstream flow may be limited to a combination of bypass flow and supplemented flow (if supplemental flows are provided) because water levels have not yet reached the elevation of the outlet and to allow the reservoir to fill as rapidly as possible. If there is a dry year following construction/repair, then the period of re-filling may extend beyond one winter season.

Construction and operation of supplemental water supply systems that may be implemented as a covered activity during dewatering events is discussed below under *Three Creeks HCP Conservation Program Operations and Maintenance Actions*.

County Parks Dams

County Parks anticipates that each lake may require dam retrofit once within the permit term. Up to one dam at Sandywool Lake and up to five dams at Grant Lake may be retrofitted during the permit term. The existing dams are earthen dams. The dam at Sandywool Lake has rip rap armoring to protect from erosion related to wave action. Dams will be reconstructed within the same footprint of the existing dam and will remain earthen unless DSOD requires alternative materials. Repair or maintenance may include embankment strengthening on the downstream side of the dam.

These dams are considerably smaller than SCVWD dams and each dewatering event (i.e., draining, construction, and refilling) is expected to take up to 3 months, although it could be as little as 1 month. Construction will occur during the summer. Lakes will require dewatering prior to construction activities. Work will be performed when each lake is at its lowest level. Sandywool Lake is fed by a pipe from Calaveras Reservoir. Inflows would be shut off at the inflow valve and, through use of reservoir water for irrigation, the water level of the lake allowed to dewater below the level necessary to perform the construction. It is expected that a small pool will be maintained in the lake during construction to support irrigation of park turf and golf courses. Sandywool Lake feeds a small tributary to Arroyo de los Coches, a tributary to Berryessa Creek. While Sandywool dam does have a spillway to Arroyo de los Coches, it does not have outlet valve and does not provide annual flow to local streams. Thus, dewatering is not expected to affect the water supply for local streams.

Grant Lake is fed by overflows from McCreery Lake via a historic canal system. Dewatering would occur by pumping because the lake has no outlet valves. The lake would be dewatered only to the level required to perform the work and a minimal pool will be maintained. Because Grant Lake only receives overflow from McCreery Lake, and McCreery Lake only overflows during winter storm events, no inflows to Grant Lake are expected during the construction period. Grant Lake is not located on a stream, but it does have a drainage connection to Arroyo Aguaque Creek, a tributary to Upper Penitencia Creek, via the dam's spillway. Dewatering is not expected to affect the water supply for local streams.

Both lakes would refill naturally the following winter and through the existing systems supply systems.

Because these reservoirs are relatively small and downstream water supplies are not expected to be affected, dewatering plans for review by the Wildlife Agencies are not required.

Borrow sites will be sited in the California annual grassland land cover type or in other already disturbed areas. Whenever possible, borrow sites will be used to create habitat for covered species (e.g., a pond for California tiger salamander). Location of borrow sites will be within County parks, but exact locations are unknown at this time. Borrow sites will be subject to Wildlife Agency review and approval during implementation of the Plan (Section 8.7.3 *Wildlife Agency Responsibilities*).

City of San José Dam

The City of San José anticipates that the dam at Cherry Flat Dam may require safety retrofit within the permit term of the Plan. Similar to the County Parks dams, this dam is much smaller than the dams maintained by SCVWD. The dewatering event (i.e., draining, construction, and refilling) is expected to take up to 4 months, although it could be as little as 1 month. The reservoir will require dewatering prior to construction activities. Cherry Flat Reservoir is located on Upper Penitencia Creek. This reservoir is not currently managed to support fish flows in Penitencia Creek, although it is managed to maintain minimal flows through Alum Rock Park (approximately 0.5 cfs) during summer months. Reoperation of the reservoir for fish management is included as a conservation measure in the proposed Three Creeks HCP Conservation Program (described below). Because this reservoir is relatively small, a dewatering plan for review by the Wildlife Agencies is not required.

Cherry Flat Reservoir receives water from the upper watershed of Upper Penitencia Creek. The watershed above the reservoir is relatively small (2.4 acres). During a wet year, the reservoir may refill in one season. It may take more than one winter to refill the reservoir during drought conditions.

The borrow site for this project will avoid sites in areas designated as high or medium priority for conservation in this Plan. Borrow sites will be subject to Wildlife Agency review and approval during implementation of the Plan (see Section 8.7.3 *Wildlife Agency Responsibilities* for details).

Dam Instrumentation Project

SCVWD's Dam Instrumentation Project is a capital project that requires installation of new instrumentation at the eight dams in the permit area. This includes the installation of piezometers, inclinometers, survey monuments, real-time monitoring systems, seepage collection systems, reservoir level gauges, and seismographs. Activities also include a field geotechnical exploratory drilling program and providing a corresponding Automated Data Acquisition System for the eight SCVWD dams within the study. Installation of equipment and

exploratory drilling may require access road grading and restoration, drilling, trenching, excavation and backfilling, electrical work, supervisory control and data acquisition (SCADA) system work, and concrete work.

Guadalupe, Anderson, Vasona, Calero Auxiliary dams currently do not have seepage collection systems installed but will likely require such systems to be installed within the permit term. These new systems would be installed within the footprint of the Dam Maintenance Program (described below under *In-Stream Operations and Maintenance*). In addition, any dam that is seismically retrofitted in a downstream direction would require installation of a seepage collection system, although this system would be installed within the footprint of the retrofit.

The work will occur within the identified Dam Maintenance Program footprints and many of the activities associated with this task are also conducted as part of the Dam Maintenance Program. Most of these activities will be conducted on the dams and, to a lesser degree, on the abutments. There is the potential for impact to non-developed land cover. However, because these activities are conducted in the footprints of the Dam Maintenance Program, no additional impacts are assessed for implementation of the Dam Instrumentation Project. Maintenance of dam instrumentation is discussed below in Section 2.3.4 *In-Stream Operations and Maintenance* subheading *Dam Maintenance Program*.

In-Channel Groundwater Recharge Facilities

The following two projects involve rehabilitation and expansion of off-channel groundwater percolation ponds and associated diversions facilities. These systems require: 1) an in-channel diversion dam that pools water, 2) an outlet structure to transport water from the stream channel to the pond, and 3) an off-channel groundwater recharge pond. To provide flow to the off-channel ponds, an in-channel dam is constructed. Historically, this may have included a gravel berm placed across the channel annually, or a permanent in-channel structure. New or replacement temporary diversion structures placed under this Plan will consist of operable (inflatable) dams that can be deflated during times of year when fish passage is most critical. A diversion (outlet pipe or canal) is constructed upstream of the dam in the pool. When water backs up behind the dam, gravity moves water from the pool into the diversion and then into the off-channel percolation pond.

Ford Road Groundwater Recharge Pond and New Diversion Dam at Metcalf Road

SCVWD may propose re-operation of the existing off-stream Ford Road Pond, and expand the site to include up to three additional ponds (for a total of four ponds). Re-operation would only include the existing pond, not the in-channel diversion that was once used to provide flows to the pond. The project site is located between U.S. 101 and Hellyer Avenue, south of Piercy Road and

immediately north of the Coyote Creek Trail, adjacent to Coyote Creek. The project site is approximately 19 acres, including the existing off-channel pond.

As a result of isolating Ogier and Coyote recharge ponds from the main channel of Coyote Creek (a covered activity identified above under *Three Creeks HCP In-Stream Capital Projects*), the area of on-channel percolation will be reduced and SCVWD may need to install a new diversion facility to move flows to off-channel recharge ponds in order to maintain the same level of water diversion to the groundwater basin. If needed, this new diversion would be installed along Coyote Creek at Metcalf Road. In addition, a new pipeline would be constructed that would provide water to the newly isolated Coyote recharge pond and the new Ford Road ponds (both ponds will be served by one diversion and pipeline). The diversion facility may require a seasonal operable (inflatable) dam to create an in-channel ponded area to provide flows to the diversion. If utilized, this dam would also include a fish ladder. Design of the diversion will be coordinated with CDFG for issues related to anadromous fish impacts and because this project will require a streambed alteration agreement. Impacts evaluated in Chapter 4 assume the worst case that a new operable dam, diversion, and pipeline will be installed.

Reoperation of Ford Road ponds is not expected to change flows downstream of the Coyote recharge pond/Ford Road pond complex. If, when the project is ready to be implemented, SCVWD identifies a change in downstream flows due to re-operation of Ford Road pond that may affect the covered species, additional consultation with the Wildlife Agencies will be required that may result in additional minimization and/or mitigation measures.

Church Avenue Groundwater Recharge Ponds

SCVWD may propose the re-operation of off-stream Church Avenue Ponds. The Church Ponds consist of three ponds located on 57 acres near the intersection of Llagas Avenue and Church Avenue in San Martin. The ponds border the west side of Llagas Creek and are separated from the creek channel by a levee. The ponds have a total surface area of 42 acres. One percolation pond is located directly north of Church Avenue, another pond directly south of Church Avenue, and the third pond is located southeast of the pond south of Church Avenue. The project requires replacement of the existing in-channel diversion along Llagas Creek to supply water to the pond. The final design has not yet been determined, but it may include installation of an operational dam (i.e., inflatable rubber dam) with a permanent fish ladder structure. Design of the diversion will be coordinated with CDFG to address issues related to anadromous fish impacts and to meet the requirements of a streambed alteration agreement.

As described in *In-Stream Operations and Maintenance* subheading *Proposed Operating Rules for Water Supply Facilities in the Uvas and Llagas Watersheds*, Church Avenue Ponds will divert flows from Llagas Creek when reservoir capacity allows, consistent with fish flow and on-channel recharge requirements. Reoperation of Church Avenue ponds is not expected to change flows downstream of the Church Avenue pond beyond that anticipated in *In-Stream*

Operations and Maintenance subheading *Proposed Operating Rules for Water Supply Facilities in the Uvas and Llagas Watersheds*. If, when the project is ready to be implemented, SCVWD identifies a new change in flow that may affect the covered species, additional consultation with the Wildlife Agencies will be required that may result in additional minimization and/or mitigation measures.

New Bridge Construction and Replacement/ Rehabilitation

All of the Local Partners operate and maintain bridges within the study area. For example, VTA maintains approximately 10 light rail bridges in San José. The lifespan of a typical bridge is approximately 50 years. Therefore, over the course of the 50-year permit term, it is expected that every bridge within the permit area will likely need major repair or replacement. Similarly, as development within urban areas progresses, new bridges will likely need to be constructed. New and rehabilitated bridges will be designed to federal and state guidelines at the time of construction. In most cases, reconstructed bridges will be wider than the bridges they replace in compliance with changing regulations. Some roads may be widened to accommodate growth in vehicular traffic, bicycles, and pedestrians. Road widening will require adding imported borrow and new asphalt, concrete, and aggregate base for pavement. Where structurally and financially feasible, bridges will be constructed as free-span bridges. Where free-span bridges are not feasible, bridges will be built on pile foundation, cast-in-drilled-hole pile, or spread footing foundations. Excavation for foundations may be required. Slope paving will be included in the scope of work to protect/improve channel slopes at the bridge. County road projects that occur at a stream crossing with a span less than 20 feet are almost always designated as a culvert (D. Cameron pers. comm. a). When culverts are installed, they will be designed and constructed to pass a 100-year flood event as described in Chapter 6. Major bridge repair and rehabilitation may be similar to bridge replacement in scope, often requiring roadway widening, new deck support structures, and seismic retrofitting. The construction of up to 270¹⁵ new bridges, as well as repair and replacement, including expansion, of all existing bridges within the permit area one time during the permit term, is a covered activity of this Plan.

Streamside Trails and Crossings

Several of the Local Partners and the Open Space Authority lead or participate in programs to install trails. New trails are sited outside of the in-stream area to the extent possible to avoid affects on riparian vegetation and streams. However, some trails will need to cross streams and will require installation of bridges or other types of crossings. Trails may also be implemented as a component of

¹⁵ This includes rural residential development but does not include non-bridge creek crossings installed by County Parks along single-track trails.

other types of projects such as flood protection projects or levee reconstruction. In such cases, trails will generally be sited along maintenance roads or in other disturbed areas and will not result in additional impacts beyond those attributed to the main project. The Clean, Safe Creeks and Natural Flood Protection program described above is one such program that supports development of trails into other projects. Streamside trail projects will be a covered activity under this Plan. For more details on trail projects as a covered activity, please see Section 2.3.5 *Rural Capital Projects*.

2.3.4 In-Stream Operations and Maintenance

Activities within streams are those 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 may include 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. This section discusses operations and maintenance activities in or adjacent to streams.

Facility and Stream Maintenance

The majority of identified operations and maintenance activities within and adjacent to streams are undertaken by SCVWD, which is responsible for maintaining its facilities. As described earlier, SCVWD is responsible for approximately 35% of the linear distance of all streams within the permit area. As described below, activities conducted by SCVWD under its Stream Maintenance Program are not covered by this Plan and its permits. Specific activities conducted by SCVWD covered under this Plan are described in detail below. Other Permittees also conduct activities within streams, often on properties they own separately. For example, County of Santa Clara Department of Parks and Recreation is responsible for routine maintenance within County parks, including properties leased by the County for parks. The Cities of San José, Gilroy, and Morgan Hill also maintain some stream segments within their jurisdictions. The following operations and maintenance activities within streams are covered by this Plan. Most of the activities listed below will be conducted by the cities, County Parks, the Open Space Authority, and County Roads and Airports Department for stream segments not maintained by SCVWD through the Stream Maintenance Program.

- Facility maintenance such as trail repair; trash removal; installation of fences; accumulated sediment removal (see following section for additional discussion); trail, road, and culvert repair or replacement; and minor bridge repair.
- Storm system maintenance including clearing outlets in order to ensure unrestricted storm water flow. Work may entail trimming vegetation and/or clearing sediment around drain outlets.

- Storm damage repair and flood prevention projects including drainage improvements.
- Natural resource protection such as small bank stabilization projects (less than 100 feet), restoration to reduce erosion, and removal of debris deposited during flooding.
- Small-scale erosion control projects or storm damage prevention projects that do not create new permanent hardscape on the creek bank or channel. This category includes temporary flood-fighting activities to prevent storm damage (e.g., sandbagging).
- Operation and maintenance of flood protection facilities such as armored creeks, bypass channels, levees, access roads, and detention ponds.
- Fish screen installation and removal of fish barriers such as in-stream concrete low-flow crossings and culverts.
- Vegetation management for exotic species removal, such as removal of giant reed, and planting of native vegetation.
- Vegetation management for public safety hazards including fire management and mosquito control activities.
- Stream gauge station maintenance upstream of reservoirs.
- Operations and maintenance of water utility/water supply facilities including flashboard or inflatable dams, diversion structures, groundwater recharge ponds, gauges, pipeline blowoffs, turnouts, drop structures, weirs, fish ladders, etc.
- Sediment removal, including mercury remediation incidental to the sediment removal.

Operations and maintenance activities associated with habitat enhancement and restoration that will be conducted inside and outside the Reserve System are identified in Section 2.3.8 *Conservation Strategy Implementation*.

Sediment Removal and Mercury Remediation

Removal of accumulated sediment is a covered activity under this Plan. Due to historic mining practices in some portions of the study area, sediment in some of the streams in the study area (e.g., Guadalupe River and its tributaries) may contain detectable levels of mercury. Current regulations require that sediment be tested for contaminants, including mercury, before it is used elsewhere in the watershed or distributed to a landfill. Sediment that tests positive for mercury will be disposed of in a hazardous materials facility. Although mercury remediation is undertaken through some sediment removal projects, mercury remediation is not the primary goal but rather a result of proper and regulated sediment disposal. Sediment removal activities undertaken as part of routine stream maintenance that also remove mercury from streams and are conducted by

Local Partners other than SCVWD are covered by this Plan¹⁶. Activities undertaken with a primary goal of mercury remediation are not covered by this Plan (see Section 2.4 *Projects and Activities Not Covered by this Plan* for additional detail).

Santa Clara Valley Water District

SCVWD has in place or is developing other permitting programs to obtain necessary incidental take permits for operation and maintenance activities. In 2002 SCVWD received permits to implement the Stream Maintenance Program which provides ESA coverage for routine stream maintenance (see Section 2.4 *Projects and Activities Not Covered by this Plan* for additional detail). The non-routine stream maintenance activities described below are covered only by this Plan. As discussed above, SCVWD is also currently developing the Three Creeks HCP. Certain activities covered under the Three Creeks HCP are also covered by this Plan as described in this chapter. SCVWD is also currently developing a Dam Maintenance Program (described below). Implementation of the Dam Maintenance Program is a covered activity under both the Three Creeks HCP and the Habitat Plan as pertains to their respective study areas (**Figure 2-5**).

Reservoir Operations under DSOD Interim Storage Restrictions

As discussed above in Section 2.3.3 *In-Stream Capital Projects*, SCVWD and the DSOD regularly evaluate the status of SCVWD dams to ensure their continued safety. If a potential safety concern is identified, SCVWD reduces storage until the concern can be addressed. Known as *interim storage restrictions*, these voluntary reductions in storage affect water supply operations (management of reservoirs and ground water basins). In particular, they place an increasing emphasis on wet-season recharge so that SCVWD can capture as much inflow from storms as possible and retain as much of the reduced storage capacity of the reservoir for dry season recharge. Most of SCVWD's dams (all but Vasona, Uvas, and Chesbro) have been operating with storage restrictions for approximately 12 years.

As of December 2011, SCVWD and DSOD agreed to increased storage restrictions (additional reductions) on Anderson, Calero, and Guadalupe reservoirs. Storage restrictions were not changed for Almaden and Coyote reservoirs. No interim storage restrictions are currently in place for Vasona, Chesbro, or Uvas reservoirs. Current interim storage restrictions are shown in **Table 2-5**.

From the date that DSOD issues a storage restriction to re-operation of the reservoir post safety retrofit, the process to implement a retrofit may take several

¹⁶ SCVWD's Stream Maintenance Program provides coverage for minor mercury remediation associated with sediment removal.

years due to design review requirements, financing, and environmental reviews; therefore interim storage restrictions are likely to be in place until SCVWD is able to implement repairs to DSOD standards (which may require seismic retrofit).

Over the last 12 years of DSOD storage restrictions, SCVWD has operated some reservoirs according to rule curves for special-status fish species, and SCVWD expects that these requirements will continue (see *Proposed Operating Rules for Water Supply Facilities in the Uvas and Llagas Watersheds and Three Creeks HCP Conservation Program Operations and Maintenance Actions* below). If SCVWD is not able to meet these rule curve requirements, developed in coordination with NMFS and CDFG, due to future increases in DSOD storage restrictions (including new storage restrictions on dams currently without restrictions), and dry-back in channels below reservoirs increases substantially over current conditions, then SCVWD will begin a separate consultation process with USFWS and CDFG and may be required to provide additional monitoring and/or mitigation beyond that required by the Habitat Plan.

Recharge Operations and Maintenance

In the channels below the reservoirs, SCVWD operates and maintains in-channel and off-channel recharge ponds and associated facilities. SCVWD operates and maintains the following types of facilities:

- In-channel diversion dams, diversions, weirs, and drop structures with associated fish ladders, fish screens, distribution ditches, inter-pond pipes, and recharge basins;
- Streamflow gauges and associated equipment; and
- Pipeline turnouts where water is released into creeks.

This infrastructure is entirely located downstream of reservoirs and dams, or on tributaries of reaches downstream of dams. The operation of this infrastructure may result in small levels of take of covered species and is described below. Maintenance includes inspection, cleaning, periodic sediment removal, debris removal, on-going placement and removal of flashboard panels, and similar activities. Maintenance may be required as a result of flood damage, debris damage, seismic events, or other changed or unforeseen circumstances. These facilities may be modified and may require significant redesign, refurbishment, or replacement once in 50 years. Maintenance, repair, and replacement may involve a range of activity intensities, from minor work in the channel with hand tools to more extensive work that may involve work in the channel and in adjacent terrestrial habitats using construction equipment. During refurbishment and/or replacement activities may include removal of existing structures, excavations, placement of concrete, and re-construction of structures including metal work. These activities may require heavy equipment to access and work in the channel. Permanent access roads will be constructed and maintained, and there will be hardscaped facilities on concrete pads.

Maintenance of facilities includes modification to the facilities, within the construction footprints defined, that enhance safety or operations. In three locations, SCVWD proposes to replace current flashboard dams (which cannot be operated on a daily basis) with operable dams that would allow dams to be raised and lowered on a daily basis without compromising safety. Various configurations will be evaluated. From May 1 through October 31, the operable dams would be used in a manner consistent with current practices; the ability to change dam operations on a daily basis would change operations from November 1 through April 30, when at present the dams are either removed or left in place. This shift in operations would alter hydrology during the period from November 1 through April 30 and would affect the height and configuration of the dams, the depth of ponding, and duration of ponding behind the dams.

SCVWD operates about 320 acres of off-channel and on-channel recharge basins in the Three Creeks HCP study area, and approximately 50 acres in the Uvas and Llagas watersheds. Recharge ponds are generally surrounded by levees or were converted from gravel mining operations and are partially below grade. The ponds are linked to the adjacent channels via weirs and overflow spillway or overflow standpipes and pipelines so that, when necessary, water may be discharged from the ponds to the channel. Discharges are made when inflow to the ponds exceeds the capacity of the ponds, which generally occurs when flow through the ponds is constrained by debris build up at a gate, stormwater overflow, or other problems; the pond elevation rises in response and the water flows through the overflow pipelines or over weirs to the channel. This occurs only infrequently at all locations other than Upper Penitencia Creek, where SCVWD routinely makes releases to the upper ponds from the South Bay Aqueduct and a portion of these releases is then passed through the ponds to the channel for in-channel recharge.

Ponds and associated facilities are maintained routinely; major repair and maintenance typically occurs on a 2–10 year cycle. Rodent control is conducted as needed to protect levees, pond slopes, and access roads. The levees are repaired, the ponds are drained, 2–6 inches of fine sediment on the bottom of the ponds is removed. Pond maintenance includes use of heavy equipment such as scrapers, dozers, back hoes, cranes, loaders, dump trucks, and other earth moving equipment. Spoils are removed and used as fill or disposed of outside of the area. No sediment is released to the channel. The perimeter roads are repaired and graded, the gates are cleaned and repaired, and pipelines, debris screens, and other features are repaired. Repair of facilities such as gates, pipelines, and pumps may require metal work and use of concrete, chemicals, and asphalt.

Vegetation management is also needed on properties adjacent to the percolation ponds. Aquatic vegetation must be controlled within the ponds, and buildup of algal mats must be removed to maintain percolation rates. The entire footprint of the ponds is thus routinely completely disturbed. When ponds are drained nonnative fish, reptiles, and amphibians in the ponds will be removed and disposed and native species may be relocated as described in Condition 4 (see Section 6.4.2 *In-Stream Projects* subheading *Condition 4. Stream Avoidance and Minimization for In-Stream Projects* for additional detail).

In addition to currently operational recharge areas, SCVWD is proposing to re-operate the off-stream Ford Road Pond located on Coyote Creek and Church Avenue Ponds, and to construct up to four new off-channel recharge ponds. The Ford Road and Church Avenue ponds are described above in Section 2.3.3 *In-Stream Capital Projects* and the four new off-channel ponds are described in Section 2.3.5 *Rural Capital Projects*.

SCVWD diversion dams are semi-operable; that is, they have fixed panels (flashboards) that may be removed at times, but the removal process is time consuming and both difficult and a safety concern during high flows. Removing the fixed panels is generally accomplished with a crane operating from the bank and a backhoe or other heavy equipment operating in the channel and removing the panels to the crane. In general, SCVWD removes flashboards prior to the first storm that may pose a flood threat, and the flashboards are then not replaced until the likelihood of major storms has passed. Depending on the magnitude and timing of precipitation, flashboards may be left in place year round in a dry year or, in a wet year, removed early and reinstalled late. When flashboards are removed, diversions are negligible.

Diversions dams are subject to high flows, debris damage, and general wear and tear. Diversion dams are routinely maintained and various components are replaced. It is anticipated that recharge operations facilities will be replaced, on average across all facilities, once during the permit term of the Habitat Plan. Diversion facilities may be reconstructed as operable dams. Operable dams will be either be inflatable (otherwise known as rubber dams) or will consist of panels that can be raised and lowered remotely. Inflatable dams can be operated in “real-time” during the wet season, thus allowing diversions where flooding is not a concern and for conservation purposes (e.g., flushing sediment, allowing fish passage, etc.). Replacement diversion facilities will not have a substantially different footprint (within 10%) from the existing facility nor will replacement substantially modify the maintenance footprint. Operable dams will be constructed on a sloped concrete bench that will be designed to allow fish passage when the dams are down.

Recharge operations require measurement of stream flow at various locations. This is accomplished using a system of stream flow gauges which are simple fixed structures set across the channel. Operation of these gauges involves routine inspection and repair, a relatively low impact operation. Replacement of such small facilities involves more intensive construction work, as described for all facilities above. SCVWD may also install up to 10 new stream gauges to ensure proper management of stream flows. SCVWD has also installed a number of drop structures which are part of the program to reduce flood potential. These can range from vertical concrete walls or stepped facilities. Drop structures are laddered to promote fish passage at some locations. Finally, SCVWD has release valves for a number of pipelines along the channels which function as release points to drain pipelines during maintenance and/or when pipeline pressure increases and must be relieved to avoid pipeline damage. These “blow-off valves” may need routine maintenance. This routine maintenance is also part of the Pipeline Maintenance Program described below under Section 2.3.6 *Rural Operations and Maintenance*.

SCVWD releases imported water at stream turnouts for flow augmentation to Coyote Creek from the Santa Clara Conduit, Los Gatos Creek from the Central Pipeline, and Calero/Alamitos/Guadalupe Creeks from the Almaden Valley Pipeline.

Maintenance work associated with pipelines is part of SCVWD's Pipeline Maintenance Program, described below in Section 2.3.6 *Rural Operations and Maintenance*.

Proposed Operating Rules for Water Supply Facilities in the Uvas and Llagas Watersheds

SCVWD, in conjunction with NMFS, CDFG, and other local stakeholders, has developed a preliminary set of draft principles to guide operation of Uvas and Chesbro dams to benefit steelhead trout (National Marine Fisheries Service et al. 2009). Operations of these dams are considered together because Uvas and Chesbro dams have been operated in tandem and are linked through a gravity pipeline in which water from Uvas Reservoir can be transferred into Llagas Creek to supplement groundwater percolation in that watershed. The overall objective of the operating strategy is to restore and maintain healthy steelhead populations within Uvas Creek, recognizing that Llagas Creek is extremely flow-limited under most years for steelhead production.

One of the outcomes of the draft principles was a detailed set of “rule curves” to guide the operation of these dams and conservation actions implemented for the benefit of steelhead trout.¹⁷ The rule curves identify different release rates depending on how many acre-feet of water are stored in the reservoir at a specific point in time. These curves were derived from the estimated probability of future stream flows expected on any particular date, based on a statistical analysis of historical stream flow data. In wet years, the full range of releases are available to provide for winter attraction, spring out migration (highest fisheries priority), and summer rearing for steelhead trout. Under less favorable hydrologic conditions, the rules allow for the adjustment of releases to meet the remaining flow priorities for steelhead trout. Operating rules provide for water transfers from the Uvas watershed for percolation in Llagas Creek and Church Avenue groundwater recharge ponds only when there is water to meet all flow requirements in Uvas Creek, including adequate reservoir carry over storage for releases into the next season. The modified rule curves were intended to adjust the release schedule of and between the two reservoirs, relative to the historic prescribed operation (defined by a 1956 Memorandum of Agreement with CDFG) to ensure the steelhead population management is optimized between the two systems.

These management activities may have both beneficial and adverse effects on covered amphibians and reptiles and are covered activities under this Plan.

¹⁷ These preliminary rule curves are detailed in the *Proposed Operating Rules for Water Supply Facilities in the Uvas and Llagas Watersheds* (National Marine Fisheries Service et al. 2009). This document has not been formally adopted by SCVWD or approved by NMFS.

- **Timing of Transfers to Llagas Creek.** SCVWD may transfer Uvas Reservoir water to Llagas Creek only if winter, spring, and summer flow targets can also be met in Uvas Creek. Transfers will be delayed to late summer and fall.
- **Smolt Out-Migration.** SCVWD may provide releases from Uvas Reservoir in April and May (depending upon available water on April 1). Flows may be pulsed to improve outmigration. To maintain assurance that summer flows can be met in Llagas Creek, no outmigration pulses of reservoir storage will be made to Llagas Creek from Chesbro Reservoir. Local seasonal runoff and flood management releases will be the source of pulse flow and hydraulic connectivity.
- **Summer and Fall Releases.** Releases of about 14 cfs from Uvas Reservoir maintain flows downstream to about West Luchessa Avenue (with about 2 cfs flow at Miller Avenue). These releases are able to be percolated into the groundwater basin for water supply. Releases greater than 14 cfs usually extend the flow further downstream to areas where percolation does not enter the groundwater basin for use as future water supply. However, the extent of wetted channel produced by different reservoir releases varies with season, due to accretion by tributary and groundwater inflow, transpiration use by riparian and terrace vegetation, and extent of groundwater pumping. Releases can vary with accretion, so that rearing flows are maintained to a specific point on the stream (target is West Luchessa Avenue). Releases will be increased or decreased as necessary to maintain a live stream to that point, rather than providing a constant release that would result in early and late season expansion of the wetted zone and late summer dry backs to a significant portion of the channel.

Releases from Chesbro Reservoir will maintain summer and fall flow downstream to about the Church Avenue percolation facilities. These releases are able to be percolated into the groundwater basin for water supply and maintain a consistent extent of wetted creek for fish during the dry summer months. If reservoir storage is available an additional release or diverted volume can augment flow, in-stream and be diverted into the Church Avenue percolation ponds. The Church Avenue off-stream recharge diversions will be adjusted as necessary to maintain the maximum the extent of flow between the dam and the Church Avenue percolation facilities. All releases are managed by a set of operational priorities that seek to maintain a consistent and sustainable maximum flow extent during the dry summer for fisheries management and water supply.

- **Rearing Habitat Quality.** If storage in Uvas Reservoir is sufficient, SCVWD may maintain summer and fall (June–December) stream flow to West Luchessa Avenue. The extent of wetted stream channel and the flow to the Church Avenue diversion may be reduced compared to the historic channel conditions based on the reduced amount of water available for transfer from Uvas. Augmented flows from Chesbro that are maintained to the Church Avenue percolation facilities and diverted off-channel for groundwater percolation will maintain improved stream conditions relative to flows that only make it to Church Avenue.

- **Winter Attraction Flows.** If rule curves indicate sufficient water, SCVWD may provide for periodic winter pulse releases from Uvas Reservoir of in each winter month (January, February, and March) to provide for adult steelhead attraction and migration. Reservoir operations on Llagas Creek may include winter base flow release management but other than flood management releases do not include specific winter pulse releases from Chesbro Reservoir. The available water is managed to provide reliability of making fall carryover storage target and the highest priority summer, then spring and winter releases to Llagas Creek.
- **Fine Sediment and Flow Attenuation.** SCVWD may, consistent with flood control needs, reduce or eliminate flood releases in order to increase the frequency of moderate floods to scour the channel, transport sediment, and reduce encroachment into the channel by riparian vegetation.
- **Carryover Volume.** SCVWD may maintain a target carryover volume in Uvas Reservoir to provide for winter and/or spring stream flows in drought years. Chesbro Reservoir may be managed to provide reliability in making the carryover storage target and the highest summer, then spring and releases to Llagas Creek.
- **Dry Years.** In dry years not all seasonal stream flow goals can be met. Operational priorities are applied to Uvas and Chesbro reservoir management when insufficient water is forecast to meet flow objectives. The Operational priorities provide an orderly trade-off of life-history support for steelhead trout based on available water and degree of risk to the population management outcomes of the operational rules applied in each system. When necessary, the step-wise trade-off will be managed in a collaborative discussion with the Wildlife Agencies.

Dam and Reservoir Maintenance

Dams and reservoirs operated by SCVWD, County Parks, and the City of San José require routine and corrective maintenance to ensure their proper inspection, functioning, and safety. SCVWD operates eight dams in the permit area, as well as Coyote Percolation pond. County Parks maintains six dams, one at Sandywool Lake and five at Grant Lake. The City of San José maintains Cherry Flat dam. Dam and reservoir maintenance activities are described below.

The Plan assumes that the entire dam face and abutments will be permanently affected (see Chapter 4 for additional detail on impacts). In addition, vegetation management may be required around the perimeter of the reservoir in areas where the water level has decreased due to annual fluctuations. Removal of debris accumulating at the dam and along the perimeter of the reservoir may also be required. Debris removal may require use of cranes and other heavy equipment operated from the dam and/or in the temporarily dry area of the reservoir that is created by fluctuating water levels.

Reservoirs may also require dredging to remove sediment in order to maintain reservoir function and capacity. This activity will take place within the reservoir

basin and will utilize existing roads and disturbed areas for access and staging. Some reservoirs may have oxygenation systems installed. These systems require routine maintenance and may also require replacement.

For SCVWD, this activity does not include dewatering of the downstream channel except as related to dewatering events as described briefly below and in more detail above in Section 2.3.3 *In-Stream Capital Projects* subheading *Dewatering Event*. For County Parks and City of San José, dewatering of reservoirs is not anticipated beyond normal use and operation of the reservoirs (e.g., typical annual fluctuations in reservoir levels) and is not required for this activity.

SCVWD Dam Maintenance Program

SCVWD's Dam Maintenance Program identifies operations and maintenance activities required to maintain the 10 dams, as well as Coyote Percolation and Rinconada percolation ponds, within SCVWD jurisdiction. Eight of these dams—Almaden, Anderson, Calero (including Calero main, auxiliary, and Fellows Dike), Chesbro, Coyote, Guadalupe, Uvas, and Vasona—and Coyote Percolation pond are located within the study area. Implementation of the Dam Maintenance Program for the eight dams located in the permit area and for Coyote Percolation pond is covered by this Plan.

SCVWD's dams and reservoirs require routine and corrective maintenance to ensure their proper inspection, functioning, and safety. Typical conditions that affect dam safety and function include:

- Normal wear of facilities caused by operational wear-and-tear, corrosion, sediment build up near the dams, scour effects, fire, wind and water erosion, seepage through the dam, wave action, and debris accumulation and other factors;
- Damage due to debris, high flows, seismic events and other factors;
- Damage due to vandalism and other human activity; and
- Damage due to burrowing animals and deep-rooted plants.

SCVWD also needs to maintain reservoir capacity and to provide native gravel for conservation measures in the channels downstream of the dams, and thus needs to establish and maintain gravel/sediment traps and access roads to these facilities in the upper ends of the reservoirs.

SCVWD conducts routine and preventative maintenance at dams and reservoirs on an on-going basis, year round. Some maintenance cannot be accomplished without dewatering the reservoir because it may be unsafe to make required major repairs using divers and repairs may require more comprehensive efforts than can be accomplished with divers, such as replacement of the inlet valves and hydraulic equipment or modification of the inlet/outlet facility itself. When dewatering is required, reservoirs may only require partial dewatering. However, this Plan assumes that all dewatering events include complete dewatering of the reservoir. Dewatering events may require up to 2.5 years.

Routine and preventative maintenance may be intensive and continuous. It is assumed that the maintenance footprint will be altered to a degree that there is no suitable habitat for any of the covered species. Over 85% of dam maintenance will permanently affect:

- The existing dam embankments, both upstream and downstream;
- Abutment areas within 100 feet of the dam face;
- Areas where there are seepage monitoring and control systems, seismic instrumentation and other monitoring equipment, valves and hydraulic lines (sometimes underwater);
- SCVWD-maintained access roads;
- The spillway area; and
- Adjacent areas within 100 feet of the spillway.

Activities may occur along roads leading to or around the dam area and in the reservoir pool area, including the delta at the upstream end of the reservoir. SCVWD may use herbicides and pesticides in accordance with BMPs described in Chapter 6, but shall be responsible for ensuring no take of covered species occurs as a result of herbicide and pesticide uses. Access roads may be paved with concrete or asphalt to manage erosion.

Although maintenance methods may vary seasonally and from facility to facility, the effects of dam and reservoir maintenance are consistent in terms of their purpose and general practices as described below.

Vegetation Removal

DSOD requires that the dam face must be clearly visible so that any erosion, seepage, slumping, drainage, or burrows can be identified and corrected. All shrubs, trees, forbs, and debris will be removed using various techniques including mechanical removal, grazing, and/or controlled burns. Grasses will be maintained at low height. To prevent deep-rooted plants and burrowing animals from compromising dam embankment integrity, trees and deep rooted shrubs will be removed.

Seepage Collection System

Seepage is water that slowly flows through a dam and to the surface usually near the downstream base. This is a common occurrence for earth fill dams, but needs accurate and regular monitoring. A change in the amount of seepage can indicate a change deep within the core of the dam, which may need to be addressed to ensure safety. A seepage collection system is installed to monitor seepage through a dam.

The seepage collection system is a component of the Dam Instrumentation Project described above under *In-Stream Capital Projects*, but it is maintained as part of the Dam Maintenance Program. The seepage collection system consists of several components at the base of a dam which collect seepage and allow accurate measurement of seepage flows through the dam. The components typically include below-grade seepage collection pipes, weirs, weir boxes,

V-ditches, track racks, and an upper graded area to direct the flows to the ditches. Sedimentation occurring over time may compromise the collection function and vegetation growth may prevent visual inspection; thus access for maintenance of the seepage system must be maintained.

Seepage collection system maintenance includes cleaning debris (rocks, vegetation, weeds, etc.) from weirs, erosion repair, grading, repairing concrete, and replacing components. Repairing portions of seepage pipes would include excavation with a backhoe to inspect the pipes, removal of the old pipe, and placement of the new pipe. Grading could be required as well. Seepage control and monitoring would also include installation of new weirs.

Burrowing Rodent Control

Burrowing animals will be managed to prevent the construction of burrows. Management may involve efforts to reduce the populations of burrowing animals such as ground squirrels through use of pesticides¹⁸, kill traps, shooting rodents with air guns, or non-lead bullets and silencers and/or excavation and re-compaction of burrows that are found on the dam face and abutments. Once initial management is conducted, SCVWD will continue to manage burrows annually. Any burrows encountered subsequent to initial management will be excavated, re-filled, and compacted expeditiously to minimize the potential of creating a population sink for covered species.

Maintenance of Access to All Facilities

Dam and reservoir access roads owned by SCVWD will be maintained including maintaining drainage under these roads. Within the maintenance footprint, road alignments may be changed and new roads constructed.

Sediment Management

It is necessary to manage sedimentation of the reservoir, both to maintain reservoir function (for example, removal of sediment blocking inlets), and to provide a source of native gravels for downstream aquatic habitat enhancement. Accordingly, there will be on-going sediment extraction, sorting, cleaning, drying, stockpiling, and hauling at the upstream end of the reservoir involving the use of heavy construction equipment.

Other Management

SCVWD may re-grade the dam embankment, repair and replace structures on and adjacent to the embankment (such as spillways, power lines, electrical facilities, repair erosion or embankment degradation, monitoring facilities, structures housing operations equipment, fencing, culverts, and other drainage facilities), and manage vegetation for fuels management and for exotic species management.

SCVWD may need to install or repair dam instrumentation other than the seepage collection system which is described above (the Dam Instrumentation Project is described above under *In-Stream Capital Projects*). This includes the repair of piezometers, inclinometers, survey monuments, real-time monitoring

¹⁸ The use of pesticides or herbicides is not a covered activity for the USFWS permit.

systems, seepage collection systems, reservoir level gauges, and seismographs. Seismic investigations may include drilling or digging test pits or trenches. This work will be conducted concurrent with other maintenance activities described above

Major repairs to facilities may involve reservoir drawdown (dewatering) to allow access to facilities, excavation of exposed sediments, and removal of debris using a variety of heavy equipment. During such repairs, sediment may be removed from the reservoir. Based on historic frequency of major repairs, SCVWD projects that its eight reservoirs combined may require up to 18 dewatering events for 7 dams (all SCVWD reservoirs except Vasona which can be dewatered under routine operation practices) over the 50-year permit term. The 18 dewaterings are inclusive of both seismic retrofit activities and other maintenance. Dewatering events may be conducted for one hydraulic system replacement for the upstream valve for each dam (7); one seismic safety retrofit for four dams (4) (Calero, Guadalupe, Almaden, and Anderson); and one other dewatering event per dam (7).

All dewatering events would be planned in advance, require a dewatering plan as described in Chapter 6 that is approved by the Wildlife Agencies, and all releases will be consistent with **Table 2-4**.

Non-Routine Stream Maintenance

The Stream Maintenance Program permits cover “routine” maintenance, as defined by those permits. The Stream Maintenance Program permits do not cover “non-routine” activities, so these activities are covered by this Plan. Non-routine stream maintenance activities performed by SCVWD for water supply and flood protection are listed below.

- One-time extensive (approximately 50%) vegetation removal, including removal of trees larger than 6 inches in diameter, in the Lower Llagas flood control channel to restore flood protection capacity. This activity is currently outside the scope of the Stream Maintenance Program; however, once this project is conducted and overall vegetation in the channel is reduced, this reach will be maintained under the Stream Maintenance Program.
- Repairs to canals including bank stabilization, sediment removal, and vegetation management not otherwise permitted by the Stream Maintenance Program (e.g., in serpentine vegetation areas and during the wet season). Wet season work would only be required in cases where the canal filled with sediment during winter storms and delaying removal of the sediment until the summer could result in canal failure or flooding of nearby homes.

Three Creeks HCP Conservation Program Operations and Maintenance Actions

The following actions are proposed by SCVWD as part of the Three Creeks HCP and are covered activities of this Plan. SCVWD will not re-operate its facilities until it receives authorization from NMFS and CDFG. In the Three Creeks HCP study area this will be accomplished through the Three Creeks HCP. In addition to the activities described below, SCVWD will conduct general maintenance of facilities to support the Conservation Program similar to the maintenance actions described in this chapter.

Reservoir and Recharge Re-Operation

The proposed Three Creeks HCP Conservation Program addresses modifications of reservoir and groundwater recharge operations to enhance flow, temperature, and water quality conditions in the channels downstream of reservoirs to promote better fish habitat. The following activities may be implemented as part of the Conservation Program.

Summer Cold Water Releases (May 1 to October 31)

Between May 1 and October 31, SCVWD will provide steady state releases of cold water from the reservoir hypolimnion of Anderson and Guadalupe reservoirs to the creeks downstream of each dam. The average area of this activity (designated as a Cold Water Management Zone or CWMZ) for each creek extends from the reservoir release point to a defined compliance point downstream. The length of the CWMZ will vary depending on the volume of hypolimnion storage and is adjusted once a month during the implementation period.

Anderson Reservoir Releases to Coyote Creek. Prior to restoration of Coyote Creek through the Ogier Ponds (a geomorphic rehabilitation activity described above in Section 2.3.3 *In-Stream Capital Projects*), the CWMZ will extend from the base of Anderson Dam to the southernmost pond of the Ogier Ponds Complex. Following restoration of the channel at Ogier Ponds, the compliance point will be the Old Riverside Golf Course (5.5 miles downstream of Anderson Dam). Following restoration of the channel through the Coyote percolation ponds, the CWMZ will be extended by another 3 miles to a maximum length of up to 8.5 miles.

Guadalupe Reservoir releases to Guadalupe Creek. The CWMZ at Guadalupe Creek will extend from the base of Guadalupe Dam to Camden Avenue (about 4 miles).

Winter Base Flow Releases (November 1 to April 30)

Between November 1 and April 30, SCVWD will provide winter base flows adequate to maintain an 8 inches water depth over at least 25% of critical riffle area for steelhead trout in the channel reaches downstream of the following dams and on-channel structures.

- Almaden Dam, between the dam and Alamos Diversion (steelhead)
- Anderson Dam, between the dam and Ford Road crossing (steelhead)

- Calero Main Dam, between the dam and Alamitos Diversion (steelhead)
- Camden Avenue Drop Structure on Los Gatos Creek (which is located downstream of Vasona Reservoir)
- Guadalupe Dam, between the dam and Alamitos Diversion (steelhead)

Pulse Flows (February 15 to April 30)

Upon approval from NMFS and CDFG, SCVWD will provide releases from Almaden, Anderson, Calero, and Guadalupe reservoirs to provide for two 5-day pulse flows each year when reservoir storage is available to do so. In addition, at Anderson Dam, SCVWD will provide releases up to the capacity of the outlet (approximately 550 cfs) to enhance downstream channel and floodplain habitat.

In addition, in upper Penitencia Creek, SCVWD expects to experiment with flow regimes with the intent of increasing the number of out-migrating smolts on Upper Penitencia Creek. This includes working with the City of San José to optimize operations of Cherry Flat reservoir and adjusting the recharge operation with releases from the Bob Gross Recharge ponds. SCVWD will implement a ramping schedule so that releases do not wash native fish or covered amphibians, such as foothill yellow-legged frog, egg sacs and larvae, if present, downstream.

Upper Penitencia Creek Management Program

The proposed re-operation of SCVWD facilities in Upper Penitencia Creek is intended to substantially isolate the creek from the influence of water supply operations so that these operations have minimal effect on salmonid spawning, rearing, and outmigration. Upper Penitencia Creek re-operation will enhance upstream passage for steelhead and other native aquatic species and reduce the potential for supplemental flows from the South Bay Aqueduct to affect steelhead spawning, rearing, and outmigration.

The program may include the following.

- Removal of the existing Noble Diversions within 5 years of Three Creeks HCP permit issuance.
- Relocation of the Dorel Drive streamflow gauge 200 feet downstream.
- Rededication of SCVWD's existing water right to change the beneficial use to protection of fisheries.
- Isolation of the creek from off-channel recharge operations using screens.
- Management of imported water releases to ensure flow augmentation does not result in the creation of measurable flow at Stream Gauge 87 (the existing Mabury gauge).

Supplemental Flow Program

To implement the proposed Three Creeks HCP, SCVWD may need to provide supplemental flows to the base of Anderson and Calero Main dams and bypass flows at Almaden and Guadalupe dams to ensure that the conservation strategy flow targets for summer flows can be reliably met under a variety of conditions, such as implementation of DSOD Interim Storage Restrictions, short-term

equipment failures, and scheduled and unscheduled maintenance that requires reservoir dewatering.

Supplemental flows will be supplied by bypassing water around the reservoir using existing or temporary pipeline systems. If other sources of water, such as imported water or recycled water meet water quality criteria, they may also be used. Alternative water sources may be supplied through existing pipelines or through new temporary pipelines. This will require the construction of some new infrastructure to either bypass the flows from above the reservoir or to connect to alternative water supplies. Wells and pumps will be constructed in currently disturbed operational areas and pipelines will be constructed in the public rights of way. Pipelines will be constructed in and along roads, and connected to the channel at the base of the dam via existing operations roads. The footprint of these systems in natural habitats will be not more than 500 feet each. Temporary construction impacts may occur along the channel-side of the roads where the pipelines will be placed.

Temporary pipelines will be installed prior to the completion of reservoir drawdown and when supplemental flows are required. Temporary pipelines will be removed when supplemental flows are no longer needed.

Monitoring Program

SCVWD will conduct monitoring of species covered by the Three Creeks HCP. The monitoring program will include the same types of activities described below in Section 2.3.8 *Conservation Strategy Implementation*, subheading *Species Surveys, Monitoring, and Research*.

2.3.5 Rural Capital Projects

This category addresses public infrastructure projects outside the cities' planning limits of urban growth. The operation and maintenance of these projects, as well as existing facilities, are described in Section 2.3.6 *Rural Operations and Maintenance*. Activities that are stream oriented and take place mostly within stream channels, such as bridge construction, and that are implemented by the Local Partners are discussed separately in Sections 2.3.3 *In-Stream Capital Projects*, and 2.3.4, *In-Stream Operations and Maintenance*. Rural residential development projects are discussed separately in Section 2.3.7 *Rural Development*. Private rural development, including new bridges installed as part of a rural development project, are discussed in Section 2.3.7 *Rural Development*.

Rural capital projects and activities that are covered under this Plan are listed below.

- Rural transportation projects including bicycle and pedestrian improvements (see description in following section).
- Development of or upgrades to new County Parks' facilities (described below).

- Renovation, replacement, and upgrades of existing facilities.
- Closures of trails, roads, and other infrastructure (such as stock ponds) in public open space (excluding the Reserve System).
- Facility development, renovation, and expansion including offices, office drainage improvements, and visitor centers.
- Water supply projects (see description below).
- Stormwater management facilities including a detention basin proposed by Morgan Hill outside of its planning limits of urban growth.
- Capital improvement projects by County Parks and the Open Space Authority¹⁹ (see description below).
- Kirby Canyon landfill development (see description below).
- Implementation of the South County Airport Master Plan (see description below).

Rural Transportation Projects

Transportation projects taking place outside of the planning limits of urban growth are included as covered activities in this Plan. Transportation projects within the planning limits of urban growth are considered part of urban development and are discussed in Section 2.3.2 *Urban Development*.

Transportation projects inside the planning limits of urban growth and in in-stream areas (i.e., bridges) are discussed in Section 2.3.3 *In-Stream Capital Projects*. Rural transportation projects provide and enhance infrastructure that supports existing development and new development planned under current general plans. Rural transportation projects and activities covered under this Plan include the following types of projects.

- County and VTA projects outside of the planning limits of urban growth and listed in **Table 2-6**. These include highway expansion, highway intersection upgrades, mass transit projects, and new road connection, extension, widening, and major realignment projects. Projects may include trails for pedestrian and bicycle use.
- County roadway safety and operational improvement projects to roads including shoulder widening and minor straightening of curves, and to intersections and driveway entrances including constructing new turning lanes, adding signals, and lengthening existing turning lanes. Projects may improve access for pedestrian and bicycle use.
- Channel modifications incidental to stream bank stabilization and road restoration.

A road realignment occurs when the position of an existing road is moved to create a more direct travel line (e.g., to eliminate a zigzag or straighten a curve).

¹⁹ The Open Space Authority is participating in the Plan as a Participating Special Entity (see Section 8.4 *Participating Special Entities* for details).

A new connection or extension is when two different roads are connected together where a direct connection did not previously exist. New connections and extensions require up to 92 feet of road width along the length of the project and generally result in the full relocation of a section of roadway (i.e., the road is moved from one place to another). This differs from minor curve straightening conducted as part of safety/operational improvements where the roadway is slightly shifted (up to 8 feet) one way. Minor curve straightening may or may not be conducted in conjunction with shoulder widening.

Incidental take coverage will be limited to the types of projects described in the bullets above and to the specific projects described in **Table 2-6**. Projects described in **Table 2-6** include major County road projects and VTA highway and mass transit projects as described in the VTP 2035. These projects are shown in **Figure 2-7**. Transportation projects led by County Roads or by VTA occurring within the planning limits of urban growth are also shown on **Figure 2-7**, but are covered under Urban Development.

All of the VTA capital projects are proposed along existing transportation corridors and are located on the valley floor. One exception to this is that the U.S. 101 Improvement Project from Monterey Road to SR 129 includes a new extension of Santa Teresa Boulevard from Castro Valley Road to U.S. 101 (0.7 miles). This new alignment also requires a stream crossing. This project extends into San Benito County; only the portion of this project contained within the Permit Area is covered by the Plan.

County Roads has identified three new road extensions or connections in the permit area and outside of the planning limits of urban growth. These projects include:

- a connection of DeWitt Avenue to the West Edmundson Avenue / Sunnyside Avenue intersection near Morgan Hill (0.4 miles);
- a connection on Center Avenue between Omar Avenue and Buena Vista Avenue near Gilroy, requires a new stream crossing (0.2 miles); and
- a connection between Center Avenue and Hill Road across Maple Avenue immediately south of Morgan Hill (0.2 miles).

These projects will be conducted in conjunction with other road improvements. All other projects will occur along existing roads.

Two additional County road extension projects fall within or on the border of the planning limits of urban growth. These include the following projects:

- an extension of McKean Road to Almaden Expressway near the South Almaden Urban Reserve (0.2 miles) inside the planning limit of urban growth for San José; and
- an extension on Hill Road from Half Road to East Main Avenue (0.4 miles) and new connection of Peet Road to Half Road (0.2 miles) inside the planning limit of urban growth for Morgan Hill.

In addition to the projects listed in **Table 2-6**, County Roads anticipates constructing 33 miles of safety and/or operational projects that require widening of the shoulder or minor straightening of curves. These projects would require an additional 8 feet of road width over the length of the project. Up to 25 of the 33 miles may be located in the east or west hills outside of the valley floor area. County Roads also anticipates making 1.5 miles of improvements to roadway intersections and driveway entrances that include constructing new turning lanes, adding signals, and lengthening of existing turning lanes. Intersection improvements require up to 12 feet of additional road width. Up to 0.5 of the 1.5 miles may be located in the east or west hills outside of the valley floor area.

New roads constructed in association with rural development will be installed by the developer and not the County. New roads associated with rural development are described in Section 2.3.7 *Rural Development*.

South County Airport Expansion

The South County Airport is located within the unincorporated community of San Martin in Santa Clara County. The airport is bounded by U.S. 101 to the east, San Martin Avenue to the north, and Murphy Avenue to the west. A mixture of residential, commercial, and industrial uses surrounds the airport on all sides.

South County Airport is owned and operated by the County of Santa Clara. The airport encompasses 179 acres and consists of a single runway and two parallel taxiways on either side of the runway. A large building area, containing nearly all of the airport buildings, is located west of Runway 14-32.

A new Master Plan for the South County Airport was developed in 2006 (County of Santa Clara 2006c). This plan outlines the expansion and redevelopment of the airport. Actions proposed in the master plan include those listed below.

- Extending the runway.
- Realigning the runway and taxi lanes.
- Constructing a new air traffic control tower.
- Expanding the capacity for hangars, tiedowns, and fixed base operators.
- Expanding fuel storage and dispensing areas.
- Adding wash racks.
- Remodeling airport facilities and terminal buildings including parking areas and access roads.
- Expanding existing stormwater detention basins.
- Replacement of the existing septic system with a package wastewater treatment plant.
- Relocating the existing animal shelter.

- Upgrading lights and signage.

No new land will need to be purchased for the County to develop the master plan elements described above. New lands may be purchased for the purpose of protecting the safety zones around the airport, but newly purchased property would not be used for airport development (Honaker pers. comm.). Projects and activities listed above that are related to the full implementation of the South County Airport Master Plan are covered by this Plan. Environmental compliance (CEQA and NEPA) is expected to be completed in mid- to late 2010.

Kirby Canyon Landfill Development

The Kirby Canyon Landfill, operated by Waste Management of California, Inc., is located on land leased from Castle & Cook, Inc., at the southern end of Coyote Ridge near Anderson Reservoir. The need for a landfill in this area was first identified in the mid-1970s to support the urban, suburban, and rural growth of Santa Clara County. Currently, the landfill is subdivided into five fill areas and is proposed to affect 311 acres over its entire life. To date the landfill has been partially developed in Fill Area 1. Each Fill Area is composed of “cells.” Fill Areas 2 and 5 are next in the planned sequence of development following the remaining cell development in Fill Area 1. The current lease with the landowner expires in 2034.

An EIR was certified in 1983 by the City of San José for impacts on 484 acres (inclusive of a 326-acre landfill) on an 827-acre site (City of San José 1983). The landfill opened in 1986. The EIR described several sensitive biological resources at the site and required mitigation measures to mitigate the impacts to these species. Although landfill development occurs in phases incrementally over several decades, the mitigation addresses impacts on these resources that are caused by the entire landfill operation. The City of San José has issued a permit for the entire 311-acre landfill (City of San José 1984). Each of the five fill areas at the landfill is subject to subsequent City of San José Planned Development permit reissuance. These subsequent Planned Development approvals allow the City discretionary review of landfill operations, environmental conditions, and mitigation measures over the life of the landfill.

The EIR identified and addressed the following species or habitats of concern on the site: Bay checkerspot butterfly, California red-legged frog, prairie falcon, serpentine grassland plant community, and Mount Hamilton thistle. The biological conditions of approval in the City’s Planned Development permit for the landfill require a program to protect Bay checkerspot butterfly, a program to replace Mt. Hamilton thistle, and a program to preserve California red-legged frog.

In response to the EIR and the project Planned Development permit conditions, a conservation plan was developed by Waste Management in 1985, prior to the listing of Bay checkerspot butterfly, to mitigate the effects of landfill development, operations, maintenance, and closure activities associated with the property. The butterfly was not listed at the time, but it was proposed for listing.

The Federal Highways Administration obtained a conference opinion from USFWS regarding landfill impacts on Bay checkerspot butterfly because the Federal Highways Administration was preparing an environmental assessment on the construction of the Scheller Avenue interchange to serve the landfill. After Bay checkerspot butterfly was listed, the conference opinion was revised into a biological opinion in 1993.

The conservation plan for Bay checkerspot butterfly in the 1993 biological opinion specifies the provisions listed below.

- Management and monitoring of 250 acres of prime Bay checkerspot butterfly serpentine grassland habitat through a lease and control of grazing practices for 13 years²⁰.
- A study of revegetation methods for restoring Bay checkerspot butterfly grassland habitat to finished landfill slopes.
- Monitoring of the Bay checkerspot butterfly population.
- Study of possible relocation sites if the onsite mitigation is unsuccessful or the landfill impacts are greater than expected.

Implementation of the conservation plan is overseen by a Board of Trustees that includes a representative from the City of San José, one from Waste Management, and an independent scientist. Annual reports are provided to the Trust regarding the status of implementation of the conservation plan activities. To date, the 250-acre lease area is still managed with grazing; a revegetation plan has been prepared; the butterfly population is monitored annually; and, although offsite areas to relocate Bay checkerspot butterfly were identified, this option was found both infeasible once the butterfly was listed and unnecessary because the landfill had little effect on the stability of the butterfly population.

Subsequent to the conservation plan for Bay checkerspot butterfly, Waste Management obtained permits for filling of wetlands at the site. While Waste Management initially obtained Nationwide Permit 26 authorization for filling 3.62 acres of jurisdictional wetlands and waters of the United States associated with the entire landfill project, for business reasons the company revised its proposal and obtained a permit from the Corps (USFWS Biological Opinion 1-1-97-F-5) for filling up to 1.76 acres, including the landfill and the mitigation area. As a result of that permit process, a Mount Hamilton thistle wetland and breeding habitat for California red-legged frog were successfully established and monitored for 5 years. The California red-legged frog population at the site has been greatly increased, and annual monitoring of California red-legged frog at the site is ongoing.

Waste Management obtained additional permits from the Corps, Regional Water Quality Control Board, and CDFG to complete filling in Fill Areas 1, 2, and 5. A biological assessment was developed (Thomas Reid Associates 2003) and the

²⁰ Although the biological opinion required management and monitoring for 13 years, Waste Management continues to support an agreement with a rancher to control grazing levels on the 250 acres and the site is monitored annually for the Kirby Canyon Landfill Conservation Trust (Waste Management 2008).

subsequent biological opinion issued for the Corps permit (1-1-03-F-0213; July 2003) addresses California red-legged frog, Santa Clara Valley dudleya, and Bay checkerspot butterfly critical habitat for the entire 827-acre project site. The 2003 biological opinion requires that, upon closure of the landfill, a permanent conservation easement be placed on 300–350 acres of restored landfill for the protection of California red-legged frog. An endowment will be established to provide adequate financing for the perpetual management and maintenance of the conservation easement. Other mitigation includes creating an additional wetland and offsite habitat restoration.

Permits and mitigation for wetland impacts in Fill Areas 3 and 4 of the planned 311-acre landfill have not been authorized.

In summary, USFWS has issued biological opinions providing take authorization for the entire approved landfill footprint for California red-legged frog, Bay checkerspot butterfly and its critical habitat, and Santa Clara Valley dudleya. Mitigation already in place for the entire envisioned and approved landfill footprint includes establishment of new breeding habitat for California red-legged frog, restored upland habitat for the frog, restored serpentine habitat for Bay checkerspot butterfly and rare plants, and funding to provide long-term monitoring and adaptive management of permanent habitat easements (U.S. Fish and Wildlife Service 2003).

USFWS found that the entire landfill development is not likely to jeopardize the continued existence of the listed species or to adversely modify or destroy Bay checkerspot butterfly critical habitat in Unit 8. While the entire landfill project has USFWS authorizations for the species listed above, and local zoning and use permits, future authorization for currently undisturbed portions of Fill Areas 3 and 4 will be required from the Corps and state agencies.

Future development of Fill Areas 3 and 4 at Kirby Landfill are covered activities in this Plan for the covered species not already addressed in the existing biological opinions for the site (i.e., all species covered by this Plan except Bay checkerspot butterfly, California red-legged frog, and Santa Clara Valley dudleya).

SCVWD Off-Channel Groundwater Recharge Ponds

To enhance its water supply infrastructure and to meet future anticipated demand, SCVWD may construct additional groundwater recharge ponds (also called percolation ponds). SCVWD anticipates that up to four new, off-stream groundwater recharge ponds and associated conduits will be installed within the permit area over the course of the permit term. Three of these sites will be located along the valley floor within Morgan Hill and to the south in San Martin. While these sites are in close proximity to Llagas Creek, the ponds will be constructed off-channel. The fourth site will be located near the Cross-Valley Pipeline in the southern portion of the Coyote Greenbelt and will also be off-channel. The three sites in Morgan Hill and San Martin will each be approximately 10 acres in size. The site in the Coyote Greenbelt will be

approximately 15 acres in size. The exact location of the ponds will be identified through future siting studies. However, the approximate locations are shown on **Figure 2-6**. These new off-channel recharge ponds are separate from the reoperation of the Ford Road and Church Avenue recharge ponds described above in Sections 2.3.3 *In-Stream Capital Projects* and 2.3.4 *In-Stream Operations and Maintenance*.

These projects may require installation of piping or a conduit to transport local and imported water to the sites, but will not require any additional in-channel diversions. Sites in Morgan Hill are generally supplied, by pipeline, with Central Valley Project water from San Luis Reservoir. If the Santa Clara Conduit is shut down due to maintenance or inspections, water may be provided by Anderson and or Coyote Reservoirs. The site in San Martin will likely receive water from Chesbro and Uvas Reservoirs via the Uvas/Llagas Transfer Pipeline. The site in the Coyote Greenbelt will likely receive water via the Cross-Valley Pipeline. These projects may also require up to 1.5 miles of new access roads; however, existing access roads will be utilized whenever possible. Construction of these ponds is a covered activity under this Plan.

County Parks Projects

As guided by the *Santa Clara County Parks and Recreation System: Strategic Plan* (County of Santa Clara, Parks and Recreation Department, August 2003), County Parks continues to develop integrated master plans and natural resources management plans that incorporate recreation, resource planning, historic planning, interpretive planning, operations and maintenance impacts and environmental documentation. To date, County Parks has developed several park and trail master plans and natural resource management plans that it currently implements and will continue to implement throughout the permit term. All of these plans will be updated during the permit term of this Plan to address the ongoing and changing operational needs of its parks. In addition, County Parks is developing or plans to develop master plans and natural resource management plans for several additional parks.

To develop the following list of projects and activities, County Parks evaluated past, present, and anticipated activities and projects for which it will require coverage during the permit term. The projects and activities covered by this Plan include the following.

- Trail and fire road development, and installation of related infrastructure such as bridges, staging areas, restrooms, parking lots, and signage.
- Development of borrow sites for materials used for trail structures (e.g., rock) or restoration projects (e.g., clay for wetland substrate). Whenever possible, borrow sites will be used to create habitat for covered species (e.g., a pond for California tiger salamander). Location of borrow sites will be within County parks, but exact locations are unknown at this time. County Parks will avoid sensitive land cover types. Over the permit term, County Parks estimates that borrow sites will require up to 3 acres. Borrow sites will be primarily sited in grassland areas that support conversion to wetland or

pond habitat once borrow materials are excavated. If County Parks creates ponds for the improvement of covered species, soil removed may be stockpiled and stored for future use to reduce the need for additional borrow pits at future times.

- Development of regional recreation opportunities and supporting infrastructure including group and family picnic areas, drive-in campgrounds, back-country camp areas, a regional swimming facility, nature/education centers, historic and cultural resources, disc golf courses, an 18-hole golf course and club house, sport fields, off-leash dog parks, dog runs, road and mountain bicycle park, fishing ponds, events pavilions, shade structures, hang gliding/paragliding landing sites, urban edge farming, historic agricultural park, agricultural marketing area (i.e., expanded produce stand, farmers market area, retail café, and parking), community gardens, research and demonstration gardens, youth agricultural areas, staging areas including restrooms, equestrian staging areas including water troughs, parking, operations and maintenance facilities and buildings, park ranger facilities, multiple use areas, public art installations, gateway sites (e.g., trailheads, park entrances, kiosks), paved and dirt roads, seating (e.g., benches), landscaping, fencing, irrigation, water tanks, interpretive signage, sewer, water, and other utilities.
- Capital improvements to existing trail systems including reconstruction, realignment and, in areas where the use is compatible, the addition of separate single-use trails (e.g., equestrian trails). These improvements also include trail restoration in areas where abandoned trails are no longer in use.
- Capital improvement expansion or rehabilitation of existing facilities including campgrounds, equestrian camping sites, day-use picnic sites, staging areas, parking, restrooms, entry and gateway sites (e.g., trailheads, park entrances, kiosks), buildings, landscaping, irrigation, fencing, interpretive signage, sewer, water, and other utilities.
- Restoration, creation, enhancement, and/or rehabilitation of habitat including riparian, wetlands, ponds, grassland, and oak woodland natural communities outside of the Reserve System (restoration and enhancement within the Reserve System on County Park lands is described in Section 2.3.8 *Conservation Strategy Implementation* below).
- Installation of fish screens at Parkway Lakes, Cottonwood Lake, and Spring Valley to prevent movement of fish in and out of these lakes and to support recreational fishing opportunities.
- Construction of stock ponds or spring boxes²¹ for cattle management and installation of wells to supply stock ponds outside of the Reserve System (restoration and enhancement within the Reserve System on County Park lands is described in Section 2.3.8 *Conservation Strategy Implementation* below). Spring boxes will be preferred over wells. Up to 40 wells or spring boxes may be constructed for use in County parks. Wells and spring boxes will be sited so that they do not degrade surrounding habitat.

²¹ Spring boxes are boxes or culverts installed into the ground to provide water through a series of pipes to a tank or directly to a trough for recreation or cattle management.

- Reconstruction of pond dams or spring boxes to maintain water levels and facility functioning.
- Replacement of the water delivery system at Jackson Ranch. This includes excavation and replacement of the existing system.

Intensive recreational uses or facilities (e.g., golf courses, regional sports complexes, sports fields, pavilions, nature centers, off-leash dog parks) generally are planned to occur in the valley floor area closer to urban and rural centers. Facilities planned in the near and far hills will focus on less intensive recreational uses such as trails and back-country camping sites.

County Parks estimates it will construct outside of the planning limits of urban growth no more than 20 miles of fire road; 25 miles of unpaved, single-track trail; 3 miles of paved service roads; 7 miles of paved multi-use trail; and 10 miles of paved roads. This does not include roads and trails that are part of a larger site development (e.g., nature center, large picnic areas, pavilions, golf course, etc.). County Parks estimates it will construct outside of the planning limits of urban growth up to 300 non-bridge water crossings (e.g., single-track trail crossings), 20 large bridges (i.e., one-or two-way automotive use), and 30 small bridges and puncheons (i.e., footbridges). County Parks estimates it will conduct larger-scale site development projects (e.g., nature center, large picnic areas, pavilions, golf course, etc.) outside of the planning limits of urban growth requiring approximately 1,700 acres.

City of San José Projects

Alum Rock Park Riparian Management Plan provides a management strategy to protect and restore the riparian and aquatic resources along Upper Penitencia Creek within this 740-acre Park (Biotic Resources Group 2001). The Riparian Management Plan provides a comprehensive set of goals, policies, and management actions that integrate watershed resources and reflect the unique quality of the park's riparian and aquatic resources. This management document is focused on enhancing and restoring Upper Penitencia Creek with Alum Rock Park.

Activities that will be conducted under this plan include the following.

- **Hillside instability and landslide prevention.** Measures to reduce the potential for mass wasting this include the repair of eroded area and revegetation of exposed areas. Activities may also include improvements to hillside drainage by installing additional culverts along localized roads and trails.
- **Streambank erosion.** Consider setting back the existing bank and recontouring the slope to reduce existing erosion issues. Projects may include enhancing the channel bed to provide pooling areas and vegetative cover along the channel.

- **Riparian and aquatic habitat restoration and enhancement.** Revegetate the sediment bar and other degraded areas adjacent to the stream channel to restore a riparian corridor. Create new and expand the existing floodplain and side channel habitat.
- **Facility upgrades.** Relocate existing picnic area approximately 20 feet outside of the riparian corridor.

Open Space Authority Projects

As described above, the Open Space Authority owns and manages several properties in the study area. Although not a Permittee, the Open Space Authority has requested that their activities within the permit area be covered by the Plan if they choose to seek this coverage as a Participating Special Entity (see Chapter 8, Section 8.4 *Participating Special Entities* for this method of coverage).

The Open Space Authority will be developing use and management plans for each property to address protection of natural and cultural resources; opportunities for appropriate visitor access and passive recreation; environmental education and outreach; site safety; and maintenance and operations. These plans will be updated over the course of the permit term, and new use and management plans will be prepared for additional properties that are protected by the Open Space Authority.

Open Space Authority staff evaluated typical open space preserve management projects and activities that occur on existing land holdings, as well as those that are anticipated to occur on future land holdings, in order to identify projects and activities that will require coverage by this Plan. These include:

- Construction and maintenance of visitor amenities including parking areas, roadside pullouts, trailheads, and associated restrooms, picnic areas, shade structures, interpretive facilities, signage, landscaping, and utilities. Construction or repair of existing structures for use as nature centers, hostels, education facilities, or staff support facilities.
- Construction and maintenance of new multiple-use trails with associated bridges, culverts, fords, or other water crossings, and armored surfacing where necessary to accommodate those with disabilities. Installation of signage, benches, and facilities such as back-country campsites and interpretive displays.
- Construction and maintenance of necessary agricultural infrastructure including farm stands, community gardens, research and demonstration gardens, fencing, gates, stock ponds, developed springs, water tanks, and irrigation and drainage infrastructure.
- Maintenance of existing roads including repair, replacement, and installation of bridges, culverts, and other road drainage structures. Decommissioning and restoration of former logging or ranch roads that are no longer necessary for safety patrol, fuels management, or recreational purposes. Realignment

or construction of new roads when necessary to replace poorly located roads that are impacting the environment.

- Development of facilities for management and administration of open space resources including field offices, corporation yards, on-site employee housing, and storage facilities.
- Implementation of resource management and monitoring programs such as restoration, creation, and/or enhancement of habitat including riparian, wetlands, ponds, grassland, mixed evergreen, and oak woodland natural communities. Typical resource management programs include grassland management utilizing cattle grazing and prescribed fires; eradication of invasive plant and animal species, herbicide use, and integrated pest management projects; wildland and urban-interface fuels management including prescribed fires, grazing, and shaded fuel breaks; in-stream and riparian habitat restoration; signage and fencing to protect and/or interpret cultural sites; and implementation of road and trail best management practices to reduce erosion and sediment delivery to watercourses.

2.3.6 Rural Operations and Maintenance

This category addresses the rural operations and maintenance activities to be covered under this Plan. Operations and maintenance activities within streams are described separately in Section 2.3.4 *In-Stream Operations and Maintenance*. Rural operations and maintenance activities outside of streams that may receive coverage under this Plan include the following.

- Utility line or facility operations and maintenance as described below.
- Facility maintenance including vegetation and infrastructure management.
- Pond maintenance outside the Reserve System.

Utility Maintenance

Public and private utility infrastructure such as electric transmission lines, gas pipelines, petroleum pipelines, telecommunications lines, and cellular telephone stations cross the study area. Public and private utilities that are Participating Special Entities (see Section 8.4 *Participating Species Entities*) may request coverage under the Plan for routine maintenance and repair of existing utilities within the permit area. Maintenance activities will generally require trenching around existing pipelines and conducting repairs or replacing segments of pipeline. Coverage for these projects will be decided on a case-by-case basis by the Implementing Entity and Wildlife Agencies. This will allow alternative maintenance approaches, if possible, to avoid or minimize impacts on covered species and natural communities.

Facility Maintenance

Facility maintenance refers to maintenance of existing facilities such as buildings, roads, trails, parking lots, and airport property. A large component of this maintenance is vegetation management. Vegetation management includes fuel reduction using prescribed burns, grazing activities, exotic vegetation control/removal, hazardous tree work, abatement of hazardous vegetation, and algae control in ponds. Vegetation management also includes turf management, paving, and landscaping around infrastructure and facilities.

Facility maintenance also includes the maintenance of infrastructure such as buildings, roads, utilities (septic, water, power systems), and stormwater treatment. Rodent, pest, and invasive plant species abatement activities may also be conducted for facilities maintenance.

Pond Maintenance

Pond maintenance on private lands outside the Reserve System is a covered activity if the project proponent receives a ministerial or discretionary permit for this activity from the County or one of the participating cities and complies with the management actions below in addition to the conditions and application processes described in this Plan (see Chapter 6). This covered activity is designed to provide an alternative permitting mechanism for maintenance of stock ponds, but it may support other pond maintenance needs as well. Removal of existing stock ponds is not covered under pond maintenance.

The following management actions are consistent with the conservation strategy management actions for ponds described in Section 5.3.7 *Wetland and Pond Conservation and Management*.

Required Management Actions

- All vegetation removal will occur after the breeding season for pond-dependent wildlife, including nesting migratory birds.
- If vegetation targeted for removal includes nonnative vegetation on which covered species rely for habitat (e.g., tricolored blackbirds nesting in Himalayan blackberry), the removal will be undertaken in phases over a 3- to 4-year period and replaced with similar, native vegetation suitable to the site.
- If the pond is located in modeled California red-legged frog habitat, vegetation management activities may only occur between August 30th and October 15th.
- If the pond is leaking, repairs will be made to improve water retention and duration.
- All invasive or predatory non-native species (e.g., bullfrogs, mosquitofish, and nonnative predatory fish) will be removed and disposed of by a qualified

biologist. Management techniques described in **Appendix K California Tiger Salamander Hybridization**, will be implemented, as deemed appropriate by the project proponent in coordination with the Implementing Entity.

- If the pond is creating or contributing to local erosion, fixes will be made to eliminate the ponds contribution to such issues.
- If needed, dredging will be conducted during the non-breeding periods of covered and other native species (e.g., tricolored blackbird, California tiger salamander, California red-legged frog, or western pond turtle).
- Any disturbed areas will be re-seeded with native vegetation appropriate for the surrounding natural communities for replacement of lost ecological services and function.
- Any herbicide application conducted in ponds or wetlands must use products that have been approved for aquatic communities.
- Grazing rotation and targeted fencing will be used to maintain appropriate vegetation in and around the pond and to reduce existing or potential erosion issues.

Recommended Management Actions

- If a pond dam requires reconstruction, consider increasing the spillway elevation to increase pond capacity and improve water duration if appropriate²².
- If the pond lacks vegetation, consider native plantings where appropriate, after consultation with the Implementing Entity.
- Coarse woody debris or anchored basking platforms may be installed in ponds to improve habitat for western pond turtles (Hays et al. 1999).

Activities conducted by individual Local Partners are identified below.

Santa Clara Valley Water District

SCVWD operations and maintenance activities outside of streams (i.e., in upland areas) that will receive coverage under this Plan include the following.

- Operations and maintenance of pump stations, operations yards, utility yards, and corporation yards including storing sediment, and truck access.
- Off-stream groundwater recharge sites and associated facilities. Activities may include removal of sediment and vegetation and maintenance of associated roads, diversion structures, and catwalks. See Section 2.3.4 *In-*

²² In some cases, increasing the spillway elevation may not be appropriate because increasing the inundation period may facilitate the persistence or introduction of non-native species that have detrimental effects on covered species.

Stream Operations and Maintenance subheading *Recharge Operations and Maintenance* for additional detail.

- Maintenance of water supply facilities including buildings, rain gauges, pipelines, and turnouts (Pipeline Maintenance Program is described below).

Rain Gauge Maintenance

SCVWD maintains 39 rain gauges throughout the County. These gauges have a footprint of 9 inches in diameter and are generally located in the upper watershed. Maintenance includes spraying herbicide around the base of the gauge, trimming and/or removal of small to large trees affecting the “catch” of rainfall (i.e., the ability to capture rainfall unobstructed), and trimming of vegetation along access roads to reduce fire hazards. Maintenance may also include modification and/or reconstruction of existing rain gauges. During maintenance a radius of approximately 3 feet is cleared all around the gauge. Rain gauges are accessed from the nearest road. Maintenance of rain gauges is a covered activity under this Plan.

Pipeline Maintenance Program

SCVWD developed the Pipeline Maintenance Program document (Santa Clara Valley Water District 2007a) and issued the Pipeline Maintenance Program Final EIR (Santa Clara Valley Water District 2007b) in September 2007. SCVWD owns and/or maintains several pipelines and pipeline facilities throughout the study area. These pipelines are located in both unincorporated and incorporated areas of the permit area. However, because the majority of impacts associated with implementation of the Pipeline Maintenance Program will occur in rural areas, the program is discussed in this section.

To address maintenance for these pipelines, SCVWD developed the Pipeline Maintenance Program to establish a process for conducting routine water-conveyance-system maintenance activities within its jurisdiction. The work area subject to the Pipeline Maintenance Program includes the areas around water conveyance systems facilities, including pipelines, pump stations, blow-offs, turnouts, and vaults. The project area also includes the streams, fields, storm drains, and channels where discharge of water during pipeline draining can occur. Pipeline maintenance activities also occur off-stream within urban areas, however, those activities are expected to have much less impact on covered species within urban settings. Additionally, all types of urban operations and maintenance programs are addressed in the urban development category.

Facilities owned and/or operated include the following pipelines and components.

- Almaden Valley Pipeline.
- Anderson Force Main.

- Calero Pipeline.
- Campbell Distributary.
- Central Pipeline.
- Coyote Pumping Plant.
- Coyote-Madrone Pipeline.
- Cross Valley Pipeline.
- East Pipeline.
- Main Avenue Pipeline.
- Milpitas Pipeline.
- Mountain View Distributary.
- Pacheco Conduit and Pacheco Tunnel.
- Pacheco Pumping Plant.
- Parallel East Pipeline.
- Penitencia Force Main.
- Rinconada Force Main.
- Santa Clara Conduit and Tunnel.
- Santa Clara Distributary.
- Santa Teresa Force Main.
- Snell Pipeline.
- Stevens Creek Pipeline.
- Sunnyvale Distributary.
- West Pipeline.
- Uvas-Llagas Transfer Pipeline.

The Pipeline Maintenance Program defines a comprehensive approach to managing the environmental impact of maintenance. The Pipeline Maintenance Program specifies protocols for management and maintenance crews from different divisions working on the same activity to conduct the operations, including the environmental commitments, associated with that work.

In developing the Pipeline Maintenance Program, it was SCVWD's intent that the program and mitigation defined in the Pipeline Maintenance Program serve as the basis for state and federal permits and permit conditions; therefore, regulatory agencies were consulted early in the Pipeline Maintenance Program definition process.

The routine maintenance activities described in the Pipeline Maintenance Program address both raw and treated water pipelines. Over 125 miles of pipeline support delivery of local and imported water in the County. Activities

covered by this Plan include the following. If excavation is required for the activity, it is noted below.

- Cathodic protection and monitoring. Cathodic protection is typically applied to a pipeline by applying small electric current that overdrives or redirects the natural corrosion process, controlling the natural decomposition process of steel to iron-ore. This is accomplished through the use of inexpensive sacrificial metals such as magnesium or zinc electrically attached to a pipeline or by forcing an electric current with an external power supply. Cathodic protection systems are monitored frequently to adjust them to varying soil environments, water tank levels, coating deterioration, and external construction. Where sacrificial metals are employed, routine monitoring is necessary to determine the sacrificial metal's condition and future replacement.
- Leak repair. May require blow-off—dewatering of pipes that typically includes a point sources of high velocity flow—to local uplands or streams and/or excavation to access pipelines. The schedule for leak repairs is variable, guided by the results of monthly visual inspections made by helicopter. The Pipeline Maintenance Program requires a *Water Discharge Definition Plan* for this activity. A *Water Discharge Definition Plan* would describe the total volume discharge water and flow rate, nozzles, vaults, blowoffs, and dissipaters to be utilized.
- Internal inspection. May require blow-off to local uplands or streams. Internal inspections are planned at 5–10 year intervals for each pipeline. Certain facilities (Santa Clara Tunnel, Pacheco Tunnel, and Calaveras fault crossings) once every 5 years. This activity requires a *Water Discharge Definition Plan* (see above bullet for description).
- Unscheduled releases of water due to a pressure surge in a pipeline that could damage pipeline. Under such conditions, an automatic turnout valve will open and release the water to prevent the pipe from bursting. Flows from the pipeline may be reduced following such an event. This type of event is only expected to occur at two facilities located along Los Gatos Creek, the receiving body for these releases. This would occur infrequently, but there is no data system associated with these valves, thus SCVWD does not know exactly how often this occurs. The valves would open for less than one minute and would shut as soon as system pressure dropped.
- Rehabilitation and/or replacement of pipeline components including but not limited to air release valves, piping sections or connections, joints, and appurtenances. Activities may include excavation to access pipelines.
- Bank stabilization and erosion control within creek related to pipeline maintenance. Discharges either come out of pipes within a stream bank and flow down the bank into the channel, or are pumped down or across a stream bank. Bank protection work would occur prior to a planned discharge in areas where banks within 50 feet of the discharge point show signs of erosion or instability. May require excavation.

- Replacement/repair of buried service valves (including valves within creek embankments that may require excavation and minor bank stabilization activities).
- Maintenance of pipeline turnouts, including access to pipelines.
- Replacement/repair of appurtenances, fittings, manholes, and meters.
- Vault maintenance. Vaults occur along segments of pipeline. Pipeline components are located within vaults. There are different types of vaults and all are considered confined spaces. Structures other than the pipeline contained within vaults include valves, electrical stations, turnout piping, etc. Telemetry pull boxes, corrosion monitoring stations, and some air release valves are not located within vaults. Vaults are typically made of concrete and may be located immediately below grade (below ground level) or partially or fully above grade.
- Telemetry cable/system inspections and repairs. Telemetry systems allow communication of data from the pipeline to SCVWD so that they can track the operations of the pipeline. Telemetry cables are generally sited in the center of roads. May require excavation to access system components.
- Meter Inspections and repairs. Flow meters measure the rate of flow through a pipeline. Some meters are located in vaults while others are not.
- Maintenance of pump stations, operation yards, utility yards, and corporation yards.
- Maintenance of pump stations, operation yards, utility yards, corporation yards, vaults and turnouts includes vegetation management. This task may be accomplished through chemical and/or mechanical means depending on the sensitivity of the regional habitat.
- Access road repairs. Excavations of various sizes are often needed to maintain the access roads. Excavation may be required to fill pot holes, conduct drainage and erosion control, conduct shoulder and slope repair, or regravell existing access roads. Access road excavations could be very small (e.g., to repair a pot hole or shoulder slump), or involve larger, linear excavations (e.g., to install or replace culverts or drainage ditches, repair slope failures for elevated access road fills).

This is the general list of activities that are necessary to maintain proper function of all pipelines within SCVWD system. Each of these activities includes additional subtasks, which are the individual steps involved in completing the overall activity.

As noted above, blow-offs are sometimes required to repair or inspect a pipeline. If available, SCVWD directs released water into available turnouts such as off-channel recharge ponds. If not available, water may also be directed to local waterways, storm drains, other urban drainage channels, open fields, or wetlands. Discharge into waterways is accomplished first by gravity flow and then by pumping out residual water. Flow rates can be controlled manually to be between 0–20 cfs for gravity flow blow-offs by manipulating valves. Maximum pump capacities range from 3.3 to 11 cfs. The discharge rate is ramped up

slowly such that the buildup of water in any streams, rivers, or canals is gradual and scouring of the channel bed and ground surfaces does not occur. Discharge to wetlands is generally avoided (it may require additional regulatory permits), although it is sometimes necessary. Discharge to dry soil is also avoided and is not common for large volumes of water (see Chapter 6, Condition 5 for additional stream avoidance measures for pipeline maintenance activities).

The Pipeline Maintenance Program Final EIR identifies direct permanent and temporary impacts from activities grouped into the categories of staging, off-road access, pipeline drainage, excavation, and repair. Impacts are assessed based on assumed for annual maintenance activities. Consistent with two key assumptions of the EIR, this Plan would cover the effects associated with the maintenance of up to 5 pipelines each year. It would also cover up to a total of 10 blow-offs (scheduled and unscheduled) each year. See Chapter 4 for additional detail related to the impacts of this activity. Pipeline Maintenance Program activities outlined above that fall within the permit area may receive coverage under this Plan.

County of Santa Clara

Rural operations and maintenance activities conducted by the County of Santa Clara outside streams that may receive coverage under this Plan are listed below.

- Maintenance, repair, and rehabilitation of County roads and road shoulders, including pothole repairs, overlays, resurfacing of existing paved areas, construction of retaining walls to stabilize adjacent embankments, vegetation removal (e.g., overhanging bushes, trees), and re-grading to maintain a functional shoulder.
- Maintenance of infrastructure associated with roads including drainage ditches, culverts, and retaining walls.
- Operations, maintenance, and fire protection of rural juvenile detention facilities (e.g., James Ranch and Muriel Wright Center), medical treatment facilities (e.g., Mariposa Lodge), the Santa Clara County Justice Training Center (also known as Holden Ranch), and the Santa Clara County Weapons Training Center (also known as the Sheriff's Firing Range).
- Operation, maintenance, and management of County parks including trail and road maintenance, facility maintenance, vegetation management around structures.
- County Parks management of natural resources including grassland, oak woodland, and riparian natural communities; protection and enhancement of freshwater resources; erosion control; sensitive species management and monitoring outside of the Reserve System (restoration and enhancement within the Reserve System is described in Section 2.3.8 *Conservation Strategy Implementation* below). Management may include prescribed burns, mechanical fuel removal, invasive vegetation management, manual labor, herbicide use, bullfrog management, feral pig removal, management of other exotic nuisance species, and managed grazing.

- County Parks management and maintenance of ponds and spring boxes including temporary draining for amphibian management, dredging or clearing of debris and sediment for water management for cattle, and rehabilitation due to erosion and/or pond or box failure. This does not include pond removal.
- County Parks dam maintenance including burrow management, vegetation removal, dam repairs, and dam facility repairs (short of dam reconstruction which is described above in Section 2.3.3 *In-Stream Capital Projects*).
- Removal of infrastructure (e.g., building structures, roads, trails, stock ponds) for public safety, resource protection, and park management. County Parks may remove up to four stock ponds that do not provide habitat for covered species. Ponds that do provide habitat for covered species may be considered on a case by case basis by CDFG and USFWS.
- Use of County parks consistent with park management plans. Uses vary by park but may include walking, hiking, horseback riding, biking (road and mountain), fishing, swimming in designated swim facilities, recreational sports, nature watching, horse-drawn carts, drive-in camping, equestrian camping, back-country camping, on- and off-leash dog areas. Coverage is only provided to County Parks for the indirect effects of allowable recreational uses.
- Vegetation management for exotic species removal and native vegetation plantings including the use of livestock grazing and prescribed burns.
- Trail maintenance including grading, clearing, brushing, erosion control, paving, re-paving, abandonment, and restoration.
- Pest abatement to manage rodents, insects, and disease, and weed abatement to manage fire hazards outside the Reserve System including removal of dead and dying wood, trees, and vegetation in agricultural areas. May include mowing or disking for weed abatement and spraying for insect and disease management. Use of rodenticide is not covered by this Plan for the USFWS permit.
- Surveys and monitoring to support management decisions outside of the Reserve System (monitoring within the Reserve System is described in Section 2.3.8 *Conservation Strategy Implementation* below).
- Enhancement and restoration projects outside of the Reserve System.
- Removal of fish barriers (such as low flow crossings) and installation of fish screens.
- Maintenance of water delivery systems (e.g., at Jackson Ranch). This includes maintenance of in-stream structures that have a screened pipe that pulls water from a local stream into the property.
- Activities associated with the maintenance of large facilities including golf courses, large event facilities, and sports complexes.
- Equestrian facilities and uses including equestrian stables, equestrian centers, trails, manure management, equestrian group camping and horse grazing activities.

- Minor remediation projects (less than 1.0 acre) for spills, illegal dumping, fuel/chemical storage, and firing ranges.

Open Space Authority

Operations and maintenance activities conducted by the Open Space Authority in all of their preserves (both existing preserves and preserves acquired during the permit term that are located within the permit area) are covered by this Plan if they choose to seek this coverage as a Participating Special Entity (see Chapter 8, Section 8.4 *Participating Special Entities* for this method of coverage).

Maintenance activities may include the following.

- Vegetation management, including fuel reduction using prescribed burns, grazing activities, exotic vegetation control/removal, hazardous tree work, abatement of hazardous vegetation, and algae control in ponds.
- Invasive wildlife species management, including feral pig and bullfrog management.
- Restoration, rehabilitation, and enhancement, not including removal, of existing stock ponds that have degraded due to severe erosion or dam failure.
- Creation of new ponds to support livestock grazing or wildlife.
- Spring development, including installation of a spring box, and repair of existing spring boxes.
- Road and/or trail closure or realignment due to erosion problems or close proximity to sensitive land cover types.
- Use of Open Space Authority lands outside of the Reserve System consistent with their management plans (activities within the Reserve System are described below). Uses vary by park but may include walking, hiking, biking (road and mountain), horseback riding, and nature watching. Coverage is only provided to the Open Space Authority for the indirect effects of allowable recreational uses.
- Activities associated with the maintenance of facilities including small structures, paving, and landscaping.
- Maintenance of infrastructure facilities including buildings; roads (paved and unpaved); and utilities (septic, water, power systems).

2.3.7 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 the 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. For the three cities, San José has the most potential for this type of development in its hillside-designated areas that lie outside of the planning limit of urban growth but within the city limits. Gilroy and Morgan Hill may have some of this type of development as well. 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.

Rural development activities covered by the Plan are listed below.

- Commercial, industrial, institutional, and recreational development in unincorporated areas of the county, including San Martin, consistent with the County General Plan (County of Santa Clara 1994). This includes County projects at the Mariposa Lodge, James and Holden Ranches, and Muriel Wright Center.
- New intensive agriculture and related activities that require discretionary approval consistent with local general plans, such as mushroom farms, commercial stables, equestrian event facilities, and wineries.
- Rural residential development (e.g., single family homes, subdivisions) consistent with the County General Plan (County of Santa Clara 1994). This may include privately owned bridges, driveways, access roads, vineyards or orchards, and other features commonly associated with rural dwelling units.
- Rural residential development on the non-urban hillsides of eastern San José (outside the planning limit of urban growth) and in the Coyote Valley Urban Reserve and South Almaden Valley Urban Reserve consistent with the San José General Plan.
- Rural residential development in the Morgan Hill Southeast Quadrant consistent with the Morgan Hill General Plan.
- Rural residential development in the Hecker Pass Specific Plan area consistent with the Gilroy General Plan.
- Non-residential development in rural areas that requires approval from the County or cities, such as telecom facilities and small utility outposts. Solar energy projects in rural areas are covered by the Plan as long as their impacts to covered species and natural communities are consistent with the effects evaluation in Chapter 4.

Three projects covered under this Plan in accordance with the first item above are described below.

Expansion of the Z Best Composting site located at 980 SR 25 south of Gilroy. The owner, Zanker Road Resource Management, is proposing to expand the composting facility. Preliminary site plans show an expansion of approximately 63.4 acres at full buildout. The expansion plan is divided into four phases.

- Phase 1 expansion of 26.1 acres.
- Phase 2 expansion of 14.0 acres.

- Phase 3 expansion of 11.4 acres.
- Phase 4 expansion of 6 acres.

This project will also include construction of a sedimentation basin of 5.9 acres. The project area is surrounded by agricultural land uses.

Expansion of the existing Pacheco Pass Landfill located at 3675 Pacheco Pass Highway east of Gilroy. The landfill is operated by Norcal Waste Systems; the existing use is a composting facility and landfill. This project is currently undergoing CEQA review with the County. The project proposes to expand the facility to construct a 48,160-square-foot (<1-acre) transfer station to house local solid waste and recycling. The transfer station will utilize about 5.25 acres of the approximately 60-acre existing site, excluding use of an access road currently used for the composting and landfill operations on site.

Expansion of the Freeman Quarry. The existing Freeman Quarry has been proposed to be expanded. The quarry is located at 3201 Monterey Road on Castro Valley Ranch. The quarry is operated by Granite Construction Company on lands owned by Castro Valley Properties, Inc., and is located approximately 5 miles south of Gilroy. The project is proposed as a 90-acre expansion of the existing 61-acre quarry (final size = 151 acres). The expansion area is proposed to include 56 acres for mining or ancillary uses and 34 acres for overburden placement. The quarry would expand to the north and west of the existing quarry. Overburden would be placed at the far northern end of the expansion area.

Implementation of this project includes the following operational requirements.

- During the rainy season (October 15 through March 31) night hauling activities will not occur between 1 hour before sunset and 1 hour after sunrise if rain is falling. "Rainfall" shall be defined as a measurable amount (0.01 inch or more) of liquid precipitation as measured at the NOAA gauge located in Gilroy, California. If a "chance" of rain, defined by NOAA as >50% probability, is forecasted within 24 hours of scheduled night hauling operations (sunset to sunrise), then all night hauling operations shall be canceled and shall not be recommenced or rescheduled until after sunrise. It is assumed that if rain falls at some time during a calendar day during the rainy season, then the chance of rain is over 50% and night hauling operations will not occur.
- Nighttime lighting during the rainy season will be directed away from habitat for covered amphibians.
- Continue to maintain existing ponds on the project site. Maintenance may include periodic draining of ponds to manage exotic species.

Private Development Subject to the Plan

All private development activities, including rural development, will be subject to all applicable Plan conditions and fees if they meet the criteria described above

in Section 2.3.2 *Urban Development* subheading *Private Development Subject to the Plan*.

2.3.8 Conservation Strategy Implementation

In addition to the projects described above, the Plan will provide take authorization for projects and activities associated with implementation of the Plan's conservation strategy as described in detail in Chapter 5 and summarized below. Most of these activities will take place within the Reserve System assembled by the Plan. Some conservation activities may also occur outside of the Reserve System on public or private lands (see Chapter 5 for a description of all conservation actions).

All conservation actions will take place within the Habitat Plan permit area and the Expanded Study Area and permit area for Burrowing Owl Conservation (**Figure 1-2**), except for the possibility that land will be acquired at the mapped boundary of the Habitat Plan permit area. On parcels acquired for the Reserve System that extend beyond the mapped 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.

Management Activities

This category includes all management actions required by the Plan or other actions that might be necessary to achieve Plan biological goals and objectives. This category includes construction, maintenance, and use of facilities needed to manage the Reserves, including but not limited to Reserve field offices, maintenance sheds, carports, roads, bridges, culverts, fences, gates, wells, stock tanks, and stock ponds. All Reserve management structures will be constructed to minimize impacts on covered species and vegetation communities and in compliance with the conditions on covered activities described in Chapter 6. Facilities existing at the time of land acquisition will be used whenever feasible.

Management actions that will be used within the Reserve System are described in detail in Chapter 5 *Conservation Strategy*. Actions not already described earlier in the chapter may include but are not limited to the activities listed below. Many of these activities overlap.

- Vegetation management using livestock grazing, manual labor, and/or prescribed burning. Pesticide use is permitted under the Plan only to achieve biological goals and objectives (e.g., exotic plant or exotic animal control), in accordance with label instructions, and in compliance with state and local laws. Pesticide use is covered only under the NCCP Act permit, not the ESA permit. Implementation of integrated pest management programs established by the local jurisdictions is only a covered activity if pesticides are used to

achieve exotic plant or exotic animal control. Any pesticide use must comply with all existing injunctions related to the use of pesticides. For example, the October 2006 stipulated injunction disallows the use of certain pesticides within habitats and buffer zones established around certain habitats for California red-legged frog and the May 2010 stipulated injunction disallows the use of certain pesticides within habitat and buffer zones established for California tiger salamander, San Joaquin kit fox, and Bay checkerspot butterfly.

- Seed collection from covered plant species for depositing in a seed bank.
- Development of field facilities for workshop space and tool and machinery storage.
- Construction, rehabilitation, and maintenance of facilities (e.g., corrals, fencing, gates, feed storage, water delivery) to support livestock grazing as a covered species management tool.
- Maintenance of existing roads and of new roads constructed for the Reserve System, including grading and relocation of roads to protect sensitive resources.
- Translocation of covered species. See Chapter 5 for details.
- Demolition or removal of structures, roads, or man-made livestock ponds to increase public safety or to restore habitat.
- Use of motorized vehicles for patrolling, maintenance, and resource management activities in the Reserve System.
- Use of mechanized equipment for construction, maintenance, and resource management projects in the Reserve System
- Control of nonnative species (e.g., feral cats and dogs, nonnative pigs, red fox, nonnative fish, bullfrogs, barred tiger salamanders, and hybrids²³).
- Management activities for burrowing owls such as population augmentation, and owl relocation for conservation purposes.
- Stream maintenance for habitat purposes.
- Installation of wells, the water from which will be used to fill stock ponds or provide water sources for cattle. Up to 49 wells will be installed and placed in close proximity to ponds that they will serve. Wells will be installed only as necessary for natural resource management purposes and when no alternative surface water supplies are available. Wells will be sited so that they do not affect seeps or springs and will not degrade surrounding habitat.
- Surveys and monitoring for mitigation and restoration/habitat enhancement projects.
- Fire management including prescribed burning, mowing, and fuel-break establishment and maintenance.

²³ See Chapter 5, Section 5.4.2 and **Appendix K**.

- Hazardous materials remediation, such as appropriate closure of underground storage tanks, soil remediation, cleanup of illegal dumping, etc.
- Repair or replacement of existing facilities damaged by floods fire, or earthquake.
- Operations related to water delivery for ponds and other aquatic habitat.
- Water delivery for use in operations facilities (e.g., field facilities and the native plant nursery).

Access to the Reserve System to conduct maintenance, as well as habitat enhancement, restoration and creation projects, will likely require the construction of new roads and bridges. This Plan covers the construction of up to 40 miles of new dirt road and 5 new vehicular bridges within the Reserve System over the permit term. It is not expected that many areas of paved roads will be necessary in the Reserve System and as such, no assumptions for paved roads are included in the impact analysis. However, if the Implementing Entity determines that a certain area requires paving, this would be covered under the Plan, up to 5 miles. To support maintenance activities, it is assumed that approximately 1 well per 1,000 acres of Reserve System will be required and that 53 miles of new fencing will be constructed.

Public Access and Recreation in the Reserve System

Limited public access and recreational use of Plan reserves is permitted under the guidelines of this Plan (see Chapter 6 for details). To the extent possible, recreational facilities will utilize existing infrastructure such as existing trails and fire or ranch roads. The construction of up to 126 miles of new trails and 25 new trail creek crossings within the Reserve System is assumed in the impact analysis. One new trailhead facility, up to 5.0 acres each, is assumed for every 5,000 acres of newly acquired lands in the Reserve System (not including existing open space incorporated into the Reserve System), resulting in approximately seven new trailhead facilities or 35 acres. It is estimated that new signage will affect 0.25 acre per 1,000 acres of Reserve System.

Covered activities also include the construction and maintenance of recreational facilities such as trails, creek crossings for trails, parking areas, gates, fencing, signage, restrooms, wildlife observation platforms, and educational kiosks that are built and/or used in accordance with the guidelines in this Plan. The Permittees are covered for incidental take of covered species resulting from appropriate public use of trails and parking lots within the permit area, inside or outside of the designated Reserve System, provided that usage is consistent with the guidelines in this Plan. The permits do not cover off-trail recreational activities or any type of activity prohibited by this Plan or by state or federal law.

Up to eight new staging areas, eight new small day-use picnic areas, and three new small backpack camps and their associated staging areas may be allowed within the Reserve System. Picnic areas shall be limited to eight standard picnic benches, restrooms, potable water and trash receptacles. Up to three new

backpack camps to provide low-use, remote camping opportunities within the Reserve System are also covered. These camps will provide restrooms, potable water and trash receptacles.

Habitat Enhancement, Restoration, and Creation

The Plan conservation strategy (see Chapter 5) sets forth requirements for habitat enhancement, restoration, and creation. Enhancement activities generally fall under the reserve management category. Habitat restoration and creation will generally be disruptive only in the short term because these activities may involve soil disturbance, removal of undesirable plants, and limited grading. All habitat restoration and creation is expected to result in a net long-term benefit for covered species and natural communities. However, these activities may have temporary or short-term adverse effects and may result in limited take of covered species (see Chapter 4 *Impact Assessment and Level of Take*). All habitat enhancement, restoration, and creation activities conducted within Plan reserves that are consistent with the requirements of this Plan are covered by the permits. Habitat enhancement, restoration, and creation activities may also be conducted outside Plan reserves. If such activities occur and are consistent with this Plan, they are covered by the permits. Examples of such activities include restoration projects conducted as mitigation that require additional coverage beyond the self-mitigating aspects inherent to most mitigation projects or restoration of unauthorized trails outside of the Reserve System. Examples of habitat enhancement, restoration, and creation activities include, but are not limited to, the following.

- Pond creation.
- Restoration projects in streams, riparian areas, wetlands, and uplands.
- Native vegetation planting.

Species Surveys, Monitoring, and Research

Biologists will need to conduct surveys for covered species, natural communities, and other resources within the Plan reserves on a regular basis for monitoring, research, and adaptive management purposes. These surveys may require physical capture and inspection of specimens to determine identity, mark individuals, or measure physical features, all of which may be considered take under ESA or CESA. Surveys for covered species will also be conducted on private land being considered for acquisition for the Plan. Although these surveys are not expected to require as much handling of specimens, take may still occur. Surveys for all covered species will be conducted by qualified biologists, as defined in Chapter 6. All such survey activity consistent with this Plan is covered by the ESA and NCCP permits.

Research conducted by biologists on Plan reserves in support of the Plan is covered by the permits as long as the research projects have negligible effects on populations of covered species. These researchers must be under legal contract

with the Permittee(s) and/or have a Section 10(a)(1)(A) recovery permit to cover incidental take that may occur as a result of research conducted on reserve lands (see Chapter 6 for a more detailed description of a “qualified biologist”). Research on Plan reserves unrelated to the Plan is not covered by the permits because the nature and impacts of these future research projects cannot be predicted at this time. Such researchers would be granted access on a case-by-case basis and such access will be conditioned on compliance with stated restrictions. Research conducted outside of the permit area in support of the Plan’s conservation strategy is also not covered by the Plan (e.g., translocating western burrowing owls into the study area from outside the study area). This research will require coordination and possible permitting from the Wildlife Agencies.

Emergency Activities

An emergency is a situation involving disasters, casualties, national defense, or security emergencies and includes response activities that must be taken to prevent imminent loss of human life or property (U.S. Fish and Wildlife Service and National Marine Fisheries Service 1998). The Wildlife Agencies will not obstruct an emergency response decision made by the Permittees, where human life is at stake. With the exception of changed circumstances addressed in Chapter 10 *Assurances* take associated with emergencies are not covered by the Plan and associated permits.

Responses to changed circumstances within Plan reserves that may affect populations of covered species are covered under this Plan. Foreseeable emergency activities include, but are not limited to, the following.

- Firefighting of small wildfires or structure fires.
- Evacuation of injured persons or livestock.
- Remediation and cleanup of spills or illegal dumping.
- Remediation, cleanup, and restoration of illegal cultivation activities (e.g., marijuana farms).
- Use of motorized vehicles and mechanized equipment for conducting emergency activities.
- Repair of existing facilities damaged by floods, fire, earthquakes, or other natural disasters.

Responses to emergency activities that have substantial effects on covered species (e.g., firefighting for a large wildfire or repair after a major flood) are considered changed circumstances and are described in Chapter 10.

Neighboring Landowners Protection Program

The implementation of conservation measures described in Chapter 5 *Conservation Strategy* may increase populations of covered species within Plan Reserves. As a result, some individuals may disperse to neighboring private lands where the presence of listed species could interfere with routine agricultural activities. Protections for neighboring landowners are described in Chapter 10; the methods for establishing and estimating take associated with this program are described in Chapter 4. With certain provisions and restrictions, farmlands within 1 mile of the Reserve System boundary are eligible for take coverage during the course of routine agricultural activities, during the permit term, and for take beyond the baseline condition that existed prior to the establishment of the neighboring Plan reserves. Take coverage for this program is limited to three covered species: California red-legged frog, California tiger salamander, and western pond turtle. For definitions and details of this program, see Chapters 4 and 10.

2.4 Projects and Activities Not Covered by this Plan

As described above, this Plan strives to cover all projects and activities for which the Permittees envision the need for incidental take coverage over the permit term. However, certain projects and activities that may occur in the permit area over the permit term are not appropriate for coverage under this Plan due to a variety of factors including, but not limited to, lack of information, speculative nature of the project, existing permits, obtaining permits under a separate program, or the risk that the project or activity is incompatible with the Plan's conservation strategy. The projects and activities listed below were considered, but rejected for coverage under this Plan.

- **Private sector activities that do not obtain a development, grading, building, or other construction permit.** Construction permits involve land disturbance for the purposes of making land improvements, such as the construction of buildings, roads, and driveways ("building permits" referenced herein do not include plumbing, electrical, or mechanical permits). Activities that do not obtain these development permits are not covered by the Plan.
- **SCVWD Stream Maintenance Program.** The Stream Maintenance Program was developed to streamline the permitting process for routine stream maintenance activities, thus allowing SCVWD to continue preserving the existing level of flood protection of streams and water-delivery function of canals in the County in an efficient manner. The Stream Maintenance Program was authorized in 2002 and the impact analysis of the program was based on a 20-year study period. Permits received under the program include: Section 7 biological opinions from NMFS and USFWS through the Section 404 Permit, CDFG 1601 Streambed Alteration Agreement, Regional Board Waste Discharge Requirements Permits (Central Coast and San

Francisco Bay Regional Boards), and a San Francisco Bay Conservation and Development Commission (BCDC) permit.

The Stream Maintenance Program provides coverage for the following activities on streams for which SCVWD has maintenance responsibilities.

- ❑ Vegetation management for in-stream and upland areas. Management is done using herbicide and mechanical techniques.
- ❑ Sediment removal to return engineered channels to as-built conditions.
- ❑ Bank protection for erosion control.
- ❑ Minor maintenance activities that avoid significant impacts requiring mitigation. This category includes such activities as graffiti removal, repair of structures with in-kind materials within the existing footprint, and tree pruning along maintenance roads and fence lines to provide access and to remove hazards.

Under the Stream Maintenance Program, routine maintenance is undertaken with consideration of special-status species that may be affected by the activities. Detailed BMPs were developed (and are continually updated through adaptive management) to reduce impacts from program activities, including potential impacts on special-status species. Even after application of BMPs, the program results in significant impacts. Thus, SCVWD is responsible for mitigation associated with its maintenance activities.

As mitigation for the Stream Maintenance Program, SCVWD proposed and obtained approval for a mitigation package that includes restoration of 30 acres of tidal wetlands, creation of 14 acres of freshwater wetlands, purchase of approximately 1,000 acres in the upper watershed areas for stream and watershed protection, and implementation of 125 acres of giant reed (*Arundo donax*) control including removal and follow-up monitoring and removal. Lands restored or purchased will be preserved in perpetuity as open space. In addition, mitigation for bank protection projects is calculated separately for each project. Mitigation is based on the table of ratios in Appendix E of the Stream Maintenance Program document.

The Stream Maintenance Program provides incidental take coverage for five federally listed species, three of which are also covered by this Plan²⁴. Existing permits also address impacts on waters of the United States and waters of the state. The current permits are written for 10 years, expiring in 2012. However, the program is anticipated to provide regulatory coverage for federally listed species through 2022. At that time, additional impact analysis of activities would be required to determine whether new significant impacts would result from ongoing routine maintenance. This analysis is needed for negotiation of extensions for the Stream Maintenance Program permits. Because these activities already have endangered species coverage under the Stream Maintenance Program permits, they do not require coverage under the Habitat Plan and will therefore not be covered by this Plan.

²⁴ Bay checkerspot butterfly, California red-legged frog, least Bell's vireo, salt marsh harvest mouse, and western snowy plover are covered by SCVWD Stream Maintenance Program; the first three are also covered by this Plan.

- **City of Gilroy expansion beyond the Plan’s planning limit of urban growth.** The Gilroy General Plan (2002) (City of Gilroy 2002a) designates a number of areas outside the 20-year planning boundary as future areas for development and open space (W. Faus pers. comm.). Policy 2.11 of the Gilroy General Plan designates two areas outside its 20-year planning boundary (the boundary used as the planning limit of urban growth for the purposes of this Plan) as potential areas for future development. These areas are described below.
 - The area north of Day Road, west of Santa Teresa Boulevard, and east of the foothills. This area is suitable for long-term residential expansion and related development.
 - The area east of U.S. 101 between Buena Vista and Masten Avenue, bordering on the highway. This area is suitable for long-term expansion of highway-oriented commercial development.

Impacts associated with expansion of urban development into these areas were not assessed for this Plan and are not a covered activity of this Plan.

- **Bay Area to Central Valley high-speed train.** The Federal Railroad Administration and the California High Speed Rail Authority are currently planning the San Francisco Bay Area to Central Valley portion of the California High-Speed Train System (70 FR 71370–71372). The proposed alignment for the High-Speed Train System through Pacheco Pass traverses the Plan study area. It is possible that portions, or all, of this alignment could be constructed during the permit term. In such a case, this project would not be covered under this Plan.
- **New highway between I-5 and U.S. 101.** The Metropolitan Transportation Commission’s 2030 Regional Transportation Plan lists a “limited-access 4-lane facility and partial new alignment between I-5 and U.S. 101 (possible toll road)” (Metropolitan Transportation Commission 2005). The Regional Transportation Plan does not discuss this project in any detail but provides a preliminary budget of \$432 million. Should this project be pursued during the life of the Plan permit, it would not be covered under the Plan.
- **Routine and ongoing agricultural activities.** Routine and ongoing agricultural activities that do not go through a County or city permitting process (e.g., a grading and/or building permit) would not be subject to local approval and therefore cannot be covered by the Plan. Routine agricultural activities are defined broadly as activities that occur in the normal course of existing farming or ranching operations, including crop planting, crop harvesting, livestock management, and pesticide application. These activities are not covered by the Plan, with the exception of the Neighboring Landowners Protection Program described above and in Section 10.2.7 *Assurances for Private Landowners*.

New intensive agricultural activities such as cut flower nurseries, Christmas tree farms, ornamental plant nurseries, dairies, and feedlots are not covered by this Plan unless these activities receive permits from the County. The conversion of agricultural lands to non-agricultural uses are covered by this Plan as described above in this chapter.

- **Expansion of cultivated agriculture into natural lands.** The expansion of cultivated agriculture into natural lands (as defined by the natural land cover types described in Chapter 3) is not covered by this Plan unless it receives a development or grading permit. This category typically applies to new large-scale agricultural operations such as row crops, vineyards, or orchards. If these land conversions do not require grading, they would typically not require local approvals by the Permittees and therefore cannot be covered by the Plan.
- **Vineyard development that is not assessed by the County through a County permit process.** The creation of new vineyards or expansion of existing vineyards that does not go through a County permitting process (e.g., a grading and/or building permit) would not be subject to local approval and therefore cannot be covered by the Plan. The growth of private and commercial vineyards in Santa Clara County is expected to be low during the permit term, but impacts from vineyards may be significant and incompatible with the conservation strategy. Vineyard impacts include sediment runoff to streams and reductions in local groundwater.
- **Timber harvest operations.** In 2004, approximately 67,000 board feet of timber were harvested in Santa Clara County, down by 40% from 2003 (County of Santa Clara, Division of Agriculture 2005). Most of this harvest occurs on private lands in the Santa Cruz Mountains. Due to the potentially extensive impacts associated with timber harvesting, the lack of understanding about what future projects might be proposed, and the need for some sites to acquire State timber harvesting permits, timber harvesting will not be covered by the Plan.
- **Quarries and other mining other than expansion of Freeman Quarry.** Quarries and other mining were considered for inclusion in this Plan. At the time of Plan development, only one specific project was proposed, the Freeman Quarry expansion. Due to the potentially extensive impacts associated with quarries and mining and the lack of understanding about what future projects might be proposed, the mining of sand or other aggregate material, or the mining of precious metals or other minerals is not covered by this Plan other than for the Freeman Quarry expansion. This exclusion does not include gravel augmentation conducted to enhance fish habitat (described above under Three Creeks HCP conservation strategy) or mining activities associated with the borrow sites for seismic retrofits of dams as described in Section 2.3.3 *In-Stream Capital Projects*. Project proponents who propose any quarries or mining operations in the future in Santa Clara County are recommended to review the 2004 NMFS National Gravel Extraction Guidance for recommendations on how to conduct such activities in and near anadromous fish-bearing streams.
- **New and expanded landfills other than Kirby Canyon, Pacheco Pass Landfill expansions, and landfills occurring inside the planning limits of urban growth of the three cities.** Development of new or expanded landfills was considered for inclusion in this Plan. At the time of Plan development, no specific projects were proposed for inclusion beyond the Kirby Canyon and Pacheco Pass Landfill expansions. Due to the potentially extensive impacts associated with new or expanded landfills and a lack of

understanding about what future projects might be proposed, the development of new or expanded landfills is not covered by this Plan. This does not apply to the expansion of Z Best Composting facility, which is considered a recycling facility under County ordinance.

- **Mercury removal/remediation.** Mercury removal/remediation projects other than those described in Section 2.3.4 *In-Stream Operations and Maintenance* are not covered activities under this Plan. Mercury removal that occurs in the course of sediment removal or dredging projects is covered by the Plan (i.e., projects whose primary purpose is sediment removal, not mercury remediation).
- **Corps led projects.** Projects that are led by the Corps (i.e., the Corps has control over design, avoidance and minimization measures, and mitigation), including levee and flood protection projects, are not covered activities under this Plan. These projects will require a separate Section 7 consultation associated with the Clean Water Act Section 404 permit application process.
- **Pacheco Dam reconstruction and reservoir enlargement.** SCVWD may in the future enlarge Pacheco Reservoir by rebuilding Pacheco Dam or constructing a new dam on Pacheco Creek with substantially more storage. This is one option for SCVWD to respond to the increasing unpredictability and unreliability of water supply in the study area. The project would be located on Pacheco Creek, approximately 1.5 miles upstream of the existing North Fork Dam near the upstream end of Lake Pacheco. Detailed design of this project has not yet begun, nor would it begin for several years to decades. This project is not a covered activity in the Habitat Plan. However, the Plan describes a special major amendment procedure and conservation strategy for terrestrial covered species that could be used by SCVWD if and when this project is proposed. See Chapter 10, Section 10.3.3 *Major Amendments*, for the details of this special amendment process for this project.
- **Pesticide/herbicide application for the federal permit.** Pesticide and rodenticide use is not an activity permitted by USFWS and will not be covered under this Plan for the federal permits. All applicable injunctions stipulated during plan implementation (i.e., 2006 California red-legged frog Stipulated Injunction) will be adhered to until formal consultation between the EPA and USFWS regarding the effects of pesticides on listed species is concluded. This activity is covered under the state permit.
- **Installation and operation of groundwater wells.** The Local Partners do not have a clear regulatory authority over the location of groundwater wells nor water rights associated with wells. In addition, it is very difficult to assess the impacts associated with groundwater well operation. Therefore, except as described above for open space and stream flow management, installation and/or use of groundwater wells will not be a covered activity of this Plan.
- **Increased development due to incorporation of San Martin.** Development associated with the future incorporation of San Martin and subsequent changes to land use and zoning that would allow denser, or

urban, development was not evaluated under this Plan and is not a covered activity.

- **Dam removal and/or construction of new dams.** Dam removal and/or construction of new dams are not covered activities under this Plan.
- **Wind farm development.** Construction and operation of wind farms is not a covered activity under this Plan.
- **Water importation from outside the SCVWD service area.** Importing water from outside of the service area of the SCVWD (County boundary) is not covered under this Plan. The primary source of imported water outside of the County is the Delta, and effects to Delta species were not analyzed in this Plan. Effects associated with imported water from the Delta are currently being evaluated under a Section 7 consultation with the Bureau of Reclamation.
- **Emergency activities not defined as a Changed Circumstance in Chapter 10.** During the permit term, the Local Partners and those under their jurisdiction may need to respond to emergencies, as defined in Section 2.3.8, above. The Wildlife Agencies will not obstruct any emergency response decisions made by the Local Partners. Existing consultation regulations will apply to emergency activities (50 CFR 402.05).

Table 2-1. Proposed Land Use Categories and Associated General Plan Land Use Designations

Habitat Plan Category	County of Santa Clara	City of Gilroy	City of Morgan Hill	City of San José	
Urban Development	Major Gas & Electric Utilities	Hillside Residential (0.5-4 DU ^a /acre)	Residential Estate (0-1 DU/acre)	Estate Residential (1.0 DU/acre) Very Low Density Residential (2 DU/acre)	
	Major Public Facilities	Low Density Residential (3-7.25 DU/acre)	Single Family Low (1-3 DU/acre)	Low Density Residential (5 DU/acre)	
	Roadside Services	Medium Density Residential (8-16 DU/acre)	Single Family Medium (3-6 DU/acre)	Medium Low Density Residential (8 DU/acre)	
	Transportation	High Density Residential (16-30 DU/acre)	Single Family High (5-10 DU/acre)	Medium Density Residential (8-16 DU/acre)	
	Major Educational & Institutional Uses	Neighborhood District (6-12.5 DU/acre)	Multi Family Low (5-14 DU/acre)	Medium High Density Residential (12-25 DU/acre)	
		Neighborhood Commercial	Multi Family Medium (14-21 DU/acre)	High Density Residential (25-50 DU/acre)	
		Professional Office	Multi Family High (21-40 DU/acre)	Transit Corridor Residential (20+ DU/acre)	
		Shopping Center Commercial	Commercial	Transit/Employment Residential District: 55+ DU/acre	
		Highway Commercial	General Commercial	Residential Support for the Core Area (25+ DU/acre)	
		Commercial Industrial	Non-Retail Commercial	Planned Community	
		Downtown Specific Plan Districts	Mixed Use	Urban Reserve (future development)	
		Campus Industrial	Industrial	Mixed Use Overlay	
		Limited Industrial	Office Industrial	Mixed Industrial Overlay	
		General Industrial	Campus Industrial	Neighborhood/ Community Commercial	
		Park/Public Facilities		Public Facilities	Regional Commercial
				Rural County (usually 1 DU/5-20 acres) ^b	General Commercial
					Core Area
			Combined Residential/Commercial Office		
			Transit-Oriented Development Corridor		
			Industrial Park		
			Administrative Office/Research & Development		

Table 2-1. Continued

Habitat Plan Category	County of Santa Clara	City of Gilroy	City of Morgan Hill	City of San José
				Research/Development Campus Industrial Light Industrial Heavy Industrial Combined Industrial/ Commercial Industrial Core Airport Approach Zone Public/Quasi-Public
Rural Residential	Rural Residential (1 DU/5-20 acres)	Rural Residential (maximum of 1 DU/2.5 acres) Hecker Pass Special Use District		Rural Residential (1 DU/5 acres) Urban Hillside (1 DU/5 acres)
Ranchland	Ranchlands (1 DU/20-160 acres) Hillsides (1 DU/20-160 acres)			Non-Urban Hillside (1 DU/20-160 acres)
Agriculture	Agriculture Large Scale Agriculture Medium Scale	Agricultural Commercial Agri-tourist Commercial Agri-tourist Commercial Overlay		Agriculture Coyote Greenbelt Overlay
Urban Parks and Open Space		Open Space (in part) Park/Recreation Facility	Open Space (in part)	Public Park/Open Space (in part) Private Open Space (in part) Private Recreation (in part) Floating Park overlay
Rural Parks and Open Space	Baylands Open Space Reserve Other Public Open Lands Regional Parks, Existing	Open Space (in part)	Open Space (in part)	Public Park/Open Space (in part) Private Open Space (in part) Private Recreation (in part)

Notes

^a DU = dwelling units

^b Morgan Hill anticipates that existing land use designations of Rural County, currently falling within the development density for the Rural Residential land use category, will, over the course of the permit term, become denser. Therefore Morgan Hill’s Rural County land use designation is included in the Urban Development land use category for this Plan.

Table 2-2. Significant Open Space or Parkland Areas within the Study Area^a

Open Space or Parkland	Primary Ownership (acres)	Other Ownership	Total Acres	Total Acres in Study Area
(unnamed parcels)	United States Bureau of Land Management		1,025	989
Cañada de los Osos Ecological Area (formerly Stevenson Ranch)	California Department of Fish and Game		4,200	4,200
Almaden Quicksilver County Park	County of Santa Clara Parks and Recreation Department (3,943)	SCVWD owns 209 acres	4,152	4,138
Anderson Lake County Park	County of Santa Clara Parks and Recreation Department (1,773)	SCVWD owns 1,339 acres	3,144	3,144
Calero County Park	County of Santa Clara Parks and Recreation Department (2,603)	SCVWD owns 890 acres	4,455	4,442
Coyote Creek Parkway	County of Santa Clara Parks and Recreation Department (1,613)	SCVWD owns 81 acres	1,694	1,694
Coyote Lake-Harvey Bear Ranch County Park	County of Santa Clara Parks and Recreation Department (3,663)	SCVWD owns 932 acres	4,595	4,595
Ed R. Levin County Park	County of Santa Clara Parks and Recreation Department (1,541)		1,541	973
Joseph D. Grant County Park	County of Santa Clara Parks and Recreation Department (9,560)		9,560	9,560
Motorcycle County Park	County of Santa Clara Parks and Recreation Department (442)		442	442
Mount Madonna County Park	County of Santa Clara Parks and Recreation Department (3,677)		3,677	3,669
Santa Teresa County Park	County of Santa Clara Parks and Recreation Department (1,568)	SCVWD owns 9 acres	1,646	1,646
Uvas Canyon County Park	County of Santa Clara Parks and Recreation Department (1,133)		1,133	1,127
Palassou Ridge Open Space Preserve	Santa Clara County Open Space Authority		3,515	3,515
Rancho Cañada del Oro Open Space Preserve	Santa Clara County Open Space Authority		3,602	3,602

Table 2-2. Continued

Open Space or Parkland	Primary Ownership (acres)	Other Ownership	Total Acres	Total Acres in Study Area
Sierra Vista Open Space Preserve	Santa Clara County Open Space Authority		1,676	1,676
Mitigation site	Santa Clara Valley Transportation Authority		603	603
Alum Rock Park	City of San José		703	703
Kirby Landfill easement	City of San José		250	250
Coyote Ridge Ecological Preserve	Silicon Valley Land Conservancy		95	95
Tulare Hill Ecological Preserve	Silicon Valley Land Conservancy		116	116
Blue Oak Ranch Reserve	University of California Natural Reserve System		1,319	706
Romero Ranch	The Nature Conservancy		28,781	10,674
San Felipe Ranch (conservation easement)	Easement held by The Nature Conservancy		28,359	24,983
Silacci Ranch (conservation easement)	Easement held by The Nature Conservancy		1,388	1,388

Sources: Santa Clara County Open Space Authority 2005, 2012; Silicon Valley Land Conservancy 2006; County of Santa Clara, Parks and Recreation Department 2006a; County of Santa Clara, Parks and Recreation Department 2006b; The Nature Conservancy 2006.

Notes:

^a Significant open space or parklands are large areas or highly biologically valuable that may support the Plan’s conservation strategy.

Table 2-3. Examples of Open Space Types^a in the Study Area

Type 1 Open Space	Type 2 Open Space	Type 3 Open Space	Type 4 Open Space
<ul style="list-style-type: none"> • Properties under easement managed by The Nature Conservancy • Santa Clara Valley Open Space Authority properties under easement or other protections from change in land use • Designated biological mitigation sites under easement • Private property under conservation easement with the primary purpose of ecological protection 	<ul style="list-style-type: none"> • Santa Clara Valley Water District watershed protection areas • Santa Clara Valley Open Space Authority properties without permanent protections or where protections are uncertain or pending • City of San Jose rural parks and open space • San Francisco Public Utilities Commission watershed lands • Bureau of Land Management properties 	<ul style="list-style-type: none"> • Santa Clara County Parks and Recreation Department rural parks • Santa Clara County historic sites or recreation areas • Santa Clara County urban creek parks 	<ul style="list-style-type: none"> • Private properties under agricultural easement (cropland) • Golf courses • Urban parks or open space owned by cities

Notes:

^a See Figure 2-3 and Chapter 2 for definitions of open space types.

Table 2-4. Dry and Wet Season Maximum and Minimum Covered Reservoir Dewatering Flows for SCVWD Reservoirs for the Purpose of Triggering Additional Wildlife Agency Approval Requirements

Reservoir	Allowable Daily Dewatering Flows (cfs) ¹				
	Dry Season (May 1 to October 31, 184 days)	Minimum ²	Average ³	Maximum	Outlet Capacity (cfs)
Almaden ⁴		1	5	10	190
Anderson ⁵		3	50	50	100 (550)
Calero ⁴		1	15	20	75
Coyote ⁴		2	34	49	450
Guadalupe ⁵		1	10	10	235
Chesbro		1	10	20	740
Uvas		1	32	39	165
Wet Season (November 1 to April 30, 181 days)		Minimum	Average³	Maximum^{7,8}	Outlet Capacity (cfs)
Almaden ⁴		1	59	190	190
Anderson ^{5,6}		5	467	550	100 (550)
Calero ⁴		1	31	75	75
Coyote ⁴		2	202	450	450
Guadalupe ⁵		1	28	235	235
Chesbro		1	79	740	740
Uvas		2	165	165	165

Notes:

¹ Flows are based on one year dewatering program beginning May 1 with a dewatered reservoir by April 30. Average flows are those releases that can dewater the reservoir in the one year timeframe and are based on wet year conditions beginning with a full reservoir (Scenario 3).

² Minimum flows are provided for lower limit to indicate no stream dry-back.

³ Average flow is based on the daily average flow over the entire period during which the reservoir is dewatered beginning with a full reservoir on May 1 and an inflow of 10% exceedance probability.

⁴ Reservoirs with fish management objectives.

⁵ Reservoirs with cold water and fish management objectives.

⁶ Maximum winter flow releases could be made per the flood rule curves, per DSOD restriction, pulse flows, or when they mimic natural hydrology.

⁷ Anderson Dam flows between 100 cfs and 550 cfs can be made by delivering water to treatment plants in addition to releasing water to the stream. Pumping would be required.

⁸ Pulse flows implemented for the benefit of anadromous fish species (see Section 2.3.4) may be greater than the flows anticipated for draining of a reservoir as part of a dewatering event. These higher flows are also covered by this Plan. Implementation of pulse flows may require additional regulatory approval (i.e., NMFS and CDFG for federal- and state-listed fish species).

Table 2-5. Existing Interim Storage Restrictions for SCVWD Dams

Dam	DSOD Storage Restrictions as of October 31, 2011 ¹
Almaden Dam	20%
Anderson Dam	31%
Chesbro Dam	none
Coyote Dam	48%
Calero Dam	54%
Guadalupe Dam	35%
Uvas Dam	none
Vasona Dam	none

¹ Percentages reflect reduction in current reservoir capacity, not new operating capacity.

Source: Arnold pers. comm.; Showalter pers. comm., D. Caldon pers. comm.

Table 2-6. Specific Transportation Projects that are Covered by the Plan

Project	Approximate Length in Permit Area (miles)	Approximate Width of New Construction (feet)	Lead Agency
County Roadway Projects (includes extensions, new connections, realignments, and widenings)			
<i>Ferguson/New North-South Corridor</i>			
Ferguson Road widening (SR 152E to Leavesley Road)	1.8	24.0	Santa Clara County
New Avenue widening (Leavesley Road to Buena Vista Avenue)	1.4	24.0	Santa Clara County
New Avenue widening (Buena Vista to San Martin Avenue)	3.6	20.0	Santa Clara County
New Avenue realignment at approach to San Martin Avenue	0.2	46.0	Santa Clara County
<i>Marcella/Center/Hill/Peet North-South Corridor</i>			
Marcella Avenue widening and removal of short zig-zag in road (Leavesley Road to Buena Vista Avenue)	1.6	24.0	Santa Clara County
Center Avenue extension/new connection (Omar Avenue to Buena Vista Avenue; requires a new stream crossing)	0.2	92.0	Santa Clara County
Center Avenue widening (Omar Street to just south of Maple Avenue)	5.1	24.0	Santa Clara County
Center Avenue and Hill Road new connection at Maple Avenue	0.2	92.0	Santa Clara County
Hill Road widening (Dunne Avenue to E. Main Avenue) – along border of Morgan Hill planning limit of urban growth	1.2	24.0	Santa Clara County
Hill Road extension/new connection (East Main Avenue to Half Road and Peet Road new connection to Half Road – along border and inside of Morgan Hill planning limit of urban growth)	0.6	92.0	Santa Clara County
<i>Monterey Road North-South Corridor</i>			
Monterey Road widening (Watsonville Road to Masten Avenue/Fitzgerald Avenue)	4.4	24.0	Santa Clara County
<i>Santa Teresa/Hale Corridor (includes Sunnyside and DeWitt)</i>			
Santa Teresa Boulevard widening (Castro Valley Road to 10 th Street/Thomas Road) – along border of Gilroy planning limit of urban growth	1.3	24.0	Santa Clara County
Santa Teresa Boulevard widening (Day Road/Buena Vista Avenue to Watsonville Road)	5.0	24.0	Santa Clara County
DeWitt Avenue new connection to W. Edmundson Avenue and Sunnyside Avenue intersection	0.4	92.0	Santa Clara County

Project	Approximate Length in Permit Area (miles)	Approximate Width of New Construction (feet)	Lead Agency
DeWitt Avenue widening and removal of small "S" curve (North of W. Edmundson Avenue to Spring Avenue)	0.7	24.0	Santa Clara County
Hale Avenue widening (Morgan Hill planning limit of urban growth border [0.8 miles south of Tilton] to Palm Avenue)	3.3	24.0	Santa Clara County
<i>Uvas/McKean/Almaden North-South Corridor</i>			
Uvas widening – to vary between adding center turn lane and widening shoulders (Watsonville Avenue to McKean Road/Bailey Avenue)	9.8	8.0 to 20.0	Santa Clara County
McKean Road widening (Bailey Avenue to Almaden Road) includes curve realignment at Calero Reservoir Park	4.2	24.0	Santa Clara County
McKean Road extension/new connection to Almaden Expressway – along border and inside of San José planning limit of urban growth	0.2	92.0	Santa Clara County
<i>East-West Corridors</i>			
Leavesley Road Widening (Ferguson Road to Marcella Avenue) – along border of Gilroy planning limit of urban growth	1.3	24.0	Santa Clara County
Masten Avenue widening (U.S. 101 to Monterey Road) – along border of Gilroy planning limit of urban growth	0.7	24.0	Santa Clara County
Fitzgerald Avenue widening (Monterey Road to Santa Teresa Boulevard) – along border of Gilroy planning limit of urban growth	0.7	24.0	Santa Clara County
Fitzgerald Avenue approach to Monterey Road, realignment 30 feet north to create a perpendicular intersection – along border of Gilroy planning limit of urban growth	<0.1	30.0	Santa Clara County
San Martin Widening (U.S. 101 to Santa Teresa Boulevard)	1.4	24.0	Santa Clara County
Interchange Projects			
U.S. 101 at Buena Vista Interchange	0.4/0.3	700	Santa Clara Valley Transportation Authority
U.S. 101 at Coyote Valley Parkway Interchange	0.2/0.4	150	Santa Clara Valley Transportation Authority
U.S. 101 at East Middle Interchange	0.3/0.3	900	Santa Clara Valley Transportation Authority
SR 152 and SR 156 Interchange	0.3/1.0	100	Santa Clara Valley Transportation Authority

Project	Approximate Length in Permit Area (miles)	Approximate Width of New Construction (feet)	Lead Agency
Highway Projects			
U.S. 101 Improvement Project (Monterey Road to SR 129; VTA ID H101-22) includes extending Santa Teresa Boulevard from Castro Valley Road to U.S. 101 (requires a new stream crossing) ¹	12.9	100	Santa Clara Valley Transportation Authority
U.S. 101 widening between Cochrane Rd. and Monterey Hwy (VTA ID H101-23)	5.1	32	Santa Clara Valley Transportation Authority
S.R. 237 HOV/HOT lane (full length inside the study area) – includes converting the existing median to express lanes	2.3	32	Santa Clara Valley Transportation Authority
S.R. 85 HOV/HOT lane (full length inside the study area) – includes converting the existing median to express lanes	11.6	32	Santa Clara Valley Transportation Authority
U.S. 101 HOV/HOT lane (western study area boundary to Cochrane Road) – includes converting the existing median to express lanes ²	26.7	32	Santa Clara Valley Transportation Authority
U.S. 101 HOV/HOT lane (Cochrane Road to Masten Avenue; VTA ID H6) – includes converting the existing median to express lanes	7.5	32	Santa Clara Valley Transportation Authority
U.S. 101 HOV/HOT lane (Masten Avenue to 10 th Street; VTA ID H7) – includes converting the existing median to express lanes	4.2	32	Santa Clara Valley Transportation Authority
U.S. 101 HOV/HOT lane (10 th Street to SR 25; VTA ID H8) – includes converting the existing median to express lanes	3.0	32	Santa Clara Valley Transportation Authority
Mass Transit Projects			
Caltrain South County—double tracking from San José to Gilroy (VTA ID T6)	10.4	14	Santa Clara Valley Transportation Authority

¹ Only the portion of this project in Santa Clara County is covered by the Plan. Mitigation for the portion of the project in San Benito County could be accomplished through the Habitat Plan, consistent with the portion of the project in Santa Clara County. Mitigation required for the San Benito County portion of the project would be additive to the requirements of the Habitat Plan for the Santa Clara County portion.

² Only the portion of this project in the study area is covered by the Plan. Mitigation for the portion of the project outside of the study area could be accomplished through the Habitat Plan, consistent with the portion of the project in the study area. Mitigation required for the portion outside of the study area would be additive to the requirements of the Habitat Plan for the study area portion.

Sources: Santa Clara Valley Transportation Authority 2009; D. Cameron pers. comm. b.



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Figure 2-1
Santa Clara Valley Water District Water Conveyance, Treatment, and Distribution System

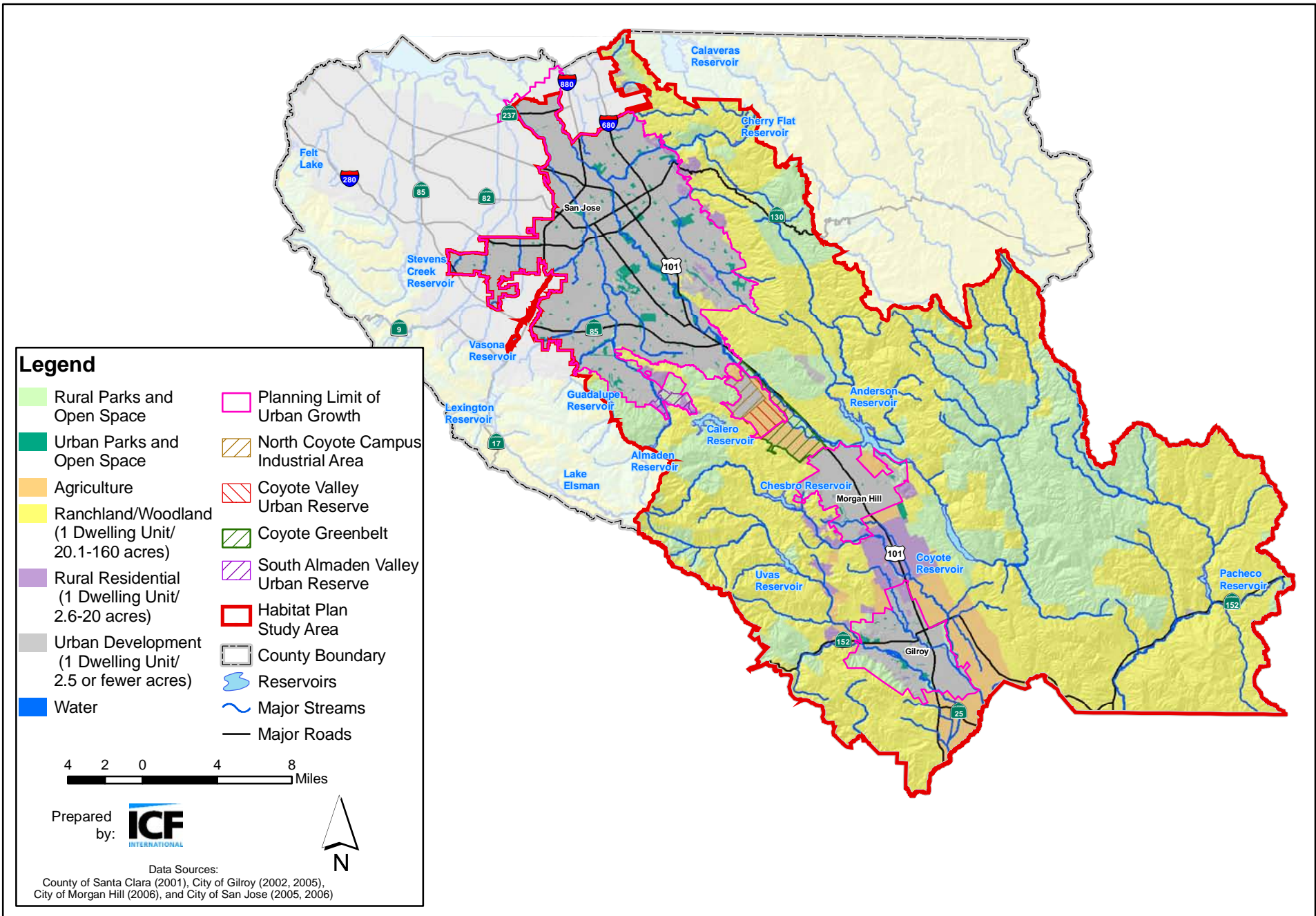
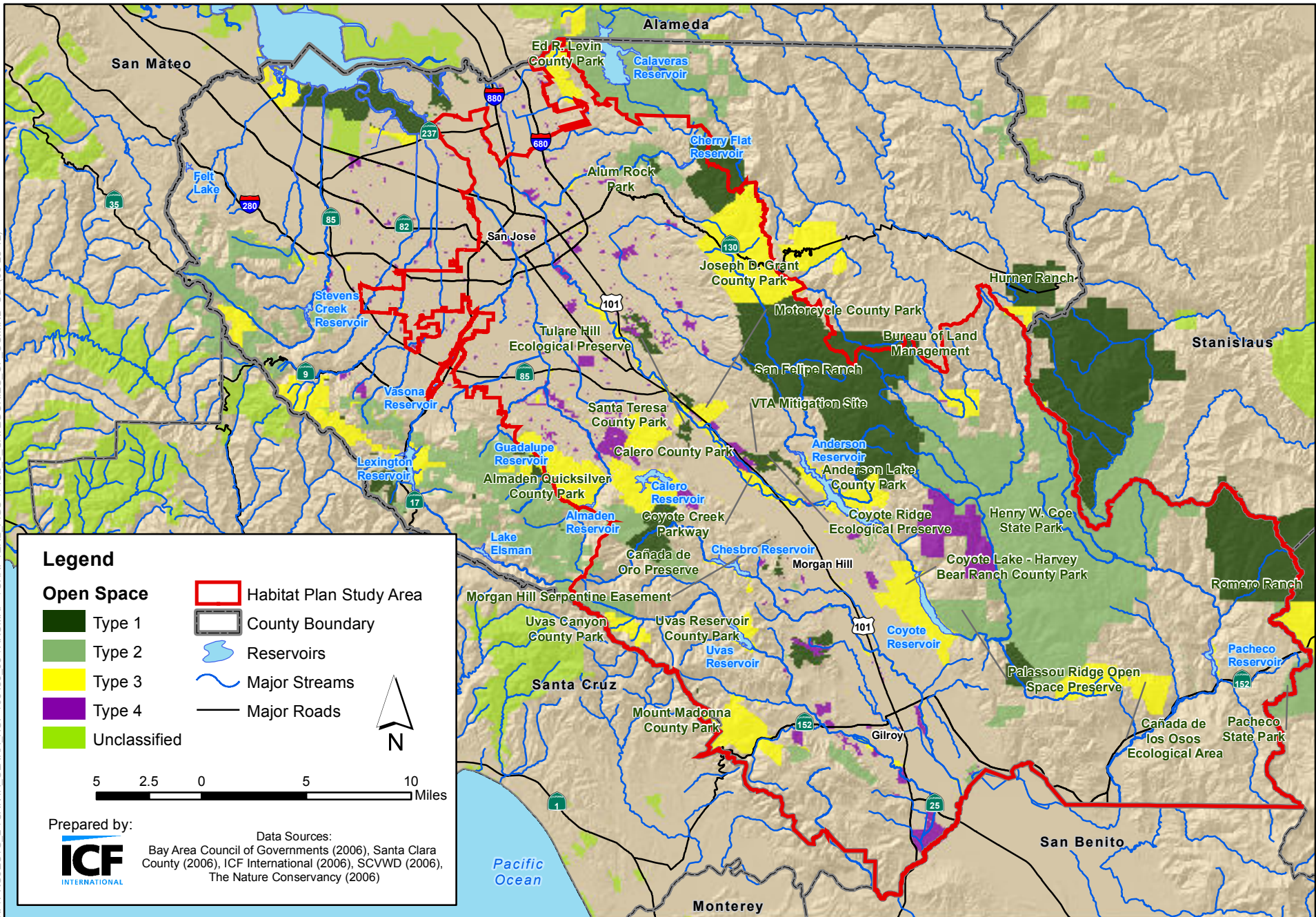












Figure 2-2
Santa Clara Valley Habitat Plan Land Use Categories

K:\PROJECTS_2\1 SANTA CLARA HCP\05489_05\ARCMAP_1\CHAPTER2_FIGS\FIG2_3_CATEGORIES_OF_OS.MXD CB (03-28-12)



Legend

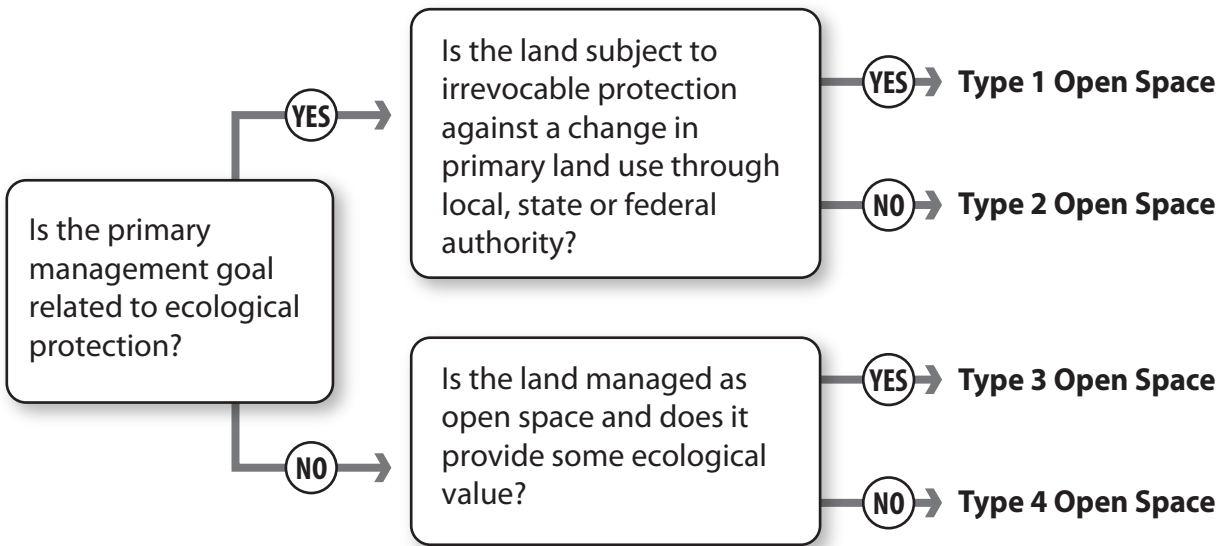
 Type 1	 Habitat Plan Study Area
 Type 2	 County Boundary
 Type 3	 Reservoirs
 Type 4	 Major Streams
 Unclassified	 Major Roads

5 2.5 0 5 10 Miles

Prepared by: **ICF INTERNATIONAL**

Data Sources:
 Bay Area Council of Governments (2006), Santa Clara County (2006), ICF International (2006), SCVWD (2006), The Nature Conservancy (2006)

Figure 2-3
Open Space Categories in the Santa Clara Valley Habitat Plan Study Area



Criteria

Type 1 Open Space

- 1) The primary management goal is related to ecological protection.
- 2) That protection is irrevocable through local, state or federal authority and there are legal assurances such as wilderness status or a conservation easement that the primary land use will never change.

Type 2 Open Space

- 1) The primary management goal is related to ecological protection.
- 2) The land is not subject to irrevocable protection from a change in primary land use or protections are uncertain or political in nature.

Type 3 Open Space

- 1) Ecological protection is not a primary management goal, but land is managed as open space and has a consistent and measurable ecological value (allows multiple species to complete some portion of their life cycle [e.g. reproduction, growth, foraging] or provides critical refuge and movement opportunities [e.g. migration corridor]).

Type 4 Open Space

- 1) The land is undeveloped but current management goals do not promote any consistent or measurable ecological value.

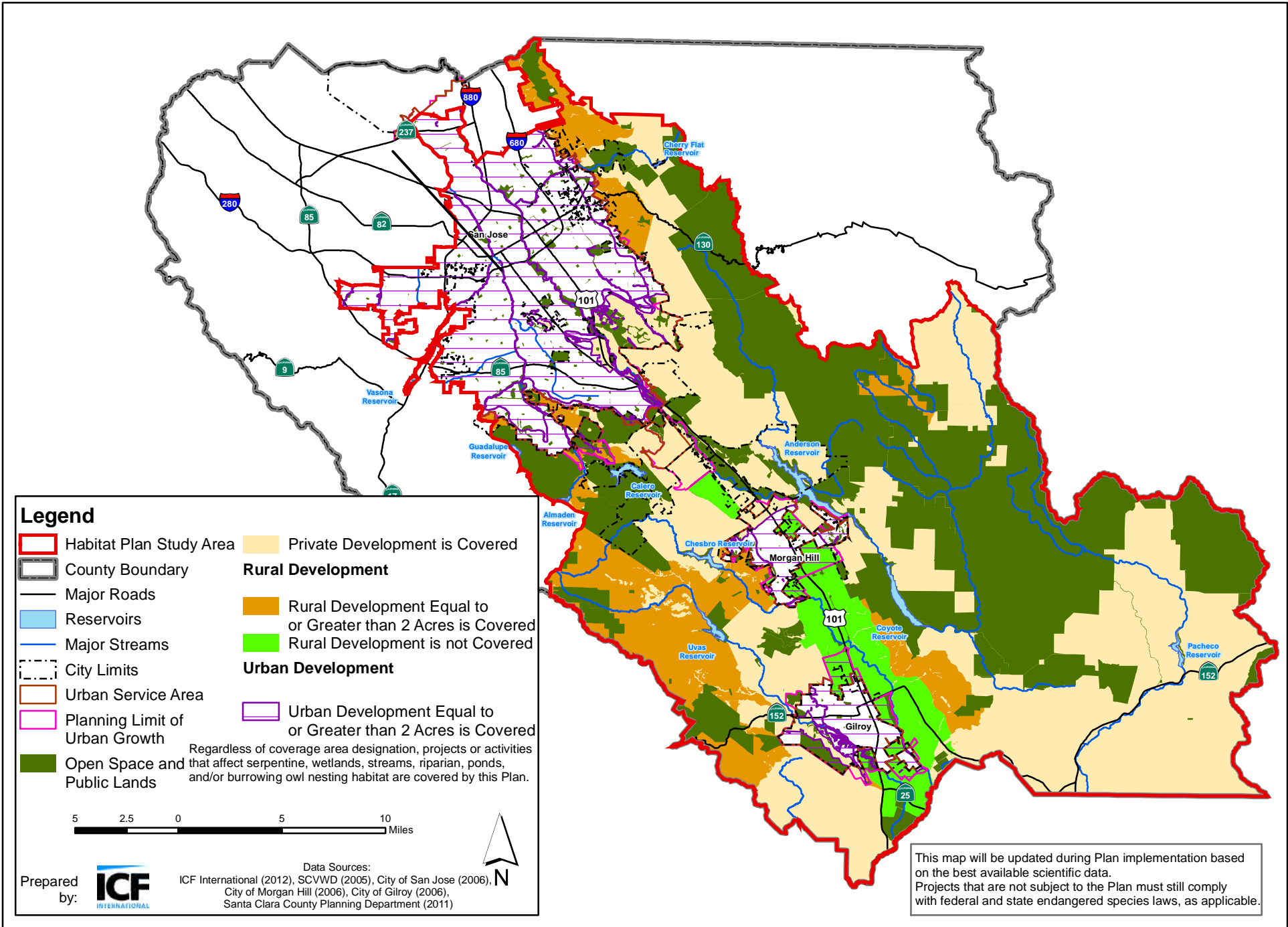


Figure 2-5
Private Development Areas Subject to the Plan

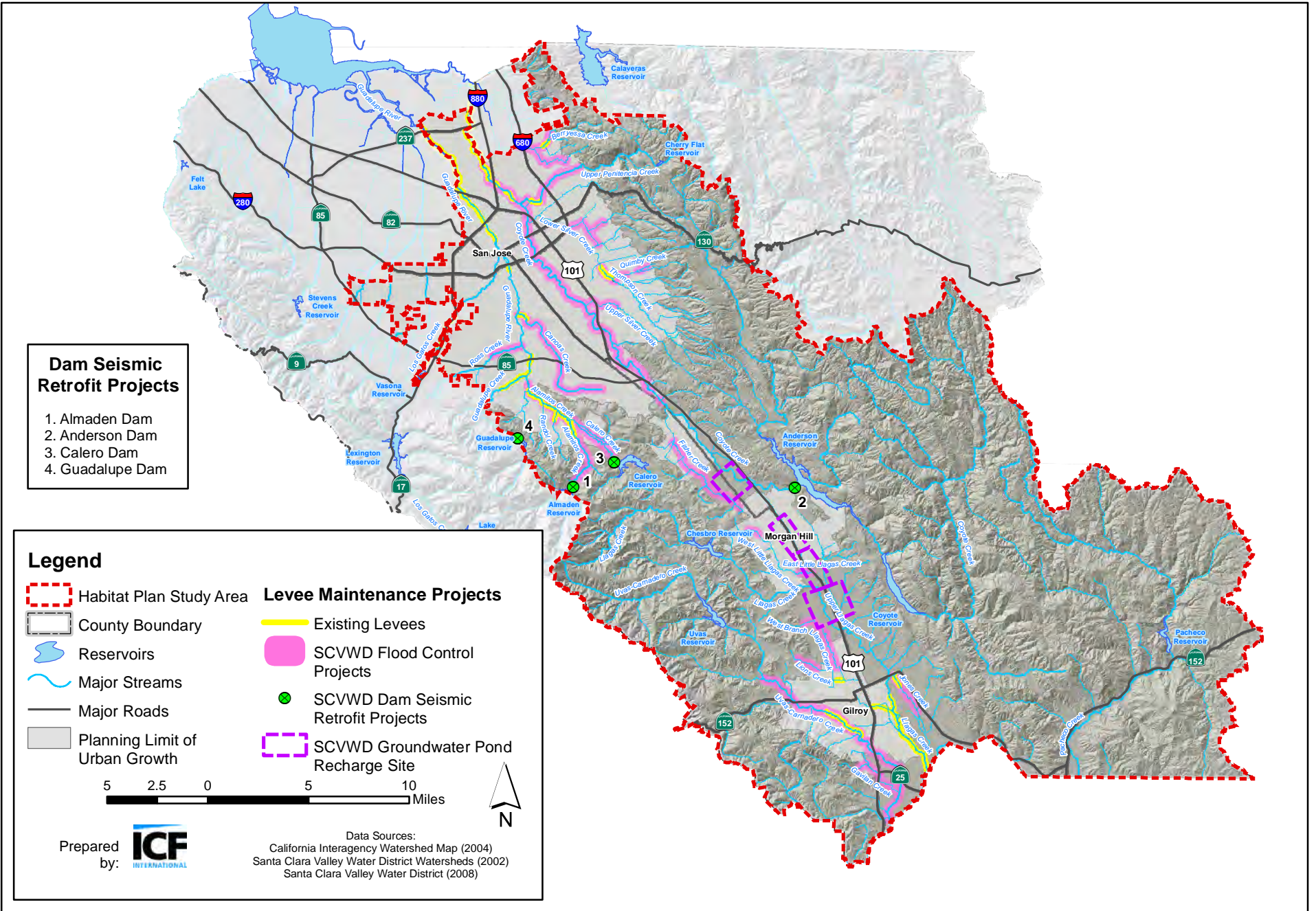


Figure 2-6
SCVWD Capital Projects

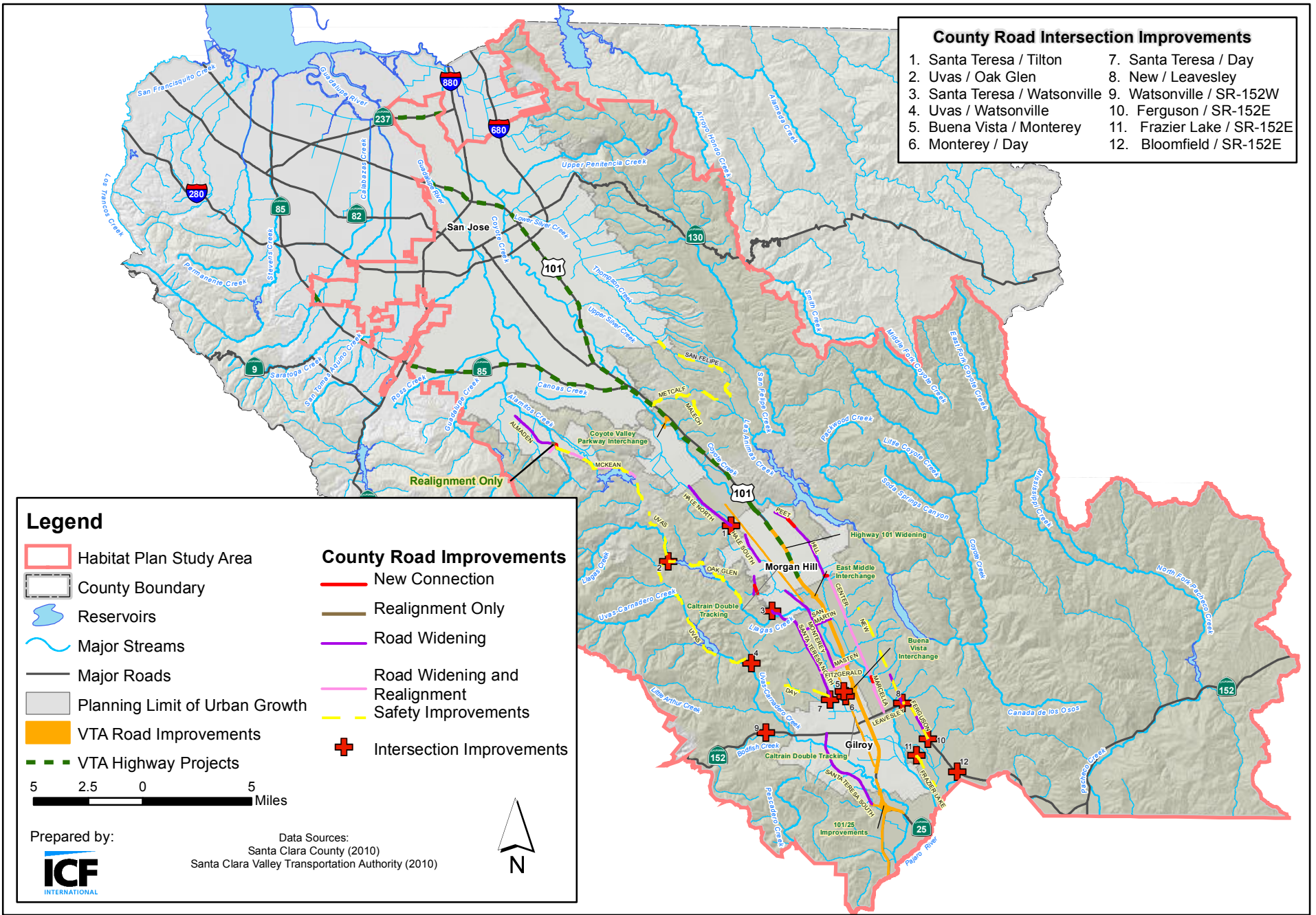


Figure 2-7
Rural Transportation Projects

