Applicable Best Management Practices

~~BMP GEN-4: Minimize the Area of Disturbance~~
~~BMP GEN-6: Minimize Impacts to Nesting Birds via Site Assessments and Avoidance Measures~~
BMP GEN-6.5: Protection of Nesting Least Bell's Vireos

Conclusion

These BMPs would reduce impacts, but residual impacts would remain if occupied habitat of least Bell's vireo was removed, or if Proposed Project activities along lower Llagas Creek modified habitat to the point of precluding nesting by least Bell's vireos that would otherwise have occurred. Because of the irregular nature of occurrence by the species along lower Llagas Creek, and because the species has not been recorded there since 2001, it is impossible to determine the extent to which Proposed Project activities could be expected to impact the species' populations or their use of habitat in the Project Area. Nevertheless, the Proposed Project would result in the loss of multi-layered willow riparian habitat and adjacent weedy edges used for nesting and foraging. Because of the extreme rarity of this species in the region, any impact on individuals of this species would be significant (Significance Criterion A), and any impacts to habitat that reduced the use of the Project Area by the species also would be significant (Significance Criteria A, B, and E).

As discussed under Impact BIO-2, Mitigation Measure BIO-2 would require SCVWD to provide compensatory mitigation for impacts to riparian habitats. This mitigation may take a variety of forms, and such mitigation would benefit the least Bell's vireo only if riparian mitigation were to occur within this species' limited range. Therefore, Mitigation Measure BIO-12 would be implemented to reduce the impact to the least Bell's vireo to a less-than-significant level.

Mitigation Measure BIO-12: Implement Compensatory Mitigation for the Least Bell's Vireo

One of the following two measures will be implemented so that adequate willow-dominated riparian habitat with adjacent shrubs and tall forbs is maintained in extreme southern Santa Clara County, in light of proposed activities, to provide potential nesting habitat for least Bell's vireos. Simultaneous with (i.e., within the same maintenance year as) performance of SMP activities that adversely affect least Bell's vireo habitat, the SCVWD will make the decision as to which of these measures will be applied.

- Mitigation Measure BIO-12A: The projected vegetation management regime for lower Llagas Creek, from Southside Drive downstream to the confluence with the Pajaro River, will be modified so that vegetation management in any specific area will occur no more frequently than every 3 years to allow for the regrowth of shrubs and taller forbs, which will provide foraging habitat for least Bell's vireos and other riparian birds. The levee tops and lower maintenance roads will be excluded from this requirement (i.e., vegetation management can occur on the levee tops and lower maintenance roads as needed), but no other vegetation management will occur more frequently than every 3 years. Furthermore, in any specific year, vegetation management will occur along no more than half (measured longitudinally along the creek) of the reach of lower Llagas Creek downstream from Southside Drive. This will assure that at any specific time, at

least half of this reach will support vegetation that has not been managed (with the exception of levee top roads and lower maintenance roads) for at least 3 years, thus providing ample suitable nesting and foraging habitat for the low-level, irregular use of this reach by Bell's vireos that occurs. These limitations may need to be adapted if they do not maintain sufficient tall, weedy habitat along the edges of the woody riparian corridor to provide suitable least Bell's vireo foraging habitat, or if they produce abnormally dense, stunted growth of willows that is not suitable for use by nesting vireos. This measure is preferred by the District over Mitigation Measure 12B. However, if this measure cannot be implemented feasibly, or if SCVWD elects not to implement this measure, Mitigation Measure BIO-12B will be implemented.

- Mitigation Measure BIO-12B: SCVWD will create or restore conditions similar to those currently present along lower Llagas Creek by acquiring land, an easement on land, or permission from landowners along the Pajaro River, or along Carnadero Creek downstream from Highway 25, and managing a strip 50 feet wide outside of the woody riparian canopy so that tall forbs and shrubs are able to grow. This strip will be managed so that portions of it are disturbed (via mowing or herbicide use) every 3–4 years, with no more than half disturbed in a specific year, so that early successional conditions are maintained (with the caveat that this management regime may need to be adapted, as described in the preceding paragraph, so that suitable conditions are maintained). The linear footage of habitat that will be required to be managed in this way will equal the linear footage of lower Llagas Creek (on each side of the creek, downstream from Southside Drive, that is actually subjected to the proposed non-instream vegetation management activities and not managed as described in Mitigation Measure BIO-12A. If this mitigation option is selected, the SCVWD will prepare a HMMP for the mitigation site that includes the following:
  - a summary of impacts to least Bell's vireo habitat and populations, and the proposed mitigation;
  - a description of the location and boundaries of the mitigation site and description of existing site conditions;
  - a description of measures to be undertaken if necessary to enhance (e.g., through focused management) the mitigation site for the least Bell's vireo;
  - proposed management activities to maintain high-quality habitat for least Bell's vireos;
  - a description of species monitoring measures on the mitigation site, including specific, objective goals and objectives (including maintaining or restoring suitable habitat for the least Bell's vireo), performance indicators and success criteria (including maintenance or improvement of habitat structure suitable for use by least Bell's vireos), monitoring methods (including least Bell's vireo surveys), data analysis, reporting requirements, and monitoring schedule. Determining other specific performance/success criteria requires information regarding the specific mitigation site, its conditions, and the specific enhancement and management measures tailored to the mitigation site and its conditions.

As a result, additional ~~those~~ specific criteria will be defined in the HMMP rather than in this SEIR. Nevertheless, the performance/success criteria described in the HMMP will guide the mitigation to manage and protect habitat at least as suitable for use by the least Bell's vireo as the habitat that is impacted.

- a description of the management plan's adaptive component, including potential contingency measures for mitigation elements that do not meet performance criteria; and
- a description of the funding mechanism for the long-term maintenance and monitoring of the mitigation lands.

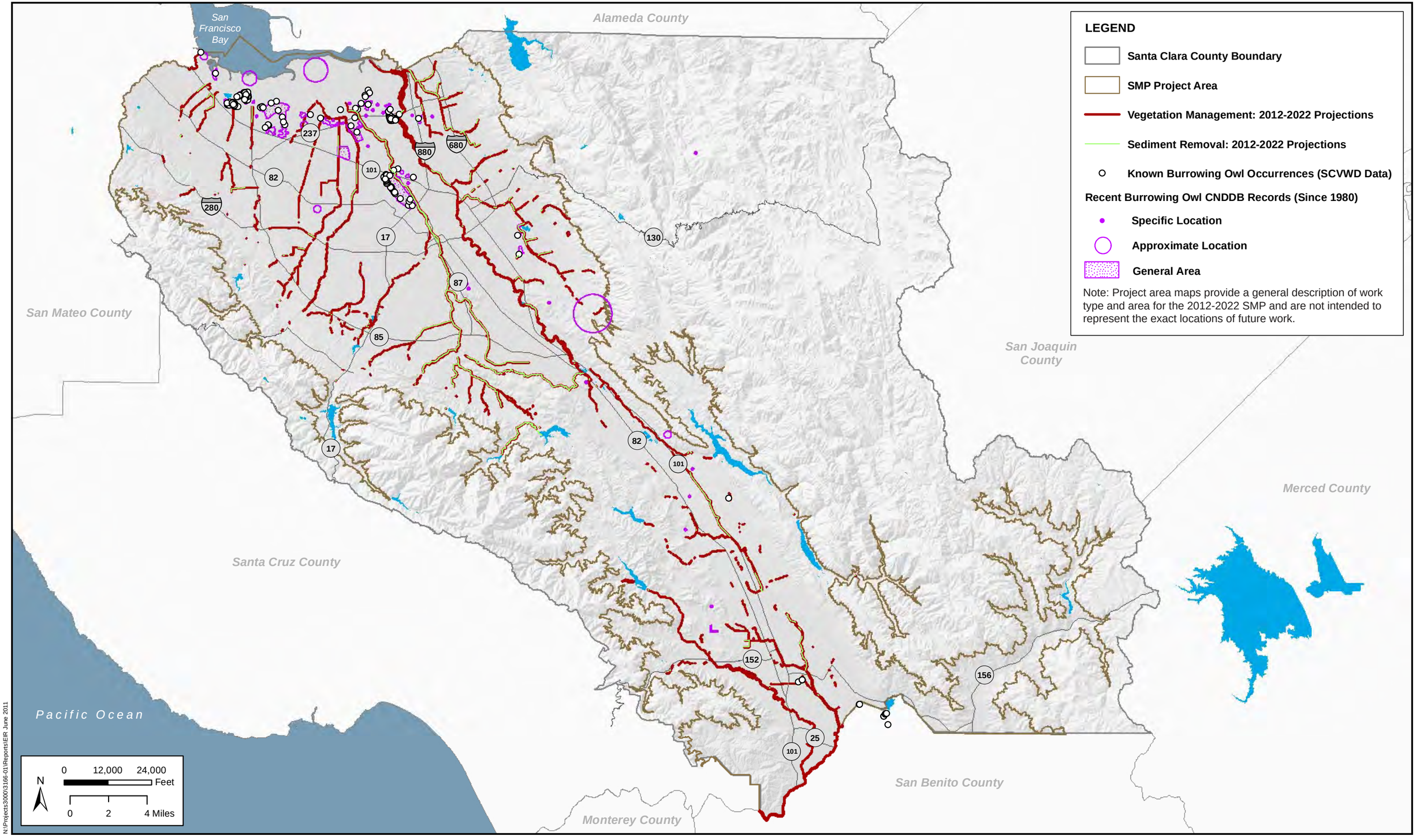
The HMMP will be provided to the USFWS and CDFG for review because this species is both state and federally listed. It is possible that this mitigation measure may be refined during the Section 7 consultation process with the USFWS (e.g., in the Biological Opinion covering Project effects on the least Bell's vireo) or by the CDFG during the Section 2081 consultation process (e.g., in an Incidental Take Permit), in which case the refinements required by these agencies would be implemented.

MM BIO-12 will mitigate impacts to the least Bell's vireo to less-than-significant levels by managing and protecting habitat suitable for use by this species, thereby ensuring that the SMP does not substantially reduce the number or restrict the range of this endangered species, have a substantial adverse effect on this special-status species, or impede the use of its nursery sites.

Impact BIO-24: Impacts on the Burrowing Owl (Significance Criteria A, B, and E; Less than Significant with Mitigation)

Burrowing owls occur in annual and perennial grassland habitats, typically with sparse or non-existent tree or shrub canopies. They exhibit strong site fidelity and may use a nesting site year after year. Burrowing owls in the Santa Clara Valley include both year-round residents and migrants that take up residency during the winter. They are routinely observed in open, agricultural, or grassland areas with active squirrel burrows. In the Project Area, particular concentrations of burrowing owls occur in the Alviso area at the San Jose-Santa Clara Water Pollution Control Plant (WPCP) and its buffer lands and the Santa Clara Valley Transportation Authority's Cerone operating division (adjacent to Coyote Creek), at the San Jose International Airport, and on undeveloped parcels east of U.S. Highway 101 near the airport (Figure 3.3-21). However, this species is increasingly disappearing from "infill" locations on the urban valley floor, and it has practically disappeared as a breeder from areas of the county south of northern San Jose. Burrowing owls were present in the Coyote Valley, Blossom Valley, and Evergreen areas in the 1990s, but they have been infrequently recorded in either area since that time. They are still occasionally recorded in Coyote Valley and in grasslands at higher elevations, such as on Coyote Ridge, but they seem to occur in such areas primarily during the non-breeding season.

As discussed under *Determination of Impacts to Wildlife and Fisheries*, proposed maintenance activities may result in direct and indirect impacts on this species. Impacts from the Proposed Project may affect burrowing owl habitat (nesting, foraging, or



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H. T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

Figure 3.3-21: Recent Burrowing Owl Records in Santa Clara County

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wintering) and/or individuals. Burrowing owls can adapt to the presence of humans and are known to nest and forage in open grassland areas adjacent to human developments. However, because they nest underground individual burrowing owls (especially young or adults in burrows) may be killed or injured during maintenance activities from trampling by construction personnel or equipment. Maintenance activities that occur in close proximity to active burrows may disturb owls to the point of abandoning their burrows, including active nests, eggs, and young. In addition, clearing and grading for access roads, staging areas, and burrow destruction and filling work could result in the direct loss of habitat or individuals through the disturbance of grassland areas that support ground squirrel burrows, and maintenance activities may result in a reduction in the quality of breeding or foraging habitat because of the introduction of non-native vegetation. Such impacts may occur because of both projected sediment removal and vegetation management activities and unprojected activities (e.g., bank stabilization, management of animal conflicts, and minor maintenance). Small mammal control would reduce the availability of burrows and prey for this species, resulting in the long-term degradation of habitat for breeding and wintering owls, to the extent that these owls use burrows in the levees that would be managed by SCVWD. Pesticides used for vegetation management or management of animal conflicts may deplete prey both within work sites and possibly adjacent areas. The use of certain rodenticides (e.g., strychnine and anticoagulants such as chlorophacinone and diphacinone) to prevent animal conflicts on levees also may result in the secondary poisoning of birds that consumed rodents or invertebrates that consumed the poison bait (USEPA 2009), and fumigants may kill any owls using burrows that were treated in this manner.

Burrowing owls seem to occur more widely in the South Bay in winter than they do during the breeding season. For example, burrowing owls occur on Coyote Ridge and in Coyote Valley during winter, but they have not been recorded lingering into spring and summer to breed in those areas in recent years. This suggests that wintering habitat for burrowing owls is not limiting the species' South Bay populations. As a result, impacts of Proposed Project activities on wintering owl habitat, including burrows that were occupied by owls only during the winter but that were not used for breeding, are not expected to affect appreciably regional populations of this species. However, as the availability of grassland habitat used for nesting in the Project Area continues to dwindle because of development, the South Bay breeding population of burrowing owls faces extirpation caused by lack of sufficient suitable nesting and breeding-season foraging habitat and isolation from other populations and habitat areas. Therefore, impacts to individual burrowing owls (at any time of year) and occupied breeding habitats resulting from the Proposed Project would contribute to the broader-scale decline in regional burrowing owl populations.

In 2007 and 2008, a habitat assessment, burrow mapping study, and standardized protocol surveys for the burrowing owl were conducted along sections of multiple SCVWD-managed waterways in Palo Alto, Mountain View, Sunnyvale, Santa Clara, San Jose, Alviso, Milpitas, and Gilroy (EDAW 2008). These surveys identified active breeding and overwintering burrowing owls at a few locations in or adjacent to the Project Area (Figure 3.3-21), and potential habitat for burrowing owls was determined to be present along a number of creeks that were surveyed in the Project Area (EDAW 2008). However, no burrowing owls were recorded using SCVWD facilities, such as levees, during either of the two surveys. Similarly, a comprehensive breeding-season survey of the most likely areas of

burrowing owl occurrence in and near the *Santa Clara Valley Habitat Plan* area in 2008 recorded no burrowing owls on SCVWD facilities (Albion Environmental 2008).

Albion Environmental (2009) assessed the potential impact of the SCVWD's proposed burrow management on burrowing owls specifically for the SMP. Because no evidence existed that SCVWD levees provided important burrowing owl nesting or roosting habitat (i.e., used regularly or by a sizeable proportion of the South Bay population), Albion Environmental concluded that management of burrows on SCVWD levees would not result in a substantial impact to burrowing owl habitat. Therefore, the actual impacts of SCVWD management of levees on burrowing owl populations is expected to be low.

Implementation of pre-project planning BMPs would reduce impacts on burrowing owls by minimizing the extent of maintenance activities. In addition, implementation of the BMP specifically designed to protect burrowing owls would avoid or minimize impacts to this species through the identification and avoidance of occupied burrows (i.e., burrows currently in use by owls, or that were used for nesting by owls within the prior 3 years [California Burrowing Owl Consortium 1993]), where feasible. Where avoidance of an occupied burrow was not feasible, the CDFG would be consulted to determine an appropriate relocation plan for individual owls (during the non-breeding season) to prevent injury or mortality of individuals These BMPs are as follows, and a description of each is provided in Table 2-12.

Applicable Best Management Practices

BMP GEN-4: Minimize the Area of Disturbance
BMP GEN-6: Minimize Impacts to Nesting Birds via Site Assessments and Avoidance Measures
BMP GEN-7: Protection of Burrowing Owls
BMP ANI-1: Avoid Redistribution of Rodenticides
BMP ANI-3: Burrowing Owl, Bald Eagle, and Golden Eagle Buffer Zone

Conclusion

Implementing these BMPs would reduce impacts on burrowing owl individuals by preventing their injury or mortality. However, residual impacts to burrowing owl habitat may occur if loss of occupied breeding habitat could not be avoided. Loss of occupied breeding habitat resulting from the Proposed Project may result in a substantial impact to regional burrowing owl populations because this species has experienced substantial regional losses in habitat and populations, and thus the impact would be significant (Significance Criteria A, B, and E). When occupied habitat must be impacted, Mitigation Measure BIO-13 would be implemented to reduce the impact to burrowing owl to a less-than-significant level.

Mitigation Measure BIO-13: Implement Compensatory Mitigation for the Burrowing Owl

If a burrow that has been used for nesting by burrowing owls within the prior 3 years cannot be avoided (e.g., an occupied burrow is located on an eroding bank that must be repaired to maintain public safety), then the CDFG will be consulted to determine an appropriate relocation plan for the owl(s) in accordance with BMP GEN-7 and habitat

compensation will be provided. If the habitat surrounding the burrow from which the owl is evicted remains suitable for use by burrowing owls following completion of the SMP activity (based on an assessment by a qualified biologist), SCVWD will have the option of either providing habitat mitigation off-site, as described below, or monitoring the work site to determine whether it is re-occupied by burrowing owls. If SCVWD documents nesting by burrowing owls within 2 years of completion of the maintenance activity in the vicinity of the impact site indicating that the activity did not have a long-term impact on the owls' use of the site, no further mitigation would be required.

If the maintenance activity will degrade habitat quality to the extent that maintaining owl use of the site is not feasible or ecologically preferable, in the opinion of a qualified SCVWD biologist, then off-site mitigation will be provided to compensate for the loss of occupied burrowing owl nesting habitat. California burrowing owl mitigation guidelines recommend that 9.75–19.5 acres of habitat be preserved and managed per occupied burrowing owl nest burrow (whether by a pair or singly) in mitigation sites (California Burrowing Owl Consortium 1993). The amount of mitigation habitat provided will depend on whether the mitigation habitat is occupied by burrowing owls (9.75 acres), adjacent to occupied habitat (13.0 acres), or suitable but unoccupied (19.5 acres). SCVWD will use these guidelines in determining the extent of mitigation habitat to be provided. The mitigation site must be located in Santa Clara County, or in areas of San Mateo or Alameda counties adjacent to San Francisco Bay, so that the mitigation supports the maintenance of South Bay burrowing owl populations.

This mitigation may be provided via the management of suitable habitat on SCVWD lands (either existing lands or lands that are acquired), purchase of credits in a mitigation bank (if one is available), or contribution of funds toward the management of the required amount of suitable habitat owned by another entity. If SCVWD provides habitat mitigation on its own lands, either on existing SCVWD lands or on lands that are acquired for mitigation purposes, an HMMP will be prepared detailing the areas to be preserved for owls; the methods for managing on-site habitat for owls and their prey (including vegetation management to maintain low-statured herbaceous vegetation); methods for enhancing burrow availability within the mitigation site (potentially including the provision of artificial burrows, although long-term management for ground squirrels will be important as well); measures to minimize adverse effects of development on owls on-site; and a monitoring program and adaptive management program. The monitoring program will include performance indicators and success criteria, including maintenance of short vegetation supporting California ground squirrels and maintenance of increase in burrowing owl numbers on the mitigation site. Determining other specific performance/success criteria requires information regarding the specific mitigation site, its conditions, and the specific enhancement and management measures tailored to the mitigation site and its conditions. For example, performance criteria for a site where burrowing owls are known to occur (including maintaining or increasing burrowing owl abundance) may differ from those for an unoccupied site adjacent to occupied burrowing owl habitat (including attracting owls to use the mitigation site). As a result, those specific criteria will be defined in the HMMP rather than in this SEIR. Nevertheless, the performance/success criteria described in the HMMP will guide the mitigation to manage and protect high-quality habitat for burrowing owls, adequate to compensate for impacts.

~~The HMMP will be submitted to the CDFG for review.~~ If a mitigation bank providing credits for burrowing owls is established within the aforementioned mitigation area (i.e., in Santa Clara County, or in areas of San Mateo or Alameda counties adjacent to San Francisco Bay), then mitigation may take the form of the purchase of credits equivalent to the number of acres of mitigation required.

MM BIO-13 will mitigate impacts to the burrowing owl to less-than-significant levels by managing and protecting habitat suitable for use by this species, thereby ensuring that the SMP does not substantially reduce the number or restrict the range of this rare species, have a substantial adverse effect on this special-status species, or impede the use of its nursery sites.

Impact BIO-25: Impacts on the Golden Eagle and Bald Eagle (Significance Criteria A, B, and E; Less than Significant)

The golden eagle (a state fully protected species) breeds in a range of open habitats, including scrub, woodlands, and grasslands. In the Project Area, nesting is expected to occur primarily in the foothills of the Diablo Range and Santa Cruz Mountains. Nesting on the valley floor occurs more rarely, although a pair has nested on an electrical tower below Calero Reservoir for a number of years and another pair has nested in a residential backyard in western Morgan Hill (S. Rottenborn, pers. obs.). These individuals, as well as low numbers of other non-breeding golden eagles, forage regularly in large open habitat areas within the Project Area, but generally on the periphery where larger areas of natural habitat occur adjacent to much larger expanses of open habitat.

The bald eagle (state listed as endangered and a state fully protected species) is only known to nest in Santa Clara County in four locations—in gray pines at Coyote Reservoir and Anderson Reservoir at the eastern edge of the Project Area, on an electrical transmission tower near Calaveras Reservoir just outside the Project Area, and near San Felipe Lake along Highway 152 (Bousman 2007e). Small numbers also occur as non-breeding visitors, typically at reservoirs on either side of the Santa Clara Valley but occasionally in Coyote Valley as well.

Small mammal control may reduce prey availability for these species, but such effects would be localized, and because of the low numbers of eagles that forage in Proposed Project impact areas, changes in prey availability resulting from proposed maintenance activities are not expected to impact eagle populations. Impacts on fish would similarly have very few effects, if any, on bald eagles because these birds forage little (if at all) along the creeks in the Project Area, and instead forage primarily at reservoirs. Impacts of the Proposed Project are not expected to result in the loss of nesting sites for either of these two eagle species, and would only impact relatively small areas of foraging habitat.

Currently, the only location where SMP Update activities are projected close to a nest of either eagle species would be along the Almaden Calero Canal east of Almaden Road and west of Calero Reservoir; here, an active golden eagle nest on an electrical transmission tower is located approximately 100 feet from the canal. If canal maintenance activities, such as the sediment removal and vegetation management work projected for this location, or surveys for other special-status species, were to occur in close proximity to this nest during the breeding season, this may result in abandonment of the nest, or at

least abandonment of eggs or young that were in the nest at the time. A low probability exists that abandonment would occur, as SMP activities have occurred (even during the breeding season) near this nest for years without abandonment. Nevertheless, new birds that were not habituated to such disturbance could occupy that nest site, and over the 10-year duration of the Proposed Project, some potential would exist for these species to increase in abundance and to begin nesting in other areas where they could be impacted by Proposed Project activities. This could be particularly true for the bald eagle, which has been increasing in abundance in the Project Area over the past several decades. Additionally, impacts to these species may occur because of unprojected activities (e.g., bank stabilization, management of animal conflicts, and minor maintenance). The use of certain rodenticides (e.g., strychnine and anticoagulants such as chlorophacinone and diphacinone) to prevent animal conflicts on levees may result in the secondary poisoning of eagles that consumed rodents or invertebrates that consumed the poison bait (USEPA 2009). In the absence of BMPs, activities causing a substantial increase in noise, movement of equipment, or human presence near active nests during the breeding season may result in nest abandonment, and possibly the loss of eggs or young as a result.

Implementation of pre-project planning BMPs would reduce impacts on bald and golden eagles by minimizing the extent of maintenance activities. In addition, implementation of BMPs specifically designed to protect eagles would avoid or minimize impacts to these species through the identification of active nests and implementation of non-disturbance buffers around such nests. These BMPs are as follows, and a description of each is provided in Table 2-12.

Applicable Best Management Practices

BMP GEN-4: Minimize the Area of Disturbance
BMP GEN-6: Minimize Impacts to Nesting Birds via Site Assessments and Avoidance Measures
BMP ANI-1: Avoid Redistribution of Rodenticides
BMP ANI-3: Burrowing Owl, Bald Eagle, and Golden Eagle Buffer Zone

Conclusion

Implementation of these BMPs~~S~~ would be adequate to assure that the impact to the bald eagle and golden eagle would be less than significant, and no mitigation would be required.

Impact BIO-26: Impacts on the American Peregrine Falcon (Significance Criteria A, B, and E; Less than Significant)

In natural habitats, the American peregrine falcon (a state fully protected species) nests on ledges and in caves on steep cliffs. However, some pairs of this species are highly adapted to the presence of human development, and as a result, this species may nest on and forage from buildings, bridges, and electrical transmission towers throughout the Project Area and utilize urban pigeon populations for prey. American peregrine falcons are known to breed and forage in the Project Area, but the only known recent breeding locations are on San Jose City Hall and on electrical transmission towers in saline managed ponds near Sunnyvale and Alviso. Although no suitable cliff habitats are present in the Project Area, other buildings and transmission towers provide suitable nest sites.

No known nesting sites of the peregrine falcon are currently located in areas close enough to projected SMP Update work sites that maintenance activities would disturb nesting falcons. However, because of the species' recent population increases in California, a high probability exists that the abundance and distribution of nesting peregrine falcons would increase during the 10-year span of the Proposed Project. Because such nesting would most likely occur on buildings or in old raptor or corvid nests on electrical towers, nest sites that would be unlikely to be physically disturbed by project-related activities, physical loss of nesting sites is not expected to occur. Furthermore, because peregrine falcons are aerial foragers and adapted to some extent to human activity, the potential for maintenance activities to disturb a nest to the point of abandonment would be very low. However, peregrine falcons possibly could establish new nests over the next 10 years in areas close enough to Proposed Project activities that the increased noise and movement of people and heavy equipment in close proximity to an active nest during the breeding season could result in abandonment of the nest, including eggs and young. Additionally, unprojected activities (e.g., bank stabilization, management of animal conflicts, sediment reuse/disposal, and minor maintenance) potentially could occur near future peregrine falcon nests.

Implementation of pre-project planning BMPs would reduce impacts on American peregrine falcons by minimizing the extent of maintenance activities. In addition, implementation of BMPs specifically designed to protect nesting birds would avoid or minimize impacts to the species through the identification of active nests and implementation of non-disturbance buffers around such nests. These BMPs are as follows, and a description of each is provided in Table 2-12.

Applicable Best Management Practices

BMP GEN-4: Minimize the Area of Disturbance
BMP GEN-6: Minimize Impacts to Nesting Birds via Site Assessments and Avoidance Measures

Conclusion

Implementation of these BMPs would be adequate to assure that the impact to American peregrine falcons would be less than significant, and no mitigation would be required.

Impact BIO-27: Impacts on the Yellow Warbler (Significance Criteria A, B, and E; Less than Significant with Mitigation)

The yellow warbler is a widespread but uncommon breeder in riparian habitats in the Project Area. Because of the widespread but often patchy nature of high-quality habitat for this species, and thus of occurrences of this species, suitable habitat for the yellow warbler in the Project Area was not mapped for this analysis. Suitable breeding habitat consists of riparian woodlands, often with an overstory of mature cottonwoods and sycamores, a midstory of box elder and willow, and a substantial shrub understory (Bousman 2007j). Riparian areas with reduced understory resulting from grazing or disturbance are generally not used by this species, and riparian corridors lacking open ruderal or herbaceous vegetation along the edges or with development up to the corridor edge are often avoided as well. The yellow warbler breeds in very low numbers along the lower reaches of South Bay streams, being somewhat more common in the upper reaches of the

cottonwood/willow-dominated zone and occasionally riparian habitats dominated by sycamores, alders, and other species as well. In the South County, the species has been recorded breeding in riparian habitat along Llagas, Uvas/Carnadero, and Pacheco creeks, as well as the Pajaro River. Yellow warblers are an abundant migrant throughout the Valley during spring and fall.

As discussed under *Determination of Impacts to Wildlife and Fisheries*, proposed maintenance activities may affect yellow warbler habitat (breeding or foraging) and/or individuals (e.g., disturbance of active nests during maintenance activities). Yellow warbler eggs or young in nests may be killed or injured during maintenance activities (e.g., tree removal), resulting from nest destruction by construction personnel or equipment, or by removal of vegetation containing a nest. Because this species often nests fairly low in trees, removal of the lower limbs of trees ("limbing up") would remove habitat and, during the nesting season, could result in the direct loss of active nests. Maintenance activities causing a substantial increase in noise, movement of equipment, or human presence near active nests also may result in nest abandonment, and possibly the loss of eggs or young as a result. Human disturbance leading to reduced attendance of nests potentially could increase the risk of brood parasitism by brown-headed cowbirds. Such impacts may occur because of both projected sediment removal and vegetation management activities and unprojected activities (e.g., bank stabilization or management of animal conflicts). In addition, suitable habitat for yellow warblers may be temporarily lost (e.g., caused by pruning, hand removal, or herbicide application).

Impacts to riparian woodland, forest, and scrub-shrub communities from projected vegetation management activities are summarized in Table 3.3-7. Because of overlap in projected activities within a specific area, as well as the sporadic nature of this species' occurrence in riparian habitat throughout the Project Area, the acreage of potential yellow warbler habitat that is projected to be impacted is difficult to quantify. Nevertheless, the total acreage of riparian woodland, forest, and scrub-shrub communities projected to be impacted by herbicide use (120.8 acres) indicates the minimum area of potential nesting and foraging habitat for the species that would be impacted. Impacts on yellow warblers, including riparian habitat loss, resulting from the Proposed Project may have a substantial impact on local and regional populations of the species.

Implementation of pre-project planning BMPs would reduce impacts on yellow warblers by minimizing the extent of maintenance activities. In addition, BMPs specifically designed to protect nesting birds would avoid or minimize impacts to this species through implementation of non-disturbance buffers around active nest sites. These BMPs are as follows, and a description of each is provided in Table 2-12.

Applicable Best Management Practices

BMP GEN-4: Minimize the Area of Disturbance
BMP GEN-6: Minimize Impacts to Nesting Birds via Site Assessments and Avoidance Measures

Conclusion

Implementation of these BMPs would reduce impacts on yellow warblers primarily by avoiding impacts to nesting birds. However, residual impacts would occur because of the

extent of riparian habitat impacts and the frequency with which repeated impacts would occur. Impacts on yellow warblers, including riparian habitat loss, resulting from the Proposed Project would be potentially significant because populations of the species and available habitat are limited locally and regionally. Thus, the loss of habitat or individuals may have a substantial impact on local and regional populations of the species (Significance Criteria A, B, and E). Mitigation Measure BIO-14 would be implemented to reduce the impact to a less-than-significant level.

As discussed under Impact BIO-2, Mitigation Measure BIO-2 would require SCVWD to provide compensatory mitigation for impacts to riparian habitat. The riparian planting and restoration program would provide continued high-quality riparian habitat along SCVWD-maintained streams. However, such riparian habitat mitigation may not benefit yellow warblers if it occurred in areas where the species would not breed. Mitigation Measure BIO-14 would be implemented to reduce the impacts on the yellow warbler to a less-than-significant level.

Mitigation Measure BIO-14: Implement Compensatory Mitigation for the Yellow Warbler

For impacts to occupied yellow warbler breeding habitat (i.e., riparian habitat known to have been occupied in recent years by the species) in areas for which mitigation has not already been provided for the 2002–2012 SMP, implementation of Mitigation Measure BIO-2 will be required to occur in areas where riparian habitat creation, restoration, and preservation will benefit yellow warblers (e.g., in relatively undeveloped reaches of creeks rather than in creeks surrounded closely on both sides by development), such that mitigation according to these measures occurs at a ratio of no less than 1:1 (on an acreage basis). SCVWD will determine whether impacted riparian habitat is suitable for this species on the basis of breeding-season surveys or comparison of habitat conditions to those in known occupied areas.

MM BIO-14 will mitigate impacts to the yellow warbler to less-than-significant levels by restoring habitat suitable for use by this species, thereby ensuring that the SMP does not substantially reduce the number or restrict the range of this rare species, have a substantial adverse effect on this special-status species, or impede the use of its nursery sites.

Impact BIO-28: Impacts on the Yellow-breasted Chat (Significance Criteria A, B, and E; Less than Significant with Mitigation)

The yellow-breasted chat is a very scarce breeder in the Project Area because of the loss of suitable breeding habitat and the presence of brown-headed cowbirds (Bousman 2007b). Optimal chat habitat is characterized by relatively large patches of riparian vegetation, with a thick shrubby understory and a few taller trees, but little overall canopy cover. In recent years, chats have been recorded in the largest numbers, and most regularly, along lower Llagas Creek, from the vicinity of the South County Regional Wastewater Authority Plant downstream to the Pajaro River (Padley 2010, H. T. Harvey & Associates 2010c), likely because of both the lack of development on either side of this reach of creek and to the weedy nature of the levee in this area, as such weedy vegetation provides foraging habitat for chats adjacent to their woody riparian breeding habitat. Elsewhere, nesting has

been confirmed recently in the Project Area only along Coyote Creek upstream from U.S. Highway 101 near Hellyer Park, where a family group was seen in 1995 (S. Rottenborn, pers. obs.). However, the species may breed in small numbers elsewhere on the valley floor (e.g., along lower Uvas/Carnadero Creek, the Pajaro River, and possibly elsewhere) in willow-dominated riparian habitats. Habitat for this species is not mapped for this analysis because of the species' patchy distribution.

The Proposed Project may affect yellow-breasted chat habitat for breeding or foraging and/or individuals (e.g., disturbance of active nests during maintenance activities). Yellow-breasted chat eggs or young in nests could be killed or injured during maintenance activities (e.g., tree removal) resulting from nest destruction by construction personnel or equipment (e.g., knocking nests out of vegetation), or by removal of vegetation containing a nest. Maintenance activities causing a substantial increase in noise, movement of equipment, or human presence near active nests also may result in nest abandonment, and possibly the loss of eggs or young as a result. Human disturbance leading to reduced attendance of nests potentially could increase the risk of brood parasitism by brown-headed cowbirds. Such impacts may occur because of both projected sediment removal and vegetation management activities and unprojected activities (e.g., bank stabilization, management of animal conflicts, and minor maintenance).

Suitable habitat for yellow-breasted chats may be temporarily lost as a result of vegetation management activities (e.g., herbicide application and pruning of lower limbs), especially along the Uvas/Carnadero Creek downstream from Highway 152, Llagas Creek downstream from Highway 152, and the Pajaro River. In particular, hand removal of vegetation, mowing, and herbicide application are projected to affect a large portion of suitable habitat along Llagas Creek; depending on the distribution of target vegetation, herbicide application could occur along up to 100 percent of the bank/bench from the Pajaro River confluence to Highway 152, on both sides of the creek. Because herbicide application would occur twice yearly (early winter/late fall and early spring) keeping vegetation short throughout the species' breeding season, vegetation management activities would substantially reduce the value of the area as breeding and foraging habitat for the yellow-breasted chat. Surveys of lower Llagas Creek in 2010 documented the highest concentration of breeding yellow-breasted chats ever recorded in Santa Clara County, and many of the birds observed were foraging in tall, weedy, herbaceous vegetation along the sides of the levees (H. T. Harvey & Associates 2010b). Because of the importance of this reach of lower Llagas Creek to regional yellow-breasted chat populations, such an impact on the species' populations would be substantial.

Bank stabilization activities could have temporary or permanent impacts on suitable habitat for the species, depending on the type of stabilization methods employed (e.g., softscape vs. hardscape), but the likelihood of permanent impacts to large areas of chat habitat would be minimal because of the locations where this species would be concentrated, relative to areas of likely bank stabilization needs.

Implementation of pre-project planning BMPs would reduce impacts on yellow-breasted chats by minimizing the extent of maintenance activities. In addition, implementation of BMPs specifically designed to protect nesting birds would avoid or minimize impacts to this species through implementation of non-disturbance buffers around active nest sites. These BMPs are as follows, and a description of each is provided in Table 2-12.

Applicable Best Management Practices

BMP GEN-4: Minimize the Area of Disturbance
BMP GEN-6: Minimize Impacts to Nesting Birds via Site Assessments and Avoidance Measures

Conclusion

Implementation of these BMPs would reduce impacts on yellow-breasted chats by avoiding impacts to nesting birds. However, residual impacts would remain because of the degradation of habitat along lower Llagas Creek resulting from repeated herbicide applications, pruning, and other maintenance activities. Because of the importance of this reach of lower Llagas Creek to regional yellow-breasted chat populations, such an impact would be substantial on the species' populations, and therefore would be significant (Significance Criterion B).

As discussed under Impact BIO-2, Mitigation Measure BIO-2 would require SCVWD to provide compensatory mitigation for impacts to riparian habitats. This mitigation may take a variety of forms, and such mitigation would only benefit the yellow-breasted chat if riparian mitigation were to occur within one of the few areas where this species breeds in the Project Area. Nevertheless, riparian habitat mitigation in at least some areas would benefit this species.

As discussed under Impact BIO-23, Mitigation Measure BIO-12 would give SCVWD two options for maintaining suitable habitat conditions for the least Bell's vireo along lower Llagas Creek: ensuring that maintenance of that reach would allow the continued presence of suitable habitat conditions (Mitigation Measure BIO-12A), or providing similar conditions at an off-site location along a South County creek (Mitigation Measure BIO-12B). Implementation of either of those measures also would mitigate impacts of vegetation management along lower Llagas Creek for the yellow-breasted chat, by ensuring that suitable breeding and foraging habitat for the chat was maintained. Mitigation Measure BIO-12 would be implemented to reduce the impact to the yellow-breasted chat to a less-than-significant level.

Impact BIO-29: Impacts on the Grasshopper Sparrow (Significance Criteria A, B, and E; Less than Significant)

The grasshopper sparrow (a California species of special concern) breeds in open, short grasslands with scattered clumps of shrubby vegetation, constructing domed ground nests with grasses in patches of dense vegetation (Vickery 1996, Sutter and Ritchison 2005, Unitt 2008). In the Project Area, breeding grasshopper sparrows occur in several areas in the foothills of the Santa Cruz Mountains, along the foothills of the Diablo Range from Calaveras Reservoir southeast to the hills above Pacheco Creek, and in the southeast portion of the Project Area where the hills drop down to the Pajaro River Valley (Heller 2007). They do not breed on the Valley floor. Grasshopper sparrows may occur somewhat more widely during migration, but they are seldom seen in the South Bay outside the breeding season.

Because the grasshopper sparrow does not breed on the valley floor, potential impacts from the Proposed Project would be limited to activities associated with canals occurring

at the upper elevational limit of the Proposed Project. However, little overlap (if any) would exist between suitable grasshopper sparrow habitat and potential maintenance activities. For example, grasshopper sparrows are relatively common breeders on the mid- and upper slopes of Coyote Ridge, but they have not been recorded breeding at the base of Coyote Ridge where the Coyote Canal is located. The same situation occurs with respect to canals on Tulare Hill, the Santa Teresa Hills, and the area west of Calero Reservoir. As a result, very few, if any, breeding grasshopper sparrows would be adversely affected by the Proposed Project and only minor amounts of suitable habitat may be affected. It is possible that activities associated with canals may disturb foraging birds, and possibly disturb low-elevation breeders to the point that a very limited number of nests would be impacted. However, such effects would impact only a very small proportion of regional populations of this species; thus, this impact would be less than significant.

Conclusion

Even in the absence of mitigation measures, impacts resulting from the Proposed Project would be less than significant because the proposed activities would not result in a substantial impact on regional populations of the species. SCVWD would implement BMP GEN-6 (*Minimize Impacts to Nesting Birds via Site Assessments and Avoidance Measures*) regardless of the potential for significant impacts (i.e., to comply with the federal Migratory Bird Treaty Act), and thus the potential for adverse effects on nesting grasshopper sparrows would be further reduced. Therefore, no mitigation would be required.

Impact BIO-30: Impacts on the Northern Harrier (Significance Criteria A, B, and E; Less than Significant)

In the northern portion of the Project Area, the northern harrier (a California species of special concern) nests in South Bay marshes, particularly the interiors of larger tidal salt and brackish marshes. No sediment management activities are proposed in such areas; however, herbicide application activities are proposed adjacent to potential northern harrier nesting habitat on levees along Coyote Slough, around Newby Island, near Pond A4, and near the mouth of San Francisquito Creek. Because herbicide application activities would not occur in the marsh habitat itself and would be of short duration in any specific area, these activities are not expected to disturb nesting harriers to the point of nest abandonment.

In the southern portion of the Project Area, harriers prefer nesting habitat in the vicinity of or contiguous with large expanses of open grassland, fallow agricultural areas, and impoundments at the South County Regional Wastewater Authority Plant. Although maintenance activities may occur along the margins of this habitat (e.g., along lower Llagas Creek), the potential for such activities to disturb a nest to the point of abandonment would be very low because harriers nest in the interiors of large expanses of open habitat, not very close to levees where Proposed Project activities would be concentrated in the South County. Disturbance of foraging habitat would be unlikely to have a substantial effect on local and regional populations of the species because of the low number of breeding birds relative to the extent of suitable foraging habitat and abundance of prey.

Conclusion

Even in the absence of mitigation measures, impacts resulting from the Proposed Project would be less than significant because the proposed activities would not result in a substantial impact on regional populations of the species. Because SCVWD would implement BMP GEN-6 (*Minimize Impacts to Nesting Birds via Site Assessments and Avoidance Measures*) regardless of the potential for a significant impact, potential adverse effects on northern harriers resulting from Proposed Project activities would be further reduced. Therefore, no mitigation would be required.

Impact BIO-31: Impacts on the White-Tailed Kite and Loggerhead Shrike (Significance Criteria A, B, and E; Less than Significant)

The white-tailed kite (a state fully protected species) and loggerhead shrike (a California species of special concern) nest primarily in open grassland, shrubland, and agricultural habitats that contain suitable brush, shrubs, or trees for nesting. Although white-tailed kites require more extensive habitat for foraging, while loggerhead shrikes may be present in areas providing relatively smaller patches of open grassland, these species are assessed together because they breed and forage in similar habitats in the Project Area and because the potential effects of the Proposed Project on these species would be similar.

Proposed Project maintenance activities may affect white-tailed kite and loggerhead shrike habitat (breeding and foraging) and could possibly impact active nests, including eggs or nestlings. Such impacts may occur because of both projected sediment removal and vegetation management activities and unprojected activities (e.g., bank stabilization, management of animal conflicts, and minor maintenance).

Clearing and grading for access roads and staging areas may result in the direct loss of habitat through the disturbance of grasslands. Maintenance activities also may result in a reduction in the quality of breeding or foraging habitat because of the introduction of non-native vegetation. Small mammal control may reduce the suitability of habitat by reducing available prey for these species, and herbicides and pesticides used for vegetation management or management of animal conflicts control may deplete prey, especially for loggerhead shrikes that regularly feed on large insects. However, because of the relatively small amount of grassland and agricultural habitats that would be affected relative to the extent of suitable foraging habitat and prey in the region, impacts on habitat for white-tailed kites and loggerhead shrikes would be considered less than significant.

Proposed Project activities, particularly vegetation management, may degrade habitat, as compared to existing conditions, and may maintain habitat in a reduced-quality state so that it supported fewer shrikes and kites over the long term. This may occur especially along lower Llagas Creek, where multiple pairs of these species exist in areas that have not been subjected to recent, intensive maintenance. However, relatively few pairs are expected to be affected, both because of the limited extent of areas where such effects would occur and because shrikes and kites likely would continue to nest, though possibly in lower numbers, in areas with such vegetation management.

Eggs or young in nests may be killed or injured during maintenance activities, resulting from destruction by construction personnel or equipment, or removal of vegetation

containing nests. Furthermore, nesting of both species may be disrupted to the extent that nests would fail because of disturbance that was too frequent or too severe. In the absence of BMPs, impacts to active nests of white-tailed kites and loggerhead shrikes could be substantial because these species' populations are relatively limited locally, and because SMP Update activities are projected in a number of areas where these species occur.

Implementation of pre-project planning BMPs would reduce impacts on white-tailed kites and loggerhead shrikes by minimizing the extent of maintenance activities. In addition, implementation of BMPs specifically designed to protect nesting birds would avoid or minimize impacts to these species through the identification of active nests and implementation of non-disturbance buffers around such nests. These BMPs are as follows, and a description of each is provided in Table 2-12.

Applicable Best Management Practices

BMP GEN-4: Minimize the Area of Disturbance
BMP GEN-6: Minimize Impacts to Nesting Birds via Site Assessments and Avoidance Measures

Conclusion

Implementation of these BMPS would be adequate to assure that the impact on white-tailed kites and loggerhead shrikes would be less than significant and no mitigation would be required.

Impact BIO-32: Impacts on the Redhead, Short-Eared Owl, Long-Eared Owl, Vaux's Swift, and Olive-Sided Flycatcher
(Significance Criteria A, B, and E; Less than Significant)

The redhead, short-eared owl, long-eared owl, Vaux's swift, and olive-sided flycatcher are all California species of special concern (when breeding) that occur in the Project Area in limited numbers, primarily as non-breeders, but they potentially could nest in the vicinity of Proposed Project work sites. The redhead has been recorded nesting in the Project Area on only a few occasions, in the 1970s and 1980s, at the Palo Alto Flood Control Basin. Redheads have a low probability of nesting elsewhere in the Project Area.

The short-eared owl is a migrant and winter visitor that forages in marshes, grasslands, and agricultural areas. Historically, it has bred very locally and sporadically in the South Bay, and it is unlikely that this species currently breeds in the Project Area. If it still breeds in the area, the Palo Alto Flood Control Basin is the only likely nesting area for the species. Any Proposed Project activities in the vicinity of the Flood Control Basin, either projected or unprojected, would occur along its periphery, whereas short-eared owls would nest toward the interior of the Flood Control Basin.

The long-eared owl is not known to nest in the Project Area (Noble 2007), but it has been recorded nesting just outside the Project Area in Ed Levin County Park, west of Calaveras Reservoir (Noble 2007). Accordingly, it is possible that a few pairs may occur in riparian, oak woodland, or mixed evergreen forest in the Project Area, particularly in foothill areas. On the Valley floor, where most SMP Update activities are projected, the species most likely occurs only as a rare and irregular non-breeding visitor.

Vaux's swift is the only special-status bird species that breeds in the Project Area, exclusively in residential portions of the area. Although Vaux's swifts nest in small numbers in coniferous forest habitats in the Santa Cruz Mountains, within the Project Area they are known to nest only in chimneys in western residential areas.

Olive-sided flycatchers are associated with coniferous forest habitats. They breed widely in the Santa Cruz Mountains and more sparingly in the Diablo Range, but do not breed on the Santa Clara Valley floor. Likely, few pairs nest at sites below 1,000 feet in elevation. Olive-sided flycatchers are known to nest along Upper Penitencia Creek in Alum Rock Park, and occasionally around Calero Reservoir in the Project Area (Bousman 2007c). Suitable habitat also is present in the Project Area along the uppermost reaches of Uvas Creek and Bodfish Creek.

An extremely low potential would exist for nesting pairs of the redhead, short-eared owl, and long-eared owl to be disturbed by Proposed Project activities because of these species' current distribution in the Project Area (i.e., the lack of known nesting pairs), and the number of individuals that could possibly be disturbed would be very low. Because swifts nesting in residential areas are adapted to human activity to some extent, and because of the limited number of pairs of this species that nest in the Project Area, the potential for maintenance activities to disturb a nest to the point of abandonment would be extremely low. A very few pairs of olive-sided flycatchers possibly could nest in areas where Proposed Project activities would occur, and thus some potential would exist that the removal of vegetation could result in the physical loss of nests or that increased maintenance disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment.

Conclusion

Because of the very low numbers of any of these species that could possibly be affected by Proposed Project activities, potential impacts on these five species would be considered less than significant. However, because SCVWD would implement BMP GEN-6 (*Minimize Impacts to Nesting Birds via Site Assessments and Avoidance Measures*) regardless of the potential for significant impacts, the potential for adverse effects on these species resulting from Proposed Project activities would be further reduced. Therefore, no mitigation would be required.

Impact BIO-33: Impacts on the Tricolored Blackbird (Significance Criteria A, B, and E; Less than Significant)

The tricolored blackbird (a California species of special concern at its nesting colonies) typically nests in tall, dense, stands of cattails or tules, but also nests in blackberry, wild rose bushes, and tall herbs. Nesting colonies are usually located near fresh water. The species is highly colonial in its nesting habits and forms dense breeding colonies that, in some parts of the Central Valley, may consist of up to tens of thousands of pairs. In the Project Area, the species is patchily distributed in the Santa Clara Valley, reflecting the patchy nature of its breeding habitat (Rottenborn 2007a).

The tricolored blackbird has not been recorded breeding in the Project Area during the last 10 years. However, because nesting habitat for this species is short-lived because of

succession, colonies generally are not present at a specific location for more than a few years. Additionally, because tricolored blackbirds are itinerant nesters, and because their nesting habitat is ephemeral, it is possible for this species to colonize or recolonize an area as suitable breeding habitat becomes available. As a result, over the 10-year Proposed Project span, new colonies of tricolored blackbirds may appear in the Project Area if new areas of emergent vegetation were established (e.g., because of wetland restoration or in stormwater detention basins, ponds that were constructed or modified, or creeks with extensive emergent vegetation) in areas surrounded by extensive open foraging habitat. Possible areas where tricolored blackbird breeding habitat may occur within the Project Area would include the Almaden Valley, the Coyote Valley, and South County areas. The Proposed Project may affect tricolored blackbird habitat (breeding, foraging, or wintering) and/or individual nests (e.g., during maintenance activities).

Suitable habitat for tricolored blackbirds may be temporarily lost as a result of sediment removal and vegetation management activities (e.g., herbicide application). However, this impact would be considered less than significant because: (1) habitat availability would not limit its occurrence in the county, based on the species' decade-long absence from all but the eastern part of the county and the availability of suitable nesting habitat in some areas that have not been occupied in years; (2) no high-quality habitat exists with regular tricolored blackbird use that is projected to be impacted by maintenance activities; and (3) the sites within the Project Area that have been used in recent decades have typically been used for only 1 to a few years, in part because of the nomadic nature of this species' colonies and in part because of succession (e.g., conversion of a cattail marsh into dense willows).

If a colony of tricolored blackbirds were to establish in the Project Area during the 10-year span of the Proposed Project, eggs or young in nests may be killed or injured during construction activities from crushing by construction personnel or equipment. Furthermore, nesting may be disrupted to the extent that nests would fail because of disturbance that was too frequent or too severe. Such impacts may occur because of both projected sediment removal and vegetation management activities and unprojected activities (e.g., bank stabilization, management of animal conflicts, sediment reuse/disposal, and minor maintenance). Because tricolored blackbirds only sporadically breed in the Project Area and colonies in the Central Valley may consist of thousands of birds, the significance of this impact would be dependent on the size of the breeding colony disturbed. Disturbance of a small colony would not substantially affect a regional population that did not rely heavily on breeding habitat in the Project Area. However, impacts to larger breeding colonies may result in a more substantial impact on regional populations of the tricolored blackbird.

Implementation of pre-project planning BMPs would reduce impacts on tricolored blackbirds by minimizing the extent of maintenance activities. In addition, BMPs specifically designed to protect nesting birds would avoid or minimize impacts to this species through the identification of active nests and implementation of non-disturbance buffers around such nests. These BMPs are as follows, and a description of each is provided in Table 2-12.

Applicable Best Management Practices

BMP GEN-4: Minimize the Area of Disturbance
BMP GEN-6: Minimize Impacts to Nesting Birds via Site Assessments and Avoidance Measures

Conclusion

Implementation of these BMPS would be adequate to assure that the impact on tricolored blackbirds would be less than significant and no mitigation would be required.

Impact BIO-34: Impacts on Non-Breeding, Special-Status Birds (Significance Criteria A, B, and E; Less than Significant)

Several special-status bird species occur in the Project Area as non-breeding migrants, transients, or foragers, but they are not known or expected to breed or occur in large numbers in the Project Area; these include the bank swallow, California condor, Swainson's hawk, California least tern, and western least bittern.

The bank swallow (state listed as a threatened species) forages aerially throughout the Project Area, most likely in areas with greater numbers of aerial insects such as over ponds and streams, but occurs rarely and only as a transient. The California condor (federally and state listed as an endangered species) has not been recorded in the Project Area since its extirpation from the wild and subsequent reintroduction to San Benito and Monterey counties. In mid-June 2011, up to five individuals were recorded at the summit of Mt. Hamilton, east of San Jose and well above the 1,000-foot elevation contour that delineates the Project Area, indicating that the species occasionally ventures into Santa Clara County. If condors occur in the Project Area at all, now or in the future, they likely would occur as foragers in extensive grasslands offering carrion; like the June 2011 individuals, they likely would occur predominantly at higher elevations, rather than in lower valley-floor areas where Proposed Project activities would occur. Swainson's hawk (state listed as a threatened species) occurs as an infrequent transient during migration in agricultural, grassland, and oak woodland habitats. The California least tern (federally and state listed as endangered and a state fully protected species) uses managed pond habitats along the edge of the Bay as post-breeding foraging and staging areas. The western least bittern (a California species of special concern) has never been recorded breeding in the Project Area and likely occurs here only as an occasional migrant, foraging in freshwater and brackish marshes.

The Proposed Project would have some potential to impact foraging habitats and/or individuals of these species. Maintenance activities associated with the Proposed Project may result in a temporary direct impact through the alteration of foraging patterns (e.g., avoidance of work sites because of increased noise and activity levels during maintenance activities) but would not result in the loss of individuals. Furthermore, the Project Area does not provide important foraging habitat used regularly or by large numbers of individuals of any of these species, with the exception of the California least tern. This tern uses managed ponds along the Bay edge in Santa Clara County as an important post-breeding staging area. However, no Proposed Project activities that would adversely affect the use of these ponds by post-breeding least terns would occur; any such activities would

occur at the margins of ponds, and thus would not preclude the use of ponds for roosting or foraging.

Conclusion

Impacts to these species and their habitats resulting from the Proposed Project would be very limited, and for some of these species may not occur at all. Accordingly, maintenance activities would not result in substantial reductions in local or regional populations, and would only affect a very low proportion of regionally available habitat. Such an impact would be, therefore, less than significant and no mitigation would be required.

Impact BIO-35: Impacts on the Salt Marsh Harvest Mouse and Salt Marsh Wandering Shrew (Significance Criteria A, B, and E; Less than Significant with Mitigation)

The salt marsh harvest mouse and salt marsh wandering shrew are similarly associated with tidal marsh habitat in the northern portion of the Project Area (Figure 3.3-22), and the potential impacts of the Proposed Project on these species would be similar. Thus, they were assessed together. Habitat for both salt marsh harvest mice and salt marsh wandering shrew consists of pickleweed-dominated areas of tidal marshes and diked and muted tidal marshes. Salt marsh harvest mice also have been found in dense vegetation within brackish marshes in the South Bay (H. T. Harvey & Associates 2006). Of particular importance to these species is upland transitional habitat surrounding marshes that provides upland refugia during high tides.

As described under *Determination of Impacts to Wildlife and Fisheries*, maintenance activities may result in the injury or mortality of salt marsh harvest mice and salt marsh wandering shrews because of equipment use (including mowing and discing), vehicle traffic, and worker foot traffic. Individuals that vacate the area because of increased levels of noise and disturbance may be exposed to increased competition from conspecifics already occupying the area to which they were displaced and increased levels of predation because of unfamiliarity with the new area or lack of sufficient cover. Removal of vegetation may expose individual mice and shrews to predation. These impacts would be significant (Significance Criteria A and B).

Any replacement of natural bank with hardscape (e.g., concrete crib walls or sacked concrete) could result in the loss of breeding and foraging habitat for the salt marsh harvest mouse and wandering shrew. Replacement of natural banks with armoring would preclude the re-establishment of vegetation that would provide cover and foraging habitat. Conversely, replacement of "hard" bank substrates with "softer" substrates, which also potentially could occur under the SMP Update, would enhance habitat. Because bank stabilization is not a projected activity, the extent of the area over which effects resulting from bank stabilization activities may occur cannot be quantified. Based on past work records, SCVWD stabilizes about 0.75 mile of stream bank per year throughout the Santa Clara Basin, although a low potential would exist for such impacts to occur in suitable habitat for the salt marsh harvest mouse or wandering shrew.

No sediment removal is projected in areas providing potential habitat for the salt marsh harvest mouse. The nearest area of projected sediment removal is along upper Alviso Slough between Gold Street and the Union Pacific Railroad Bridge, although this area does

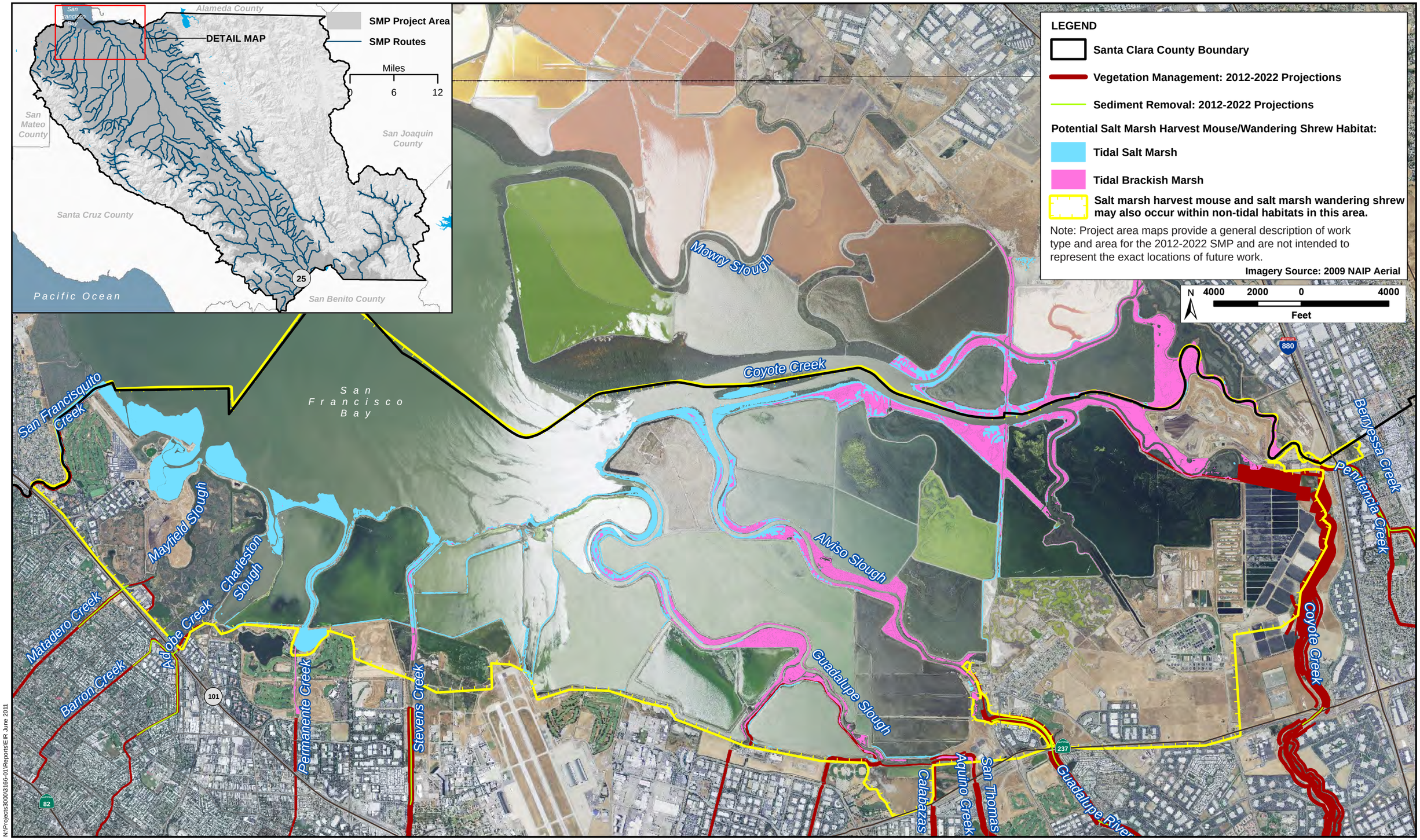
not provide habitat for the species. Vegetation management is projected to affect 8.3 acres of salt and brackish marsh habitats directly. Some vegetation management would result in temporary degradation of salt marsh habitat via mowing or removal of plants, which would impact habitat for the harvest mouse and wandering shrew. Impacts to this community would be as described under Impact BIO-1 for wetland and aquatic habitats. However, the majority of such impacts (6.8 acres) would occur as a result of herbicide application in perennial pepperweed-dominated areas near Coyote Slough and Coyote Bypass. This activity, which occurs in part as mitigation for impacts resulting from the Lower Coyote Creek capital project, would enhance habitat conditions by reducing the infestation of high-quality salt marsh by the invasive perennial pepperweed.

Vegetation management activities also are projected in several areas adjacent to suitable habitat for the harvest mouse and shrew, including herbicide application along the Moffett Channel outboard levee, the Coyote Creek Bypass bank/bench, Coyote Slough, Coyote Creek, around the Reach 1A waterbird pond, Guadalupe Slough, the Sunnyvale East Channel, and the mouth of San Francisquito Creek (Figure 3.3-23). Vegetation management did not occur in most of these areas from 2002–2009. Vegetation management in many of these areas only would affect vegetation on the sides of levees.

Harvest mice use such upland transitional vegetation for cover during very high winter tides. Some vegetation management would occur along lower benches; harvest mice may make greater use of these areas, particularly during very high winter tides, and thus vegetation management could reduce habitat availability, expose harvest mice to increased predation, and increase competition among individuals that were concentrated in remaining habitat. The loss of habitat resulting from vegetation management would be temporary in any given area.

The use of certain rodenticides (e.g., strychnine) to prevent animal conflicts on levees could result in the off-target poisoning of salt marsh harvest mice and wandering shrews. However, BMP ANI-2 (Prevent Harm to the Salt Marsh Harvest Mouse and California Clapper Rail) would prohibit the use of rodenticides and fumigants within the range of the salt marsh harvest mouse, as depicted in Figure 3.3-22. Because of past fill of bayside marshes, armoring of levees, and other impacts, populations of the salt marsh harvest mouse and the salt marsh wandering shrew in the Project Area are very limited in number and extent. Therefore, the effects of even temporary habitat loss because of vegetation management could substantially affect regional populations of salt marsh harvest mice and salt marsh wandering shrews because their populations and available habitat would be limited locally and regionally.

Implementation of pre-project planning BMPs would reduce impacts on salt marsh harvest mice and salt marsh wandering shrews, primarily by restricting activities that could be particularly harmful to these species in suitable habitat. For example, implementation of the BMP specifically designed to protect salt marsh harvest mice would avoid or minimize impacts to these species by requiring the presence of a biological monitor during activities that directly impact vegetated habitat of the salt marsh harvest mouse. These BMPs are as follows, and a description of each is provided in Table 2-12.



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H. T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

Figure 3.3-22: Potential Salt Marsh Harvest Mouse and Salt Marsh Wandering Shrew Habitat in Santa Clara County

Santa Clara Valley Water District Stream Maintenance Program EIR (3166-01)
July 2011

Applicable Best Management Practices

BMP GEN-4: Minimize the Area of Disturbance
BMP GEN-8: Protection of Sensitive Fauna Species from Herbicide Use
BMP GEN-11: Protection of Salt Marsh Harvest Mouse and California Clapper Rail
BMP ANI-2: Prevent Harm to the Salt Marsh Harvest Mouse and California Clapper Rail

Conclusion

Implementation of these BMPs would reduce impacts on salt marsh harvest mice and salt marsh wandering shrews considerably. However, vegetation management still would cause habitat loss that could result in loss of individuals because of increased predation or other density-dependent effects. Therefore, the effects of even temporary habitat loss (because of vegetation management could substantially affect regional populations of salt marsh harvest mice and salt marsh wandering shrews) resulting from the Proposed Project would be potentially significant (Significance Criteria A, B, and E).

As described under Impact BIO-3, management of the invasive perennial pepperweed in the Coyote Creek Bypass area would benefit the northern coastal salt marsh community, and salt marsh harvest mouse habitat, and thus would not require mitigation. Otherwise, as mitigation for impacts to tidal habitats and tidal marsh species predicted to result from the 2002–2012 SMP, SCVWD would implement Mitigation Measure BIO-1 that (as described) restored the "Island Ponds" (Ponds A19, A20, and A21), located between Coyote Slough and Mud Slough near Alviso, to tidal action. Monitoring has documented the formation of nascent tidal marsh habitat, including extensive channel networks, within these ponds. Thirty acres of tidal restoration within the Island Ponds was intended to serve as mitigation for impacts to tidal habitats for the 2002–2012 SMP. However, based on the actual impacts from 2002–2012~~09~~ SMP activities, only 9 acres of tidal mitigation were needed to compensate for those impacts. ~~In addition~~As a result, SCVWD created 21 acres of ~~excess~~additional tidal habitats compared to what was needed to mitigate for the actual impacts from 2002–2012 SMP activities. SCVWD would use the 21 acres of ~~excess~~ tidal marsh restoration as available mitigation for impacts to tidal wetlands and aquatic habitats, as well as tidal marsh species, under the 2012–2022 SMP Update. Physical breaching of the Island Pond levees and other physical work required for this tidal restoration has already occurred, and no further activities (other than continued monitoring of marsh development per the 2002–2012 SMP monitoring requirements) are proposed by SCVWD. Although it may take years for high-quality salt marsh harvest mouse and salt marsh wandering shrew habitat to become widespread within this marsh, suitable habitat is already present at the edges of the restored wetland, and over time, this mitigation would compensate for all impacts of Proposed Project activities on these two species, by restoring extensive vegetated tidal marsh that would provide habitat for them. It is possible that this mitigation may be refined by the USFWS during Section 7 consultation (e.g., in a Biological Opinion), or by the CDFG during CESA consultation, in which case the refined mitigation measure would be implemented. Mitigation Measure BIO-1 would be implemented to reduce impacts on the salt marsh harvest mouse and salt marsh wandering shrew to a less-than-significant level.

Impact BIO-36: Impacts on the San Francisco Dusky-Footed Woodrat (Significance Criteria A, B, and E; Less than Significant)

The San Francisco dusky-footed woodrat is a California species of special concern. The classification of the subspecies as a species of special concern was based on its limited Bay Area distribution. However, recent genetic studies by Matocq (2002) indicate the distinct genetic population (subspecies or taxon) is much larger than originally thought. The CDFG has accepted this distribution but has not changed the species of special concern designation (CDFG 2009).

The San Francisco dusky-footed woodrat is locally common in undisturbed portions of appropriate habitat throughout its range. It may occur in natural areas of woodland, scrub, or riparian habitats with dense understory or thick scrub for cover. In Santa Clara County, the highest densities of woodrats occur in riparian and oak woodland habitats where those habitats include dense vegetation understories. Relatively high densities of woodrats have also been observed in riparian habitats where invasive giant reed is the dominant vegetation (H. T. Harvey & Associates 2001). Dusky-footed woodrats may be sensitive to non-native predators, such as domestic animals and urban-adapted predators, which may limit their distribution in the more developed portions of the Project Area. Currently, with the exception of records along the northern portion of Coyote Creek and along the edges of the Valley, San Francisco dusky-footed woodrats do not occur in the more urbanized portions of the county (H. T. Harvey & Associates 2010c). Where low open valleys are less developed (e.g., Coyote Valley, Little Arthur Creek valley, and Uvas, and Llagas Creeks), woodrat populations appear to remain intact.

As described under *Determination of Impacts to Wildlife and Fisheries*, maintenance activities may result in the injury or mortality of dusky-footed woodrats because of equipment use, vehicle traffic, and worker foot traffic., particularly when taking refuge in their stick nests. In addition, woodrats may be adversely affected by implementation of animal conflict management activities (e.g., poisoning or trapping). Suitable habitat and nests may be directly lost as a result of clearing and grading for bank stabilization or stream access and through the modification of suitable habitat because of vegetation management activities, particularly the removal of giant reed, pruning, and herbicide application. Pruning may open up a stand or location to direct sunlight on a nest, which could lead to abandonment.

Direct impacts to San Francisco dusky-footed woodrats resulting from proposed SMP Update activities could potentially result in the loss of tens or even hundreds of nests and individuals, in part because of the species' abundance in suitable habitat. Indirect impacts also could occur as a result of over-crowding (as individuals lost habitat and moved to areas that were already occupied) and increased risk of predation. Populations may be fragmented if extensive areas of suitable habitat were cleared. As a result of the species' regional abundance and high reproductive capabilities, Project impacts to dusky-footed woodrats would not have a substantial effect on regional populations. However, woodrats are very important ecologically in that they provide an important prey source for raptors (particularly owls) and for predatory mammals, and their nests also provide habitat for a wide variety of small mammals, reptiles, and amphibians. As a result, the loss of large numbers of woodrats and their nests would be a substantial impact.

SCVWD would implement several BMPs, including one specifically designed to protect woodrats, to minimize impacts to this species through the identification and avoidance of occupied nests where practicable and implementation of nest relocation measures where avoidance was not feasible. These BMPs are as follows, and a description of each is provided in Table 2-12.

Applicable Best Management Practices

BMP GEN-4: Minimize the Area of Disturbance
BMP GEN-14: Protection of San Francisco Dusky-Footed Woodrat
BMP GEN-21: Staging and Stockpiling of Materials
BMP ANI-1: Avoid Redistribution of Rodenticides

Conclusion

Implementation of BMPs would be adequate to assure that impacts to dusky-footed woodrats and their habitat would be less than significant, and BMP GEN-14 also would help to protect the species that often use woodrat houses for shelter by preventing the outright destruction of nests.

Because the species' habitats are relatively widespread, impacts to their habitat would not require additional species-specific mitigation. Nevertheless, implementation of Mitigation Measure BIO-2 would compensate for impacts to riparian habitat supporting the dusky-footed woodrat, by providing riparian mitigation that could benefit this species.

Impact BIO-37: Impacts on the Pallid Bat (Significance Criteria A, B, and E; Less than Significant with Mitigation)

The pallid bat (a California species of special concern) is most commonly found in oak savannah and in open dry habitats with rocky areas, trees, buildings, or bridge structures that are used for roosting. In the Project Area, a maternity colony is present along Cochrane Road near Anderson Dam in Morgan Hill (Dave Johnston, pers. obs.). In addition, maternity colonies are present in east San Jose at a drainage south of Berryessa Creek close to Old Piedmont Road and on Chaboya Court at the end of Quimby Road; at the Highway 152 bridge over Uvas Creek west of Gilroy; and near Day Road northwest of Gilroy (Dave Johnston, pers. obs.). Individuals from these maternity roosts may forage in the Project Area, in open areas located within several miles of these roost locations. Pallid bats are known to forage along Alamitos Creek and Metcalf Road, but the locations of breeding colonies for these individuals are unknown. Potential breeding habitat is present along creeks in the Project Area in larger trees, such as oaks, sycamores, and cottonwoods.

The Proposed Project is unlikely to result in the loss of high-quality roost sites for the pallid bat because large trees (i.e., trees greater than 12 inches dbh), which are the trees most likely to support cavities that could be used by large colonies, would not be removed. Nevertheless, projected activities could result in the removal of smaller trees used as breeding or roosting sites. In addition, when trees containing roosting colonies or individual bats were removed or modified, individual bats could be physically injured or killed; subjected to physiological stress resulting from being disturbed during torpor; or face increased predation because of exposure during daylight. In addition, nursing young may be subjected to disturbance-related abandonment by their mothers. Project-related

disturbance in close proximity to a maternity roost of pallid bats, which could result from both projected sediment removal and vegetation management activities and unprojected activities (e.g., bank stabilization, management of animal conflicts, and minor maintenance), potentially could cause females to abandon their young. Maintenance activities also may result in the loss or reduction of a small amount of foraging habitat, such as streams and open grassland areas over which the bats foraged, although the extent of such impacts would not substantially affect the regional availability of foraging habitat.

Impacts on pallid bats resulting from the Proposed Project could be substantial because the species' populations and available roosting habitat are limited locally and regionally and loss of habitat or individuals may have a substantial effect on local and regional populations of the species.

SCVWD would implement two BMPs, including one specifically designed to protect bat colonies, to avoid or minimize impacts to these species through identification and avoidance of occupied roosts, implementation of non-disturbance buffers around active maternity colonies and hibernacula, and safe eviction of non-breeding bats where avoidance was not feasible. These BMPs are as follows, and a description of each is provided in Table 2-12.

Applicable Best Management Practices

BMP GEN-4: Minimize the Area of Disturbance
BMP GEN-13: Protection of Bat Colonies

Conclusion

Implementation of BMPs would reduce the impact to pallid bats considerably. However, if an occupied maternity roost was permanently impacted (e.g., caused by tree removal), or if disturbance of a maternity roost causing long-term roost abandonment occurred, the impact would be significant because this species' populations and available habitat are limited locally and regionally and loss of habitat or individuals may have a substantial impact on local and regional populations of the species (Significance Criteria A, B, and E). Mitigation Measure BIO-15 would be implemented to reduce the impacts on pallid bat roost sites to a less-than-significant level.

Mitigation Measure BIO-15: Provide Alternative Bat Roost

If a tree or structure containing a pallid bat maternity roost is to be removed by the Proposed Project, a qualified biologist will design and determine an appropriate location for an alternative roost structure. If a tree containing a maternity roost of this species is not removed, but SMP-related disturbance causes the abandonment of the roost site (even during the non-breeding season), then SCVWD may either monitor the roost site to determine whether the affected species returns to the roost, or construct an alternative roost. If SCVWD elects to monitor the roost and bats do not return within 1 year, then an alternative roost will be constructed.

A qualified biologist will determine the appropriate location for the alternative roost structure, based on the location of the original roost and habitat conditions in the vicinity. The roost structure will be built to specifications as determined by a qualified biologist, or it may be purchased from an appropriate vendor. The structure will be placed as close to the impacted roost site as feasible. SCVWD will monitor the roost for up to 3 years (or until occupancy is determined, whichever occurs first) to determine use by bats. If by Year 3 pallid bats are not using the structure, a qualified bat biologist, in consultation with the CDFG, will identify alternative roost designs or locations for placement of the roost, and monitoring of the new roost will occur for an additional 3 years (or until occupancy has been verified).

MM BIO-15 will mitigate impacts to the pallid bat to less-than-significant levels by providing alternative roosting habitat suitable for use by this species, thereby ensuring that the SMP does not substantially reduce the number or restrict the range of this rare species, have a substantial adverse effect on this special-status species, or impede the use of its nursery sites.

Impact BIO-38: Impacts on the Western Red Bat and Townsend's Big-Eared Bat (Significance Criteria A, B, and E; Less than Significant)

The western red bat (a California species of special concern) does not breed in the Project Area but roosts in the foliage of trees in Santa Clara County during winter or migration. The bat is strongly associated with intact cottonwood and sycamore valley riparian habitats in low elevations, but may roost anywhere in the Project Area and may use other trees, such as eucalyptus.

Colonies of the Townsend's big-eared bat (a California species of special concern) may occur in structures or large tree cavities, but caves and old mine shafts may be the preferred roost sites. No populations of Townsend's big-eared bats are currently known to occur on the Santa Clara Valley floor, and a low probability exists that this species would breed anywhere in the Project Area. Individual Townsend's big-eared bats, particularly solitary males, may occasionally wander through any portion of the Project Area, but they are expected to occur only as occasional non-breeding foragers.

Any western red bat that is roosting in a tree that is to be removed or pruned is expected to flush from the tree before injury or mortality could occur. However, bats flushed during the day could potentially suffer increased predation rates, and therefore the Proposed Project may cause the loss of small numbers of individuals. The Proposed Project may result in the loss of suitable habitat for the western red bat, caused by the removal of trees used as roosting sites. Maintenance activities also may result in the loss or reduction of foraging habitats, such as streams and open grassland areas over which the bats forage, although such impacts would affect a minimal proportion of regionally available habitat. Similar impacts could occur to the Townsend's big-eared bat, but because of the paucity of records of this species from the Project Area, very few individuals could potentially be impacted.

Conclusion

Impacts on western red bats and Townsend's big-eared bats would be considered less than significant because: (1) these species would be present only as a non-breeder; (2) the number of individuals that could be killed because of increased predation after being flushed during Proposed Project activities is either extremely low (in the case of Townsend's big-eared bat) or, in the case of western red bat, would represent a very small proportion of the regional non-breeding populations; and (3) the regional proportion of habitat for these species that could be affected by Proposed Project-related activities would be very low. Implementation of BMP GEN-13 would not necessarily benefit the western red bat, which tends to roost solitarily in foliage, although in the unlikely event that a Townsend's big-eared bat were to roost near projected activities, BMP GEN-13 could help to avoid or minimize impacts to the individual. No mitigation would be required.

Impact BIO-39: Impacts on Non-Special-Status Bats (Significance Criteria A and E; Less than Significant)

Common bat species are colonial species and are unique among mammals; impacts to a colony of bats may be an impact to a substantial proportion of the local population. Colonies Brazilian free-tailed bats, big brown bats, Yuma myotis, California myotis, or hoary bats (*Lasiurus cinereus*) may be present in trees, bridges, unoccupied buildings, other structures or under exfoliating tree bark throughout the Project Area.

Vegetation management activities, particularly tree removal, would have the potential to result in impacts to individuals. Although take of a small colony of non-special-status bats (i.e., less than 10 bats) would not result in a substantial impact to regional populations because of the regional abundance of these species (e.g., in comparison to the special-status species considered under Impacts BIO-37 and BIO-38), take of multiple colonies, or of a particularly large colony, of these non-special-status bats may substantially impact regional populations of any of them.

SCVWD would implement two BMPs, including one specifically designed to protect bat colonies, to avoid or minimize impacts to these species through identification and avoidance of occupied roosts, implementation of non-disturbance buffers around active maternity colonies and hibernacula, and safe eviction of non-breeding bats where avoidance was not feasible. These BMPs are as follows, and a description of each is provided in Table 2-12.

Applicable Best Management Practices

BMP GEN-4: Minimize the Area of Disturbance
BMP GEN-13: Protection of Bat Colonies

Conclusion

Implementation of these BMPs would be adequate to assure that the impact to non-special-status bats would be less than significant. Unlike the case with the pallid bat described under Impact BIO-37, suitable roost sites for these non-special-status bats are expected to be widespread enough that the loss of a roost site resulting from projected activities would not necessitate compensatory mitigation (although BMP GEN-13 would still be

implemented so that loss of individual bats within the roost did not occur). No mitigation would be required.

Impact BIO-40: Impacts on the San Joaquin Kit Fox (Significance Criteria A, B, and E; Less than Significant)

In the Project Area, the San Joaquin kit fox (federally listed as endangered and state-listed as threatened) is expected to occur only as an occasional dispersant in the vicinity of Pacheco Creek and the uppermost reaches of the Pajaro River, upstream from the Llagas Creek confluence. Even in those areas, kit fox occurrence is expected to be extremely infrequent, and at most, very low numbers of individuals would move through those areas during dispersal, between areas of known breeding activity well outside the Project Area. No SMP Update activities are projected in the portion of the county where kit foxes could occur, and SCVWD has easements in only two limited areas in this part of the county. Thus, this species would not be impacted by projected SMP Update activities, and very low potential would exist for even unprojected activities to impact this species.

However, because the SMP Update could include non-projected activities anywhere below the 1,000-foot elevation contour, a possibility would exist that some work could be required in areas where the kit fox could potentially occur. In the absence of BMPs, maintenance activities could cause a variety of effects on kit foxes including: disturbance of individuals by humans, noise, and equipment, potentially causing den abandonment; trapping individuals in dens because of compaction by equipment or filling of burrows; and secondary poisoning or reduction in prey resulting from the use of rodenticides. However, in the unlikely event that Proposed Project activities were required in any areas generally east/southeast of Frazier Lake Road and Bloomfield Avenue, BMP GEN-43 (described in Table 2-12) would be implemented to avoid any short-term or long-term impacts to individual kit foxes or their dens.

Applicable Best Management Practices

BMP GEN-43: Avoidance of Impact on the San Joaquin Kit Fox

Conclusion

Implementation of this BMP would be adequate to assure that an impact to the San Joaquin kit fox would be less than significant. No mitigation would be required.

Impact BIO-41: Impacts on the American Badger and Ringtail (Significance Criteria A, B, and E; Less than Significant)

The American badger (a California species of special concern) typically occurs in annual grasslands, oak woodland savannas, scrublands, and most habitats with stable ground squirrel populations or other fossorial rodents (e.g., gophers). Badgers occur to a lesser extent in agricultural areas, where intensive cultivation inhibits den establishment and reduces prey abundance, but they are known to use agricultural habitat for dispersal, and they may den in pastures or fallow fields. In the Project Area, badgers are known to occur primarily in foothill grasslands, but they also occur occasionally on the valley floor, primarily during dispersal events.

Badgers require large expanses of open habitat and are not typically found along riparian or stream edges. Thus, although maintenance activities may occur along the margins of large areas of open habitat, the potential for such activities to disturb a badger or an active badger den would be extremely low. Therefore, an impact to the American Badger resulting from the Proposed Project would be considered less than significant.

The status and distribution of the ringtail (a state fully protected species) in the Project Area is poorly understood. Although this species' strictly nocturnal habits may be at least partially responsible for the lack of information on its distribution in the area, it likely is very rare based on the lack of sightings and the scarcity of roadkill records (e.g., compared to the nocturnal American badger, which is much more frequently detected by roadkills). Ringtails have been recorded in the Project Area near Lexington Reservoir, near Little Arthur Creek west of Gilroy, and near the confluence of Carnadero Creek and the Pajaro River. Ringtails possibly may be present in small numbers in less developed, wooded areas elsewhere, and ostensibly suitable habitat is present in forested areas at the upper margins of the Project Area. However, this species likely is scarce throughout the majority of the area.

Bank stabilization and vegetation management activities may affect ringtails by disturbing individuals in dens and by small-scale habitat loss or modification. However, because of the very low number and limited distribution of ringtails estimated to be in the Project Area and the low probability of the presence of this species, an impact of the Proposed Project on this species would be considered less than significant. No mitigation would be required.

Impact BIO-42: Impacts on the Mimic Tryonia (Significance Criteria A and E; Less than Significant)

The mimic tryonia inhabits coastal lagoons, estuaries, and salt marshes from Sonoma County south to San Diego County (CNDDB 2011). This brackish water snail is found in permanently submerged areas in a variety of sediment types and is able to withstand a range of salinities (Kellogg 1985 as cited in Hershler et al. 1999). Little is known about the geographic distribution of mimic tryonia, but two records exist from Santa Clara County, both from the Alviso area (CNDDB 2011), and the species is assumed to occur in tidal sloughs in the Project Area. Because of the limited amount of work that is proposed in the tidal sloughs in the Project Area where this species most likely would occur, low potential would exist for overlap between this species and Proposed Project activities. Some potential would exist for water-quality effects from sediment management activities or herbicide applications to impact this species, but no expectation is projected that the limited Proposed Project activities near tidal waters would substantially affect regional populations of the mimic tryonia.

SCVWD would implement BMPs for all activities along sloughs in which the mimic tryonia could potentially occur. These BMPs are as follows, and a description of each is provided in Table 2-12.

Applicable Best Management Practices

BMP GEN-2: Instream Herbicide Application Work Window
BMP GEN-4: Minimize the Area of Disturbance
BMP GEN-8: Protection of Sensitive Fauna Species from Herbicide Use
BMP GEN-20: Erosion and Sediment Control Measures
BMP GEN-23: Stream Access
BMP GEN-26: Spill Prevention and Response
BMP GEN-30: Vehicle and Equipment Maintenance
BMP GEN-32: Vehicle and Equipment Fueling
BMP GEN-34: Dewatering in Tidal Work Areas
BMP GEN-35: Pump/Generator Operations and Maintenance
BMP SED-2: Prevent Scour Downstream of Sediment Removal
BMP SED-3: Restore Channel Features
BMP VEG-1: Minimize Local Erosion Increase from In-Channel Vegetation Removal
BMP VEG-3: Use Appropriate Equipment for Instream Removal
BMP BANK-1: Bank Stabilization Design to Prevent Erosion Downstream
BMP BANK-2: Concrete Use near Waterways

Conclusion

Implementation of BMPs would be adequate to assure that the Project would not have a significant impact on this species. No mitigation would be required.

Impact BIO-43: Impacts on the Pacific Harbor Seal (Significance Criteria A, B, and E; Less than Significant)

Although the Pacific harbor seal is not on any special-status species list, it is protected by the Marine Mammal Protection Act; therefore, the potential effects of the Proposed Project on this species are evaluated. Harbor seals occur in the Project Area in the tidal waters of South San Francisco Bay and occasionally wander up tidal sloughs. They haul out at sites that typically consist of mudflats located far from areas used regularly by humans, and near deeper water where seals forage. Haul-out sites are used by seals for resting and pupping (giving birth). Harbor seals forage in nearshore marine habitats on a variety of fishes and invertebrates. A known, primary haul-out site for harbor seals in the South Bay is present north of the Project Area at Mowry Slough in Fremont, and harbor seals are known to forage in the tidal reaches of a number of the streams entering the South Bay within the Project Area.

Proposed vegetation management activities (i.e., herbicide application) along Coyote Slough, Alviso Slough, and Guadalupe Slough potentially could disturb occasional basking or foraging harbor seals. In addition, unprojected activities (e.g., bank stabilization, management of animal conflicts, sediment reuse/disposal, and minor maintenance) potentially could occur near this species' aquatic habitats. However, no Proposed Project activities are expected to occur near known pupping or major haul-out sites. Thus, impacts to individuals are expected to be temporary, and maintenance activity-related disturbances would not lead to the separation of pups from nursing mothers or the abandonment of traditional haul-out sites. Thus, this impact would be considered less than significant.

Sedimentation, contaminated runoff, or hazardous material spills from maintenance activities may result in the temporary degradation of maintenance areas, although such effects likely would be negligible in the context of all the factors affecting this species and its habitats. Mercury mobilization and bioconcentration in fish on which harbor seals prey potentially could have a greater risk of impacting the health of harbor seals, although Proposed Project activities would increase mercury levels only incrementally in the prey that already were consumed by these seals.

Implementation of pre-project planning BMPs would reduce impacts on the Pacific harbor seal by controlling erosion and sedimentation, and preventing spills of contaminated or hazardous materials, and implementation of BMP GEN-3 would minimize potential effects of mercury mobilization. These BMPs are as follows, and a description of each is provided in Table 2-12.

Applicable Best Management Practices

BMP GEN-3: Avoid Exposing Soils with High Mercury Levels
BMP GEN-4: Minimize the Area of Disturbance
BMP GEN-20: Erosion and Sediment Control Measures
BMP GEN-26: Spill Prevention and Response
BMP GEN-32 Vehicle and Equipment Fueling

Conclusion

Implementation of these BMPs would be adequate to assure that the impact on the Pacific harbor seal would be less than significant. No mitigation would be required.

Impact BIO-44: Introduction of Invasive Species
(Significance Criteria A, B, C, D, E, and F; Less than Significant with Mitigation)

Invasive plants often have a competitive advantage because they are no longer controlled by their natural predators or other natural control mechanisms, allowing them to spread quickly out of control. In California, approximately 3 percent of plant species growing in the wild are considered invasive, but they inhabit a much greater proportion of the landscape (California Invasive Plant Council 2007). The scientific community has come to view invasive species as posing serious threats to biological diversity, second only to the threats resulting from habitat loss and fragmentation (Bossard et al. 2000). Invasive species present complex management issues; even when a species is no longer being actively introduced, it continues to spread and invade new areas. Invasive species can have an adverse effect on native species and habitats in several ways, including: by altering nutrient cycles, fire frequency and/or intensity, and hydrologic cycles; by creating changes in sediment deposition and erosion; by dominating habitats and displacing native species; by hybridizing with native species; and by promoting non-native animal species (Bossard et al. 2000).

The Project Area contains several highly invasive plant species, such as perennial pepperweed, smooth cordgrass, arundo, and yellow star thistle, which pose threats to wildlands and degrade habitat quality for special-status plants and animals. Proposed vegetation management activities, such as mowing and discing, may create conditions suitable for additional spreading of invasive plant species. Furthermore, bare upland soils

left after construction of temporary access ways or installation of bank protection may encourage growth of weedy species, and mulching or erosion control mixes may include and thus introduce invasive, non-native species.

In addition to the introduction of invasive plant species, without proper procedures, mitten crabs and other aquatic invasive invertebrates, such as the New Zealand mud snail, Quagga mussel (*Dreissena bugensis*), or zebra mussel (*Dreissena polymorpha*), could inadvertently be introduced into the Project Area or relocated from the Santa Clara Basin into the Pajaro River Basin. The spread of these and other non-native invasive species into areas formerly unoccupied could result in a substantial impact to native habitats and communities.

Implementation of pre-project planning BMPs would reduce impacts of invasive species, by minimizing the extent of maintenance activities. In addition, implementation of vegetation management and post-project restoration BMPs would result in the removal of non-native species and revegetation of areas using native plant species, and mitten crab control measures would reduce the potential for this species to be introduced into formerly unoccupied areas. These BMPs are as follows, and a description of each is provided in Table 2-12.

Applicable Best Management Practices

BMP GEN-4: Minimize the Area of Disturbance
BMP GEN-5: Mitten Crab Control Measure
BMP GEN-31: Vehicle Cleaning
BMP REVEG-1: Seeding
BMP REVEG-2: Planting Material

Conclusion

Implementation of these BMPs would reduce the potential for infestation of natural areas by, and impacts of, invasive species.

However, residual impacts may occur, as BMPs may not be sufficient to avoid new invasions or the spread of invasive species. Because of the potential degradation of a wide variety of natural communities and effects on native populations that could occur as a result of such invasions, this impact is potentially significant (Significance Criteria A-F). Mitigation Measure BIO-16 would be implemented to reduce this impact to a less-than-significant level.

Mitigation Measure BIO-16: Invasive <u>Plant</u> ~~Species~~ Management Program

The primary goal of the IPMP element of the SMP's compensatory mitigation package is to preserve and improve habitat within Santa Clara County streams and riparian corridors by reducing the population of invasive plant species. Controlling the spread of invasive plant species is a critical element in improving the ecological health of our streams and watersheds. Invasive plants thrive and spread aggressively negatively altering resource allocation regimes, wildlife patterns, soil stability and water quality thus degrading habitat quality and the overall ecological value of a site. In addition, invasive plants can exacerbate

flooding and fire danger, undermine structural assets, and impact access to roads, levees and trails.

The IPMP will provide compensatory mitigation for SMP vegetation impacts to upland, riparian, freshwater and tidal wetlands by eliminating or significantly reducing the population of invasive plant species from these affected habitats. The IPMP will have a two-pronged approach:

- A systematic program to identify, prioritize, and control invasive plants throughout the Project Area
- An opportunistic, site-specific approach to remove invasive plants from individual work sites

The intent is that these two programs, operating at different yet complimentary spatial scales will enhance the overall ecological health of the SMP's creek ecosystems. For the opportunistic portion of the program, invasive plant management will focus on controlling species that are highly invasive at individual SMP work sites.. For example, species such as giant reed, Cape ivy, Himalayan blackberry, tree of heaven, English ivy, and perennial pepperweed will be targeted for removal or control.

At the systematic program-area scale, the IPMP will develop a priority matrix of invasive plant species which integrates and weighs a variety of factors including: the 2006 CAL-IPC ratings, the anticipated rate of spread without management intervention, the feasibility of effective control, impacts to fish and wildlife, impacts to sensitive plant communities, increases in flood threat, increases to fire danger, aggressive growth patterns known to cause structural damage, and impediments to maintenance access. Priority target species will be selected annually from this matrix. The IPMP will then prioritize locations for control work where:

- the target species are degrading habitat for sensitive fish and/or wildlife species;
- invasive plant removal and subsequent native habitat colonization will improve connectivity between existing patches of high-quality habitat;
- the upstream extents of invasive plant species distribution (in the Project Area) will be targeted to reduce the potential for re-invasion of control sites via propagules dispersal from upstream source populations; and
- invasive plant control is technically feasible (e.g., because of access constraints) and can be accomplished while minimizing impacts to adjacent aquatic, wetland, and riparian habitats.

The targeted invasive species, and the location and extent of invasive species management, will be tied directly to the SMP's impacts in each habitat type, i.e., upland, riparian, freshwater and tidal wetland, so that the benefits of invasive species management will directly offset the adverse effects in these habitats. Integrated Vegetation Management techniques will be employed including mechanical, chemical, biological, and/or a combination of techniques to utilize the most effective method for each target species while providing the greatest amount of protection to environmental resources.

Invasive Plant Management Mitigation Requirement

Invasive plant management mitigation will be targeted at both on-site and off-site locations. For the larger systematic program, mitigation needs and credit will be determined annually, dependent on the proposed work for the year and the associated impacts expected to be incurred in each habitat type, i.e., upland, riparian, freshwater, and tidal wetland impacts. A proposal for mitigation credit and the associated acreage to be treated for this program will be submitted with the annual "Notice of Proposed Work."

The opportunistic effort will be variable each year dependent on the number of work sites where invasive plant removal is feasible. Mitigation credit accrued for this portion of the Program will be used to compensate for on-site vegetation impacts or for ongoing vegetation maintenance activities. Proposed mitigation credit for each project site will be submitted with the annual "Notice of Proposed Work."

Determining specific performance/success criteria would require specific information regarding the invasive plant management sites and the invasive species being managed. As a result, those specific criteria will be defined in the IPMP rather than in this SEIR. Nevertheless, the performance/success criteria described in the IPMP will guide the mitigation to manage invasive plants, adequate to compensate for impacts.

MM BIO-16 will mitigate impacts resulting from invasive plant species to less-than-significant levels by avoiding and controlling such invasions, thereby ensuring that the SMP does not substantially degrade the quality of the environment; reduce the number or restrict the range of endangered or threatened species; have a substantial adverse effect on special-status species, wetlands, or other sensitive natural communities; impede the use of nursery sites; or conflict with local or regional conservation plans as a result of such invasions.

Impact BIO-45: Habitat Fragmentation (Significance Criterion E; Significant and Unavoidable)

For many species, the landscape is a mosaic of suitable and unsuitable habitat types. Environmental corridors are segments of land that provide a link between these different habitats while also providing cover. On a broader level, corridors also function as avenues along which wide-ranging animals can travel, plants can propagate, genetic interchange can occur, populations can move in response to environmental changes and natural disasters, and threatened species can be replenished from other areas. In the Project Area, the vegetation communities along streams and rivers often function as environmental corridors in providing habitat for a variety of resident wildlife species.

Proposed stream maintenance activities could alter these communities and corridors by breaking them into smaller, disjunct pieces, a process known as fragmentation. The impact of fragmentation on wildlife is twofold: first, as habitat patches become smaller they are unable to support as many individuals (patch size); and second, the area between habitat patches may be unsuitable for wildlife species to traverse (connectivity).

Proposed Project activities could impact both patch size and connectivity when all vegetation was removed over long reaches or vegetation structure and composition was changed in a way that would create barriers to wildlife movement. By creating open area

or patches with unsuitable vegetation types, these activities could restrict some wildlife species from moving between distant patches or could temporarily eliminate a local population. Because of the urban and agricultural context in which many creeks in the Project Area occur, the riparian, aquatic, and wetland habitats along these creeks represent the only (or at least highest-quality) habitat available to many species on the Valley floor. As a result, the fragmentation effects of Proposed Project activities combined with adverse effects of urbanization and other land uses could bring about a cumulative impact on habitat connectivity for plants and animals.

Common wildlife species found in locations that are projected for sediment removal and/or vegetation management work sites, or that occur in areas where unprojected activities (e.g., bank stabilization, management of animal conflicts, sediment reuse/disposal, and minor maintenance) may occur, may be somewhat acclimated to existing conditions as they have been caused by SMP maintenance activities ongoing from 2002. However, over the 10-year span of the proposed SMP Update, local populations of some wildlife species may not be able to recover from the impacts of fragmentation and small, localized populations may be lost. Proposed Project activities that reduced cover for dispersing individuals, such as "limbing up" and removal of understory vegetation, could inhibit the recolonization of areas from which species have been extirpated for all but the more mobile species (e.g., birds). Local losses may be significant when evaluated across the entire Project Area.

Implementation of pre-project planning BMPs would reduce the impact of habitat fragmentation by minimizing the extent of maintenance activities and designing individual activities to result in the least impact to stream channels as practicable. These BMPs are as follows, and a description of each is provided in Table 2-12.

Applicable Best Management Practices

BMP GEN-4: Minimize the Area of Disturbance
BMP BANK-1: Bank Stabilization Design to Prevent Erosion Downstream

Conclusion

Implementation of these BMPs would reduce the potential habitat fragmentation caused by the Proposed Project. Likewise, the compensatory mitigation package partially would compensate for fragmentation impacts by providing habitat that could either help to fill gaps in habitat outside the impact area (e.g., resulting from riparian or wetland restoration in areas that formerly lacked such habitat) or by boosting the sizes of populations that may be adversely affected by habitat loss and fragmentation.

Adverse effects from fragmentation, however, may remain for those species that could not easily move to undisturbed areas or mitigation sites. The cumulative effect of fragmentation also must be viewed in the context of other activities. With increasing development in Santa Clara County, creeks are becoming the last refuge for some wildlife species. Over the next 10 years, the combination of continued stream maintenance and development of surrounding uplands may result in some local wildlife populations dropping below a self-sustaining level on some creek sections. Thus, the impact of SMP activities on habitat connectivity and movement of some wildlife species would be significant (Significance Criterion E).

Because the impacted species would occur in the very locations where flood protection was being maintained, the impact would occur at many stream locations throughout the county, and some very localized populations may drop below a self-sustaining level that could not be completely mitigated off-site, habitat fragmentation caused by proposed stream maintenance activities from 2012–2022 would be considered a **significant and unavoidable impact** even with implementation of BMPs and habitat mitigation measures.

Impact BIO-46: Conflicts with Adopted Habitat Conservation Plans or Natural Community Conservation Plans (Significance Criterion F; Less than Significant)

SCVWD is an applicant on two Habitat Conservation Plans (HCPs): the *Santa Clara Valley Habitat Plan* (an HCP/natural community conservation plan [NCCP]) and the *Three Creeks Habitat Conservation Plan*.

Santa Clara Valley Habitat Plan. The Santa Clara Valley Habitat Plan is being pursued by SCVWD along with five other local partners (the County of Santa Clara, the Santa Clara Valley Transportation Authority, and the cities of San Jose, Gilroy, and Morgan Hill) and two resource agencies (the CDFG and USFWS). The Santa Clara Valley HCP/NCCP is "intended to provide an effective framework to protect, enhance, and restore natural resources in specific areas of Santa Clara County, while improving and streamlining the environmental permitting process for impacts on threatened and endangered species" (ICF Jones & Stokes 2010). As it relates to biological resources and conservation, this plan is designed to "protect, enhance, and restore ecosystem integrity and functionality for threatened and endangered species; enhance the diversity of plant and animal communities; and conserve habitat and contribute to the recovery of species listed or likely to be listed under the federal ESA or the California ESA."

A number of plant and animal species are proposed for coverage under the plan. Approval of impacts to covered species from project activities covered by the plan (i.e., projects that meet a number of criteria concerning location, proponent, and type) will be considerably expedited. Fees paid in accordance with the extent and nature of projects' impacts will be used to further conservation efforts via the acquisition, creation, or enhancement, as well as the preservation and management, of habitat for these species. In addition, covered projects are subject to a number of measures concerning avoidance and minimization of impacts to covered species and habitats through project design and construction measures (such as pre-construction species surveys and seasonal restrictions on construction activities) to directly protect species. Several "no take" species also exist that, because of their rarity or regulatory status (e.g., state fully protected species), cannot be "taken" by a project that is covered by the plan.

The process of developing the Santa Clara Valley HCP/NCCP is ongoing and scheduled to be completed in 2011 or 2012. The public draft plan, the draft EIR/EIS, and the draft Implementing Agreement were released on December 17, 2010. Although not yet adopted, a draft preferred conservation strategy has been identified. Key elements of the preferred conservation strategy for Santa Clara County for the next 50 years include:

- Land Acquisition: Preserve and enhance in perpetuity, approximately 45,000 acres of new land obtained from willing sellers through acquisition of fee title and conservation easements

- Enhance Existing Park and Open Space: In addition to new land acquisitions, incorporate approximately 13,000 acres of high-value species habitat in existing open space into the Reserve System
- Protect more than 100 miles of streams
- Preserve important linkages between key areas of habitat and existed protected areas
- Establish a system by which long-term management of the Reserve System and streams would occur to maintain biodiversity and populations of covered species
- Restore or create at least 90 acres, and possibly up to 566 acres, of riparian woodland, ponds, and wetlands to compensate for impacts to these habitat types and contribute to the conservation and recovery of covered species
- Restore at least 1 mile, and possibly up to 12.6 miles, of streams to compensate for impacts to streams and contribute to the conservation and recovery of covered species

SCVWD's Proposed Project activities, except for maintenance of the Almaden Calero canal, are not considered covered activities under the Santa Clara Valley HCP/NCCP. Maintenance of the Almaden Calero Canal is expected to be covered by the Santa Clara Valley HCP/NCCP and the Three Creeks HCP when those HCPs are adopted. The Santa Clara Valley HCP/NCCP plan was consulted in the preparation of this document, and many elements of the SMP Update are consistent with the plan. For example, information on the known and potential occurrences of special-status species and habitat types contained in the draft plan were consulted during the preparation of this biological resources section for the SMP Update DSEIR. In addition, the BMPs and other elements of the conservation strategy of the plan were consulted in determining appropriate BMPs and mitigation measures for Proposed Project activities.

Neither the Santa Clara Valley HCP/NCCP nor the Three Creeks HCP have been adopted. Therefore, the SMP Update SEIR would not be in conflict with an adopted Santa Clara Valley Habitat Plan.

Three Creeks Habitat Conservation Plan (HCP). This HCP, being proposed by SCVWD, involves a number of large capital projects pertaining to SCVWD's dams and water supply operations. It includes: the operation and maintenance of eight SCVWD reservoirs; the seismic retrofit of Almaden, Anderson, Calero, Guadalupe, and Vasona dams; the development of borrow sites for these retrofit projects; and the operation and maintenance of a number of diversion dams, drop structures, fish screens, fish ladders, recharge ponds, and other water-supply facilities. In addition, this HCP includes a number of activities intended to enhance habitat conditions for steelhead and Chinook salmon. These activities include:

- Geomorphic rehabilitation
- Lake Almaden fish passage
- Instream habitat enhancement
- Reservoir and recharge re-operation
- Upper Penitencia Creek management program
- Supplemental flow program

- Monitoring program

Except for maintenance of the Almaden Calero Canal, which is expected to be covered by the Three Creeks HCP and the Santa Clara Valley HCP/NCCP, Proposed Project activities are not considered covered activities under this HCP. In addition, these HCPs have not yet been adopted. Therefore, the SMP Update SEIR would not be in conflict with an adopted HCP. Nevertheless, the HCP was consulted in the preparation of the SMP Update DSEIR, and many elements of the SMP Update are consistent with the HCP.

Other HCPs and NCCPs. Only two other HCPs have been approved in Santa Clara County (USFWS 2011):

- PG&E's Metcalf-El Patio, Metcalf-Hicks/Vasona HCP, covering the Bay checkerspot butterfly on Tulare Hill and the Santa Teresa Hills
- Zanker Road Resource Management's HCP, covering the salt marsh harvest mouse in Alviso

The Proposed Project does not include any activities that conflict with these HCPs. Aside from the *Santa Clara Valley Habitat Plan*, no NCCPs in Santa Clara County have been approved or are in preparation (CDFG 2011).

Conclusion

Therefore, the Proposed Project would not conflict with any adopted HCPs or NCCPs, or with any other approved local, regional, or state habitat conservation plans, and thus the impact associated with conflicts between the SMP Update and any adopted HCP or NCCP would be less than significant. No mitigation would be required.

Impact BIO-47: Resuspension of Mercury (Significance Criteria A, B, C, and D; Less than Significant)

Proposed Project maintenance activities involving ground disturbance, such as sediment removal and bank stabilization, could potentially mobilize mercury-contaminated sediments, which are already present within stream channels in the Guadalupe River Basin (see Section 3.6. *Hazards and Hazardous Materials*, and Section 3.13, *Water Quality*). Proposed maintenance activities would not contribute additional contamination in stream channels. Furthermore, over the 10-year implementation period, the Proposed Project would remove significant quantities of sediment contaminated with mercury. Nevertheless, mobilization of mercury-contaminated sediment could occur during sediment removal or bank stabilization activities conducted within the Guadalupe River watershed. The 2006 Clean Water Act, Section 303(d), *List of Water Quality Limited Segments* lists Alamitos Creek, Guadalupe Creek, and the Guadalupe River as mercury-impaired waterbodies, as mercury mobilized from mines upstream has entered these waterbodies. Thus, proposed maintenance activities involving ground disturbance in and along these creeks may mobilize mercury present in sediments in their banks and beds, potentially allowing for the transport of mercury to areas downstream from the bank stabilization site.

Mercury is a toxic constituent that bioaccumulates in the food chain of aquatic organisms and terrestrial wildlife. Effects of methylmercury exposure on wildlife can include mortality (death), reduced fertility, slower growth and development, and abnormal

behavior that affects survival, depending on the level of exposure (Scheuhammer et al. 2007, USEPA 2010). Because the SMP Update would only incrementally increase the availability of mercury in the Guadalupe River system, where mercury already would be prevalent, Proposed Project impacts on mercury availability possibly would not be very high. Nevertheless, because of the value of the Guadalupe River watershed to numerous species of fish and wildlife and the potentially far-reaching effects of mercury mobilization on fish, birds, mammals, and other organisms, this impact could have substantial effects on populations of these species.

To minimize the potential incremental increase in mercury availability resulting from Proposed Project activities, SCVWD would implement the following BMPs. A description of each BMP is provided in Table 2-12.

Applicable Best Management Practices

BMP GEN-3 Avoid Exposing Soils with High Mercury Levels
BMP GEN-4 Minimize the Area of Disturbance
BMP GEN-20: Erosion and Sediment Control Measures
BMP GEN-27 Existing Hazardous Sites
BMPs SED-1: Groundwater Management
BMP SED-2: Prevent Scour Downstream of Sediment Removal

Conclusion

Collectively, by implementing these BMPs, the impact to wildlife and fish as result of mercury mobilization would be less than significant. No mitigation would be required.

Table 3.3-~~20~~21. Special-Status Plant Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Common Name	Scientific Name	Status	General Habitat Description[1]	Potential for Occurrence in the Project Area	Potential for Occurrence in the Proposed Project Footprint
Federal or State-Endangered and Threatened Species					
Tiburon paintbrush	*Castilleja affinis* ssp. *neglecta*	FE, ST, CNPS List 1B.2, HCP	Valley and foothill grassland (serpentinite)/ serpentine bunchgrass grassland	**Present.** Documented occurrences in the Project Area on Coyote Ridge between Anderson Reservoir and U.S. Highway 101. Potential habitat includes serpentine bunchgrass grasslands located on the northern portion of Coyote Ridge and portions of the Santa Teresa Hills.	**Unlikely to Occur.** SCVWD **s**urveys for special-status plants along all creeks and canals mapped on serpentine soils in the Project Area in 2004 and 2008 did not detect any occurrences of Tiburon paintbrush. Therefore, a low probability would exist that it would occur in close proximity to any Proposed Project activities.
Coyote ceanothus	*Ceanothus ferrisiae*	FE, CNPS List 1B.1, HCP	Chaparral, coastal scrub, valley and foothill grassland on serpentinite/serpentine bunchgrass grassland and mixed serpentine chaparral	**Present.** Three populations recorded in the Anderson Reservoir area, within the south-central portion of the Project Area. A fourth population is located near Morgan Hill off Llagas Road and Old Monterey Road. The species may also occur on serpentine soils on northern Coyote Ridge and portions of the Santa Teresa Hills.	**Unlikely to Occur.** SCVWD surveys for special-status plants along all creeks and canals mapped on serpentine soils in the Project Area in 2004 and 2008 did not detect any occurrences of Coyote ceanothus away from known locations. Therefore, this species is not expected to occur in or very near any Proposed Project work sites.
Santa Clara Valley dudleya	*Dudleya setchellii*	FE, CNPS List 1B.1, HCP	Cismontane woodland, valley and foothill grassland on serpentinite, rocky/ serpentine rock outcrop	**Present.** Occurs in numerous locations in the Project Area on serpentine rock outcrops, including the Santa Teresa Hills, Communications Hill, near Monterey Road/Senter Road, Coyote Ridge, near Anderson Reservoir, and in the upper Llagas Creek watershed. Although many populations have been documented in the Project Area, much of the suitable habitat has not been surveyed as it occurs on private lands. Potential habitat occurs elsewhere on serpentine soils in the lower foothills of the Santa Cruz Mountains and the Diablo Range.	**Present.** SCVWD surveys in 2004 and 2008 documented the Santa Clara Valley dudleya on the Coyote Canal Extension, Coyote Alamitos Canal, and Almaden Calero Canal.

Table 3.3-~~20~~21. Special-Status Plant Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Common Name	Scientific Name	Status	General Habitat Description[1]	Potential for Occurrence in the Project Area	Potential for Occurrence in the Proposed Project Footprint
Metcalf Canyon jewel-flower	*Streptanthus albidus* ssp. *albidus*	FE, CNPS List 1B.1, HCP	Valley and foothill grassland (serpentinite)/ serpentine bunchgrass grassland	**Present.** The majority of the Metcalf Canyon jewel-flower's range is considered to occur in the Project Area. The species occurs on serpentine soils on Coyote Ridge and near Anderson Reservoir in the Project Area, on Communication Hill, and off Llagas Rd, in Morgan Hill. Some uncertainty exists around the taxonomic treatment of this species and most beautiful jewel-flower, but potentially suitable habitat is present north of Alum Rock, in the Santa Teresa Hills, west of Coyote Valley, along Coyote Ridge, on Communications Hill, and perhaps in a serpentine outcrop near Monterey Road and Senter Road.	**Present.** Metcalf Canyon jewel-flower was observed on the Coyote Canal Extension during SCVWD's 2004 and 2008 surveys.
CNPS-listed Species					
Franciscan onion	*Allium peninsulare* var. *franciscanum*	CNPS List 1B.2	Cismontane woodland, valley and foothill grassland on clay, volcanic soils, often serpentinite/oak woodland	**May be Present.** No populations are described as occurring in the Project Area. The closest known population occurs off Page Mill Road in Palo Alto, but suitable habitat exists in the Project Area in oak woodland habitats, such as those in the Santa Teresa and Almaden Hills.	**May be Present.** No known occurrences in the Proposed Project footprint or wider Project Area, but suitable habitat may be present.
Bent-flowered fiddleneck	*Amsinckia lunaris*	CNPS List 1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland/oak woodland and chaparral	**May be Present.** No known occurrences are in the Project Area. One population described from Santa Clara County on Kinkaid Road 1.1 miles north of Mt. Hamilton Road, outside of the Project Area. However, suitable habitat is present at similar elevations in the Project Area in chaparral and oak woodland habitats, particularly in the western portion of the Project Area near the Almaden Hills and near Llagas Creek.	**May be Present.** No known occurrences in the Proposed Project footprint or wider Project Area, but suitable habitat may be present.

Table 3.3-~~20~~21. Special-Status Plant Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Common Name	Scientific Name	Status	General Habitat Description[1]	Potential for Occurrence in the Project Area	Potential for Occurrence in the Proposed Project Footprint
Anderson's manzanita	*Arctostaphylos andersonii*	CNPS List 1B.2	Broadleafed upland forest, chaparral, and North Coast coniferous forest habitats (openings) at elevations of 197 to 2,395 feet	**May be Present.** Eight documented populations occur above 1,000 feet in elevation in the Santa Cruz mountains, outside of the Project Area. However, potential habitat is present in the foothills toward the eastern and western edges of the Project Area.	**May be Present.** No known occurrences in the Proposed Project footprint or wider Project Area, but suitable habitat may be present.
Brittlescale	*Atriplex depressa*	CNPS List 1B.2	Chenopod scrub, meadows and seeps, playas, valley and foothill grasslands, and vernal pools on alkaline, clay soils/California annual grassland habitat on alkaline soil, seasonal wetlands	**May be Present.** Closest known occurrence is in baylands north of Mud Slough in similar habitat to that occurring south and southwest of the Water Pollution Control Plant (WPCP) in the Project Area. Though no occurrences are in the Project Area, suitable habitat is present on low lying moist, alkaline, clay soils near the bay, where the species may be present.	**May be Present.** No known occurrences in the Proposed Project footprint or wider Project Area, but suitable habitat may be present.
Big-scale balsamroot	*Balsamorhiza macrolepis* var. *macrolepis*	CNPS List 1B.2, HCP	Chaparral, cismontane woodland, valley and foothill grassland sometimes in serpentinite/serpentine bunchgrass grassland, mixed serpentine chaparral, and oak woodland	**Present.** One extirpated historical occurrence from east of Coyote Creek in the Project Area, and one extant occurrence near the northern portion of Coyote Ridge. Additional suitable habitat in the Project Area includes serpentine soils, such as those on Coyote Ridge and the Santa Teresa Hills, along the foothills.	**Unlikely to Occur.** SCVWD surveys for special-status plants along all creeks and canals mapped on serpentine soils in the Project Area in 2004 and 2008 did not detect any occurrences of big-scale balsamroot. Therefore, this species is not expected to occur in or very near any Proposed Project work sites.
Round-leaved filaree	*Erodium macrophyllum*	CNPS List 1B.1	Cismontane woodland, valley and foothill grassland/in California annual grassland and oak woodland habitat on clay soils	**Present.** There are nine records for round-leaved filaree in the Project Area. Suitable habitat occurs on clay soils in the foothills of the Santa Cruz Mountains and the Diablo Range.	**May be Present.** Suitable habitat may be present in the Proposed Project footprint.

Table 3.3-~~20~~21. Special-Status Plant Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Common Name	Scientific Name	Status	General Habitat Description[1]	Potential for Occurrence in the Project Area	Potential for Occurrence in the Proposed Project Footprint
Pink creamsacs	*Castilleja rubicundula* ssp. *rubicundula*	CNPS List 1B.2 , HCP No Take	Chaparral (openings), cismontane woodland, meadows and seeps, valley and foothill grassland on serpentinite/oak woodland, serpentine bunchgrass grassland	**Present.** Recorded approximately 4.5 miles south of Gilroy in the Project Area. Suitable habitat also is present on serpentine soils such as those along Coyote Ridge, within the Santa Teresa Hills, near Anderson Reservoir, west of Coyote Valley, within Communications Hill (although it has not been found there in surveys), and within the area of serpentine north of Alum Rock.	**Unlikely to Occur.** SCVWD surveys for special-status plants along all creeks and canals mapped on serpentine soils in the Project Area in 2004 and 2008 did not detect any occurrences of pink creamsacs. Therefore, this species is not expected to occur in or very near any Proposed Project work sites.
Congdon's tarplant	*Hemizonia parryi* ssp. *congdonii*	CNPS List 1B.2	Valley and foothill grassland (alkaline)/ California annual grassland habitat on alkaline soils	**Present.** Five recorded populations in the Project Area in the Warm Springs region of Fremont and in Alviso. The species may occur in disturbed areas on alkaline soils and may occur in disturbed California annual grassland habitat near seasonally wet habitat, specifically in the northern reaches of the Project Area near Alviso.	**May be Present.** Suitable habitat may be present in the Proposed Project footprint.
Mt. Hamilton thistle	*Cirsium fontinale* var. *campylon*	CNPS List 1B.2, HCP	Chaparral, cismontane woodland, valley and foothill grassland in serpentinite seeps/ serpentine seeps	**Present.** Numerous recorded populations exist in the Project Area. It is found near the Almaden Calero Canal, Coyote Canal, Coyote Canal Extension, Silver Creek, Metcalf Canyon, Anderson Dam spillway, Coyote Creek tributaries, springs east of Coyote Creek, drainages between Kirby Canyon landfill, and Coyote Creek golf course, drainage near Almaden Research Center, north Calero Reservoir in a tributary to Arroyo Creek, and others. Suitable habitat is present elsewhere on mesic serpentine habitat, such as seeps and swales throughout the foothills in the central portion of the Project Area.	**Present.** Mt. Hamilton thistle was detected on the Almaden Calero Canal and the Coyote Canal during SCVWD's 2004 survey, and on the Coyote Canal and Coyote Canal Extension in 2008.

Table 3.3-~~20~~21. Special-Status Plant Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Common Name	Scientific Name	Status	General Habitat Description[1]	Potential for Occurrence in the Project Area	Potential for Occurrence in the Proposed Project Footprint
Santa Clara red ribbons	*Clarkia concinna* ssp. *automixa*	CNPS List 4.3	Chaparral, cismontane woodland/chaparral, oak woodland; slopes near drainages	**Present.** This CNPS list 4.3 species has a narrow endemic range that has been reduced to Santa Clara and Alameda counties. Three of 17 records in Santa Clara County are below 1,000 feet elevation and within the Project Area. Suitable habitat exists in chaparral and oak woodland habitats in the upper limits of the Project Area, in the foothills of the Santa Cruz Mountains and the Diablo Range.	**May be Present.** Suitable habitat may be present in the Proposed Project footprint.
San Francisco collinsia	*Collinsia multicolor*	CNPS List 1B.2, HCP	Closed-cone coniferous forest, coastal scrub, sometimes serpentinite	**Present.** One population documented near Stanford University was last reported in 1903. A second occurrence, listed in Edenvale, is located in the Project Area. However, this population was recorded in an area that has since been developed and was last observed in 1961. A new occurrence was observed by SCVWD botanist J. Hillman (pers. comm.) in 2009, on the shoreline of Anderson Reservoir, and another occurrence was reported in Almaden/ Quicksilver Park (outside of the Project area) in 2001 (though this occurrence has not been relocated).	**May be Present.** SCVWD surveys for special-status plants along all creeks and canals mapped on serpentine soils in the SMP Project Area in 2004 and 2008 did not detect any occurrences of San Francisco collinsia. However, the SCVWD did document an occurrence along the shoreline of Anderson Reservoir in 2009, and the majority of occurrences are not located on serpentine soils. Thus, some potential exists for the species to occur in or near activity areas.
Hospital Canyon larkspur	*Delphinium californicum ssp. interius*	CNPS List 1B.2	The species is found in chaparral and cismontane woodland habitats at elevations of approximately 760–3,615 feet	**May be Present.** Inhabits a small endemic range covering the mid- and upper elevations of the inner Coast Ranges along the San Francisco Bay Area and south towards Mount Hamilton. Potential habitat occurs toward the upper elevations of the Project Area in the Diablo Range, in wet, boggy meadows, canyons, and chaparral openings.	**May be Present.** Suitable habitat may be present in the Proposed Project footprint.

Table 3.3-~~20~~21. Special-Status Plant Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Common Name	Scientific Name	Status	General Habitat Description[1]	Potential for Occurrence in the Project Area	Potential for Occurrence in the Proposed Project Footprint
Western leatherwood	*Dirca occidentalis*	CNPS List 1B.2	Mesic broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, and riparian woodland habitats from 164–1,296 feet in elevation	**Present.** Four occurrences have been documented in the northeastern portion of the Project Area, and these are presumed extant. Potential habitat occurs in the foothills of the Santa Cruz mountains, in the foothills along the northeastern edge of the Project Area.	**May be Present.** Suitable habitat may be present in the Proposed Project footprint.
Hoover's button-celery	*Eryngium aristulatum* var. *hooveri*	CNPS List 1B.1	Vernal pools/California annual grassland habitat on alkaline soil, seasonal wetland	**May be Present.** Several historical occurrences of the species have been reported in the Project Area. However, all occurrences in Santa Clara County have been extirpated by development, except one located in the vicinity of San Felipe Lake at the southern border of the county. Habitat of a suitable quality may be present in alkaline depressions, vernal pools, or roadside ditches along the south San Francisco Bay near Alviso.	**May be Present.** Suitable habitat may be present in the Proposed Project footprint.
Talus fritillary	*Fritillaria falcata*	CNPS List 1B.2	Serpentinite, often talus-based soils in chaparral, cismontane woodland, and lower montane coniferous forest habitats from 984–5,003 feet in elevation	**Absent.** No documented occurrences in the Project Area. The last documented observation was in Blackbird Valley, a tributary to Arroyo Colorado Creek, in 1995. This was at 3,000 feet in elevation and outside of the Project Area. The species is presumed absent.	**Absent.** Out of range; no suitable habitat.

Table 3.3-~~20~~21. Special-Status Plant Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Common Name	Scientific Name	Status	General Habitat Description[1]	Potential for Occurrence in the Project Area	Potential for Occurrence in the Proposed Project Footprint
Fragrant fritillary	*Fritillaria liliacea*	CNPS List 1B.2, HCP	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland, often in serpentinite/oak woodland, serpentine bunchgrass grassland	**Present.** Six populations have been documented in various locations in the Project Area. Additional suitable habitat occurs on serpentine soils in the Project Area, such as Coyote Ridge, Anderson and Calero Reservoirs, west of Coyote Valley, the Santa Teresa Hills, Communications Hill, and serpentine north of Alum Rock.	**Unlikely to Occur.** SCVWD surveys for special-status plants along all creeks and canals mapped on serpentine soils in the Project Area in 2004 and 2008 did not detect any occurrences of fragrant fritillary. Therefore, this species is not expected to occur in or very near any Proposed Project work sites.
Loma Prieta hoita	*Hoita strobilina*	CNPS List 1B.1, HCP	Chaparral, cismontane woodland, riparian woodland, usually serpentinite/mesic mixed serpentine chaparral, serpentine seeps	**Present.** Numerous records in the Project Area from serpentine soils predominantly in the Santa Cruz mountains from Saratoga to Gilroy, but also in the Diablo range near the Coyote Ridge. Suitable habitat is present in the Project Area in riparian areas, particularly mesic-serpentine influenced soils of the Santa Cruz mountains.	**May be Present.** Known occurrences on several creeks in the Project Area suggest the possibility that this species may occur within Proposed Project work sites.
Satan's goldenbush	*Isocoma menziesii* var. *diabolica*	CNPS List 4.2	Cismontane woodland/oak woodland	**Present.** The species is only documented in Santa Clara and San Benito counties. It occurs in the Project Area in the foothills near the Almaden Hills. Suitable habitat is present in the foothills where oak woodland habitat occurs in the Santa Teresa Hills, the Almaden Hills, near Anderson Reservoir, and along Coyote Ridge.	**May be Present.** Suitable habitat may be present in the Proposed Project footprint.
Woolly-headed lessingia	*Lessingia hololeuca*	CNPS List 3	Clay and serpentinite soils in broadleafed upland forest, coastal scrub, lower montane coniferous forest, and valley and foothill grassland habitats from 49–1,000 feet in elevation	**Present.** Two records exist from the Project Area, one from the foothills west of Los Gatos and one from an area north of Gilroy. Potential habitat exists in the Project Area on serpentine soils in the foothills of the Santa Cruz Mountains.	**Unlikely to Occur.** SCVWD surveys for special-status plants along all creeks and canals mapped on serpentine soils in the Project Area in 2004 and 2008 did not detect any occurrences of wooly-headed lessingia. Therefore, this species is not expected to occur in or very near any Proposed Project work sites.

Table 3.3-~~20~~21. Special-Status Plant Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Common Name	Scientific Name	Status	General Habitat Description[1]	Potential for Occurrence in the Project Area	Potential for Occurrence in the Proposed Project Footprint
Smooth lessingia	*Lessingia micradenia* var. *glabrata*	CNPS List 1B.2, HCP	Chaparral, cismontane woodland- on serpentinite, often roadsides/mixed serpentine chaparral and oak woodland	**Present.** There are 27 records in the Project Area throughout the foothills in the central and southern portions of the county, in both the Santa Cruz Mountains and the Diablo Range. Suitable habitat is present on rocky slopes and roadsides in serpentine derived soils throughout the central and southern foothills of Santa Clara County.	**Present.** Smooth lessingia was observed on the Almaden Calero Canal, Coyote Alamitos Canal, Coyote Canal, and Coyote Canal Extension during SCVWD's 2004 and 2008 surveys.
Showy golden madia	*Madia radiata*	CNPS List 1B.1	Cismontane woodland and valley and foothill grassland habitats from 82–2,953 feet in elevation	**May be Present.** Only documented occurrence in Santa Clara County is from an elevation of 2,200 feet, outside the Project Area. Potential habitat exists within the Project Area in the foothills on clay soils.	**May be Present.** Suitable habitat may be present in the Proposed Project footprint.
Davidson's bush-mallow	*Malacothamnus davidsonii*	CNPS List 1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland/ chaparral, oak woodland, mixed riparian forest and woodland	**May be Present.** Three historical records exist from near Stanford and Los Altos, dating from 1936. Suitable habitat is present in the woodland and riparian habitats of the foothills of the Santa Cruz Mountains, on sandy substrates.	**May be Present.** No extant records in the Project Area; however, suitable habitat is present.
Hall's bush-mallow	*Malacothamnus hallii*	CNPS List 1B.2, HCP	Chaparral, coastal scrub/ chaparral	**Present.** Numerous records of the species exist from the Project Area, in the Santa Teresa Hills and along Coyote Ridge. Additional suitable habitat is present in the foothills of the Santa Cruz Mountains and the Diablo Range.	**Present.** Hall's bush-mallow was observed on the Coyote Canal Extension during SCVWD's 2004 and 2008 surveys.
Oregon meconella	*Meconella oregana*	CNPS List 1B.1	Coastal prairie and coastal scrub communities at elevations from 820–2,034 feet	**May be Present.** Three occurrences were recorded in Santa Clara County as recently as 2005. All are in the same location near the summit of Mt. Hamilton. Potential habitat may occur in the upper reaches of the Project Area (above 820 feet in elevation) in the Diablo Range.	**May be Present.** No known occurrences in the Proposed Project footprint or wider Project Area, but suitable habitat may be present.

Table 3.3-~~20~~21. Special-Status Plant Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Common Name	Scientific Name	Status	General Habitat Description[1]	Potential for Occurrence in the Project Area	Potential for Occurrence in the Proposed Project Footprint
Mt. Diablo cottonweed	*Micropus amphibolus*	CNPS List 3.2	Broad-leafed upland forest, chaparral, cismontane woodland, valley and foothill grassland in rocky habitat/oak woodland, chaparral, California annual grassland	**Present.** One record of the species exists in the Project Area from a location west of Campbell. Suitable habitat occurs within rocky oak woodland habitat in the Santa Cruz Mountains and the Diablo Range.	**May be present.** Suitable habitat may be present in the Proposed Project footprint.
Robust monardella	*Monardella villosa* ssp. *globosa*	CNPS List 1B.2, HCP	Broad-leafed upland forest (openings), chaparral (openings), cismontane woodland, coastal scrub, valley and foothill grassland/chaparral, oak woodland, and California annual grassland	**Present.** Five records exist for the species in the Project Area. These predominantly occur in Almaden Quicksilver County Park, Rancho San Antonio Open Space Preserve, and Lexington Reservoir County Park. Suitable habitat is present in the Project Area, particularly in the foothills of the Santa Cruz Mountains and the Diablo Range.	**May be Present.** Suitable habitat may be present in the Proposed Project footprint.
Hooked popcorn-flower	*Plagiobothrys uncinatus*	CNPS List 1B.2	Valley and foothill grasslands, cismontane woodlands, and chaparral habitats (sandy soils) at elevations of approximately 990–2,510 feet; across all habitat types often associated with canyon slopes	**May be Present.** No documented populations exist in the Project Area. Potential habitat exists in sandy soils at higher elevations in the foothills bordering the Project Area.	**May be Present.** No known occurrences in the Proposed Project footprint or wider Project Area, but suitable habitat may be present.
Most beautiful jewel-flower	*Streptanthus albidus* ssp. *peramoenus*	CNPS List 1B.2, HCP	Chaparral, cismontane woodland, valley and foothill grassland in serpentinite/ serpentine bunchgrass grassland, mixed serpentine chaparral	**Present.** Numerous populations are recorded in the Project Area along Coyote Ridge, near Anderson and Calero Reservoirs, and the Santa Teresa Hills. In addition, suitable habitat is present in the Project Area on serpentine soils such as those on Communications Hill and the serpentine habitat area near Alum Rock.	**Present.** Most beautiful jewel-flower was observed on the Almaden Calero Canal and Coyote Canal during SCVWD's 2004 and 2008 surveys.

Table 3.3-~~20~~21. Special-Status Plant Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Common Name	Scientific Name	Status	General Habitat Description[1]	Potential for Occurrence in the Project Area	Potential for Occurrence in the Proposed Project Footprint
Saline clover	*Trifolium depauperatum* var. *hydrophilum*	CNPS List 1B.2	Mesic, alkaline, or saline sites in valley and foothill grassland habitat, in vernal pool habitat, or in marshes and swamps at elevations from 0–984 feet; occurs in both coastal and inland marshes (Hickman 1993)	**Present.** The nearest documented occurrences are between Millers Canal and the Pajaro River off Highway 125 near the San Benito County and Santa Clara County line. Suitable habitat in the Project Area would be mesic-alkaline soils in vernal pools, marshes and swamps, and grasslands, such as those near Alviso and the Pajaro River.	**May be Present.** No known occurrences in the Proposed Project footprint or wider Project Area, but suitable habitat may be present.

Key to Abbreviations:
Status: Federal Endangered (FE); State Endangered (SE); State Threatened (ST); State Protected (SP); State Rare (SR); California Native Plant Society (CNPS).

Note:
The terms used to describe the general habitat descriptions in this column include the CNPS habitat designations separated by a slash (/) from the terms describing natural communities and habitats in this existing conditions report (i.e., CNPS habitats/existing conditions habitats).

Source: Data compiled by Horizon Water and Environment in 2011

Table 3.3-~~21~~22. Special-Status Animal Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Name	Status	Habitat	Potential for Occurrence in the Project Area
Federal or State Endangered, Threatened, or Candidate Species			
Bay checkerspot butterfly (*Euphydryas editha bayensis*)	FT	Native grasslands on serpentine soils. Larval host plants are *Plantago erecta* and/or *Castilleja* sp.	**Present.** Occurs within the Project Area in serpentine bunchgrass grasslands and serpentine rock outcrop/barrens on the east side of the Santa Clara Valley from Coyote Ridge south to Harvey Bear Ranch and on the west side of the valley from the Santa Teresa Hills south to San Martin.
Green sturgeon (*Acipenser medirostris*)	FT, CSSC	Spawns in large river systems such as the Sacramento River; forages in nearshore oceanic waters, bays, and estuaries.	**May be Present.** Known to occur in San Francisco Bay, apparently occurs in the South Bay very rarely as a non-breeding visitor. May occur in the tidal reaches of sloughs in the Alviso area within the Project Area, albeit infrequently and in low numbers, if at all. Does not spawn in the South Bay. Likely occurs only irregularly and in low numbers in the Project Area because of the very limited abundance of the species in the vicinity and limited extent of Project activities proposed in tidal habitats.
Longfin smelt (*Spirinchus thaleichthys*)	ST	Spawns in fresh water in the upper end of the San Francisco Bay; occurs year-round in the South Bay.	**May be Present.** Occurs in the South Bay year-round (Wernette 2000), and has been collected in Alviso Slough (EDAW 2007) and in the Island Ponds between Coyote Slough and Mud Slough (Hobbs 2011). May be present in the tidal reaches of other sloughs in the South Bay as a rare non-breeding visitor, but in very low numbers. Does not spawn in the Project Area, and the species is likely to occur only in low numbers in the Project Area because of the very limited abundance of the species in the vicinity and limited extent of activities proposed in tidal habitats.
Central California coast steelhead (*Oncorhynchus mykiss*)	FT	Cool streams with suitable spawning habitat and conditions allowing migration between spawning and marine habitats.	**Present.** Known to occur in the Project Area in a number of streams flowing into San Francisco Bay, including Coyote Creek, Upper Penitencia Creek, Arroyo Aguague, Los Gatos Creek, Alamitos Creek, Arroyo Calero, Los Trancos Creek, Guadalupe Creek, the Guadalupe River, Stevens Creek, and San Francisquito Creek. Likely present in all accessible reaches of these streams in the Project Area during migration. Also present in the lower, tidal reaches of Alviso Slough, Coyote Slough, Stevens Creek, and San Francisquito Creek and in estuarine habitats of the South Bay during migration.

Table 3.3-~~21~~22. Special-Status Animal Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Name	Status	Habitat	Potential for Occurrence in the Project Area
South-Central California coast steelhead (*Oncorhynchus mykiss*)	FT	Cool streams with suitable spawning habitat and conditions allowing migration between spawning and marine habitats.	**Present.** Known to occur in the Project Area in the Pajaro River and its tributaries, including Llagas Creek, Uvas/Carnadero Creek, Little Arthur Creek, Bodfish Creek, Tar Creek, and Pacheco Creek. Likely present in all accessible reaches of these streams in the Project Area during migration.
California tiger salamander (*Ambystoma californiense*)	FT, SE/ CSSC	Vernal or temporary pools in annual grasslands or open woodlands.	**Present.** Historically may have occurred throughout the Project Area; however, several populations located along the valley floor have been extirpated because of habitat loss, and the species is absent from most of the valley floor. Recent occurrences are scattered throughout the Project Area on both sides of the Santa Clara Valley.
California red-legged frog (*Rana draytonii*)	FT, CSSC	Streams, freshwater pools, and ponds with emergent or overhanging vegetation.	**Present.** This species has apparently been extirpated from much of the valley floor, as well as the brackish marshes bordering the South Bay, and red-legged frogs are not expected to occur throughout most of the developed portions of the Project Area, even in streams and ponds. However, red-legged frogs are known or expected to occur in a number of locations at the periphery of the Project Area (i.e., in or near the upper, less developed reaches of streams in the Project Area).
San Francisco garter snake (*Thamnophis sirtalis tetrataenia*)	FE, SE	Freshwater marshes, ponds, and slow-moving streams along the coast.	**Absent.** Garter snakes in the northwestern part of the Project Area (*i.e.*, in the Palo Alto/Stanford area) fall within the intergrade zone between the San Francisco garter snake and the red-sided garter snake (*Thamnophis sirtalis infernalis*) (Barry 1994). The intergrade populations do not belong exclusively to either subspecies; thus, true San Francisco garter snakes do not occur in the Project Area.
Bank swallow (*Riparia riparia*)	ST (nesting)	Colonial nester on vertical banks or cliffs with fine-textured soils near water.	**Absent as Breeder.** No recent breeding records from Santa Clara County. Occurs only as a rare migrant.

Table 3.3-~~21~~22. Special-Status Animal Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Name	Status	Habitat	Potential for Occurrence in the Project Area
California condor (*Gymnogyps californianus*)	FE, SE	Nests in caves in steep, isolated cliffs or cavities in mature redwood trees. Forages over grasslands, open woodlands, and along coastal beaches.	**May be Present.** Historically present as a non-breeder but not currently known to occur in the Project Area. No breeding habitat for this species is present in the Project Area. Reintroduced individuals from Pinnacles National Monument in San Benito County occasionally range as far north as the Project Area (and may do so increasingly in the future if the reintroduced population expands), as five were at the summit of Mt. Hamilton in June 2011. However, such individuals are unlikely to occur in the low-elevation areas where SMP Update activities are expected to occur.
Bald eagle (*Haliaeetus leucocephalus*)	SE, SP	Occurs mainly along seacoasts, rivers, and lakes; nests in tall trees or in cliffs, occasionally on electrical towers. Feeds mostly on fish.	**Present.** Has been recorded nesting in the Project Area (i.e., below 1,000 feet elevation) at Coyote Reservoir, where a pair nested in 2010; at Anderson Reservoir, where a nesting pair was present in 2010 and possibly in several prior years; and at San Felipe Lake, where a pair is currently nesting in 2011. However, no Proposed Project activities are projected near any of these nests. Elsewhere in Santa Clara County, it has nested only at Calaveras Reservoir, which is outside the Project Area. Small numbers forage in the Project Area at all large reservoirs, and in Coyote Valley, primarily during the non-breeding season.
Swainson's hawk (*Buteo swainsoni*)	ST (nesting)	Nests in trees surrounded by extensive marshland or agricultural foraging habitat.	**Absent as Breeder.** Apparently nested in small numbers in Santa Clara County historically, and there is an 1894 nest record from the Berryessa area (currently in eastern San Jose) (Bousman 2007g). Currently the species is known to occur in the Project Area only as a very infrequent transient during migration. Although young not long out of the nest have been recorded on several occasions in the Santa Clara Valley in recent years, more concrete evidence of nesting has not been documented, so this species is currently not known to breed in the Project Area.
California clapper rail (*Rallus longirostris obsoletus*)	FE, SE, SP	Salt marsh habitat dominated by pickleweed and cordgrass.	**Present.** Suitable breeding habitat is present in the Project Area in saltmarsh habitat along the lowermost, tidal reaches of creeks that flow into San Francisco Bay (Liu et al. 2009). On very rare occasions, non-breeding individuals wander up tidal sloughs (*e.g.*, in tidal brackish/freshwater marsh habitats along Alviso Slough); however, all suitable breeding habitat for clapper rails is present in saline and brackish tidal marshes.

Table 3.3-~~21~~22. Special-Status Animal Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Name	Status	Habitat	Potential for Occurrence in the Project Area
California black rail (*Laterallus jamaicensis coturniculus*)	ST, SP	Breeds in fresh, brackish, and tidal salt marsh.	**May be Present.** Not known to breed in the South Bay; occurs only as a very infrequent winter visitor to tidal salt marshes along the edge of the Bay.
Western snowy plover (*Charadrius alexandrinus nivosus*)	FT, CSSC	Sandy beaches on marine and estuarine shores and salt pannes in San Francisco Bay saline managed ponds.	**Present.** Nests on levees, islands, and salt flats in some of the South Bay saline managed ponds in the Mountain View/Sunnyvale/Alviso area, and in New Chicago Marsh in Alviso. Forges in these same areas and on levees and managed pond bottoms in other ponds along the Bay edge.
California least tern (*Sterna antillarum browni*)	FE, SE, SP	Nests along the coast on bare or sparsely vegetated, flat substrates. In the South Bay, nests in salt pannes and on an old airport runway. Forages for fish in open waters.	**Present.** Does not breed in the Project Area. The South Bay is an important post-breeding staging area for least terns. Most such staging has occurred in managed ponds along the Bay in the Mountain View/Sunnyvale area (occasionally in the Alviso area).
Least Bell's vireo (*Vireo bellii pusillus*)	FE, SE	Nests in heterogeneous riparian habitat, often dominated by cottonwoods and willows.	**May be Present.** The only breeding records in Santa Clara County are from Llagas Creek southeast of Gilroy in 1997 and the Pajaro River south of Gilroy in 1932. Otherwise, records in the County include 1–2 singing males along lower Llagas Creek in May 2001, and a singing male in June 2006 along Coyote Creek near the Coyote Creek Golf Club. Although this species may increase in number and distribution as core populations increase, it is unlikely to be more than a rare and very locally occurring breeder along South County streams.
Salt marsh harvest mouse (*Reithrodontomys raviventris*)	FE, SE, SP	Salt marsh habitat dominated by common pickleweed.	**Present.** Known to occur in the Project Area in saline and brackish marshes, particularly those dominated by pickleweed or dense mature tri-corner bulrush (*Schoenoplectus americanus*) habitat around the Bay edge, including both fully tidal and diked/muted tidal marshes (H.T. Harvey & Associates 2010a).

Table 3.3-~~21~~22. Special-Status Animal Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Name	Status	Habitat	Potential for Occurrence in the Project Area
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, ST	Flat or gently sloping grasslands, mostly on the margins of the San Joaquin Valley and adjacent valleys.	**May be Present.** Expected to occur only in the southeastern portion of the Project Area, in the vicinity of Pacheco Creek and the uppermost reaches of the Pajaro River. If it occurs here at all, likely to occur in low numbers, and infrequently, during dispersal between areas of known breeding activity outside the Project Area. No Proposed Project activities are projected in areas where the kit fox could occur.
California Species of Special Concern			
Central Valley fall-run Chinook salmon (*Oncorhynchus tshawytscha*)	CSSC	Cool rivers and large streams that reach the ocean and that have shallow, partly shaded pools, riffles, and runs.	**Present.** Known to occur in the Project Area in Coyote Creek, Los Gatos Creek, and the Guadalupe River in very small numbers (Leidy et al. 2003). Uses the lower reaches of Coyote Creek and Alviso Slough as migration corridors between estuarine habitats and upstream spawning and rearing habitats. However, genetic analysis has confirmed that Chinook in South Bay streams are all derived from hatchery stock, and conditions for successful spawning in the Project Area are marginal.
Monterey roach (*Lavinia symmetricus subditus*)	CSSC	Fairly warm streams and rivers flowing into Monterey Bay.	**Present.** Restricted to the tributaries of the Monterey Bay. It is considered plentiful in the Pajaro watershed and is known to occur in Llagas Creek, Uvas Creek, and the Pajaro River.
Foothill yellow-legged frog (*Rana boylii*)	CSSC	Partially shaded shallow streams and riffles with a rocky substrate. Occurs in a variety of habitats in coast ranges.	**Present.** This species has disappeared from the farmed and urbanized areas of the County as well as many of the perennial streams below major reservoirs. Foothill yellow-legged frogs may still be present along the eastern and western margins of the Project Area, along the upper reaches of cobbly streams (H. T. Harvey & Associates 1999b).
Western pond turtle (*Actinemys marmorata*)	CSSC	Permanent or nearly permanent water in a variety of habitats.	**Present.** Occurs in a number of aquatic habitats in the Project Area, including a number of creeks, rivers, lakes, and ponds (H. T. Harvey & Associates 1999a, CNDDB 2011). The majority of recent occurrences in the Project Area have been from southern areas or from the margins of the Project Area, as breeding populations have been extirpated from most agricultural and urbanized areas. However, individuals of this long-lived species still occur in urban streams and ponds as well.

Table 3.3-~~21~~22. Special-Status Animal Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Name	Status	Habitat	Potential for Occurrence in the Project Area
California horned lizard (*Phrynosoma coronatum frontale*)	CSSC	Open habitats with sandy, loosely textured soils, such as chaparral, coastal scrub, annual grassland, and clearings in riparian woodlands with the presence of native harvester ants (*Pogonomyrmex barbatus*).	**Present.** Recorded recently in the Project Area only near Calero Reservoir. Probably restricted to a few locations at the margins of the Project Area.
Silvery legless lizard (*Anniella pulchra pulchra*)	CSSC	Areas with sandy or loose loamy soils under the sparse vegetation of beaches, chaparral, or pine-oak woodland; or sycamores, cottonwoods, or oaks that grow on stream terraces.	**Absent.** Historically recorded in Project Area in the Alviso area, but no recent records. Silvery legless lizards have been displaced by development or disturbed by agriculture in much of the Project Area, and a suite of other factors (e.g., off-road vehicle activity, erosion, livestock grazing, and the introduction of exotic plant species) has altered remaining habitat to the extent that the species is unlikely to occur in the Project Area.
Redhead (*Aythya americana*)	CSSC (nesting)	Nests in marshes and at pond margins.	**Absent as Breeder.** Recorded nesting in the Project Area only on a few occasions, in the 1970s and 1980s, at the Palo Alto Flood Control Basin. Low probability of nesting elsewhere.
Western least bittern (*Ixobrychus exilis hesperis*)	CSSC (nesting)	Nests and forages in freshwater marshes.	**Absent as Breeder.** Although the species has been recorded occasionally in the Project Area, there are no breeding confirmations from the Project Area, and this species likely occurs only as an occasional migrant.
Black skimmer (*Rynchops niger)*	CSSC (nesting)	Nests on abandoned levees and islands in saline managed ponds and marshes.	**Present.** Uncommon resident. Black skimmers have nested in the South Bay since 1994. Near the Project Area, the species has nested on islands in saline managed ponds in the Alviso area (*e.g.*, on ponds AB1, AB2, A1, A2W, A7, A8 and A16, and Pond A12 (Bousman 2007f). May forage in tidal sloughs, but not expected to occur away from tidal/bayland areas.

Table 3.3-~~21~~22. Special-Status Animal Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Name	Status	Habitat	Potential for Occurrence in the Project Area
Northern harrier (*Circus cyaneus*)	CSSC (nesting)	Nests in marshes and moist fields, forages over open areas.	**Present.** Within the Project Area, potential nesting habitat is present primarily in tidal marshes along sloughs, in diked/muted tidal salt marshes near the Bay, in fallow fields and pastures in Coyote Valley, and in fallow fields and wetlands along lower Llagas Creek, Carnadero Creek, and the Pajaro River. The accessibility of these areas to predators, particularly away from Bay marshes, limits the abundance of nesting pairs in the Project Area. Non-breeders are known to forage regularly in grassland, agricultural, and wetland habitats in the Project Area, occasionally (e.g., during vole outbreaks) in high densities.
Long-eared owl (*Asio otus*)	CSSC (nesting)	Riparian bottomlands with tall, dense willows and cottonwood stands (also dense live oak and California Bay along upland streams); forages primarily in adjacent open areas.	**May be Present.** Rare resident and occasional winter visitor in Santa Clara County (Bousman 2007d). Historical breeding records are known from the Santa Clara Valley floor and one recent nest was recorded at Ed Levin County Park west of Calaveras Reservoir (Noble 2007). Could potentially breed in oak woodlands, riparian habitats, and other wooded habitats in the Project Area, though likely only in very low numbers.
Short-eared owl (*Asio flammeus*)	CSSC (nesting)	Nests in marshes and moist fields, forages over open areas.	**May be Present.** Has been recorded nesting in the Project Area only in the Palo Alto Flood Control Basin, though it has not been confirmed nesting there since the 1970s. Low probability of nesting elsewhere.
Burrowing owl (*Athene cunicularia*)	CSSC	Open grasslands and ruderal habitats with suitable burrows, usually those made by California ground squirrels.	**Present.** Present year-round in the Project Area in open, agricultural, and grassland areas where active ground squirrel burrows are present. However, the species has undergone a recent decline in Santa Clara County. Core populations of breeding and overwintering burrowing owls occur at the San Jose International Airport, in the North San Jose/Alviso area, and in the northern Mountain View area.

Table 3.3-~~21~~22. Special-Status Animal Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Name	Status	Habitat	Potential for Occurrence in the Project Area
Vaux's swift (*Chaetura vauxi*)	CSSC (nesting)	Nests in snags in coastal coniferous forests or, occasionally, in chimneys; forages aerially.	**May be Present.** In the South Bay, breeds primarily in snags within Santa Cruz Mountain forests outside of the Project Area. However, it also breeds in residential chimneys in the foothills of the Santa Cruz Mountains. Swifts have been observed foraging widely over various habitats, but most commonly in suburban areas having chimneys suitable for nesting, such as Los Gatos, Los Altos, Los Altos Hills, Cupertino, and Campbell (Rottenborn 2007e). Thus, it likely breeds more commonly than currently recorded (though still in small numbers) in residential areas in the northwestern part of the Project Area. Forages aerially over these areas during the breeding season, and anywhere over the larger Project Area during migration.
Olive-sided flycatcher (*Contopus cooperi*)	CSSC (nesting)	Breeds in mature forests with open canopies, along forest edges in more densely vegetated areas, in recently burned forest habitats, and in selectively harvested landscapes.	**Present.** Common summer resident in western Santa Clara County (Bousman 2007c). This species breeds widely in the Santa Cruz Mountains, and more sparingly in the Diablo Range, but it does not breed on the Santa Clara Valley floor. Likely, few pairs nest at sites below 1,000 feet in elevation, but confirmed breeding has occurred at elevations as low as 400 feet (Bousman 2007c).
Loggerhead shrike (*Lanius ludovicianus*)	CSSC (nesting)	Nests in tall shrubs and dense trees; forages in grasslands, marshes, and ruderal habitats.	**Present.** Breeds in a number of locations in the Project Area where open grassland, ruderal, or agricultural habitat with scattered brush, chaparral, or trees provides perches and nesting sites (Bousman 2007k), though populations seem to have declined in recent years as suitable habitat has been increasingly developed. Occurs slightly more widely (i.e., in smaller patches of open areas providing foraging habitat) during the non-breeding season.
Yellow warbler (*Dendroica petechia*)	CSSC (nesting)	Nests in riparian woodlands.	**Present.** Uncommon breeder in wooded riparian habitats in the Project Area. Prefers riparian corridors with an overstory of mature cottonwoods and sycamores, a midstory of box elder and willow, and a substantial shrub understory (Bousman 2007j), particularly in areas with more open space adjacent to the riparian habitat (rather than in heavily developed areas). An abundant migrant throughout the Project Area during the spring and fall.

Table 3.3-~~21~~22. Special-Status Animal Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Name	Status	Habitat	Potential for Occurrence in the Project Area
San Francisco common yellowthroat (*Geothlypis trichas sinuosa*)	CSSC	Nests in herbaceous vegetation, usually in wetlands or moist floodplains.	**Present.** In the Project Area, the greatest proportion of breeding records are from brackish and freshwater marshes near the edge of the Bay, and in early-successional riparian habitat in broader floodplains along lower Coyote Creek and the Guadalupe River (Bousman 2007m). Nests are typically located in extensive stands of bulrushes in brackish marshes and dense cattail beds in freshwater marsh habitat, but also nests in forbs in riparian habitats. Yellowthroats nesting from the northern San Jose/Milpitas/Santa Clara/Los Gatos area northward, both along the edge of the Bay and in riparian and wetland habitats inland, are likely of this subspecies, whereas those in areas to the south are likely of the more widespread subspecies *arizela*.
Yellow-breasted chat (*Icteria virens*)	CSSC (nesting)	Nests in dense stands of willow and other riparian habitat.	**Present.** Rare breeder, and only slightly more regular transient, in willow-dominated riparian habitats in the Project Area. Historically, it likely bred more widely in Santa Clara County, but it is now rare because of the loss of suitable breeding habitat and brood parasitism by brown-headed cowbirds. In the Project Area, the species is most numerous and occurs most regularly on lower Llagas Creek, but it has been recently recorded along Coyote Creek from the vicinity of Hellyer Park upstream, and it likely occurs in low numbers on other streams south of the more urbanized San Jose area.
Alameda song sparrow (*Melospiza melodia pusillula*)	CSSC	Nests in salt marsh, primarily in marsh gumplant and cordgrass along channels.	**Present.** Endemic to Central and South San Francisco Bay. In the Project Area, it occurs in the taller vegetation found along tidal sloughs, including salt marsh cordgrass and marsh gumplant, near the South Bay. The location of the interface between populations of the Alameda song sparrow and those of the race breeding in freshwater riparian habitats (*gouldii*) along most creeks is not known because of difficulties in distinguishing individuals of these two races in the field.

Table 3.3-~~21~~22. Special-Status Animal Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Name	Status	Habitat	Potential for Occurrence in the Project Area
Grasshopper sparrow (*Ammodramus savannarum*)	CSSC (nesting)	Breeds and forages in grasslands, meadows, fallow fields, and pastures.	**Present.** Nests in extensive grasslands with some heterogeneity, including serpentine grasslands. In the Project Area, breeding birds occur in the foothills of the Santa Cruz Mountains, and from Calaveras Reservoir southeast to the hills above Pacheco Creek (Heller 2007). Breeding birds also occur in the southeast portion of the Project Area where the hills drop down to the Pajaro River Valley (Heller 2007). It may occur somewhat more widely during migration, but it is seldom detected in the Project Area outside the breeding season.
Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*)	CSSC	Nests in pickleweed dominated salt marsh and adjacent ruderal habitat.	**Present.** Breeds in the Project Area primarily in short pickleweed-dominated portions of diked/muted tidal salt marsh habitat, and in adjacent ruderal habitat, in the South San Francisco Bay area (Rottenborn 2007b). Breeding has also been confirmed in expanses of short grassland in inland/non-instream areas on the west side of the Coyote Valley and in the Santa Cruz Mountain foothills just north of the Pajaro River Valley (Rottenborn 2007b). During the non-breeding season, *alaudinus* and other savannah sparrow subspecies may forage in open areas throughout the Project Area.
Tricolored blackbird (*Agelaius tricolor*)	CSSC (nesting colony)	Nests near fresh water in dense emergent vegetation.	**Present.** Typically nests in extensive stands of tall emergent herbaceous vegetation in freshwater marshes and ponds. In the Project Area, the species is patchily distributed in the Santa Clara Valley, its distribution reflecting the patchy nature of its breeding habitat (Rottenborn 2007a). Occurs as an uncommon non-breeding forager throughout most of the Project Area.
Salt marsh wandering shrew (*Sorex vagrans halicoetes*)	CSSC	Medium-high marsh 6-8 ft above sea level with abundant driftwood and common pickleweed.	**May be Present.** Formerly more widely distributed in the Bay Area, this small insectivorous mammal is now confined to salt marshes of the South Bay (Findley 1955). Salt marsh wandering shrews occur most often in medium-high wet tidal marsh (6 to 8 feet above sea level), with abundant driftwood and other debris for cover (Shellhammer 2000). They have also been recorded occasionally in diked marsh. This species is typically found in fairly tall pickleweed, in which these shrews build nests.

Table 3.3-~~21~~22. Special-Status Animal Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Name	Status	Habitat	Potential for Occurrence in the Project Area
Pallid bat (*Antrozous pallidus*)	CSSC	Forages over many habitats; roosts in caves, rock outcrops, buildings, and hollow trees.	**Present.** Historically, likely present in a number of locations throughout the Project Area, but this species has declined in recent decades. Known maternity colonies in the Project Area occur at several locations, such as on Cochrane Road near Anderson Dam; south of Berryessa Creek and close to Old Piedmont Road, and on Chaboya Court at the end of Quimby Road in eastern San Jose; and on the Highway 152 bridge over Uvas Creek. Suitable roosting sites are present in a number of other areas, particularly in or near open space or less developed areas around the periphery of the Project Area, and the species may be more widespread than is known. Individuals could potentially forage in the Project Area in open areas located within several miles of colonies.
Townsend's big-eared bat (*Corynorhinus townsendii*)	CSSC	Roosts in caves and mine tunnels, and occasionally in deep crevices in trees such as redwoods or in abandoned buildings, in a variety of habitats.	**May be Present.** No known extant populations on the Santa Clara Valley floor, and no breeding sites known from the Project Area. Occasionally individual Townsend's big-eared bats may roost and forage in habitats nearly anywhere in the Project Area, but such individuals are expected to occur very infrequently and in small numbers. Roosting colonies are known from UTC Property east of Coyote Ridge near Metcalf Road and at Almaden-Quicksilver County Park. Although both locations are outside the Project Area, these records indicate the potential for this species to occur in suitable habitat in the Project Area, possibly near southern Coyote Ridge and northern Anderson Reservoir or in the Guadalupe Mines area.
Western red bat (*Lasiurus blossevillii*)	CSSC	Roosts in foliage in forest or woodlands, especially in or near riparian habitat.	**Present.** Occurs as a migrant and winter resident, but does not breed in the Project Area. May roost in foliage in trees virtually anywhere in the Project Area, but expected to roost primarily in riparian areas.
San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*)	CSSC	Nests in a variety of habitats including riparian areas, oak woodlands, and scrub.	**Present.** Currently, with the exception of records along Coyote Creek and along the edges of the valley, San Francisco dusky-footed woodrats are not known to occur on the urban Santa Clara Valley floor (H. T. Harvey & Associates 2010c. They have also likely been extirpated in the southern portion of the County in the Gilroy and Morgan Hill areas where the valley floor is developed (H. T. Harvey & Associates 2010c). In the Project Area, Coyote Creek likely supports extant populations of the San Francisco dusky-footed woodrat. Where low open valleys are less developed, woodrat populations appear to remain intact.

Table 3.3-~~21~~22. Special-Status Animal Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Name	Status	Habitat	Potential for Occurrence in the Project Area
American badger (*Taxidea taxus*)	CSSC	Burrows in grasslands and occasionally in infrequently disked agricultural areas.	**Present.** Known to occur in the Project Area primarily in grasslands and less frequently disturbed agricultural habitats, mostly in the foothills but sometimes on the valley floor.
State Fully Protected Species			
American peregrine falcon (*Falco peregrinus anatum*)	SP	Forages in many habitats; nests on cliffs and tall bridges and buildings.	**Present.** Peregrine falcons are uncommon breeders in the Project Area, but non-breeders are present in small numbers in fall and winter. They may occur anywhere throughout the Project Area as a forager or migrant, though always at low densities. In the Project Area, peregrine falcons are known to nest at San Jose City Hall and on electrical towers in Mountain View and Alviso managed ponds. Might breed more widely in the Project Area from 2012–2022.
Golden eagle (*Aquila chrysaetos*)	SP	Breeds on cliffs or in large trees (rarely on electrical towers), forages in open areas.	**Present.** Breeds widely in the Diablo Range and less commonly in the Santa Cruz Mountains, mostly above the elevation of the Project Area, but a few pairs breed at the edges of the Santa Clara Valley at elevations within the Project Area (Bousman 2007l). Forages somewhat more widely in agricultural/open space areas on the valley floor, such as in the Alviso area, in Coyote Valley, and in the Pajaro River watershed.
White-tailed kite (*Elanus leucurus*)	SP	Nests in tall shrubs and trees, forages in grasslands, marshes, and ruderal habitats.	**Present.** Breeds across the northern edge of Santa Clara County from the foothills of the Santa Cruz Mountains near Palo Alto, through the open areas edging the South Bay, and into the foothills of the Diablo Range east of Milpitas (Mammoser 2007). Also occurs at scattered locations southward along the Santa Clara Valley floor and the foothills on either side of the valley. Also fairly common along Llagas and Uvas/Carnadero creeks and the Pajaro River.
Ringtail (*Bassariscus astutus*)	SP	Cavities in rock outcrops and talus slopes, as well as hollows in trees, logs, and snags that occur in riparian habitats and dense woodlands, usually in close proximity to water.	**May be Present.** Ostensibly, suitable habitat is present in forested areas at the upper margins of the Project Area, but there are few confirmed records. The species has been observed near Lexington Reservoir, near Highway 152 just west of Gilroy, and near the confluence of Carnadero Creek and the Pajaro River, and it may be present in other areas removed from urbanization.

Table 3.3-~~21~~22. Special-Status Animal Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Name	Status	Habitat	Potential for Occurrence in the Project Area
Other Special-Status Species			
Mimic tryonia (*Tryonia imitator*)		Coastal lagoons, estuaries, and salt marshes with permanent water.	**Present.** The CNDDB has two records of this species in Santa Clara County, both within the Project Area in the Alviso area (CNDDB 2011).
Hom's micro-blind harvestman (*Microcina homi*)		Endemic to serpentine soils in California. Found under moist rocks in open hillside-grassland habitat.	**May be Present.** Has been observed or collected at eight sites, all within Santa Clara County (USFWS 1998b). In the Project Area, it has been observed in the Santa Teresa Hills, the Morgan Hill area, north of U.S. Highway 101 on Metcalf Road, and near Silver Creek Road (CNDDB 2011).
Jung's micro-blind harvestman (*Microcina jungi*)		Endemic to serpentine soils in California.	**May be Present.** Known only from one rocky serpentine grassland location 0.9 mile south of the junction of Silver Creek and San Felipe roads near San Jose (USFWS 1998b, CNDDB 2011).
Opler's longhorn moth (*Adela oplerella*)		Serpentine-derived or similar soils that support the moth's host plant, California cream cups.	**May be Present.** Known from nine serpentine habitat locations in Santa Clara County, all within the Project Area (USFWS 1998b). Occurs on both sides of U.S. Highway 101 from Upper Hellyer Canyon to just south of Gilroy.
Unsilvered fritillary (*Speyeria adiaste adiaste*)		Openings in conifer and redwood forests, as well as oak woodlands, chaparral, and grassy slopes in the central coast region of California. Require violets (*Viola* spp.) as larval host plants.	**Absent.** This subspecies is known from the Santa Cruz Mountains in San Mateo, Santa Cruz, and Santa Clara counties. It is not expected to occur at elevations below 1,000 feet in Santa Clara County. Determined to be absent from the Project Area.

Table 3.3-~~21~~22. Special-Status Animal Species, Their Status, Habitat Description, and Potential for Occurrence in the Project Area

Name	Status	Habitat	Potential for Occurrence in the Project Area
Pacific lamprey (*Lampetra tridentata*)		Spawns in gravel-bottomed streams or rivers upstream of riffle habitat. Adults forage in marine areas.	**Present.** Historically, this species may have been present in streams throughout the Project Area. Currently known from the Guadalupe River San Francisquito, Coyote, Upper Penitencia, Lower Silver, Guadalupe, Alamitos, Stevens, and Uvas Creeks, and may be locally common in these areas (Leidy 2007, SCVWD fish sampling and relocation data 2002–2009). Species' status is poorly documented, and abundance in other streams throughout the Project Area is poorly understood. May be present in all accessible portions of streams in the Project Area during migration between spawning areas and marine foraging habitat.
Pacific harbor seal (*Phoca vitulina richardii*)	MMPA	Throughout the northern Atlantic and Pacific Oceans along coastal waters, river mouths, and bays	**May be Present.** Permanent resident of San Francisco Bay. Primary haul-out sites in San Francisco Bay include Mowry Slough (243 seals in 1999), northeast of the Project Area. Suitable haul-out sites for harbor seals are present in the Project Area in the tidal reaches of sloughs in the South Bay area and use of haul-out sites varies over time. No pupping sites are currently known within the Project Area, though potentially suitable pupping habitat is present.

Key to Abbreviations:
Status: Federally Endangered (FE); Federally Threatened (FT); State Endangered (SE); State Threatened (ST); State Candidate for Listing (SC); State Protected (SP); California Species of Special Concern (CSSC); Species Protected by the Marine Mammal Protection Act (MMPA).

Source: Data compiled by Horizon Water and Environment in 2011