

**Legend**

- Santa Clara RCIS Area
- County Boundary
- City Limit
- Critical Linkages
- Protected Area (all types)

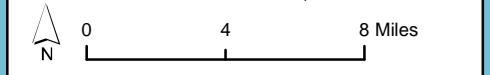
**Species Occurrences - Presumed Extant**

- CNDDDB Precise Location
- CNDDDB General Location

**San Joaquin Kit Fox Modeled Suitable Habitat**

- Movement/Foraging Habitat
- Low-Use Habitat

Source: CNDDDB Occurrence, CDFW 2016



This map presents outcomes of a model that is described in Chapter 2 of the RCIS. The model identifies areas within the study area where the focal species occurs or could occur based on known habitat requirements and best available data at the time the RCIS was developed. The data on which this map is based are regional in scale. This model is used in the RCIS only to help identify conservation priorities. Use of this map for site or project planning is voluntary; it imposes no regulatory requirements. If used for site planning, it should be used only as a guide. All species habitat and occurrences should be verified in the field. Occurrence data are incomplete and limited by where field surveys have been conducted; some occurrence points may be geographically general or inaccurate.

Path: K:\Projects - Winward - Fund00110 - 10\mapdata\Santa Clara\Appendix 4\Fig\_H-8\_SCC\_San\_Joaquin\_Kit\_Fox\map\_data\_50115\_Data\_5/12/2017



**Figure H-8**  
**San Joaquin Kit Fox Modeled Suitable Habitat**



**Legend**

- Santa Clara RCIS Area
- County Boundary
- Conservation Planning Unit
- Protected Area (all)

**Species Occurrences - Presumed Extant**

- CNDDDB Precise Location
- CNDDDB General Location
- Congdon's Spikeweed Modeled Suitable Habitat

Source: CNDDDB Occurrence, CDFW 2016

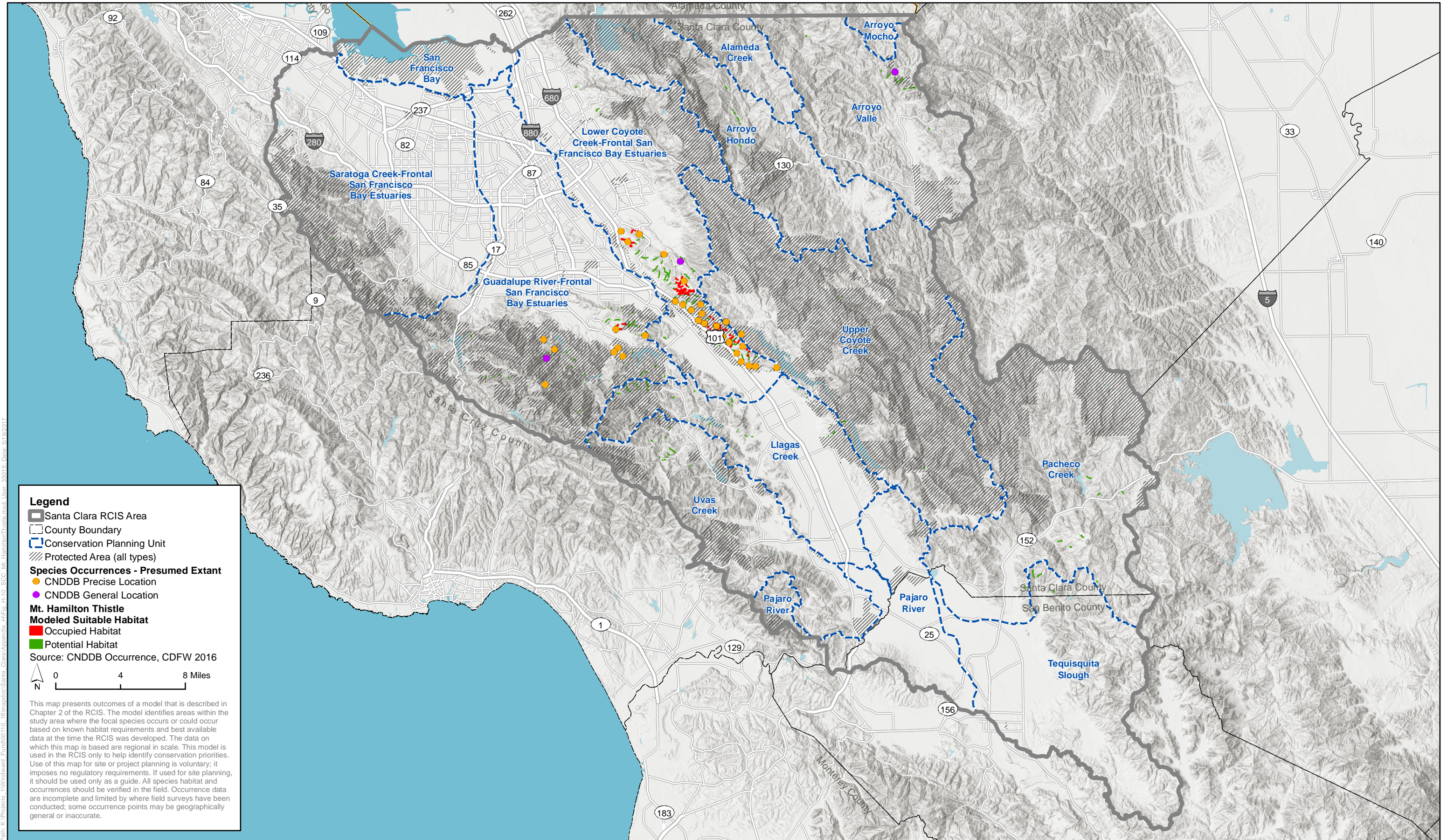
0 4 8 Miles

This map presents outcomes of a model that is described in Chapter 2 of the RCIS. The model identifies areas within the study area where the focal species occurs or could occur based on known habitat requirements and best available data at the time the RCIS was developed. The data on which this map is based are regional in scale. This model is used in the RCIS only to help identify conservation priorities. Use of this map for site or project planning is voluntary; it imposes no regulatory requirements. If used for site planning, it should be used only as a guide. All species habitat and occurrences should be verified in the field. Occurrence data are incomplete and limited by where field surveys have been conducted; some occurrence points may be geographically general or inaccurate.

Path: K:\Projects - Winward - Fund00110 - 10\mapdata\Santa Clara\Appendix - H\Fig. H-9\_SCC\_CompPlans\_Spikeweed.mxd; User: j5015; Date: 8/19/2017



**Figure H-9**  
Congdon's Spikeweed Modeled Suitable Habitat



Path: K:\Projects - W\Work\ward - Fund\00110 - 10\mapdata\Santa Clara\Appendix - H\Fig - H-10\_SCC\_Mt\_HamiltonThistle.mxd; User: j5015; Date: 8/12/2017

**Legend**

- Santa Clara RCIS Area
- County Boundary
- Conservation Planning Unit
- Protected Area (all types)

**Species Occurrences - Presumed Extant**

- CNDDDB Precise Location
- CNDDDB General Location

**Mt. Hamilton Thistle Modeled Suitable Habitat**

- Occupied Habitat
- Potential Habitat

Source: CNDDDB Occurrence, CDFW 2016

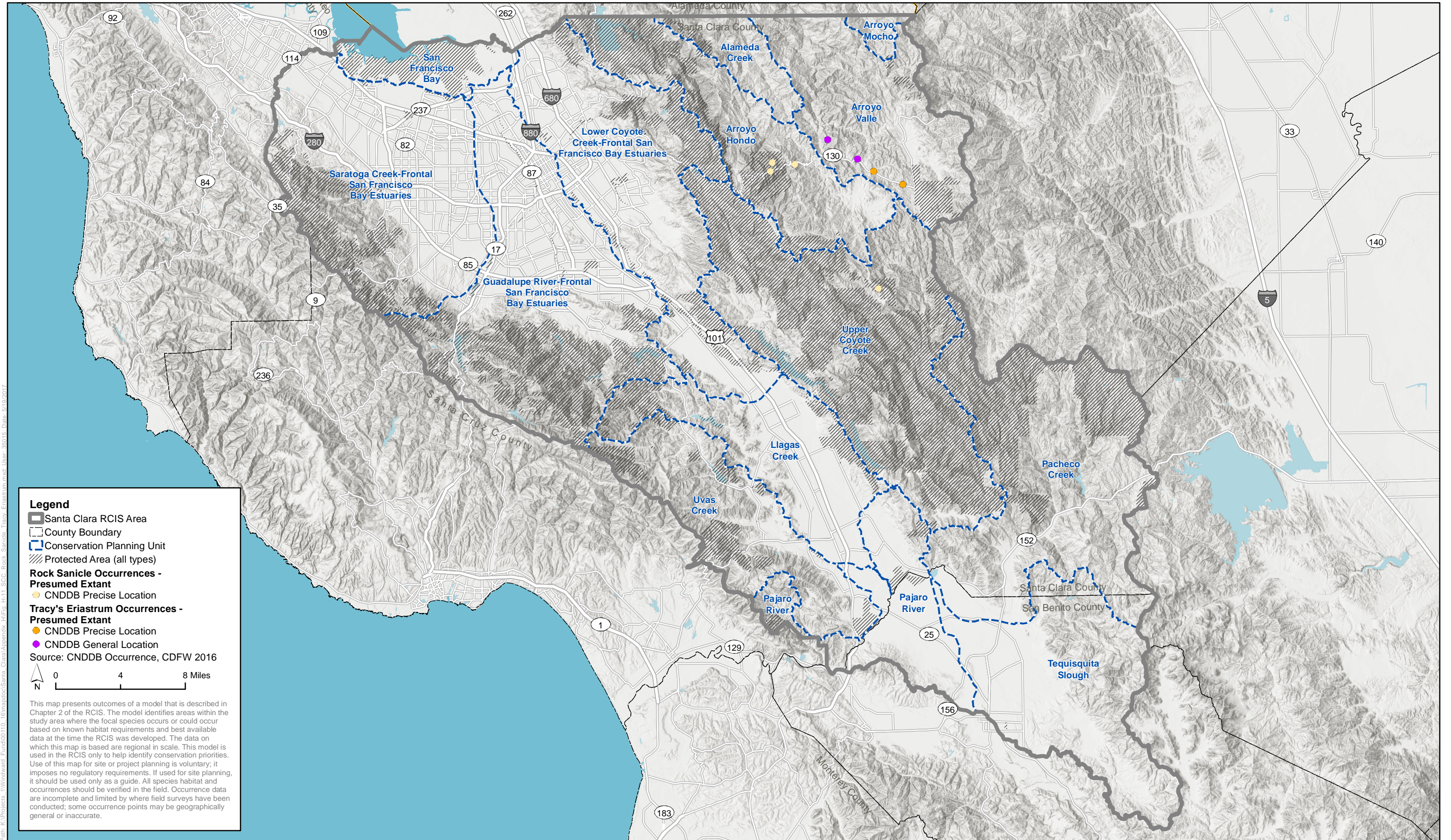
0 4 8 Miles

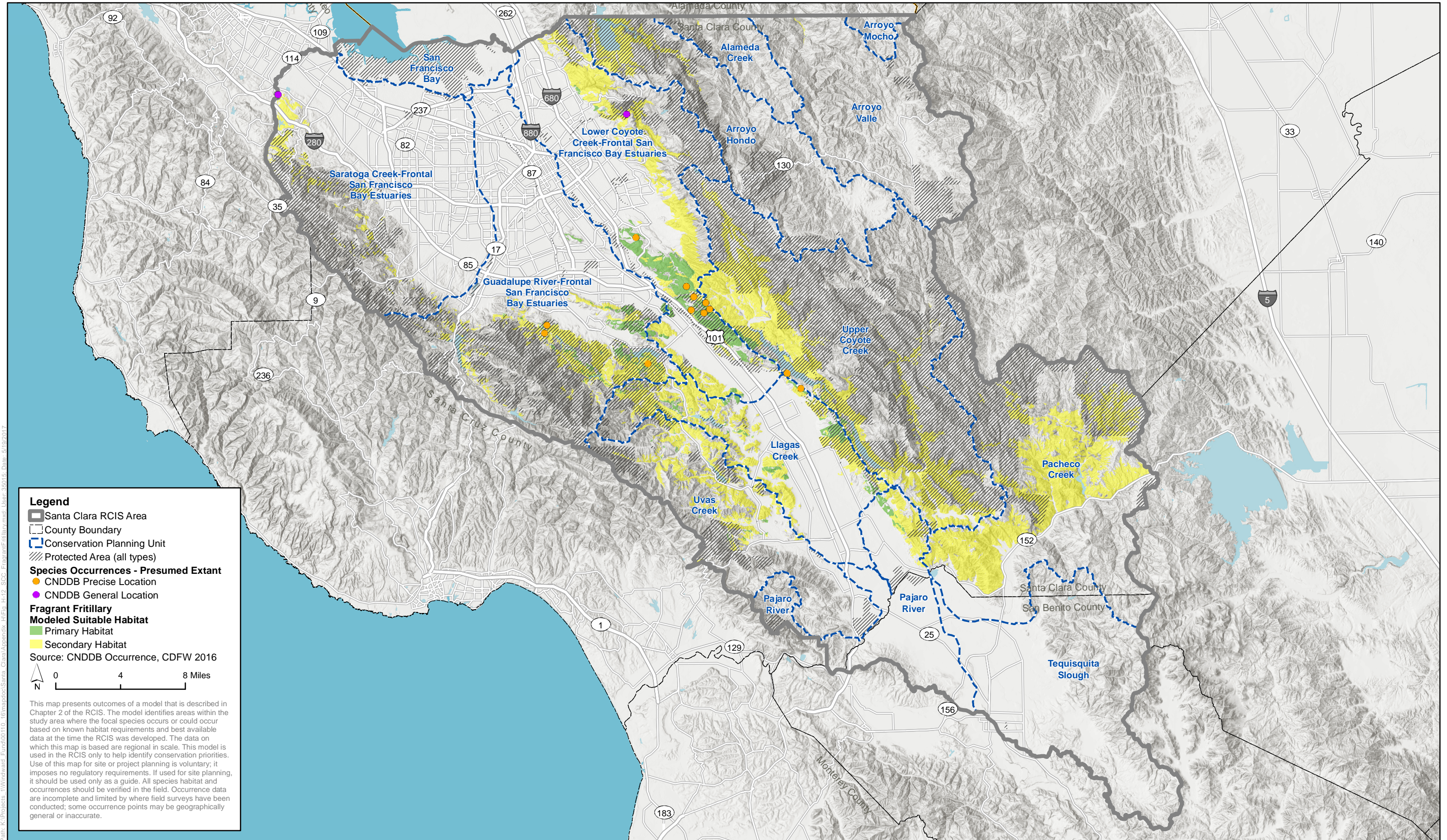
N

This map presents outcomes of a model that is described in Chapter 2 of the RCIS. The model identifies areas within the study area where the focal species occurs or could occur based on known habitat requirements and best available data at the time the RCIS was developed. The data on which this map is based are regional in scale. This model is used in the RCIS only to help identify conservation priorities. Use of this map for site or project planning is voluntary; it imposes no regulatory requirements. If used for site planning, it should be used only as a guide. All species habitat and occurrences should be verified in the field. Occurrence data are incomplete and limited by where field surveys have been conducted; some occurrence points may be geographically general or inaccurate.

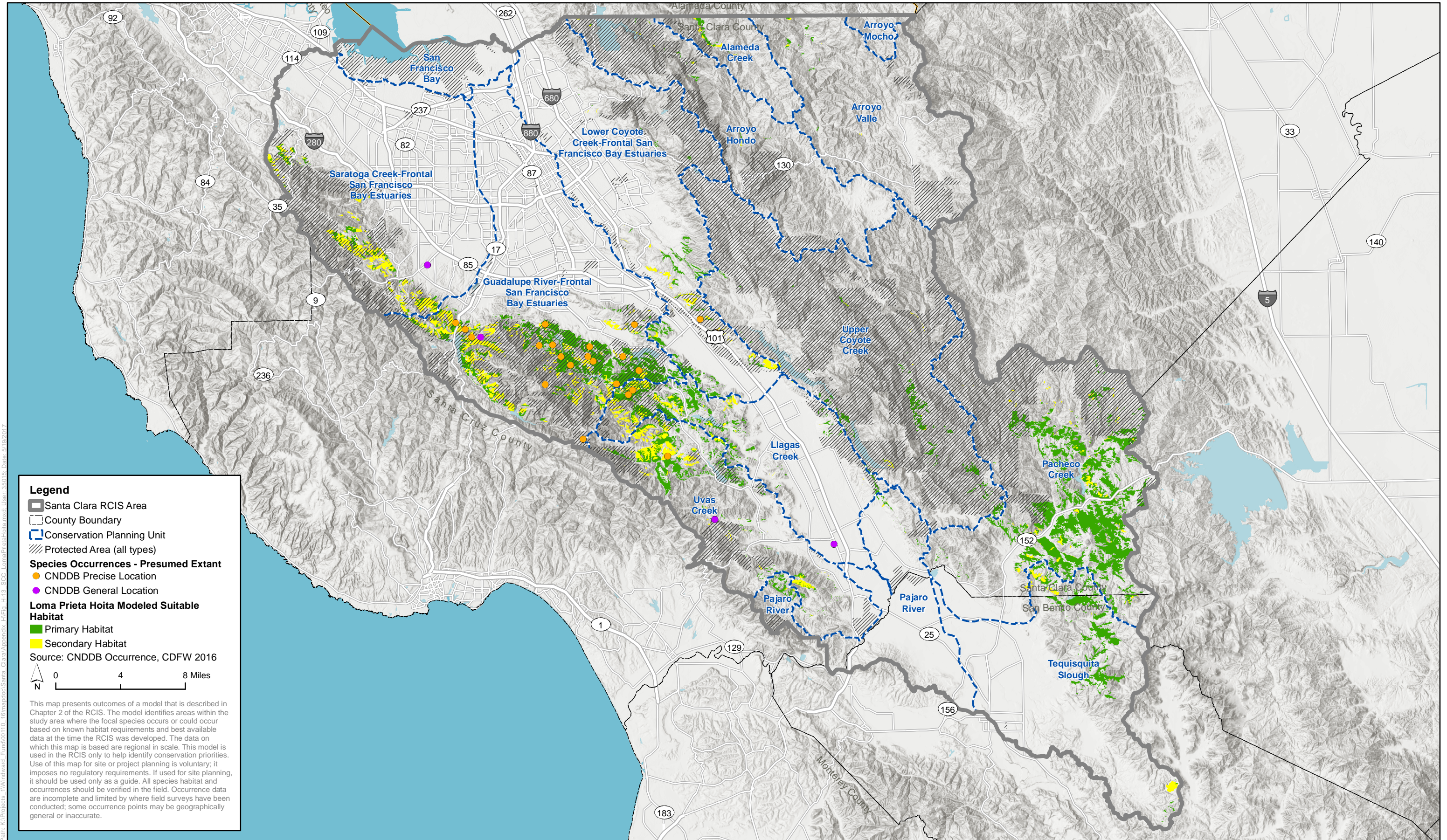


**Figure H-10**  
**Mt. Hamilton Thistle Modeled Suitable Habitat**





Path: K:\Projects - W\Work\ward - Fund\00110\_10\mapdata\Santa Clara\Appendix - H\Fig. H-12\_SCC\_FragrantFritillary.mxd User: 35015 Date: 5/19/2017



**Legend**

- Santa Clara RCIS Area
- County Boundary
- Conservation Planning Unit
- Protected Area (all types)

**Species Occurrences - Presumed Extant**

- CNDDB Precise Location
- CNDDB General Location

**Loma Prieta Hoita Modeled Suitable Habitat**

- Primary Habitat
- Secondary Habitat

Source: CNDDB Occurrence, CDFW 2016

0 4 8 Miles

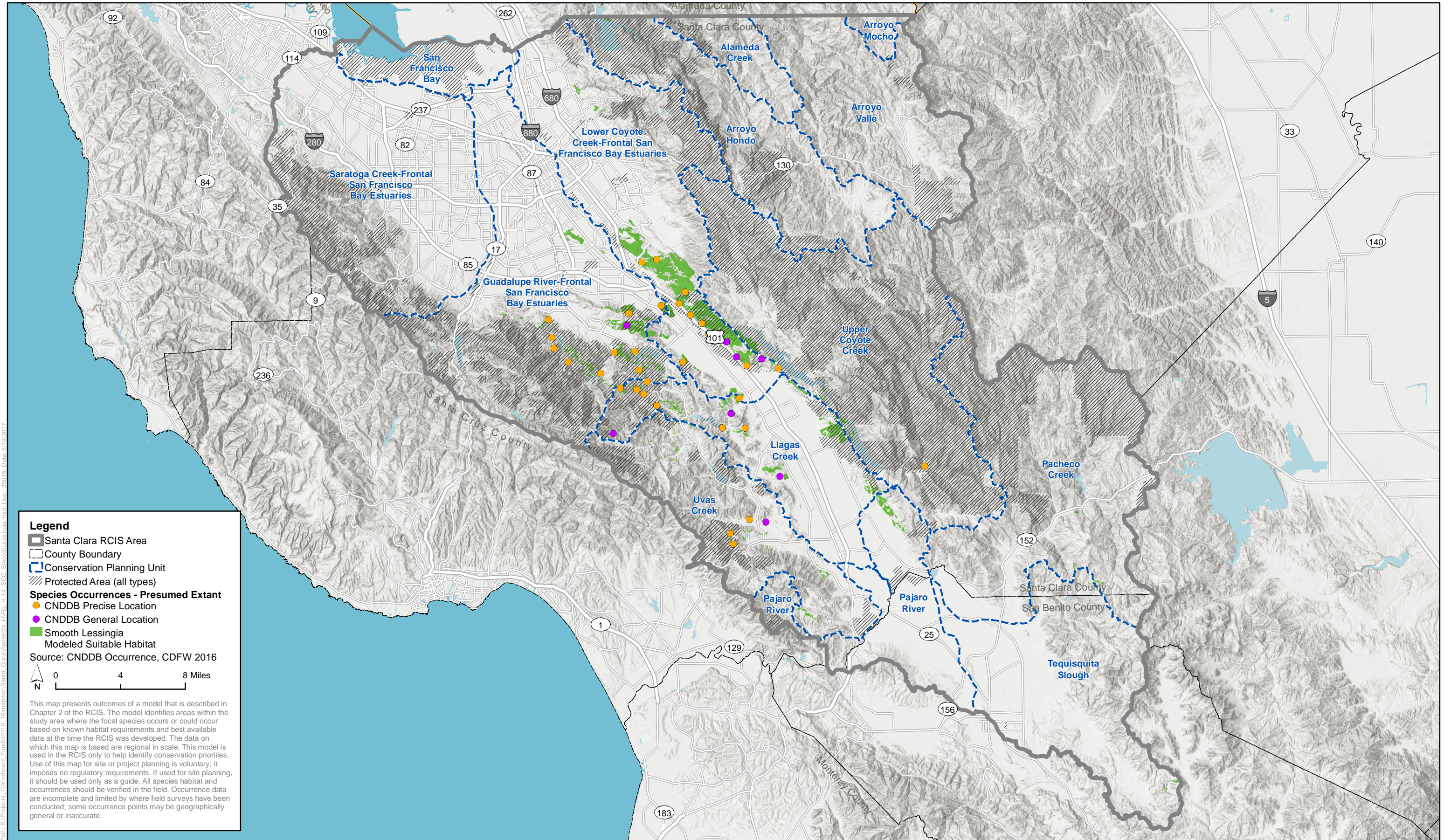
N

This map presents outcomes of a model that is described in Chapter 2 of the RCIS. The model identifies areas within the study area where the focal species occurs or could occur based on known habitat requirements and best available data at the time the RCIS was developed. The data on which this map is based are regional in scale. This model is used in the RCIS only to help identify conservation priorities. Use of this map for site or project planning is voluntary; it imposes no regulatory requirements. If used for site planning, it should be used only as a guide. All species habitat and occurrences should be verified in the field. Occurrence data are incomplete and limited by where field surveys have been conducted; some occurrence points may be geographically general or inaccurate.

Path: K:\Projects - Winward - Fund000110 - 10\mapdata\Santa Clara\Appendix - H\Fig. H-13\_SCC\_LomaPrietaHoita.mxd User: s5015 Date: 8/12/2017



**Figure H-13**  
Loma Prieta Hoita Modeled Suitable Habitat



**Legend**

- Santa Clara RCIS Area
- Conservation Planning Unit
- Protected Area (all types)

**Species Occurrences - Presumed Extant**

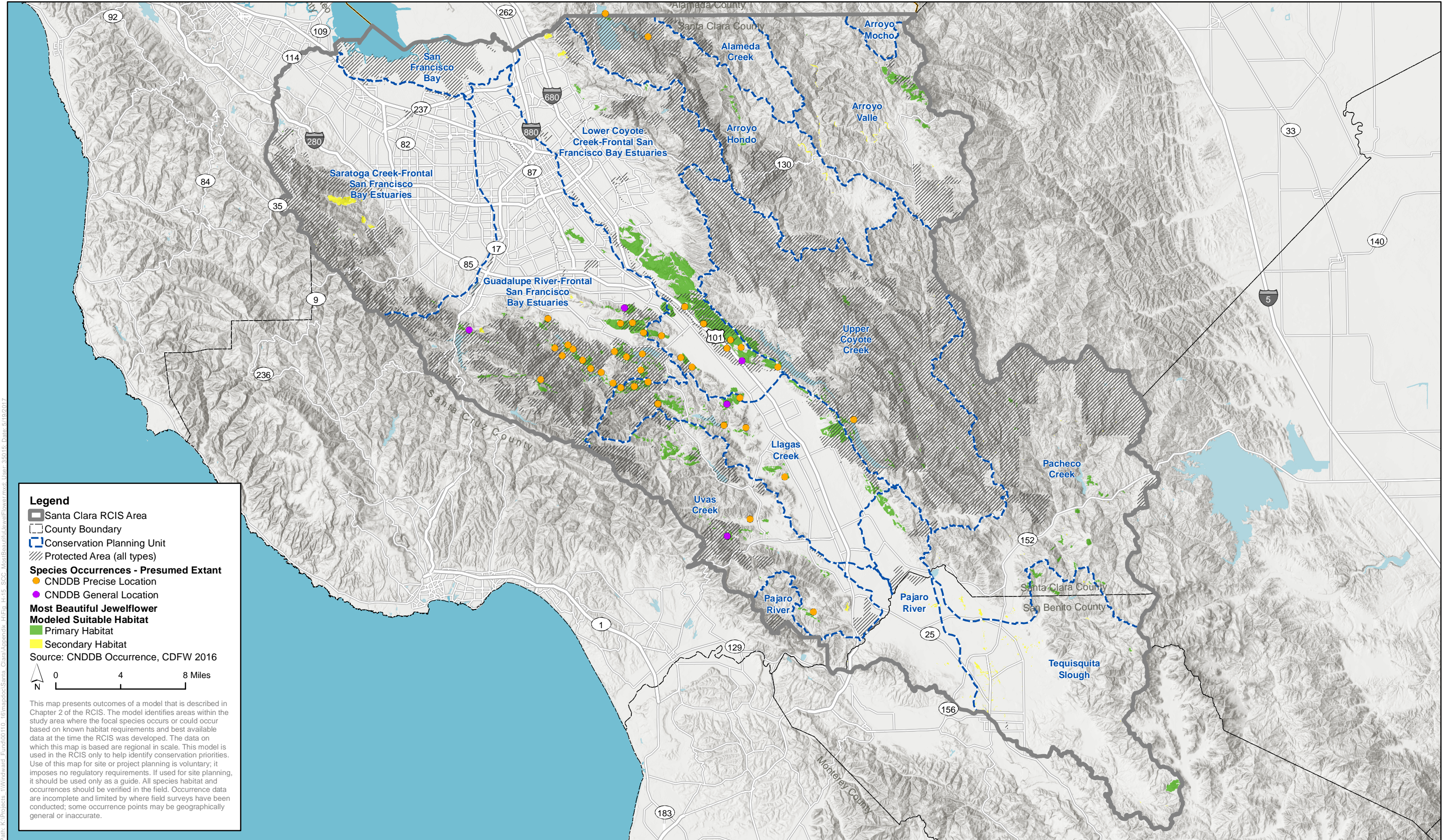
- CNDDB Precise Location
- CNDDB General Location
- Smooth Lessingia Modeled Suitable Habitat

Source: CNDDB Occurrence, CDFW 2016

0 4 8 Miles

This map presents outcomes of a model that is described in Chapter 2 of the RCIS. The model identifies areas within the study area where the focal species occurs or could occur based on known habitat requirements and best available data at the time the RCIS was developed. The data on which this map is based are regional in scale. This model is used in the RCIS only to help identify conservation priorities. Use of this map for site or project planning is voluntary; it imposes no regulatory requirements. If used for site planning, it should be used only as a guide. All species habitat and occurrences should be verified in the field. Occurrence data are incomplete and limited by where field surveys have been conducted; some occurrence points may be geographically general or inaccurate.

Path: K:\Projects - W\Work\ward - Fund\00110 - 10\mapdata\Santa Clara\Appendix - H\Fig. H-14\_SCC\_SmoothLessingia.mxd; User: s5016; Date: 5/19/2017



**Legend**

- Santa Clara RCIS Area
- County Boundary
- Conservation Planning Unit
- Protected Area (all types)

**Species Occurrences - Presumed Extant**

- CNDDB Precise Location
- CNDDB General Location

**Most Beautiful Jewelflower Modeled Suitable Habitat**

- Primary Habitat
- Secondary Habitat

Source: CNDDB Occurrence, CDFW 2016

0 4 8 Miles

N

This map presents outcomes of a model that is described in Chapter 2 of the RCIS. The model identifies areas within the study area where the focal species occurs or could occur based on known habitat requirements and best available data at the time the RCIS was developed. The data on which this map is based are regional in scale. This model is used in the RCIS only to help identify conservation priorities. Use of this map for site or project planning is voluntary; it imposes no regulatory requirements. If used for site planning, it should be used only as a guide. All species habitat and occurrences should be verified in the field. Occurrence data are incomplete and limited by where field surveys have been conducted; some occurrence points may be geographically general or inaccurate.



**Figure H-15**  
**Most Beautiful Jewelflower Modeled Suitable Habitat**





# Appendix I

## Summary of Baylands Conservation Strategies

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This appendix provides a summary of conservation strategies from existing conservation plans that encompass the San Francisco baylands in the RCIS area. Table I\_1, *Baylands Conservation Strategies: Species*, provides a summary of existing conservation strategies for species that rely on the baylands. Table I-2, *Summary of Baylands Conservation Strategy: Priority Locations*, summarizes exiting bayland conservation strategies that address specific natural communities, species and their habitats, and locations in the baylands. Because of the extensive conservation planning in the baylands, this RCIS refers to the existing conservation plans to guide voluntary conservation actions, habitat enhancements, and the development of mitigation credit agreements (MCA) for the natural communities, and focal and other native species in the baylands. It is the intent of this RCIS that by identifying and summarizing the conservation needs of species and their habitats that rely on the baylands, credits may be created through an MCA to offset future impacts to these species.

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**Table I-1 Baylands Conservation Strategies: Species**

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
Salt marsh harvest mouse ( <i>Reithrodontomys raviventris</i> )				
The goals that follow are based on the following documents:				
<ul style="list-style-type: none"> <li>☐ Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California (<a href="https://www.fws.gov/sacramento/es/recovery-planning/tidal-marsh/Documents/TMRP_Volume1_RP.pdf">https://www.fws.gov/sacramento/es/recovery-planning/tidal-marsh/Documents/TMRP_Volume1_RP.pdf</a>) pp 355</li> <li>☐ Baylands Ecosystem Habitat Goals Science Update 2015 (<a href="http://baylandsgoals.org/wp-content/uploads/2015/10/Baylands_Complete_Report.pdf">http://baylandsgoals.org/wp-content/uploads/2015/10/Baylands_Complete_Report.pdf</a>) pp 135, pp 148, pp 154, pp 158 pp 209, pp 223</li> </ul>				
<ul style="list-style-type: none"> <li>☐ 1.O: Acquire existing, historic, and restorable tidal marsh habitat to promote the recovery of listed species and the long-term conservation of species of concern and other tidal marsh species.</li> <li>☐ 2.O: Manage, restore, and monitor tidal marsh habitat to promote the recovery of listed species and the long-term conservation of species of concern and other tidal marsh species.</li> <li>☐ 3.O: Conduct range-wide species status surveys/monitoring and status reviews for listed species and species of concern covered in this recovery plan.</li> <li>☐ 4.O: Conduct research necessary for the recovery of listed species and the long-term conservation of species of concern.</li> </ul>	<ul style="list-style-type: none"> <li>☐ 1.2.2. Acquire/protect currently unprotected high marsh and ecotonal habitat and lands restorable to high marsh and ecotonal habitat for <i>Chloropyron molle</i> ssp. <i>molle</i>, <i>Cirsium hydrophilum</i> var. <i>hydrophilum</i>, California clapper rail, and salt marsh harvest mouse by purchase of fee title or conservation easement. (Priority 1)</li> <li>☐ 2.1.5.2 Minimize or avoid over-management of estuarine salinity variation. (Priority 2)</li> <li>☐ 2.1.8.2.1 Identify lands adjacent to the Bay Trail and other public access areas where human-related disturbance encourages predation that causes a threat to the California clapper rail and salt marsh harvest mouse. (Priority 2)</li> <li>☐ 2.1.9.2 Manage cattle grazing to minimize impacts to salt marsh harvest mouse, Suisun shrew, and the birds of the high tidal marsh, such as saltmarsh common yellowthroat. (Priority 3)</li> <li>☐ 2.2.1 Create an interdisciplinary review panel or similar group to coordinate and review the design of</li> </ul>	<ul style="list-style-type: none"> <li>☐ 4.2.7.1 Conduct a population viability analysis to determine desirable population sizes for long-term persistence of extant South Bay salt marsh harvest mouse populations. (Priority 2)</li> <li>☐ 4.2.7.2 Study use of adjacent habitat, including brackish marsh, by the salt marsh harvest mouse. (Priority 1)</li> <li>☐ 4.2.7.3 Study the impact of <i>Spartina alterniflora</i> and its hybrids, and <i>Lepidium latifolium</i> on the salt marsh harvest mouse. (Priority 2)</li> <li>☐ 4.2.7.4 Study predation impacts to the salt marsh harvest mouse. (Priority 2)</li> <li>☐ 4.3.1 Conduct a salt marsh harvest mouse population genetic analysis to determine:               <ul style="list-style-type: none"> <li>○ the genetic effective population size</li> <li>○ the genetic relationships among presumed populations</li> </ul> </li> </ul>	Table III-3: Summary of California Clapper Rail and Salt Marsh Harvest Mouse Recovery Criteria – highlights needs by specific habitat complex	**Noted in objective/action**

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<p>tidal marsh restoration projects throughout San Francisco Bay. (Priority 2)</p> <p>x 2.2.3.1 Protect, manage, and monitor large populations and occupied marsh complexes as interim reserves selected to represent the full range of both subspecies of salt marsh harvest mouse. (Priority 1)</p> <p>x 2.2.3.3 Transition from diked wetlands to restored or enhanced tidal marsh habitat, where feasible. (Priority 3)</p> <p>x 3.1.2.6 Monitor for salt marsh harvest mouse. (Priority 2)</p> <p>x Restore large areas of tidal marsh in diked and muted tidal marsh areas.</p> <p>x Where tidal marsh cannot be restored, improve water management to enhance diked wetlands through realigning levees and drainage ditches and connecting historic sloughs.</p> <p>x Enhance and restore the natural transition zone, focusing on tidal marsh transitions, incorporating protective buffers wherever possible, particularly around the base of alluvial fans to provide sediment to the terrestrial side of marshes.</p> <p>x Realign railways to allow for migration of the baylands with sea-level rise.</p> <p>x Increase the populations of threatened and endangered species through methods such as farming best practices to meet specific conservation objectives to buffer future impacts.</p>	<ul style="list-style-type: none"> <li>o the magnitude of gene exchange between marshes and subpopulations within marshes the extent of inbreeding occurring within populations (Priority 1)</li> </ul>		

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<ul style="list-style-type: none"> <li>x Reduce the runoff of agricultural contaminants and nutrients from agricultural activities to improve water quality in the adjacent wetlands</li> <li>x Restore a tidal marsh corridor along the eastern edge of the Richmond Landfill to reconnect Wildcat Marsh and San Pablo Marsh.</li> <li>x Restore tidal marsh throughout most of the segment prior to 2030, providing a continuous corridor of tidal marsh along the shore across a gradient of salt to brackish marsh</li> <li>x Protect existing muted tidal wetland for the salt marsh harvest mouse as insurance against fully tidal wetland being lost as a result of sea-level rise.</li> </ul>			
<p>The goals that follow are based on the following documents:</p> <ul style="list-style-type: none"> <li>x Baylands Ecosystem Habitat Goals (<a href="http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf">http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf</a>) pp 136, pp 146, pp 162, pp 164</li> </ul>				
Subregional Habitat Recommendations:	Contra Costa North	*	*	Contra Costa North
x Contra Costa North	x Restore large areas of tidal marsh in diked and muted tidal marsh areas.			Railroads and roadways, major pipelines, sewer lines, Concord Naval Weapons Station, adjacent heavy industry (e.g., Pacific Gas and Electric Company's Pittsburg power plant), and on-site contaminants.
x Contra Costa West	x Where tidal marsh cannot be restored, improve water management to enhance diked wetlands.			Contra Costa West
x Coyote Creek Area	x Ensure natural transitions between marshes and adjacent uplands, and protect and expand adjacent buffers where possible.			Union Pacific railroad tracks, Richmond
x Mowry Slough Area	x Restore riparian vegetation along small and large streams.			
	Contra Costa West			

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<ul style="list-style-type: none"> <li>x Protect and enhance existing tidal marshes, beaches, lagoons, and uplands.</li> <li>x Restore a tidal marsh corridor along the eastern edge of the Richmond landfill to reconnect Wildcat Marsh and San Pablo Marsh.</li> <li>x Protect and restore tidal marsh south of the Point Pinole Regional Shoreline at the Bruener property, and connect to Giant Marsh.</li> <li>x Restore vernal pools in the adjacent uplands.</li> <li>x Control rampant spread of pepper grass in rare high marsh plant associations, and prevent reemergence of invasive non-native Chilean cordgrass at Point Pinole.</li> </ul>			<p>landfill, flood control considerations, and on-site contaminants. Coyote Creek Area Pacific Gas and Electric Company transmission lines and other utility corridors, flood protection considerations, historical land subsidence, freshwater outflow from wastewater treatment facilities, operation and maintenance of salt ponds in absence of salt production, and smooth cordgrass. Mowry Slough Area Union Pacific railroad tracks; Pacific Gas and Electric Company transmission lines, Hetch Hetchy Aqueduct, and other utility corridors; flood control considerations; operation and maintenance of salt ponds in absence of salt production; and current use of levees and salt pans by</p>
	<p>Coyote Creek Area</p> <ul style="list-style-type: none"> <li>x Restore tidal marsh throughout most of the segment, providing a continuous corridor of tidal marsh along the bayshore. The type of tidal marsh created (salt or brackish) will be dependent on the amount and proximity to local freshwater outflows. Restoration should emphasize reestablishing a natural transition between tidal marsh and adjacent wetlands and upland habitats, as well as transitions between salt and brackish tidal marsh.</li> <li>x Modify and manage a large complex of salt ponds for shorebirds and waterfowl.</li> </ul>			

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<ul style="list-style-type: none"> <li>x Restore or enhance vernal pools in the adjacent undeveloped uplands.</li> <li>x Reestablish native riparian vegetation and otherwise improve the riparian corridor along Coyote Creek.</li> <li>x Manage discharges from the San Jose treatment plant to limit adverse environmental impacts, especially to tidal salt marsh habitat. Consider using recycled water to augment flows in Coyote Creek or for other habitat enhancements.</li> </ul>			nesting snowy plovers.
	<p>Mowry Slough Area</p> <ul style="list-style-type: none"> <li>x Enlarge the Dumbarton, Mowry, and Calaveras Point tidal marshes, and provide a corridor of tidal marsh along the bayshore.</li> <li>x Modify and manage for shorebirds and waterfowl a complex of salt ponds adjacent to and including the crystallizer complex between Mowry Slough and Newark Slough.</li> <li>x Protect and enhance the tidal marsh/upland transition at the upper end of Mowry Slough and in the area of the Pintail duck club. Similar habitat can be protected and restored at the upper ends of Newark, Plummer, and Albrae sloughs.</li> <li>x Protect the area of harbor seal haul-out along lower Mowry Slough.</li> <li>x Consider, among other possible alternatives, using treated wastewater from the San Jose wastewater treatment plant to dispose of bittern.</li> </ul>			



Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
The goals that follow are based on the following documents:				
x Comprehensive Conservation Planning ( <a href="https://www.fws.gov/uploadedFiles/DESFBFinalCCP_sm.pdf">https://www.fws.gov/uploadedFiles/DESFBFinalCCP_sm.pdf</a> ) pp 180				
x 1.O: Protect and contribute to the recovery of endangered, threatened, and other special status species on the Refuge by conservation and management of the habitats on which these species depend.	x 1.1: Conduct standardized monitoring efforts and research projects in coordination with other regional efforts for salt marsh harvest mouse and California clapper rail within five years. Improve high tide refugia for these species.	*	*	*
The goals that follow are based on the following documents:				
x South Bay Salt Pond Restoration Project Final EIS/R, 2 Description of Alternatives: ( <a href="http://www.southbayrestoration.org/pdf_files/SBSP_EIR_Final/2_Alternatives%20Final%20EIS_R.pdf">http://www.southbayrestoration.org/pdf_files/SBSP_EIR_Final/2_Alternatives%20Final%20EIS_R.pdf</a> ) pp 2-19				
x Restoration of tidal habitat benefits special-status and native species	x Contribute to the recovery of the South Bay subspecies of the salt marsh harvest mouse	x Likely decades for high-quality tidal marsh development x Monitoring not expected to begin for 5-10 years after pickleweed establishment in 300 acres or more	x Meet recovery plan criteria for salt marsh harvest mouse habitat within the South Bay Salt Pond Restoration Project Area x 75% of viable habitat areas within each large marsh complex with a capture efficiency level of 5.0 or better in five consecutive years	*

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
<b>Ridgeway's rail (California clapper rail)(<i>Rallus obsoletus</i>)</b>				
The goals that follow are based on the following documents:				
x Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California ( <a href="https://www.fws.gov/sacramento/es/recovery-planning/tidal-marsh/Documents/TMRP_Volume1_RP.pdf">https://www.fws.gov/sacramento/es/recovery-planning/tidal-marsh/Documents/TMRP_Volume1_RP.pdf</a> ) pp 335				
x 1.O: Acquire existing, historic, and restorable tidal marsh habitat to promote the recovery of listed species and the long-term conservation of species of concern and other tidal marsh species.	x 1.2.1.1 Acquire/protect currently unprotected tidal marsh habitat. (Priority 2) x 1.2.1.2 Investigate opportunities to acquire/protect lands restorable to tidal marsh. (Priority 2)	x 4.2.6.1 Conduct a population viability analysis of the California clapper rail. (Priority 1) x 4.2.6.2 Study effects of recent non-native <i>Spartina</i> treatment on California clapper rail movement within the ecosystem. (Priority 1)	x Table III-3: Summary of California Clapper Rail and Salt Marsh Harvest Mouse Recovery Criteria – highlights needs by specific habitat complex	**Noted in objective/action**
x 2.Q Manage, restore, and monitor tidal marsh habitat to promote the recovery of listed species and the long-term conservation of species of concern and other tidal marsh species.	x 1.2.2. Acquire/protect currently unprotected high marsh and ecotonal habitat and lands restorable to high marsh and ecotonal habitat for <i>Chloropyron molle</i> ssp. <i>molle</i> , <i>Cirsium hydrophilum</i> var. <i>hydrophilum</i> , California clapper rail, and salt marsh harvest mouse by purchase of fee title or conservation easement. (Priority 1)	x 4.2.6.3 Conduct diet analyses on California clapper rail as a tool to understanding habitat use. (Priority 2) x 4.4.3 Study the impacts of large-volume, human-caused, freshwater discharges into tidal marshes. (Priority 2)		
x 3.Q Conduct range-wide species status surveys/monitoring and status reviews for listed species and species of concern covered in this recovery plan.	x 2.1.6.1.1.3 Monitor the success of control at sites where non-native <i>Spartina</i> is managed and the ability of treated sites to support California clapper rails. (Priority 1)	x 4.4.4 Investigate the effects of salinity fluctuation and altered tidal datum on species covered in this recovery plan. (Priority 2)		
x 4.Q Conduct research necessary for the recovery of listed species and the long-term conservation of species of concern.	x 2.1.8.2.1 Identify lands adjacent to the Bay Trail and other public access areas where human-related disturbance encourages predation that causes a threat to the California clapper rail and salt marsh harvest mouse. (Priority 2) x 2.1.8.2.3 Implement and enforce pet restrictions. (Priority 2) x 2.1.8.2.4 Avoid relocation of nuisance animals in California clapper rail habitat. (Priority 2)	x 4.4.5 Study the time lag between habitat restoration and recolonization by species covered in this recovery plan. (Priority 2) x 4.4.6 Conduct research on the physical processes (geomorphic and hydrologic) that maintain the structure and function of suitable habitats for tidal marsh species. (Priority 2) x 4.4.7 Study the effects of global climate change and resulting sea		

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	x 2.2.1 Create an interdisciplinary review panel or similar group to coordinate and review the design of tidal marsh restoration projects throughout San Francisco Bay. (Priority 2)	level rise on tidal marsh ecosystems. (Priority 1)		
	x 3.1.1.1 Review existing species survey guidance to determine its adequacy. (Priority 3)	x 4.4.8 Conduct research on management conflicts between tidal marsh species. (Priority 2)		
	x 3.1.1.2 If necessary, revise existing guidance or develop new standardized, scientifically based, and species-specific survey guidance. (Priority 3)	x 4.5.2.1 Conduct research into mercury exposure pathways for California clapper rails and potential means to interrupt those pathways. (Priority 2)		
	x 3.1.2.5.1 Develop certification/training programs for California clapper rail surveyors and survey coordinators. (Priority 3)	x 4.5.2.2 Conduct other necessary research on bioaccumulation and effects, including reproductive success and development, of toxic estuarine contaminants on tidal marsh species. (Priority 2)		
	x 3.1.2.5.2 Conduct annual California clapper rail call counts during breeding season. (Priority 2)	x 4.5.2.3 Apply results of research in Action 4.5.2.2 to re-evaluate suitability of delisting criterion E/5 for the California clapper rail and revise, if appropriate. (Priority 3)		
	x 3.1.2.5.3 Monitor adult California clapper rail survival and mortality of adults, chicks, and eggs due to predation. (Priority 2)	x 4.5.2.4 Apply results of research in Actions 4.2.4.2.1 and 4.2.4.2.2 to sediment and water quality standards to protect sensitive wildlife of the San Francisco Bay Estuary. (Priority 3)		
	x 3.1.2.5.4 Develop and maintain a database to track results from annual California clapper rail monitoring results. (Priority 2)	x 4.5.2.5 Conduct studies to establish contaminant levels in biosentinels that are “acceptable” or “not acceptable”, then measure compounds in these biosentinels directly or via a non-invasive surrogate, such as feathers, if possible. (Priority 1)		
	x 3.1.2.5.5 Examine the methodology used for call count surveys in			
	x Action 3.1.2.5.2 above, by cross validating surveys (using double observer methods) with movement studies recommended in Action 4.2.6.2. (Priority 3)			

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
		<ul style="list-style-type: none"> <li>x 4.7 Establish research protocols, where necessary, and as determined by the RIT, described below. (Priority 3). For example, establish protocols for handling sick, injured, oiled, and dead California clapper rails or salvaged eggs.</li> <li>x 4.8 Conduct additional research identified as necessary by the Recovery Implementation Team that address changing conditions and are supportive of highest priority recovery tasks. (Priority 2)</li> <li>x 4.9 Apply the results of all studies to conservation and recovery efforts. (Priority 2)</li> </ul>		

The goals that follow are based on the following documents:  
 x Baylands Ecosystem Habitat Goals  
 (<http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf>) pp 136, pp 146, pp 160, pp 162, pp164, pp 166, pp168, pp 170

Subregional Habitat Recommendations:	Suisun Marsh West	*	*	Suisan Marsh West
x Suisun Marsh West	x Restore large areas of tidal marsh in the Hill Slough and upper Suisun Slough areas, and on Morrow Island south of the confluence of Goodyear Slough and Suisun Slough.			Southern Pacific railroad tracks, industrial areas in southwest portion, flood control considerations, levee maintenance, sedimentation of tidal creeks, water salinity management, and water quality impacts.
x Contra Costa North				Contra Costa North
x Mountain View				Railroads and
x Coyote Creek	x Connect these large areas of restored tidal marsh with a tidal marsh corridor. The location of this corridor is highly flexible, but establishing it along Cordelia Slough probably would facilitate water management on duck clubs in the area.			roadways, major
x Mowry Slough				
x Coyote Hills				
x Baumberg				
x Hayward				

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<ul style="list-style-type: none"> <li>x Provide natural transitions to adjacent uplands, with protective buffers wherever possible.</li> <li>x Enhance managed marsh areas that are not restored to tidal marsh to improve waterfowl habitat.</li> <li>x Protect and restore tidal marsh at Southampton Bay.</li> </ul> <p>Contra Costa North</p> <ul style="list-style-type: none"> <li>x Restore large areas of tidal marsh in diked and muted tidal marsh areas.</li> <li>x Where tidal marsh cannot be restored, improve water management to enhance diked wetlands.</li> <li>x Ensure natural transitions between marshes and adjacent uplands, and protect and expand adjacent buffers where possible.</li> <li>x Restore riparian vegetation along small and large streams.</li> </ul> <p>Mountain View</p> <ul style="list-style-type: none"> <li>x Restore large areas of tidal marsh and provide a continuous corridor of tidal marsh along the bayshore.</li> <li>x Provide more and wider buffers to tidal marshes, and improve management to reduce human intrusion and predators.</li> <li>x Modify and manage two or three complexes of salt ponds, including the pond adjacent to the Dumbarton Bridge, for shorebirds, waterfowl, and post-breeding least terns.</li> </ul>			<p>pipelines, sewer lines, Concord Naval Weapons Station, adjacent heavy industry (e.g., Pacific Gas and Electric Company’s Pittsburg power plant), and on-site contaminants.</p> <p>Mountain View</p> <p>Pacific Gas and Electric Company transmission lines and other utility corridors, flood protection considerations, historical land subsidence, freshwater outflow from wastewater treatment facilities, operation and maintenance of salt ponds in absence of salt production, and smooth cordgrass.</p> <p>Coyote Creek</p> <p>Pacific Gas and Electric Company transmission lines and other utility corridors, flood protection considerations, historical land subsidence,</p>

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<ul style="list-style-type: none"> <li>x Enhance the seasonal wetlands and burrowing owl habitat in the Sunnyvale baylands.</li> <li>x Reestablish native vegetation and otherwise enhance the riparian corridor along San Francisquito Creek, Guadalupe River, and other tributary streams.</li> </ul> <p>Coyote Creek</p> <ul style="list-style-type: none"> <li>x Restore tidal marsh throughout most of the segment, providing a continuous corridor of tidal marsh along the bayshore. The type of tidal marsh created (salt or brackish) will be dependent on the amount and proximity to local freshwater outflows. Restoration should emphasize reestablishing a natural transition between tidal marsh and adjacent wetlands and upland habitats, as well as transitions between salt and brackish tidal marsh.</li> <li>x Modify and manage a large complex of salt ponds for shorebirds and waterfowl.</li> <li>x Restore or enhance vernal pools in the adjacent undeveloped uplands.</li> <li>x Reestablish native riparian vegetation and otherwise improve the riparian corridor along Coyote Creek.</li> <li>x Manage discharges from the San Jose treatment plant to limit adverse environmental impacts, especially to tidal salt marsh habitat. Consider using recycled water to augment flows in</li> </ul>			<p>freshwater outflow from wastewater treatment facilities, operation and maintenance of salt ponds in absence of salt production, and smooth cordgrass.</p> <p>Mowry Slough</p> <p>Union Pacific railroad tracks; Pacific Gas and Electric Company transmission lines, Hetch Hetchy Aqueduct, and other utility corridors; flood control considerations; operation and maintenance of salt ponds in absence of salt production; and current use of levees and salt pans by nesting snowy plovers.</p> <p>Coyote Hills</p> <p>Smooth cordgrass, flood protection considerations, predator corridor along Alameda Flood Control Channel, operation and maintenance of salt ponds in absence of salt production, and</p>

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<p>Coyote Creek or for other habitat enhancements.</p> <p>Mowry Slough</p> <ul style="list-style-type: none"> <li>x Enlarge the Dumbarton, Mowry, and Calaveras Point tidal marshes, and provide a corridor of tidal marsh along the bayshore.</li> <li>x Modify and manage for shorebirds and waterfowl a complex of salt ponds adjacent to and including the crystallizer complex between Mowry Slough and Newark Slough.</li> <li>x Protect and enhance the tidal marsh/upland transition at the upper end of Mowry Slough and in the area of the Pintail duck club. Similar habitat can be protected and restored at the upper ends of Newark, Plummer, and Albrae sloughs.</li> <li>x Protect the area of harbor seal haul-out along lower Mowry Slough.</li> <li>x Consider, among other possible alternatives, using treated wastewater from the San Jose wastewater treatment plant to dispose of bittern.</li> </ul> <p>Coyote Hills</p> <ul style="list-style-type: none"> <li>x Maintain and manage a complex of salt ponds for shorebirds and waterfowl in the southern part of the segment and restore the remaining area to tidal marsh. Restoration should emphasize natural transition of tidal marsh/uplands at Coyote Hills and a continuous corridor of tidal marsh around Dumbarton Point.</li> </ul>			<p>current use of levees and salt pans by nesting snowy plovers.</p> <p>Baumberg</p> <p>Smooth cordgrass, flood protection considerations, East Bay Dischargers Authority waste water pipeline, Pacific Gas and Electric Company transmission lines and other utility corridors, major predator access corridor on Old Alameda Creek, operation and maintenance of salt ponds in absence of salt production, and public access and recreation.</p> <p>Hayward</p> <p>East Bay Dischargers Authority pipeline, extensive stands of smooth cordgrass, Pacific Gas and Electric Company transmission lines and other utility corridors, Southern Pacific railroad tracks, and flood control</p>

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<ul style="list-style-type: none"> <li>x On the eastern side of Coyote Hills, enhance and expand muted tidal areas with improved water management.</li> <li>x Protect and enhance existing willow groves and seasonal wetlands.</li> <li>x Consider reintroducing coyotes into Coyote Hills to restore natural predator/prey relationships and to control the introduced red fox.</li> <li>x Consider removing the flood control levees in the lower reaches of the Alameda Creek Flood Control Channel as part of restoration planning for this area.</li> <li>x Control smooth cordgrass before restoring large diked areas to tidal marsh.</li> </ul> <p>Baumberg</p> <ul style="list-style-type: none"> <li>x Modify and manage for shorebirds and waterfowl two complexes of salt ponds — one in the Turk Island area and one in the Baumberg Tract area (including the southern Oliver Brothers ponds).</li> <li>x Restore the remaining areas to tidal marsh, ensuring a continuous corridor of tidal marsh along the bayshore, and incorporate shallow pans in the marsh designs.</li> <li>x Enhance the Alameda Flood Control ponds in the Turk Island area as either tidal or muted tidal marsh.</li> <li>x Maintain and enhance the existing willow grove and managed diked wetlands on the eastern side of the</li> </ul>			<p>levees for adjacent areas.</p>



Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	active salt ponds in the Turk Island area. Hayward x Restore sandy berms and barrier beaches along the shoreline. x Restore natural salt pond or backshore pans in the diked marshes adjacent to the West Winton Avenue landfill area and in the old oxidation pond to the south. x Establish or maintain a complex of managed salt ponds to the north of Highway 92, including shallow pans. x Protect the wetlands adjacent to the Hayward Area Recreation District Marsh and enhance tidal influence to the entire marsh system. x Control smooth cordgrass. x Reintroduce California seablite and associated flora in suitably restored habitat.			

The goals that follow are based on the following documents:  
 x Comprehensive Conservation Planning  
 ([https://www.fws.gov/uploadedFiles/DESFBFinalCCP\\_sm.pdf](https://www.fws.gov/uploadedFiles/DESFBFinalCCP_sm.pdf)) pp 180

x 1.O: Protect and contribute to the recovery of endangered, threatened, and other special status species on the Refuge by conservation and management of the habitats on which these species depend.	x 1.1: Conduct standardized monitoring efforts and research projects in coordination with other regional efforts for salt marsh harvest mouse and California clapper rail within five years. Improve high tide refugia for these species.  x 1.4: Improve ecological function of tidal and managed marsh, especially at La Riviere Marsh, Mayhews Landing,	*	*	*
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Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	and New Chicago Marsh units in order to enhance tidal marsh habitat.			
California black rail ( <i>Laterallus jamaicensis</i> ssp. <i>coturniculus</i> )				
The goals that follow are based on the following documents:				
x Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California ( <a href="https://www.fws.gov/sacramento/es/recovery-planning/tidal-marsh/Documents/TMRP_Volume1_RP.pdf">https://www.fws.gov/sacramento/es/recovery-planning/tidal-marsh/Documents/TMRP_Volume1_RP.pdf</a> ) pp 355; Appendix C				
x 2.Q Manage, restore, and monitor tidal marsh habitat to promote the recovery of listed species and the long-term conservation of species of concern and other tidal marsh species.	x 2.1.8.2.3 Implement and enforce pet restrictions. (Priority 2) x 3.1.2.9 Continue to conduct surveys/monitoring of California black rail. (Priority 3)	x 4.2.10 Conduct biological and ecological studies on the California black rail. (Priority 3) x 4.4.8 Conduct research on management conflicts between tidal marsh species. (Priority 2)		**Noted in objective/action**
x 3.Q Conduct range-wide species status surveys/monitoring and status reviews for listed species and species of concern covered in this recovery plan.				
x 4.Q Conduct research necessary for the recovery of listed species and the long-term conservation of species of concern.				
The goals that follow are based on the following documents:				
x Baylands Ecosystem Habitat Goals ( <a href="http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf">http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf</a> ) pp 134, pp 136				
Subregional Habitat Recommendations: x Suisun Marsh East x Contra Costa North	Suisun Marsh East x Restore tidal marsh at sites adjacent to Honker Bay, along the eastern side of Montezuma Slough, in the Nurse Slough area, and near Denverton Creek. x Provide a tidal marsh corridor along the base of Potrero Hills between Nurse Slough and the marshes to the west.	*	*	Suisun Marsh East Flood control considerations, levee maintenance, sedimentation of tidal creeks, water salinity management, and water quality impacts. Contra Costa North Railroads and roadways, major

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<ul style="list-style-type: none"> <li>x Provide natural transitions to adjacent uplands (with protective buffers wherever possible) for all existing and restored tidal marshes.</li> <li>x Protect and enhance existing vernal pools and other seasonal wetlands adjacent to Montezuma Slough, in the Nurse Slough area, and north of Potrero Hills.</li> <li>x Enhance managed marshes in the Grizzly Island area to improve and diversify managed wetlands.</li> </ul>			pipelines, sewer lines, Concord Naval Weapons Station, adjacent heavy industry (e.g., Pacific Gas and Electric Company's Pittsburg power plant), and on-site contaminants.
	Contra Costa North <ul style="list-style-type: none"> <li>x Restore large areas of tidal marsh in diked and muted tidal marsh areas.</li> <li>x Where tidal marsh cannot be restored, improve water management to enhance diked wetlands.</li> <li>x Ensure natural transitions between marshes and adjacent uplands, and protect and expand adjacent buffers where possible.</li> <li>x Restore riparian vegetation along small and large streams.</li> </ul>			
The goals that follow are based on the following documents:				
x South Bay Salt Pond Restoration Project Final EIS/R, 2 Description of Alternatives: ( <a href="http://www.southbayrestoration.org/pdf_files/SBSP_EIR_Final/2_Alternatives%20Final%20EIS_R.pdf">http://www.southbayrestoration.org/pdf_files/SBSP_EIR_Final/2_Alternatives%20Final%20EIS_R.pdf</a> ) pp 2-19				
x Restoration of tidal habitat benefits special-status and native species	x Contribute to the recovery of the South Bay subspecies of the salt marsh harvest mouse	<ul style="list-style-type: none"> <li>x Likely decades for high-quality tidal marsh development</li> <li>x Monitoring not expected to begin for 5-10 years after pickleweed establishment in 300 acres or more</li> </ul>	x Meet recovery plan criteria for salt marsh harvest mouse habitat within the South Bay Salt Pond Restoration Project Area	*

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
			x 75% of viable habitat areas within each large marsh complex with a capture efficiency level of 5.0 or better in five consecutive years	
<b>Salt marsh wandering shrew (<i>Sorex vagrans halicoetes</i>)</b>				
The goals that follow are based on the following documents:				
x Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California ( <a href="https://www.fws.gov/sacramento/es/recovery-planning/tidal-marsh/Documents/TMRP_Volume1_RP.pdf">https://www.fws.gov/sacramento/es/recovery-planning/tidal-marsh/Documents/TMRP_Volume1_RP.pdf</a> ) pp 355; Appendix C				
*	x 3.1.2.7 Conduct surveys/monitoring of salt marsh wandering shrew and Suisun shrew. (Priority 3)	x 4.2.8 If sufficient numbers of the species are identified under Action 3.1.2.7, conduct biological and ecological studies on the salt marsh wandering shrew and the Suisun shrew. (Priority 3)	*	**Noted in objective/action**
		x 4.3.2 If sufficient numbers of the species are identified under Action 3.1.2.7, conduct research to assess genetic diversity within and among populations of salt marsh wandering shrew and Suisun shrew. (Priority 3)		
<b>California least tern (<i>Sterna antillarum browni</i>)</b>				
The goals that follow are based on the following documents:				
x Baylands Ecosystem Habitat Goals ( <a href="http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf">http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf</a> ) pp 152				
Subregional Habitat Recommendations:	Oakland Area			<u>Possible Constraints:</u>
x Oakland Area	x Enhance and expand tidal and diked habitats at all potential areas throughout the segment, for example, on Alameda Island, on Bay Farm			Oakland Area Large urban population, extensive fill along the

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<p>Island, and in the vicinity of the Oakland Airport.</p> <ul style="list-style-type: none"> <li>x Protect and enhance the eelgrass bed near Bay Farm Island.</li> <li>x Enhance and protect suitable habitat (e.g., barren or sparsely vegetated areas protected from predators) for snowy plover and least tern at Alameda Naval Air Station, Oakland Airport, Bay Farm Island, and other locations.</li> <li>x Restore beach dune and marsh in the sanctuary on the southern end of Alameda Island.</li> <li>x Increase habitat in and around San Leandro Bay for harbor seals and develop extensive and connected segments of tidal marsh for small mammals.</li> <li>x Restore pockets of low-lying sand beaches in sheltered sites to support reintroduced colonies of California seablite.</li> <li>x Enhance Lake Merritt by improving tidal action and restoring tidal marsh along the lakeshore and the channel that connects the Lake to the Oakland Inner Harbor.</li> <li>x Enhance riparian corridors along streams throughout the segment and reconnect tributary streams to the Bay.</li> </ul>			<p>shoreline, railroad tracks and spurs, major highways, exotic predators (e.g., rats and red fox), smooth cordgrass, and on-site contaminants.</p>

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
The goals that follow are based on the following documents:				
x Comprehensive Conservation Planning (https://www.fws.gov/uploadedFiles/DESFBFinalCCP_sm.pdf) pp 180				
x 1.O: Protect and contribute to the recovery of endangered, threatened, and other special status species on the Refuge by conservation and management of the habitats on which these species depend.	x 1.3: Provide appropriate habitat for at least one California least tern colony within the pond complexes to support an average of one fledged chick per nest over a 15-year period, with at least ten nests established annually following habitat creation.	*	*	*
The goals that follow are based on the following documents:				
x South Bay Salt Pond Restoration Project Final EIS/R, 2 Description of Alternatives: (http://www.southbayrestoration.org/pdf_files/SBSP_EIR_Final/2_Alternatives%20Final%20EIS_R.pdf) pp 2-23				
x Maintain numbers of post-breeding California least terns in the Project Area at multiyear average levels including natural variation in numbers; avoid negative effect of SBSP Restoration Project on Bayarea least tern breeding bird numbers (multi-year average levels with natural variation)	*	*	*	*
The objectives that follow are based on the following documents:				
x The Baylands Ecosystem Habitat Goals Science Update 2015 (http://baylandsgoals.org/wp-content/uploads/2015/10/Baylands_Complete_Report.pdf) pp 181				
*	x Enhance and protect suitable habitat (e.g., barren or sparsely vegetated areas protected from predators) for the snowy plover and least tern at Alameda Naval Air Station, Oakland Airport, Bay Farm Island, and other locations.	*	*	*

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
<b>Delta smelt(<i>Hypomesus transpacificus</i>)</b>				
The goals that follow are based on the following documents:				
x Baylands Ecosystem Habitat Goals ( <a href="http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf">http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf</a> ) pp 132, pp 134				
Subregional Habitat Recommendations:	Suisun Marsh East	*	*	Suisun Marsh East
x Suisun Marsh East	x Restore tidal marsh at sites adjacent to Honker Bay, along the eastern side of Montezuma Slough, in the Nurse Slough area, and near Denverton Creek.			Flood control considerations, levee maintenance, sedimentation of tidal creeks, water salinity management, and water quality impacts.
x Suisun Marsh West	x Provide a tidal marsh corridor along the base of Potrero Hills between Nurse Slough and the marshes to the west.			Suisun Marsh West
	x Provide natural transitions to adjacent uplands (with protective buffers wherever possible) for all existing and restored tidal marshes.			Southern Pacific railroad tracks, industrial areas in southwest portion, flood control considerations, levee maintenance, sedimentation of tidal creeks, water salinity management, and water quality impacts.
	x Protect and enhance existing vernal pools and other seasonal wetlands adjacent to Montezuma Slough, in the Nurse Slough area, and north of Potrero Hills.			
	x Enhance managed marshes in the Grizzly Island area to improve and diversify managed wetlands.			
	Suisun Marsh West			
	x Restore large areas of tidal marsh in the Hill Slough and upper Suisun Slough areas, and on Morrow Island south of the confluence of Goodyear Slough and Suisun Slough.			
	x Connect these large areas of restored tidal marsh with a tidal marsh corridor. The location of this corridor			

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<p>is highly flexible, but establishing it along Cordelia Slough probably would facilitate water management on duck clubs in the area.</p> <ul style="list-style-type: none"> <li>x Provide natural transitions to adjacent uplands, with protective buffers wherever possible.</li> <li>x Enhance managed marsh areas that are not restored to tidal marsh to improve waterfowl habitat.</li> <li>x Protect and restore tidal marsh at Southampton Bay.</li> </ul>			
<p>California central coast steelhead/Southern California coast steelhead (<i>Oncorhynchus [=salmo] mykiss</i>)</p> <p>*Note: steelhead are not specified to distinct population segments</p> <p>The goals that follow are based on the following documents:</p> <ul style="list-style-type: none"> <li>x Baylands Ecosystem Habitat Goals (<a href="http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf">http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf</a>) pp 134, pp 154, pp160, pp 162, pp 168</li> </ul>				
Subregional Habitat Recommendations:	Suisun Marsh West	*	*	Suisun Marsh West
x Suisun Marsh West	x Restore large areas of tidal marsh in the Hill Slough and upper Suisun Slough areas, and on Morrow Island south of the confluence of Goodyear Slough and Suisun Slough.			Southern Pacific railroad tracks, industrial areas in southwest portion, flood control considerations, levee maintenance, sedimentation of tidal creeks, water salinity management, and water quality impacts.
x Berkeley Area				Berkeley
x Mountain View Area	x Connect these large areas of restored tidal marsh with a tidal marsh corridor. The location of this corridor is highly flexible, but establishing it along Cordelia Slough probably would facilitate water management on duck clubs in the area.			Large urban population seeking access to the shoreline, extensive shoreline
x Coyote Creek Area	x Provide natural transitions to adjacent uplands, with protective buffers wherever possible.			
x Baumberg Area				



Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<ul style="list-style-type: none"> <li>x Enhance managed marsh areas that are not restored to tidal marsh to improve waterfowl habitat.</li> <li>x Protect and restore tidal marsh at Southampton Bay.</li> </ul> <p>Berkeley</p> <ul style="list-style-type: none"> <li>x Restore, enhance, and protect a diversity of habitats, including tidal marsh, shorebird roosting sites, and seasonal wetlands.</li> <li>x Restore and enhance the tidal marsh between the Hoffman Marsh and the Richmond Marina by removing fills that fragment the area.</li> <li>x Restore riparian vegetation along Codornices Creek. Also enhance wetland/upland transitions in this area.</li> <li>x Protect gull, tern, and egret nesting habitat at Brooks Island, Red Rock, and Castro Rocks.</li> </ul> <p>Mountain View</p> <ul style="list-style-type: none"> <li>x Restore large areas of tidal marsh and provide a continuous corridor of tidal marsh along the bayshore.</li> <li>x Provide more and wider buffers to tidal marshes, and improve management to reduce human intrusion and predators.</li> <li>x Modify and manage two or three complexes of salt ponds, including the pond adjacent to the Dumbarton Bridge, for shorebirds, waterfowl, and post-breeding least terns.</li> </ul>			<p>development, highways, and on-site contaminants.</p> <p>Mountain View                      Pacific Gas and Electric Company transmission lines and other utility corridors, flood protection considerations, historical land subsidence, freshwater outflow from wastewater treatment facilities, operation and maintenance of salt ponds in absence of salt production, and smooth cordgrass.</p> <p>Coyote Creek                      Pacific Gas and Electric Company transmission lines and other utility corridors, flood protection considerations, historical land subsidence, freshwater outflow from wastewater treatment facilities, operation and maintenance of salt ponds in absence of</p>

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<ul style="list-style-type: none"> <li>x Enhance the seasonal wetlands and burrowing owl habitat in the Sunnyvale baylands.</li> <li>x Reestablish native vegetation and otherwise enhance the riparian corridor along San Francisquito Creek, Guadalupe River, and other tributary streams.</li> </ul> <p>Coyote Creek</p> <ul style="list-style-type: none"> <li>x Restore tidal marsh throughout most of the segment, providing a continuous corridor of tidal marsh along the bayshore. The type of tidal marsh created (salt or brackish) will be dependent on the amount and proximity to local freshwater outflows. Restoration should emphasize reestablishing a natural transition between tidal marsh and adjacent wetlands and upland habitats, as well as transitions between salt and brackish tidal marsh.</li> <li>x Modify and manage a large complex of salt ponds for shorebirds and waterfowl.</li> <li>x Restore or enhance vernal pools in the adjacent undeveloped uplands.</li> <li>x Reestablish native riparian vegetation and otherwise improve the riparian corridor along Coyote Creek.</li> <li>x Manage discharges from the San Jose treatment plant to limit adverse environmental impacts, especially to tidal salt marsh habitat. Consider using recycled water to augment flows in</li> </ul>			<p>salt production, and smooth cordgrass.</p> <p>Baumberg</p> <p>Smooth cordgrass, flood protection considerations, East Bay Dischargers Authority waste water pipeline, Pacific Gas and Electric Company transmission lines and other utility corridors, major predator access corridor on Old Alameda Creek, operation and maintenance of salt ponds in absence of salt production, and public access and recreation.</p>

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<p>Coyote Creek or for other habitat enhancements.</p> <p>Baumberg</p> <ul style="list-style-type: none"> <li>x Modify and manage for shorebirds and waterfowl two complexes of salt ponds — one in the Turk Island area and one in the Baumberg Tract area (including the southern Oliver Brothers ponds).</li> <li>x Restore the remaining areas to tidal marsh, ensuring a continuous corridor of tidal marsh along the bayshore, and incorporate shallow pans in the marsh designs.</li> <li>x Enhance the Alameda Flood Control ponds in the Turk Island area as either tidal or muted tidal marsh.</li> <li>x Maintain and enhance the existing willow grove and managed diked wetlands on the eastern side of the active salt ponds in the Turk Island area.</li> </ul>			
<p>The goals that follow are based on the following documents:</p> <ul style="list-style-type: none"> <li>x South Bay Salt Pond Restoration Project Final EIS/R, 2 Description of Alternatives: (<a href="http://www.southbayrestoration.org/pdf_files/SBSP_EIR_Final/2_Alternatives%20Final%20EIS_R.pdf">http://www.southbayrestoration.org/pdf_files/SBSP_EIR_Final/2_Alternatives%20Final%20EIS_R.pdf</a>) pp 2-24</li> </ul>				
x Enhance numbers of salmonids and juvenile in rearing and foraging habitats relative to NEPA/CEQA baseline numbers	*	x Counts of upstream-migrating salmonids to monitor spawning populations in South Bay streams	x	*
<p>Fall-run Chinook salmon(<i>Oncorhynchus tshawytscha</i>)</p> <p>The goals that follow are based on the following documents:</p> <ul style="list-style-type: none"> <li>x Baylands Ecosystem Habitat Goals (<a href="http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf">http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf</a>) pp 132, pp 134</li> </ul>				
Subregional Habitat Recommendations:	Suisun Marsh East	*	*	Suisun Marsh East

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
x Suisun Marsh East x Suisun Marsh West	<ul style="list-style-type: none"> <li>x Restore tidal marsh at sites adjacent to Honker Bay, along the eastern side of Montezuma Slough, in the Nurse Slough area, and near Denverton Creek.</li> <li>x Provide a tidal marsh corridor along the base of Potrero Hills between Nurse Slough and the marshes to the west.</li> <li>x Provide natural transitions to adjacent uplands (with protective buffers wherever possible) for all existing and restored tidal marshes.</li> <li>x Protect and enhance existing vernal pools and other seasonal wetlands adjacent to Montezuma Slough, in the Nurse Slough area, and north of Potrero Hills.</li> <li>x Enhance managed marshes in the Grizzly Island area to improve and diversify managed wetlands.</li> </ul> <p>Suisun Marsh West</p> <ul style="list-style-type: none"> <li>x Restore large areas of tidal marsh in the Hill Slough and upper Suisun Slough areas, and on Morrow Island south of the confluence of Goodyear Slough and Suisun Slough.</li> <li>x Connect these large areas of restored tidal marsh with a tidal marsh corridor. The location of this corridor is highly flexible, but establishing it along Cordelia Slough probably would facilitate water management on duck clubs in the area.</li> </ul>			<p>Flood control considerations, levee maintenance, sedimentation of tidal creeks, water salinity management, and water quality impacts. Suisun Marsh West Southern Pacific railroad tracks, industrial areas in southwest portion, flood control considerations, levee maintenance, sedimentation of tidal creeks, water salinity management, and water quality impacts.</p>

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<ul style="list-style-type: none"> <li>x Provide natural transitions to adjacent uplands, with protective buffers wherever possible.</li> <li>x Enhance managed marsh areas that are not restored to tidal marsh to improve waterfowl habitat.</li> <li>x Protect and restore tidal marsh at Southampton Bay.</li> </ul>			
The goals that follow are based on the following documents:				
x South Bay Salt Pond Restoration Project Final EIS/R, 2 Description of Alternatives: ( <a href="http://www.southbayrestoration.org/pdf_files/SBSP_EIR_Final/2_Alternatives%20Final%20EIS_R.pdf">http://www.southbayrestoration.org/pdf_files/SBSP_EIR_Final/2_Alternatives%20Final%20EIS_R.pdf</a> ) pp 2-24				
x Enhance numbers of salmonids and juvenile in rearing and foraging habitats relative to NEPA/CEQA baseline numbers	*	x Counts of upstream-migrating salmonids to monitor spawning populations in South Bay streams	*	*
<b>Suisun thistle (<i>Cirsium hydrophilum</i> var. <i>hydrophilum</i>)</b>				
The goals that follow are based on the following documents:				
x Baylands Ecosystem Habitat Goals ( <a href="http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf">http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf</a> ) pp 134				
Subregional Habitat Recommendations:	Suisun Marsh West	*	*	Suisun Marsh West
x Suisun Marsh West	<ul style="list-style-type: none"> <li>x Restore large areas of tidal marsh in the Hill Slough and upper Suisun Slough areas, and on Morrow Island south of the confluence of Goodyear Slough and Suisun Slough.</li> <li>x Connect these large areas of restored tidal marsh with a tidal marsh corridor. The location of this corridor is highly flexible, but establishing it along Cordelia Slough probably would facilitate water management on duck clubs in the area.</li> </ul>			Southern Pacific railroad tracks, industrial areas in southwest portion, flood control considerations, levee maintenance, sedimentation of tidal creeks, water salinity management, and water quality impacts.

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<ul style="list-style-type: none"> <li>x Provide natural transitions to adjacent uplands, with protective buffers wherever possible.</li> <li>x Enhance managed marsh areas that are not restored to tidal marsh to improve waterfowl habitat.</li> <li>x Protect and restore tidal marsh at Southampton Bay.</li> </ul>			
The goals that follow are based on the following documents:				
x Comprehensive Conservation Planning ( <a href="https://www.fws.gov/uploadedFiles/DESFBFinalCCP_sm.pdf">https://www.fws.gov/uploadedFiles/DESFBFinalCCP_sm.pdf</a> ) pp 184				
x 2.O: Conserve, restore, enhance, create, and acquire habitats to support the diversity and abundance of migratory birds and other native flora and fauna that depend on the South San Francisco Bay Ecosystem.	x 2.1: Within ten years of Plan approval, conduct baseline surveys for population density, presence/absence, and abundance and/or cover of priority native plants, fish, and wildlife to determine species diversity that will inform habitat enhancement actions.	*	*	*
<b>Soft bird'sbeak (<i>Chloropyron molle ssp. molle</i>)</b>				
The goals that follow are based on the following documents:				
x Baylands Ecosystem Habitat Goals ( <a href="http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf">http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf</a> ) pp 132, pp 134, pp 136, pp 146				
Subregional Habitat Recommendations:	Suisun Marsh East	*	*	Suisun Marsh East
x Suisun Marsh East	x Restore tidal marsh at sites adjacent to Honker Bay, along the eastern side of Montezuma Slough, in the Nurse Slough area, and near Denverton Creek.			Flood control considerations, levee maintenance, sedimentation of tidal creeks, water salinity management, and water quality impacts.
x Suisun Marsh West	x Provide a tidal marsh corridor along the base of Potrero Hills between Nurse Slough and the marshes to the west.			Suisan Marsh West
x Contra Costa North	x Provide natural transitions to adjacent uplands (with protective buffers			Southern Pacific railroad tracks, industrial areas in southwest portion,
x Contra Costa West				

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<p>wherever possible) for all existing and restored tidal marshes.</p> <ul style="list-style-type: none"> <li>x Protect and enhance existing vernal pools and other seasonal wetlands adjacent to Montezuma Slough, in the Nurse Slough area, and north of Potrero Hills.</li> <li>x Enhance managed marshes in the Grizzly Island area to improve and diversify managed wetlands.</li> </ul> <p>Suisun Marsh West</p> <ul style="list-style-type: none"> <li>x Restore large areas of tidal marsh in the Hill Slough and upper Suisun Slough areas, and on Morrow Island south of the confluence of Goodyear Slough and Suisun Slough.</li> <li>x Connect these large areas of restored tidal marsh with a tidal marsh corridor. The location of this corridor is highly flexible, but establishing it along Cordelia Slough probably would facilitate water management on duck clubs in the area.</li> <li>x Provide natural transitions to adjacent uplands, with protective buffers wherever possible.</li> <li>x Enhance managed marsh areas that are not restored to tidal marsh to improve waterfowl habitat.</li> <li>x Protect and restore tidal marsh at Southampton Bay.</li> </ul> <p>Contra Costa North</p> <ul style="list-style-type: none"> <li>x Restore large areas of tidal marsh in diked and muted tidal marsh areas.</li> </ul>			<p>flood control considerations, levee maintenance, sedimentation of tidal creeks, water salinity management, and water quality impacts. Contra Costa North Railroads and roadways, major pipelines, sewer lines, Concord Naval Weapons Station, adjacent heavy industry (e.g., Pacific Gas and Electric Company's Pittsburg power plant), and on-site contaminants. Contra Costa West Union Pacific railroad tracks, Richmond landfill, flood control considerations, and on-site contaminants.</p>

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<ul style="list-style-type: none"> <li>x Where tidal marsh cannot be restored, improve water management to enhance diked wetlands.</li> <li>x Ensure natural transitions between marshes and adjacent uplands, and protect and expand adjacent buffers where possible.</li> <li>x Restore riparian vegetation along small and large streams.</li> </ul>			
	<p>Contra Costa West</p>			
	<ul style="list-style-type: none"> <li>x Protect and enhance existing tidal marshes, beaches, lagoons, and uplands.</li> <li>x Restore a tidal marsh corridor along the eastern edge of the Richmond landfill to reconnect Wildcat Marsh and San Pablo Marsh.</li> <li>x Protect and restore tidal marsh south of the Point Pinole Regional Shoreline at the Bruener property, and connect to Giant Marsh.</li> <li>x Restore vernal pools in the adjacent uplands.</li> <li>x Control rampant spread of pepper grass in rare high marsh plant associations, and prevent reemergence of invasive non-native Chilean cordgrass at Point Pinole.</li> </ul>			



Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
The goals that follow are based on the following documents:				
x Comprehensive Conservation Planning ( <a href="https://www.fws.gov/uploadedFiles/DESFBFinalCCP_sm.pdf">https://www.fws.gov/uploadedFiles/DESFBFinalCCP_sm.pdf</a> ) Pp 184				
x 2.O: Conserve, restore, enhance, create, and acquire habitats to support the diversity and abundance of migratory birds and other native flora and fauna that depend on the South San Francisco Bay Ecosystem.	x 2.1: Within ten years of Plan approval, conduct baseline surveys for population density, presence/absence, and abundance and/or cover of priority native plants, fish, and wildlife to determine species diversity that will inform habitat enhancement actions.	*	*	*
California seablite( <i>Suaeda californica</i> )				
The goals that follow are based on the following documents:				
x Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California ( <a href="https://www.fws.gov/sacramento/es/recovery-planning/tidal-marsh/Documents/TMRP_Volume1_RP.pdf">https://www.fws.gov/sacramento/es/recovery-planning/tidal-marsh/Documents/TMRP_Volume1_RP.pdf</a> ) pp 355				
x 2.O Manage, restore, and monitor tidal marsh habitat to promote the recovery of listed species and the long-term conservation of species of concern and other tidal marsh species.	x 2.2.7.2.41 Implement <i>California Seablite Reintroduction Plan, San Francisco Bay, California</i> . (Priority 2) x 2.2.7.2.4.2 Assess reintroduction success, review reports, and adapt <i>California Seablite Reintroduction Plan, San Francisco Bay, California</i> , as necessary. (Priority 2)	*	*	**Noted in objective/action**
The goals that follow are based on the following documents:				
x Baylands Ecosystem Habitat Goals ( <a href="http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf">http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf</a> ) pp 152, pp 170				
Subregional Habitat Recommendations:	Oakland	*	*	Oakland
x Oakland	x Enhance and expand tidal and diked habitats at all potential areas throughout the segment, for example, on Alameda Island, on Bay Farm Island, and in the vicinity of the Oakland Airport.			Large urban population, extensive fill along the shoreline, railroad tracks and spurs, major highways, exotic predators (e.g., rats and red fox), smooth cordgrass,
x Hayward	x Protect and enhance the eelgrass bed near Bay Farm Island.			

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<ul style="list-style-type: none"> <li>x Enhance and protect suitable habitat (e.g., barren or sparsely vegetated areas protected from predators) for snowy plover and least tern at Alameda Naval Air Station, Oakland Airport, Bay Farm Island, and other locations.</li> <li>x Restore beach dune and marsh in the sanctuary on the southern end of Alameda Island.</li> <li>x Increase habitat in and around San Leandro Bay for harbor seals and develop extensive and connected segments of tidal marsh for small mammals.</li> <li>x Restore pockets of low-lying sand beaches in sheltered sites to support reintroduced colonies of California seablite.</li> <li>x Enhance Lake Merritt by improving tidal action and restoring tidal marsh along the lakeshore and the channel that connects the Lake to the Oakland Inner Harbor.</li> <li>x Enhance riparian corridors along streams throughout the segment and reconnect tributary streams to the Bay.</li> </ul> <p>Hayward Area</p> <ul style="list-style-type: none"> <li>x Restore sandy berms and barrier beaches along the shoreline.</li> <li>x Restore natural salt pond or backshore pans in the diked marshes adjacent to the West Winton Avenue landfill area and in the old oxidation pond to the south.</li> </ul>			<p>and on-site contaminants.</p> <p>Hayward</p> <p>East Bay Dischargers Authority pipeline, extensive stands of smooth cordgrass, Pacific Gas and Electric Company transmission lines and other utility corridors, Southern Pacific railroad tracks, and flood control levees for adjacent areas.</p>

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<ul style="list-style-type: none"> <li>x Establish or maintain a complex of managed salt ponds to the north of Highway 92, including shallow pans.</li> <li>x Protect the wetlands adjacent to the Hayward Area Recreation District Marsh and enhance tidal influence to the entire marsh system.</li> <li>x Control smooth cordgrass.</li> <li>x Reintroduce California seablite and associated flora in suitably restored habitat.</li> </ul>			
The goals that follow are based on the following documents:				
x Comprehensive Conservation Planning ( <a href="https://www.fws.gov/uploadedFiles/DESFBFinalCCP_sm.pdf">https://www.fws.gov/uploadedFiles/DESFBFinalCCP_sm.pdf</a> ) pp. 184				
x 2.O: Conserve, restore, enhance, create, and acquire habitats to support the diversity and abundance of migratory birds and other native flora and fauna that depend on the South San Francisco Bay Ecosystem.	x 2.1: Within ten years of Plan approval, conduct baseline surveys for population density, presence/absence, and abundance and/or cover of priority native plants, fish, and wildlife to determine species diversity that will inform habitat enhancement actions.	*	*	*
The goals that follow are based on the following documents:				
x The Baylands Ecosystem Habitat Goals Science Update 2015 ( <a href="http://baylandsgoals.org/wp-content/uploads/2015/10/Baylands_Complete_Report.pdf">http://baylandsgoals.org/wp-content/uploads/2015/10/Baylands_Complete_Report.pdf</a> ) pp 148, pp 180				
	<ul style="list-style-type: none"> <li>x Identify, conserve, and manage selected refugia for native bayland plants. Focus on unique or core populations of uncommon plants, especially in low marshes.</li> <li>x Consider relocating rare plants to more appropriate areas as flooding and salinity conditions change.</li> <li>x Increase the populations of threatened and endangered species through methods such as farming best</li> </ul>	*	*	*

Goals	Objectives	Research Needs/Data Gaps	Restoration Priorities	Other Conservation Needs or Priorities
	<p>practices to meet specific conservation objectives to buffer future impacts.</p> <p>x Continue to control invasive Spartina along Sears Point, Sonoma Baylands, and Tolay Creek and Tubbs Island. Restore pockets of low-lying sand beaches in sheltered sites to support reintroduced colonies of California seablite.</p>			

Note:  
 \*Information not provided in given documents





Objectives	Research Needs/Data Gaps	Restoration Priorities	Other conservation needs or priorities
observer methods) with movement studies recommended in Action 4.2.6.2 (Priority 3) x 3.1.2.6 Monitor for salt marsh harvest mouse. (Priority 2)	<ul style="list-style-type: none"> <li>x 4.4.6 Conduct research on the physical processes (geomorphic and hydrologic) that maintain the structure and function of suitable habitats for tidal marsh species. (Priority 2)</li> <li>x 4.4.7 Study the effects of global climate change and resulting sea level rise on tidal marsh ecosystems. (Priority 1)</li> <li>x 4.4.8 Conduct research on management conflicts between tidal marsh species. (Priority 2)</li> <li>x 4.5.2.1 Conduct research into mercury exposure pathways for California clapper rails and potential means to interrupt those pathways. (Priority 2)</li> <li>x 4.5.2.2 Conduct other necessary research on bioaccumulation and effects, including reproductive success and development, of toxic estuarine contaminants on tidal marsh species. (Priority 2)</li> <li>x 4.5.2.3 Apply results of research in Action 4.5.2.2 to re-evaluate suitability of delisting criterion E/5 for the California clapper rail and revise, if appropriate. (Priority 3)</li> <li>x 4.5.2.4 Apply results of research in Actions 4.2.4.2.1 and 4.2.4.2.2 to sediment and water quality standards to protect sensitive wildlife of the San Francisco Bay Estuary. (Priority 3)</li> <li>x 4.5.2.5 Conduct studies to establish contaminant levels in biosentinels that are “acceptable” or “not acceptable”, then measure compounds in these biosentinels directly or via a non-invasive surrogate, such as feathers, if possible. (Priority 1)</li> </ul>		

Objectives	Research Needs/Data Gaps	Restoration Priorities	Other conservation needs or priorities
	<ul style="list-style-type: none"> <li>x 4.7 Establish research protocols, where necessary, and as determined by the RIT, described below. (Priority 3) For example, establish protocols for handling sick, injured, oiled, and dead California clapper rails or salvaged eggs.</li> <li>x 4.8 Conduct additional research identified as necessary by the Recovery Implementation Team that address changing conditions and are supportive of highest priority recovery tasks. (Priority 2)</li> <li>x 4.9 Apply the results of all studies to conservation and recovery efforts. (Priority 2)</li> </ul>		

East Palo Alto, Guadalupe Slough and Guadalupe Slough, Warm Springs

The objectives that follow are based on the following documents:

- x San Francisco Bay Subtidal Habitat Goals Report (<http://www.sfbaysubtidal.org/PDFS/Full%20Report.pdf>) pp 70, pp 90-91, pp 112

<ul style="list-style-type: none"> <li>x Promote sand beach creation, restoration, and replenishment projects that use clean, maintenance-dredged sand where possible and in areas where sand is deposited, such as at the river delta interface</li> </ul>	*	*	*
<ul style="list-style-type: none"> <li>x Consider incorporating living shoreline techniques to retain sand, either from natural deposition or from sand replenishment</li> </ul>			
<ul style="list-style-type: none"> <li>x Encourage removal of artificial structures that have negative impacts on soft bottom habitat function</li> </ul>			
<ul style="list-style-type: none"> <li>x Where appropriate, remove creosote pilings from intertidal and subtidal habitats of the bay, with a focus on those areas that have high concentrations of individual pilings or piling complexes and are within current and historic spawning grounds for herring</li> </ul>			
<ul style="list-style-type: none"> <li>x Where appropriate, remove shoreline stabilization structures and riprap from the bay that are no longer</li> </ul>			



Objectives	Research Needs/Data Gaps	Restoration Priorities	Other conservation needs or priorities
<p>providing protection or may be contributing to coastal erosion</p> <ul style="list-style-type: none"> <li>x Promote pilot projects to remove artificial structures and creosote pilings at targeted sites in combination with a living shoreline restoration design that will use natural bioengineering techniques (such as native oyster reefs, stone sills, and eelgrass plantings) to replace lost habitat structure</li> <li>x Implement a program of adaptive management with phased restoration. Periodic reviews will determine whether the knowledge is adequate to support proceeding to the next phase. Provisionally the targets would be to increase native oyster populations within 10 acres of subtidal area within 5 years, within 400 acres of subtidal area within 10 years, and within 8,000 acres of subtidal area within a 50-year time frame</li> <li>x Incorporate native oyster restoration into other regional restoration and shoreline protection projects and initiatives</li> </ul>			
<p>Don Edwards National Wildlife Refuge</p>			
<p>The objectives that follow are based on the following documents:</p>			
<ul style="list-style-type: none"> <li>x South Bay Salt Pond Restoration Project Final EIS (<a href="http://www.southbayrestoration.org/pdf_files/SBSP_EIR_Final/2_Alternatives%20Final%20EIS_R.pdf">http://www.southbayrestoration.org/pdf_files/SBSP_EIR_Final/2_Alternatives%20Final%20EIS_R.pdf</a>) pp 2-24</li> </ul>			
<ul style="list-style-type: none"> <li>x Contribute to the recovery of the South Bay subspecies of the salt marsh harvest mouse</li> </ul>	<ul style="list-style-type: none"> <li>x Monitoring not expected to begin for 5-10 years after pickleweed establishment in 300 acres or more</li> <li>x Counts of upstream-migrating salmonids to monitor spawning populations in South Bay streams</li> </ul>	<ul style="list-style-type: none"> <li>x Meet recovery plan criteria for salt marsh harvest mouse habitat within the South Bay Salt Pond Restoration Project Area</li> <li>x 75% of viable habitat areas within each large marsh complex with a capture</li> </ul>	<p>*</p>

Objectives	Research Needs/Data Gaps	Restoration Priorities	Other conservation needs or priorities
efficiency level of 5.0 or better in five consecutive years x			
<b>Coyote Creek</b>			
The objectives that follow are based on the following documents:			
x Baylands Ecosystem Habitat Goals ( <a href="http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf">http://baylandsgoals.org/wp-content/uploads/2015/10/1999sfbaygoals031799.pdf</a> ) pp 136, pp 146, pp 162, pp 164			
<ul style="list-style-type: none"> <li>x Restore tidal marsh throughout most of the segment, providing a continuous corridor of tidal marsh along the bayshore. The type of tidal marsh created (salt or brackish) will be dependent on the amount and proximity to local freshwater outflows. Restoration should emphasize reestablishing a natural transition between tidal marsh and adjacent wetlands and upland habitats, as well as transitions between salt and brackish tidal marsh.</li> <li>x Protect existing muted tidal wetland for the salt marsh harvest mouse as insurance against fully tidal wetland being lost as a result of sea-level rise</li> <li>x Modify and manage a large complex of salt ponds for shorebirds and waterfowl.</li> <li>x Restore or enhance vernal pools in the adjacent undeveloped uplands.</li> <li>x Reestablish native riparian vegetation and otherwise improve the riparian corridor along Coyote Creek.</li> <li>x Manage discharges from the San Jose treatment plant to limit adverse environmental impacts, especially to tidal salt marsh habitat. Consider using recycled water to augment flows in Coyote Creek or for other habitat enhancements.</li> </ul>	*	*	Pacific Gas and Electric Company transmission lines and other utility corridors, flood protection considerations, historical land subsidence, freshwater outflow from wastewater treatment facilities, operation and maintenance of salt ponds in absence of salt production, and smooth cordgrass.
<b>Mountain View</b>			

