Santa Clara Valley Habitat Agency
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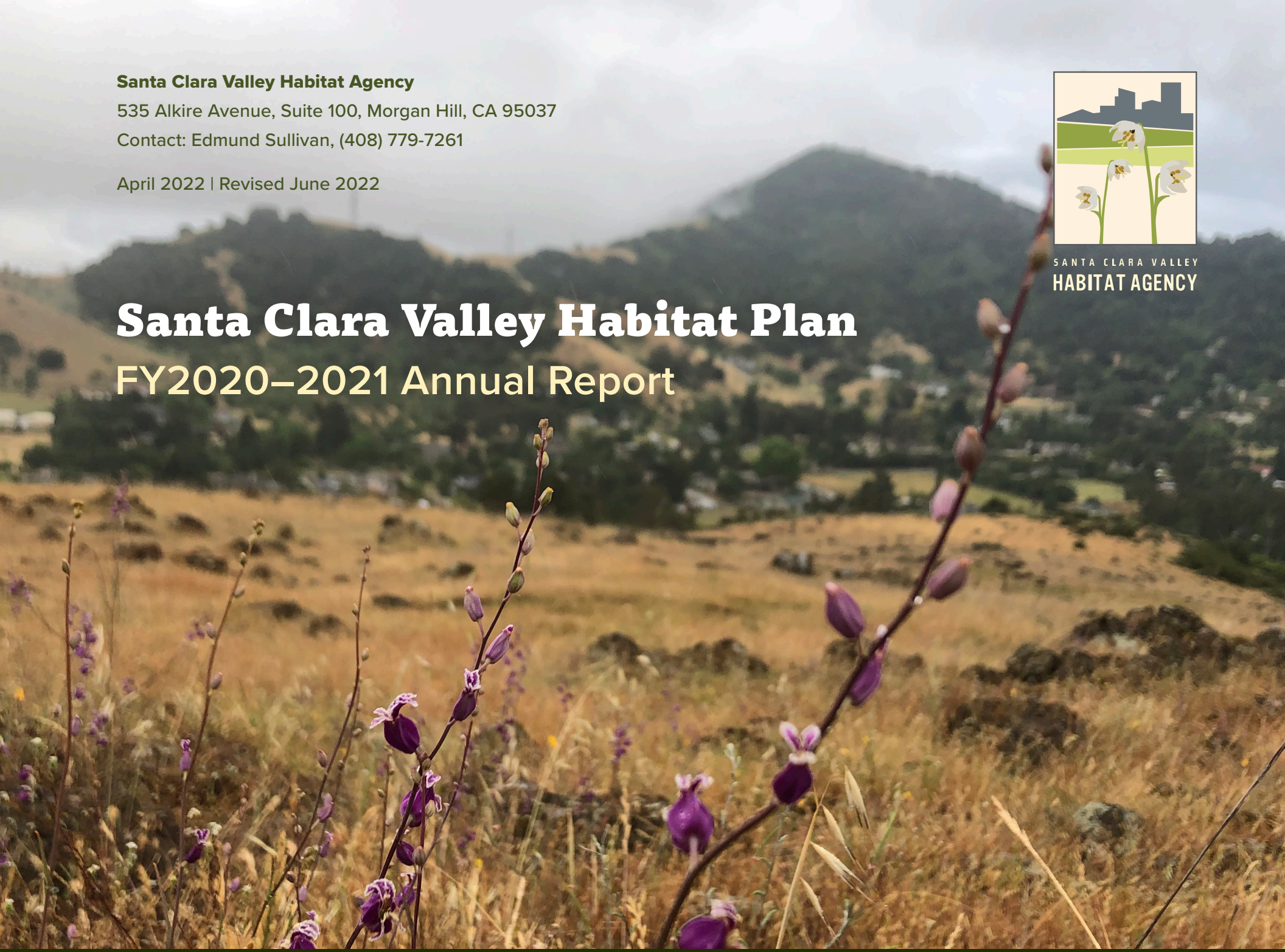
April 2022 | Revised June 2022

SANTA CLARA VALLEY
HABITAT AGENCY

Santa Clara Valley Habitat Plan

FY2020–2021 Annual Report



Contents

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Tables & Figures

Tables & Figures (continued)

Abbreviations

°C	degrees Celsius
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
Co-Permittees	Cities of San José, Gilroy, and Morgan Hill; County of Santa Clara; Santa Clara Valley Water District; Santa Clara Valley Transportation Authority
County	County of Santa Clara
ESA	federal Endangered Species Act
FY	fiscal year
Habitat Agency	Santa Clara Valley Habitat Agency
Habitat Plan	Santa Clara Valley Habitat Conservation Plan / Natural Community Conservation Plan
HCP	habitat conservation plan
NCCP	natural community conservation plan
O&M	operations and maintenance
Permit Area	Habitat Plan Permit Area
PSE	Participating Special Entity
SCVWD	Santa Clara Valley Water District
RWF	San José–Santa Clara Regional Wastewater Facility
USFWS	U.S. Fish and Wildlife Service
VTA	Santa Clara Valley Transportation Authority

Introduction

This document is the seventh Annual Report for the Habitat Plan. It summarizes implementation activities undertaken during the FY2020–2021 reporting period (July 1, 2020–June 30, 2021) and since plan inception and charts progress toward achieving the Habitat Plan's biological goals and objectives.

Prepared by the Santa Clara Valley Habitat Agency (Habitat Agency), this annual report summarizes implementation activities undertaken during the reporting period (Fiscal Year [FY] 2020–2021, or July 1, 2020, through June 30, 2021) and cumulatively through permit term year 8 of 50 per the conditions of the *Santa Clara Valley Habitat Conservation Plan/Natural Community Conservation Plan* (HCP/NCCP, or Habitat Plan).

The Habitat Plan offers a streamlined federal Endangered Species Act (ESA) and California Endangered Species Act (CESA) permitting process for development activities in the Permit Area while protecting, enhancing, and restoring valuable natural resources in Santa Clara County and contributing to the recovery of threatened and endangered species. Permits issued by the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) in 2013 allow the Co-Permittees to comply with the ESA and California's Natural Community Conservation Planning Act. The Habitat Plan's Co-Permittees are the City of Gilroy, City of Morgan Hill, City of San José, County of Santa Clara (County), Santa Clara Valley Water District (SCVWD), and the Santa Clara Valley Transportation Authority (VTA).

Over the 50-year permit term, impacts from urban development and rural infrastructure projects will be offset by the creation of a Reserve System managed for the benefit of 18 covered species **(Table 1)** as well as the natural communities that they—and hundreds of other species—depend on for habitat.

Table 1. Covered Species of the Habitat Plan

Common Name	Scientific Name	Status—State/CNPS[a,b]	Status—Federal[c]
Invertebrates			
Bay checkerspot butterfly	*Euphydryas editha bayensis*	—	FT
Amphibians and Reptiles			
California tiger salamander	*Ambystoma californiense*	ST	FT
California red-legged frog	*Rana draytonii*	CSC	FT
Foothill yellow-legged frog	*Rana boylii*	CSC	FPT
Western pond turtle	*Clemmys marmorata*	CSC	FC
Birds			
Western burrowing owl	*Athene cunicularia hypugea*	CSC	MBTA
Least bell's vireo	*Vireo bellii pusillus*	SE	FE, MBTA
Tricolored blackbird	*Agelaius tricolor*	ST	MBTA
Mammals			
San Joaquin kit fox	*Vulpes macrotis mutica*	ST	FE
Plants			
Tiburon Indian paintbrush	*Castilleja affinis* ssp. *neglecta*	ST/1B	FE
Coyote ceanothus	*Ceanothus ferrisiae*	1B	FE
Mount Hamilton thistle	*Cirsium fontinale* var. *campylon*	1B	—
Santa Clara valley dudleya	*Dudleya abramsii* ssp. *setchellii*	1B	FE
Fragrant fritillary	*Fritillaria liliacea*	1B	—
Loma Prieta hoita	*Hoita strobilina*	1B	—
Smooth lessingia	*Lessingia micradenia* var. *glabrata*	1B	—
Metcalf Canyon jewelflower	*Streptanthus albidus* ssp. *albidus*	1B	FE
Most beautiful jewelflower	*Streptanthus albidus* ssp. *peramoenus*	1B	—

[a] **State Status:**

SE State Listed as Endangered
ST State Listed as Threatened
CSC California Special Concern Species

[b] **California Native Plant Society (CNPS):**

1B Rare, Threatened, or Endangered in California and Elsewhere

[c] **Federal Status:**

FE Federally Listed as Endangered
FT Federally Listed as Threatened
FPT Federally Proposed as Threatened
FC Federal Candidate
MBTA Migratory Bird Treaty Act

Covered Activities

This section describes covered activities—undertaken during the reporting period and cumulatively—and their impacts on land cover type, modeled species habitat, and covered plants.

The Habitat Plan allows incidental take coverage for the following covered activities, as described in Chapter 2 of the Habitat Plan.

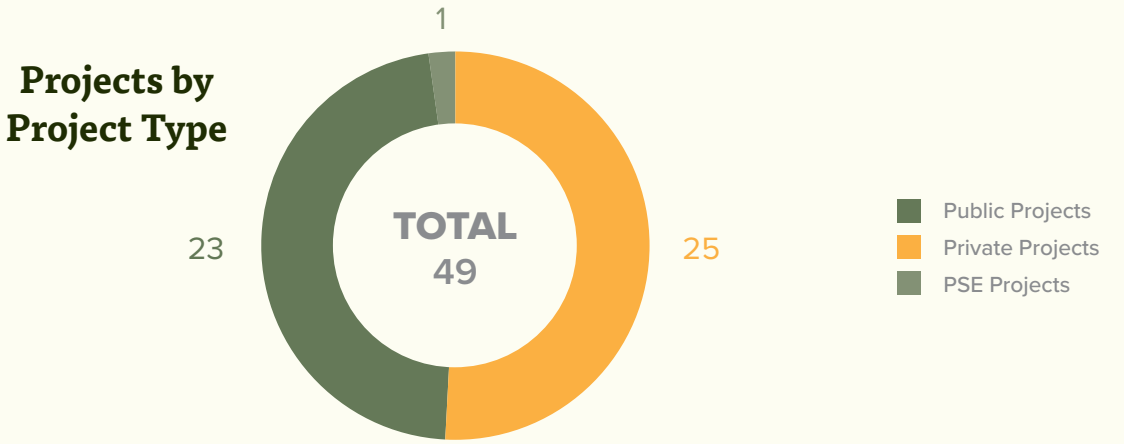
- Urban development projects
- In-stream capital projects
- In-stream operation and maintenance (O&M) activities
- Rural capital projects
- Rural O&M activities
- Rural development projects
- Conservation strategy implementation
- Nitrogen deposition only projects*

Figures 1–3 and **Table 2** summarize covered activities undertaken during the reporting period and since Habitat Plan inception. **Figures 4 and 5** and **Tables 3–7** quantify impacts associated with these covered activities.

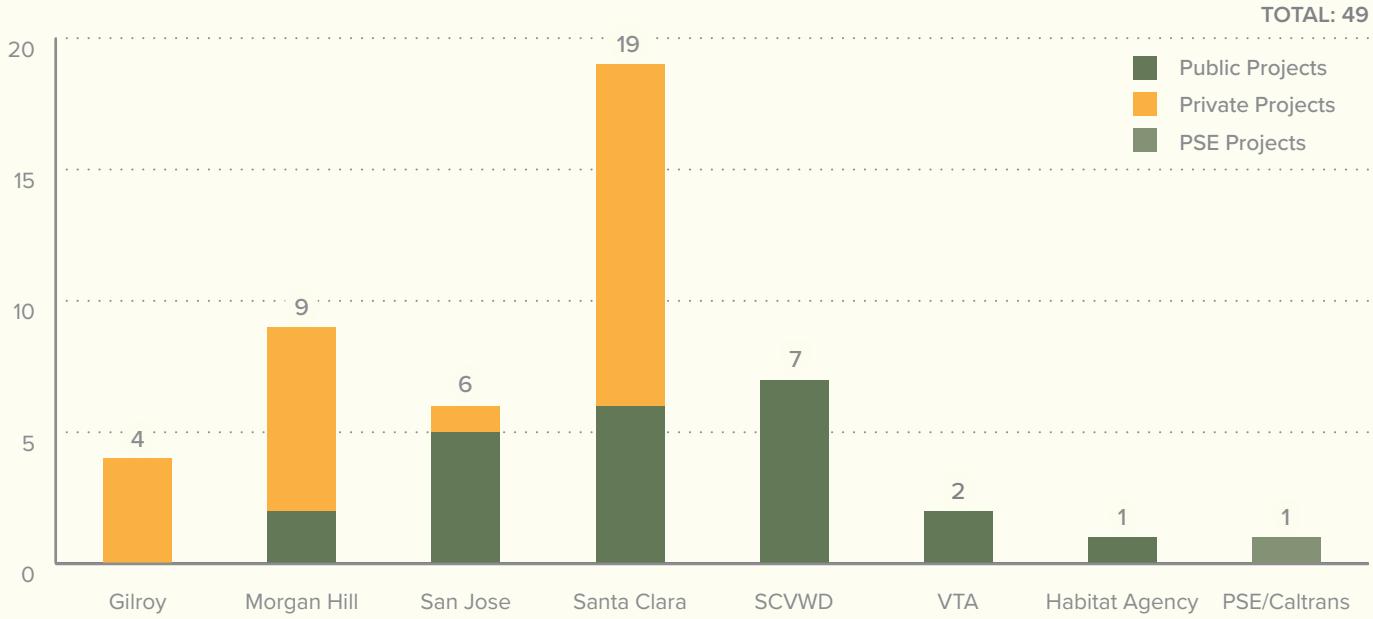
* Nitrogen deposition only projects are development projects that do not contribute to land cover impacts in the Permit Area but do contribute to cumulative nitrogen deposition impacts.

During the reporting period, 49 projects received coverage under the Habitat Plan: 25 private projects, 23 public projects, and 1 Participating Special Entity (PSE) project. The PSE project was carried out by the California Department of Transportation (Caltrans).

Figure 1. Covered Projects—Reporting Period

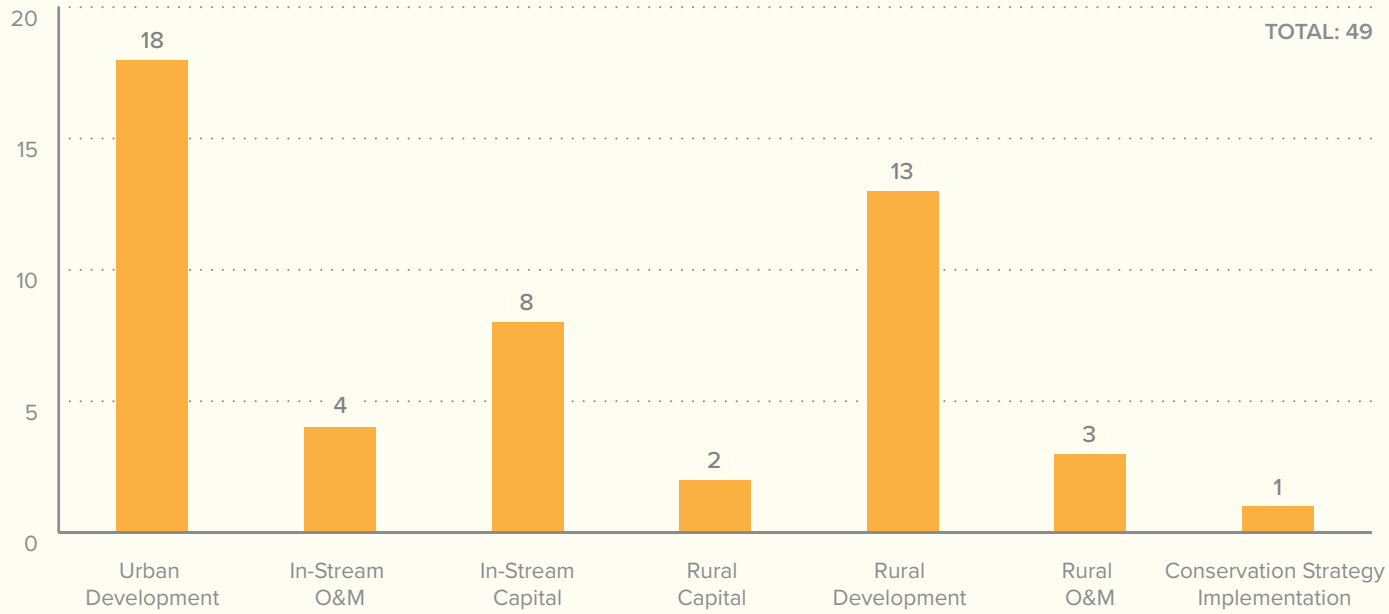


Projects by Project Type and Co-Permittee



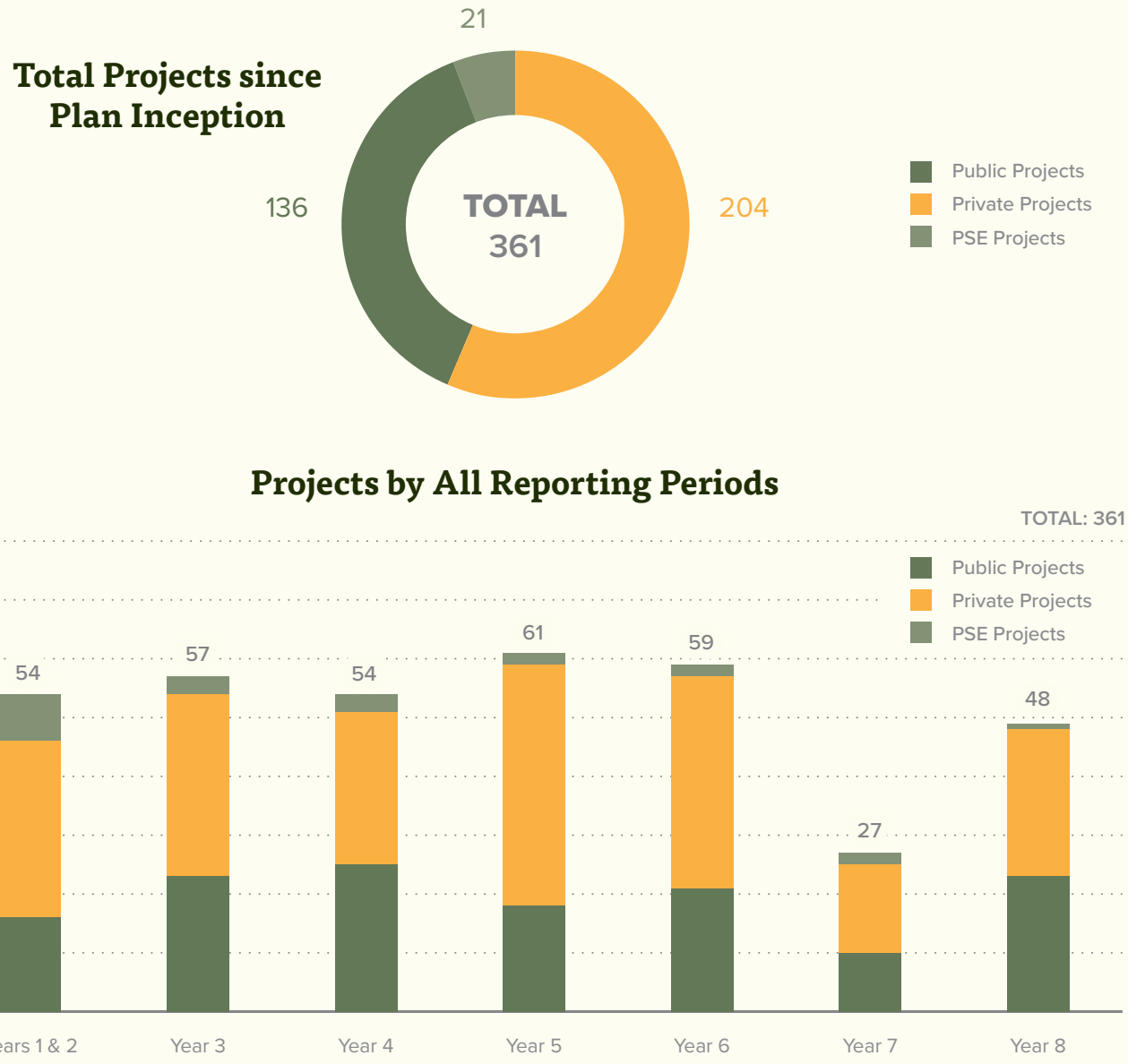
Covered projects consisted of 18 urban development projects, 4 in-stream O&M activities, 8 in-stream capital projects, 2 rural capital projects, 13 rural development projects, 3 rural O&M projects, and 1 conservation strategy implementation project. Table 2 lists all projects.

Figure 2. Covered Projects by Activity Type—Reporting Period



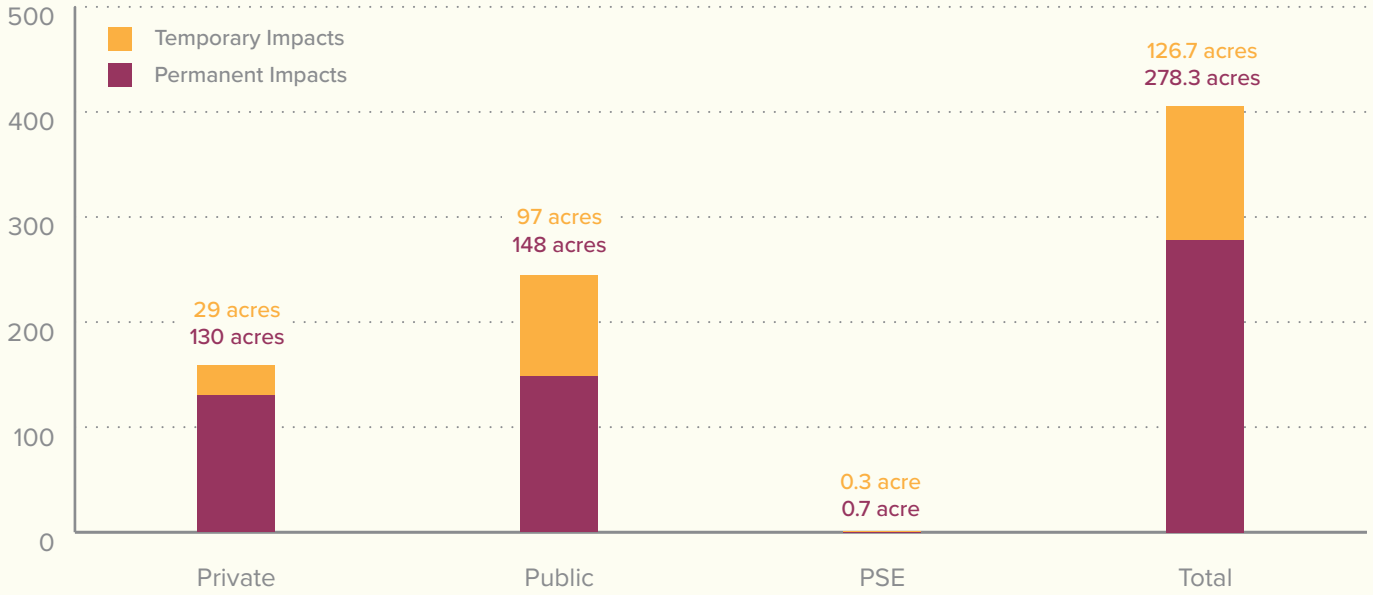
A total of 361 projects have received take coverage under the Habitat Plan since permit issuance. Note that this number excludes the 34 nitrogen deposition only projects that have been reported since FY2018–2019. The Habitat Agency began omitting these projects from the cumulative total last year (because they have no land cover impacts) and will continue to do so in the future.

Figure 3. Covered Projects—Cumulative



The 49 projects undertaken during the reporting period resulted in 278 acres of permanent impacts and 127 acres of temporary impacts on land cover. Impacts on aquatic land cover during the reporting period spanned five different watersheds—Coyote, Guadalupe, Uvas, Llagas, and Pajaro (Table 4). During the reporting period, no covered plants were removed.

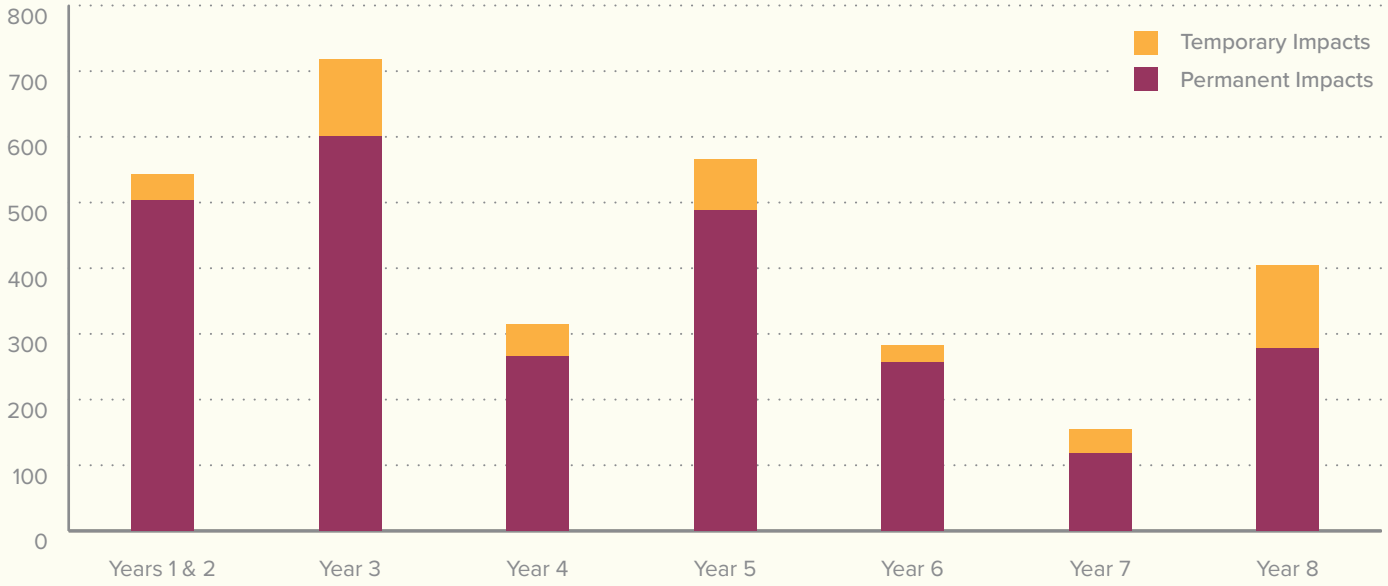
Figure 4. Acres of Impact by Project Type—Reporting Period



Cumulative land cover impacts total 2,510 acres of permanent impacts, 731 acres of temporary impacts, and 2,962 feet of permanent and 4,600 feet of temporary impacts on streams.

Figure 5. Covered Projects—Cumulative

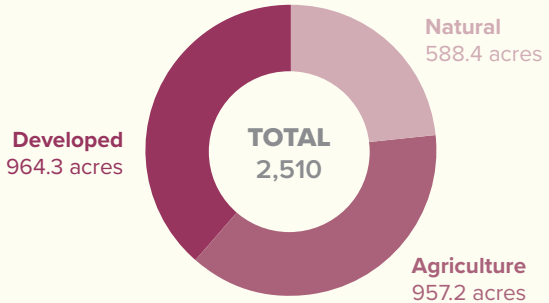
Acres of Impact by All Reporting Periods



Permanent Impacts

TOTAL ACRES = 2,510 | TOTAL FEET (STREAMS) = 2,962

See breakdown below



Temporary Impacts

TOTAL ACRES = 731 | TOTAL FEET (STREAMS) = 4,600

See breakdown below

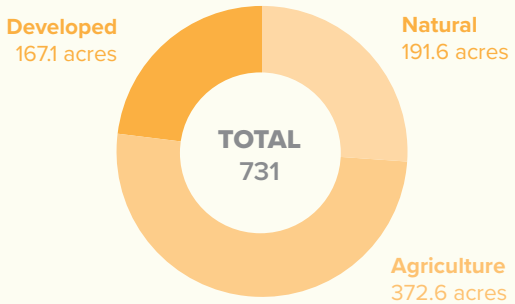


Table 2. Applied Conditions by Covered Activity—Reporting Period

Project Number	Project Name	Condition[a]																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
GIL-2020-003	Glen Loma Ranch Phase 3	•		•	•							•	•	•	•		•	•			
GIL-2021-02	First St & Kern Ave Apt	•		•																	
GIL-2021-03	Hecker Pass North Cluster Project	•		•								•	•		•		•	•			
GIL-2021-05	6805 Silacci Way	•		•																	
MH-2020-005	Butterfield Village Bioretention Basin for Sutter Blvd	•		•									•					•			
MH-2020-008	Hale Ave Extension Project	•		•		•						•	•			•					
MH-2020-009	Montecito Estates	•		•																	
MH-2020-010	Butterfield Linear Park	•		•												•					
MH-2020-011	Butterfield Village Residential Bioretention Basin	•		•									•					•			
MH-2020-012	Voices Charter School	•		•								•				•					
MH-2020-013	Andalusia	•		•																	
MH-2021-001	City Ventures	•		•																	
MH-2021-002	Madrone Parkway	•		•																	
PSE-2020-006	Caltrans SC Bridge Rehab	•		•	•	•	•		•								•	•			
SCPK-2020-001	Perry's Hill Service Rd	•		•				•													•
SCPK-2020-002	Coyote Canyon Trail	•		•				•							•						
SCPK-2021-001	Anderson Lake Forest Rd Culvert	•		•	•																
SCPN-2020-001	Oxkley Burchell Rd	•		•			•	•													
SCPN-2020-002	Lands of Bhullar	•		•				•						•							
SCPN-2020-003	Pacheco Pass Grading Violation	•		•	•			•			•	•			•		•	•	•		
SCPN-2020-004	Lands of Green	•		•	•			•									•	•			
SCPN-2020-005	Sangha Congregation Grading Abatement	•		•				•					•								
SCPN-2020-006	Smith Burchell Rd	•		•				•							•						
SCPN-2020-007	Steel Ag Building	•		•				•													
SCPN-2020-008	Monterey Rd SFR	•		•				•													
SCPN-2020-009	Cohn Prunedale	•		•				•										•			
SCPN-2020-010	Gurinder Grewal Residence	•		•	•			•													
SCPN-2020-011	Lands of Sandoval	•		•				•													
SCPN-2020-012	15220 Monterey Rd Grading Abatement	•		•				•				•									
SCPN-2020-013	Meritage HOA Grading Abatement	•		•	•			•					•	•	•	•		•		•	•
SCRD-2020-001	Uvas Road Bridge Repair	•		•	•		•	•					•		•						•
SCRD-2020-002	Red Fox Creek Bridge Repair	•		•	•		•	•					•								
SCVHA-2021-02	CROSP East Parcel Fence	•		•											•			•			
SJ-2020-018	Coyote Creek Mabury	•		•	•																
SJ-2020-019	Rue Ferrari	•		•																	
SJ-2020-020	CSJ Arundo Removal Project	•		•		•															
SJ-2020-021	RWF Mowing	•		•																	
SJ-2020-025	Stormwater Outfall Rehab	•		•		•															
SJ-2020-045	Penitencia Creek Trail Wall Repair	•		•																	
SJ-2021-003	Humming Bird Energy Storage	•		•	•			•				•						•			•
SVWD-2020-001	Central Pipeline Inspection	•		•	•	•										•		•			
SVWD-2021-001	S County Stream Gauge	•		•	•	•											•	•			
SVWD-2021-002	Anderson Dam	•		•	•			•				•	•	•				•		•	•

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Table 2. Applied Conditions by Covered Activity—Reporting Period (continued)

Project Number	Project Name	Condition[a]																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
SVWD-2021-004	Cross Valley Pipeline Extension	•		•	•							•	•					•			
SVWD-2021-005	Coyote Percolation Dam Replacement	•		•	•							•	•					•			
SVWD-2021-006	Coyote Creek Flood Mgmt Measures	•		•	•							•						•			
SVWD-2021-008	Cross Valley Pipeline	•		•					•												
VTA-2021-001	Newhall Yard	•		•												•					
VTA-2021-002	101 Interchange	•		•												•					
Number of Times Condition Applied		**49**	**0**	**49**	**17**	**6**	**4**	**19**	**2**	**0**	**1**	**11**	**12**	**4**	**8**	**7**	**6**	**17**	**1**	**2**	**5**

[a] **Habitat Plan Conditions:**

Condition 1 Avoid Direct Impacts on Legally Protected Plant and Wildlife Species
Condition 2 Incorporate Urban-Reserve System Interface Design Requirements
Condition 3 Maintain Hydrologic Conditions and Protect Water Quality
Condition 4 Avoidance and Minimization for In-Stream Projects
Condition 5 Avoidance and Minimization Measures for In-Stream Operations and Maintenance
Condition 6 Design and Construction Requirements for Covered Transportation Projects
Condition 7 Rural Development Design and Construction Requirements
Condition 8 Implement Avoidance and Minimization Measures for Rural Road Maintenance
Condition 9 Prepare and Implement a Recreation Plan
Condition 10 Fuel Buffer
Condition 11 Stream and Riparian Setbacks
Condition 12 Wetland and Pond Avoidance and Minimization
Condition 13 Serpentine and Associated Covered Species Avoidance and Minimization
Condition 14 Valley Oak and Blue Oak Woodland Avoidance and Minimization
Condition 15 Western Burrowing Owl
Condition 16 Least Bell's Vireo
Condition 17 Tricolored Blackbird
Condition 18 San Joaquin Kit Fox
Condition 19 Plant Salvage when Impacts are Unavoidable
Condition 20 Avoid and Minimize Impacts to Covered Plant Occurrences

Table 3. Summary of Impacts on Land Cover Types—Reporting Period and Cumulative

Land Cover Type	Reporting Period		Cumulative					
	Permanent (acres)	Temporary (acres)	Permanent (acres)	Temporary (acres)	Total Allowable Permanent Impact (acres)	Percentage Used of Total Allowable Permanent Impacts	Total Allowable Temporary Impact (acres)	Percentage Used of Total Allowable Temporary Impacts
Terrestrial								
California annual grassland	60.4	43.1	387.0	112.0	2,006	19%	574	20%
Serpentine bunchgrass	1.2	1.2	37.1	15.7	550	7%	91	17%
Serpentine rock outcrop/barrens		0.1	3.7	0.2	22	17%	2	9%
Serpentine seep			0.0	0.0	0.5	2%	0.4	0%
Rock outcrop (non-serpentine)			0.0	0.0	0.5	0%	0.2	0%
Northern mixed chaparral/chamise chaparral			10.3	0.4	86	12%	31	1%
Mixed serpentine chaparral			0.7	1.2	131	1%	30	4%
Northern coastal scrub/Diablan coastal scrub	4.3	0.4	6.9	0.9	178	4%	66	1%
Coyote brush scrub			3.4	0.3	10	34%	10	3%
Valley oak woodland	1.3	5.6	3.3	6.7	201	2%	45	15%
Mixed oak woodland and forest	1.8	11.5	19.3	18.2	1,441	1%	302	6%
Coast live oak woodland and forest	6.4	9.1	20.5	11.0	840	2%	181	6%
Blue oak woodland			3.8	1.7	131	3%	39	4%
Foothill pine-oak woodland	0.9	3.6	6.6	3.6	46	14%	26	14%
Mixed evergreen forest			0.0	0.1	50	0%	25	1%
Redwood forest			0.0	0.0	109	0%	56	0%
Ponderosa pine woodland			0.0	0.0	0		1	0%
Knobcone pine woodland			0.0	0.0	8	0%	2	0%
Non-serpentine native grassland			0.2	0.0				
Subtotal terrestrial	*76.3*	*74.6*	*502.8*	*172.0*	*5,810*	*9%*	*1,482*	*12%*
Aquatic								
Willow riparian forest and scrub	0.44	1.8	2.7	3.5	180	1%	103	3.4%
Central California sycamore alluvial woodland			0.0	0.0	7	0%	6	0%
Mixed riparian woodland and forest	8.24	6.3	10.3	7.3	109	9%	101	7%
Coastal and valley freshwater marsh	0.10	0.9	2.5	4.7	25	10%	7	68%
Seasonal wetland	0.52	0.1	0.8	0.2	15	5%	2	11%
Pond		3.2	0.1	3.4	52	0%	9	37%
Reservoir	36.50	0.2	69.3	0.5				
Subtotal aquatic	*45.80*	*12.40*	*85.6*	*19.6*	*388*	*22%*	*228*	*9%*
Stream (length in linear feet)								
Total stream length	*2,332.0*	*3,707.0*	*2,962.0*	*4,600.0*	*49,632*	*6%*	*253,440*	*2%*
Agricultural								
Orchard	0.5	0.2	66.3	4.8	625	11%	24	20%
Vineyard		0.1	0.2	0.3	37		3	11%
Agriculture developed			28.2	1.2				
Grain, row-crop, hay and pasture, disked/short-term fallowed	91.1	3.9	862.5	112.3	7,356	12%	284	40%
Subtotal agricultural	*91.6*	*4.2*	*957.2*	*118.6*	*8,018*	*12%*	*311*	*38%*

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Table 3. Summary of Impacts on Land Cover Types—Reporting Period and Cumulative (continued)

	Reporting Period		Cumulative					
Land Cover Type	**Permanent (acres)**	**Temporary (acres)**	**Permanent (acres)**	**Temporary (acres)**	**Total Allowable Permanent Impact (acres)**	**Percentage Used of Total Allowable Permanent Impacts**	**Total Allowable Temporary Impact (acres)**	**Percentage Used of Total Allowable Temporary Impacts**
Developed								
Rural residential	9.1	4.8	25.8	13.0	1,603	2%	139	9%
Golf courses / urban parks	7.9	4.5	187.2	16.4	2,095	9%	40	41%
Ornamental woodland	1.0	0.1	6.1	0.8	30		8	10%
Barren	0.0		70.8	1.1	32	221%	15	7%
Urban suburban	46.7	26.8	674.4	135.9				
Subtotal developed	*64.6*	*36.2*	*964.3*	*167.1*	*3,760*	*26%*	*202*	*83%*
Total								
Acres	**279.0**	**127.4**	**2,510.0**	**477.4**	**17,976**	**14%**	**2,223**	**21%**
Linear Feet	**2,332.0**	**3,707.0**	**2,962.0**	**4,600.0**	**49,632**	**6%**	**253,440**	**2%**

Table 4. Impacts on Aquatic Land Cover Types by Watershed—Reporting Period and Cumulative

	Reporting Period		Cumulative	
Watershed	**Permanent (acres)**	**Temporary (acres)**	**Permanent (acres)**	**Temporary (acres)**
Coyote				
Willow riparian forests, woodlands, and scrub	0.44	1.80	1.80	2.77
Central California sycamore alluvial woodland	0.00	0.00	0.00	0.00
Mixed riparian woodland and forest	3.55	5.10	3.90	5.19
Coastal and valley freshwater marsh	0.10	0.75	0.10	4.63
Seasonal wetland	0.00	0.02	0.03	0.11
Pond	0.00	0.00	0.02	0.00
Reservoir	0.00	0.00	0.00	0.00
Subtotal aquatic	*4.09*	*7.67*	*5.85*	*12.70*
Stream (linear feet)	*1,973.00*	*969.00*	*2,437.00*	*1,050.00*
Guadalupe				
Willow riparian forests, woodlands, and scrub	0.00	0.02	0.56	0.73
Central California sycamore alluvial woodland	0.00	0.00	0.00	0.00
Mixed riparian woodland and forest	0.00	0.02	0.53	0.20
Coastal and valley freshwater marsh	0.00	0.00	0.00	0.00
Seasonal wetland	0.00	0.00	0.20	0.02
Pond	0.00	0.00	0.00	0.00
Reservoir	0.00	0.00	32.80	0.30
Subtotal aquatic	*0.00*	*0.04*	*34.09*	*0.54*
Stream (linear feet)	*0.00*	*0.00*	*137.00*	*715.00*
Pajaro				
Willow riparian forests, woodlands, and scrub	0.00	0.00	0.07	0.01
Central California sycamore alluvial woodland	0.00	0.00	0.00	0.00
Mixed riparian woodland and forest	0.30	0.67	1.59	1.17
Coastal and valley freshwater marsh	0.00	0.00	0.04	0.00
Seasonal wetland	0.00	0.00	0.00	0.00
Pond	0.00	0.09	0.00	0.09
Reservoir	0.00	0.00	0.00	0.00
Subtotal aquatic	*0.30*	*0.76*	*1.70*	*1.27*
Stream (linear feet)	*0.00*	*806.00*	*0.00*	*806.00*

Table continues on following page

Table 4. Impacts on Aquatic Land Cover Types by Watershed—Reporting Period and Cumulative (continued)

	Reporting Period		Cumulative	
Watershed	**Permanent (acres)**	**Temporary (acres)**	**Permanent (acres)**	**Temporary (acres)**
Uvas				
Willow riparian forests, woodlands, and scrub	0.00	0.01	0.01	0.01
Central California sycamore alluvial woodland	0.00	0.00	0.00	0.00
Mixed riparian woodland and forest	4.39	0.87	4.42	1.15
Coastal and valley freshwater marsh	0.00	0.10	0.13	0.10
Seasonal wetland	0.41	0.07	0.44	0.07
Pond	0.00	0.00	0.04	0.00
Reservoir	0.00	0.00	0.00	0.00
Subtotal aquatic	*4.80*	*1.05*	*5.04*	*1.33*
Stream (linear feet)	*329.00*	*1,191.00*	*358.00*	*1,191.00*
Llagas				
Willow riparian forests, woodlands, and scrub	0.00	0.00	0.04	0.00
Central California sycamore alluvial woodland	0.00	0.00	0.00	0.00
Mixed riparian woodland and forest	0.00	0.09	0.04	0.09
Coastal and valley freshwater marsh	0.00	0.00	2.26	0.00
Seasonal wetland	0.11	0.00	0.11	0.02
Pond	0.00	3.09	0.00	3.26
Reservoir	0.00	0.00	0.00	0.00
Subtotal aquatic	*0.11*	*3.18*	*2.46*	*3.37*
Stream (linear feet)	*30.00*	*741.00*	*30.00*	*838.00*
San Tomas				
Willow riparian forests, woodlands, and scrub	0.00	0.00	0.00	0.00
Central California sycamore alluvial woodland	0.00	0.00	0.00	0.00
Mixed riparian woodland and forest	0.00	0.00	0.00	0.00
Coastal and valley freshwater marsh	0.00	0.00	0.00	0.00
Seasonal wetland	0.00	0.00	0.00	0.00
Pond	0.00	0.00	0.00	0.00
Reservoir	0.00	0.00	0.00	0.00
Subtotal aquatic	*0.00*	*0.00*	*0.00*	*0.00*
Stream (linear feet)	*0.00*	*0.00*	*0.00*	*0.00*

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Table 4. Impacts on Aquatic Land Cover Types by Watershed—Reporting Period and Cumulative (continued)

	Reporting Period		Cumulative	
Watershed	**Permanent (acres)**	**Temporary (acres)**	**Permanent (acres)**	**Temporary (acres)**
Alamitos Creek				
Willow riparian forests, woodlands, and scrub	0.00	0.00	0.00	0.00
Central California sycamore alluvial woodland	0.00	0.00	0.00	0.00
Mixed riparian woodland and forest	0.00	0.00	0.00	0.00
Coastal and valley freshwater marsh	0.00	0.00	0.00	0.00
Seasonal wetland	0.00	0.00	0.00	0.00
Pond	0.00	0.00	0.00	0.00
Reservoir	0.00	0.00	0.00	0.00
Subtotal aquatic	*0.00*	*0.00*	*0.00*	*0.00*
Stream (linear feet)	*0.00*	*0.00*	*0.00*	*0.00*
Total				
Willow riparian forests, woodlands, and scrub	**0.44**	**1.83**	**2.48**	**3.52**
Central California sycamore alluvial woodland	**0.00**	**0.00**	**0.00**	**0.00**
Mixed riparian woodland and forest	**8.24**	**6.75**	**10.48**	**7.80**
Coastal and valley freshwater marsh	**0.10**	**0.85**	**2.53**	**4.73**
Seasonal wetland	**0.52**	**0.09**	**0.78**	**0.22**
Pond	**0.00**	**3.18**	**0.06**	**3.35**
Reservoir	**0.00**	**0.00**	**32.80**	**0.30**
Total aquatic	**9.30**	**12.70**	**49.14**	**19.92**
Total stream length	**2,332.00**	**3,707.00**	**2,962.00**	**4,600.00**

Table 5. Summary of Impacts on Modeled Covered Species Habitat

Modeled Habitat	Reporting Period		Cumulative					
	Permanent (acres)	Temporary (acres	Permanent (acres)	Temporary (acres)	Maximum Allowable Permanent Impacts on Modeled Habitat (acres)	Percentage Used of Total Allowable Permanent Impacts (%)	Maximum Allowable Temporary Impacts on Modeled Habitat (acres)	Percentage Used of Total Allowable Temporary Impacts (%)[a]
Bay Checkerspot Butterfly								
Primary habitat	1.3	0.0	152.7	17.5	300	51%	54	32%
California Tiger Salamander								
Breeding habitat	0.0	0.0	0.9	0.3	77	1%	14	2%
Non-breeding habitat	149.5	70.6	898.5	227.8	12,855	7%	1,529	15%
Total	149.5	70.6	899.4	228.1	12,932	7%	1,543	15%
California Red-Legged Frog								
Primary habitat	15.5	11.8	51.3	18.9	299	17%	116	16%
Secondary habitat	126.2	306.4	1,160.1	507.3	12,937	9%	1,489	34%
Total	141.7	318.2	1,211.4	526.2	13,236	9%	1,605	33%
Foothill Yellow-Legged Frog (length in miles)								
Primary habitat	0.2	0.1	0.3	0.2	2	14%	0.7	31%
Secondary habitat	0.1	0.2	0.4	0.3	5	8%	1.3	21%
Total	0.3	0.3	0.7	0.5	7	9%	2.0	25%
Western Pond Turtle								
Primary habitat	42.6	23.4	282.9	64.4	1,824	16%	440	15%
Secondary habitat	127.2	71.9	624.2	178.9	7,825	8%	986	18%
Total	169.8	95.4	907.1	243.4	9,649	9%	1,426	17%
Western Burrowing Owl								
Occupied nesting habitat	20.5	4.6	161.9	19.0	198	82%	20	95%
Potential nesting habitat	102.4	44.7	469.8	64.7	4,000	12%	604	11%
Overwintering habitat	125.9	285.0	1,070.4	485.9	9,671	11%	762	64%
Total	269.5	338.8	1,707.8	584.5	13,869	12%	1,385	42%
Least Bell's Vireo								
Primary habitat	8.9	2.3	18.8	3.7	72	26%	43	9%
San Joaquin Kit Fox								
Secondary habitat	0.0	1.7	7.1	8.1	198	4%	46	18%
Secondary habitat (low use)	0.5	0.1	4.1	18.4	28	15%	6	
Total	0.5	1.8	11.2	23.2	226	5%	52	45%

Table continues on following page

Table 5. Summary of Impacts on Modeled Covered Species Habitat (continued)

Modeled Habitat	Reporting Period		Cumulative					
	Permanent (acres)	Temporary (acres	Permanent (acres)	Temporary (acres)	Maximum Allowable Permanent Impacts on Modeled Habitat (acres)	Percentage Used of Total Allowable Permanent Impacts (%)	Maximum Allowable Temporary Impacts on Modeled Habitat (acres)	Percentage Used of Total Allowable Temporary Impacts (%)[a]
Tricolored Blackbird								
Primary habitat	14.1	6.8	129.7	15.8	276	47%	93	17%
Secondary habitat	126.2	282.2	1,111.8	484.7	10,317	11%	768	63%
Total	140.3	289.0	1,241.5	500.5	10,593	12%	861	58%
Mount Hamilton Thistle								
Primary habitat	0.0	0.0	0.1		26	0%	4	0%
Fragrant Fritillary								
Primary habitat	0.7	0.5	19.5	7.3	5503	0%	59	12%
Secondary habitat	23.3	37.8	152.7	70.3	2,729	6%	655	11%
Total	24.0	38.3	172.2	77.6	3,279	5%	714	11%
Loma Prieta Hoita								
Primary habitat	4.1	22.2	56.6	29.2	2,117	3%	413	7%
Secondary habitat	0.0	0.0	20.0	1.6	266	8%	60	3%
Total	4.1	22.2	76.6	30.8	2,383	3%	473	7%
Smooth Lessingia								
Primary habitat	6.8	0.6	170.2	18.5	550	31%	68	27%
Metcalf Canyon Jewelflower								
Primary habitat	0.7	0.6	19.5	7.3	550	4%	62	12%
Most Beautiful Jewelflower								
Primary habitat	6.8	0.6	184.7	20.5	550	34%	92	22%
Secondary habitat	0.0	0.0			0	0%	0	0%
Total	6.8	0.6	184.7	20.5	550	34%	92	22%

[a] Temporary impact tracking was updated consistent with the memorandum *Tracking Temporary Impacts for Compliance Monitoring of the Santa Clara Valley Habitat Plan* dated September 20, 2018. Temporary impacts are tracked cumulatively over the permit term against the total allowable impacts for each species (inclusive of all modeled habitat types), while ensuring that impacts on breeding habitat, primary habitat, or occupied nesting habitat (as applicable by species) are not exceeded (in the case of San Joaquin kit fox, this limitation applies to secondary habitat).

Table 6. Summary of Impacts on Critical Habitat from Covered Activities

	Reporting Period		Cumulative					
Species	**Permanent**	**Temporary**	**Permanent**	**Temporary**	**Maximum Allowable Permanent Impact on Critical Habitat (acres)**	**Percentage used of Total Allowable Permanent Impacts (%)**	**Maximum Allowable Temporary Impact on Critical Habitat (acres)**	**Percentage used of Total Allowable Temporary Impacts (%)**
California Red-Legged Frog								
STC Unit 1	0.1	0.6	20.0	7.8				
STC Unit 2		1.7	23.7	5.4				
ALA Unit 2								
Total	**0.1**	**2.3**	**43.7**	**13.2**	**1,035**	**4%**	**277**	**5%**
California Tiger Salamander								
EBR Unit 5								
EBR Unit 6			4.2	1.1				
EBR Unit 7			2.1	4.7				
EBR Unit 8			29.8	10.1				
EBR Unit 9								
EBR Unit 10a			0.2					
EBR Unit 10b								
EBR Unit 11								
EBR Unit 12	1.4	1.8	4.2	7.7				
Total	**1.4**	**1.8**	**40.4**	**23.7**	**272**	**15%**	**125**	**19%**
Bay Checkerspot Butterfly								
Tulare Hill			0.4	0.8				
Metcalf			1.7	2.4				
Santa Teresa Hills			7.5	1.0				
Calero Reservoir			13.5	6.3				
Kirby			33.6	5.6				
Kalana			0.3					
Hale								
Bear Ranch								
San Martin								
Total			**57.0**	**16.1**	**550**	**10%**	**86**	**19%**

Table 7. Summary of Impacts on Covered Plants

	Reporting Period		Cumulative	
Known Occurrences that May be Removed by Covered Activities[a]	**Extant**	**New**	**Extant**	**New**
Tiburon Paintbrush				
0	0	0	0	0
Coyote ceanothus[b]				
3,650	5	0	527	0
Mount Hamilton Thistle				
6	0	0	0	0
Santa Clara Valley Dudleya				
11	0	0	0	0
Fragrant Fritillary				
1	0	0	0	0
Loma Prieta Hoita				
0	0	0	0	0
Smooth Lessingia				
6	0	0	0	0
Metcalf Canyon Jewelflower				
2	0	0	0	0
Most Beautiful Jewelflower				
6	0	0	0	0

[a] These could change over time if additional occurrences are found. This column provides the limit of impacts by number of occurrences allowable under the Habitat Plan. The impact limit assumes that no new occurrences of the species are discovered during the permit term and that occurrences impacted are in worse condition than those protected within reserves. Impact limits were determined based on estimated impacts of covered activities. In some cases, impacts were capped to ensure regulatory standards are met.

[b] A total of 23,650 individuals of the occurrence on either side of Anderson Dam could be removed by covered activities, or up to 5% of the total population.

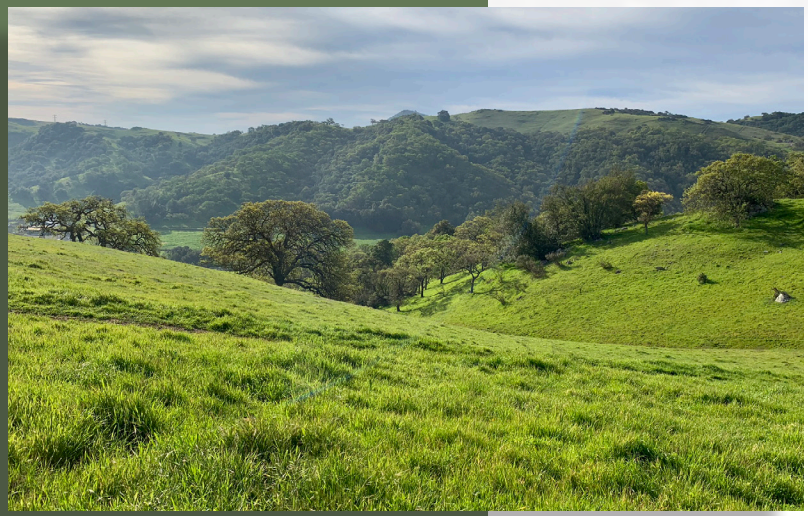
Land Acquisition and Preservation Status

This section documents properties acquired for the Reserve System during the reporting period. It also tracks impacts and preservation status across the Reserve System.

Sites Acquired

Two properties were acquired by the Habitat Agency during the reporting period: the Tilton Ranch and East Coyote Ridge Reserves. These acquisitions increased the Habitat Agency's Reserve System to seven properties comprising approximately 6,500 acres.

A map showing the current Reserve System can be found on the Habitat Plan's website.



Tilton Ranch Reserve

The Tilton Ranch Reserve is 1,960 acres and north of the recently acquired Tilton Ranch South Reserve. Similar to its southern neighbor in terrain and land cover, this reserve is likewise home to four covered plant species and Bay checkerspot butterfly. It also supports California red-legged frog and California tiger salamander as well as Townsend's western big-eared bat (*Corynorhinus townsendii townsendii*) in two abandoned mine shafts and a nesting pair of golden eagles (*Aquila chrysaetos*).

Adjacent to and north of the Tilton Ranch South Reserve, the Tilton Ranch Reserve supports several covered species.

East Coyote Ridge Reserve

The East Coyote Ridge Reserve is 1,521 acres. East of the existing Coyote Ridge Open Space Preserve, this acquisition nearly doubles the size of the preserve and results in a single Reserve System management unit that is 3,323 acres.

An addition to the Coyote Ridge Open Space Preserve, the East Coyote Ridge Reserve is over 1,500 acres in size. During the reporting period, barbed wire fence was removed on this property to improve wildlife connectivity (see the *Reserve System Management* section of this report for details).

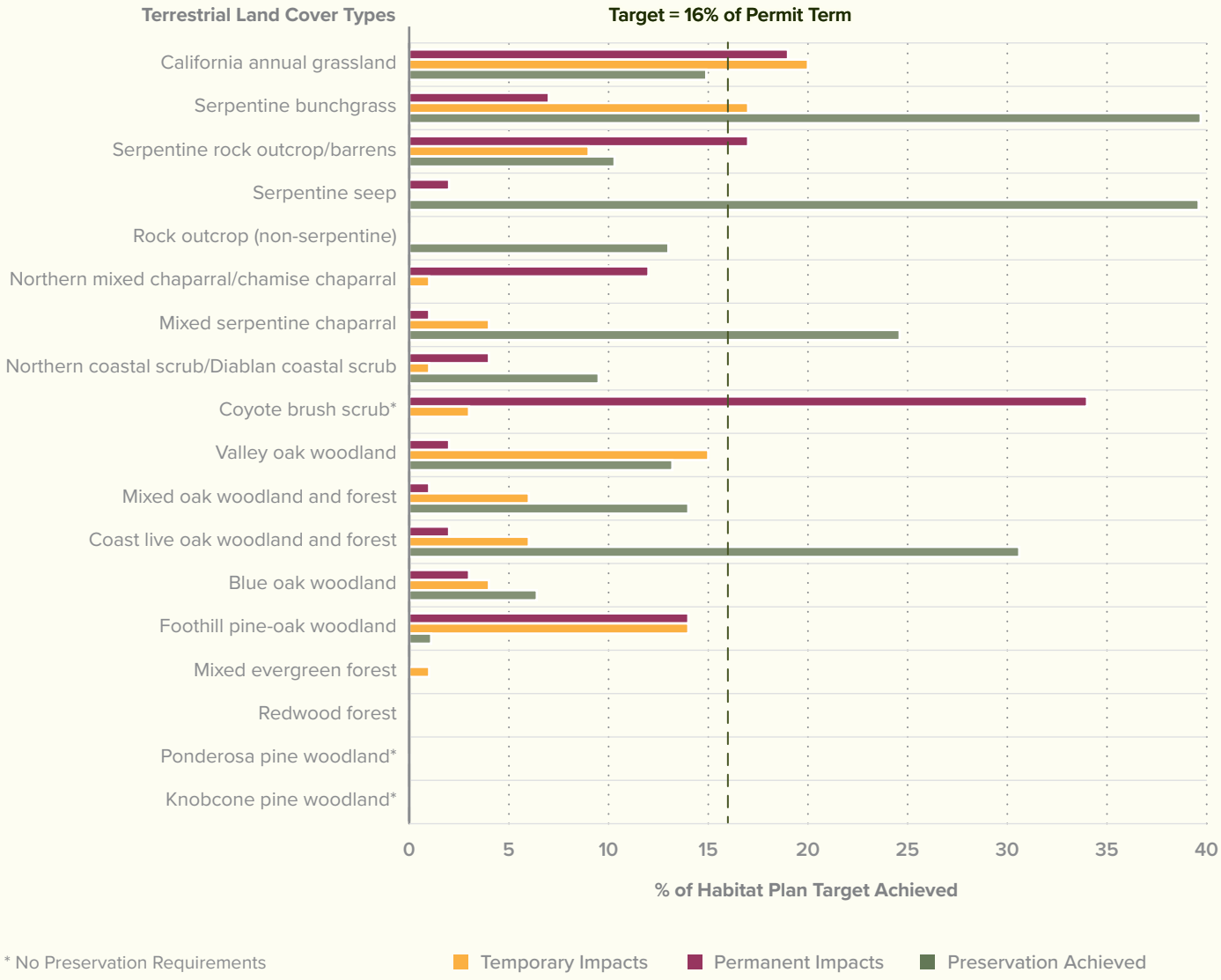
Preservation Achieved

Figures 6 through 10 summarize the Habitat Plan's progress in terms of impacts incurred and preservation achieved. **Figure 6** displays the percentages of impacts and preservation for terrestrial land cover types; **Figure 7** summarizes the same plus restoration/creation achieved for aquatic land cover types. **Figures 8 and 9** summarize impacts and preservation for wildlife and plant modeled habitat. **Figure 10** shows impacts incurred, conservation achieved, and funding received in comparison to the habitat plan targets for Year 8 of the 50-year permit term. **Table 8** shows the status of species occupancy requirements for wildlife species in Reserve System.

The reporting period (Year 8) represents 16% of the permit term. If a constant rate of impacts is assumed, allowable impacts should be at about 16% of the impact cap.

Figure 6. Impacts Incurred and Preservation Achieved for Terrestrial Land Cover Types

There are three terrestrial land cover types with Habitat Plan targets for which 16% of the permanent impact cap was exceeded: California annual grassland (19%), serpentine rock outcrop (17%), and coyote brush (34%). Preservation of serpentine annual grassland (39%) significantly exceeds the cumulative impacts on this land cover. The amount of conservation achieved for most of the terrestrial land cover now outpaces impacts due to the acquisition of six new reserves in the last two fiscal years.



Between the FY2019–2020 and FY2020–2021 reporting periods, temporary impacts on coastal and valley freshwater marsh increased from 55% to 68%. Temporary impacts on pond habitat also exceeded 16%. Permanent and temporary impacts on other aquatic land cover types did not exceed 16%.

Preservation of seasonal wetland and stream significantly increased in the FY2020–2021 reporting period; however, there continued to be no preservation of coastal and valley freshwater marsh.

Figure 7. Impacts Incurred and Preservation Achieved for Aquatic Land Cover Types

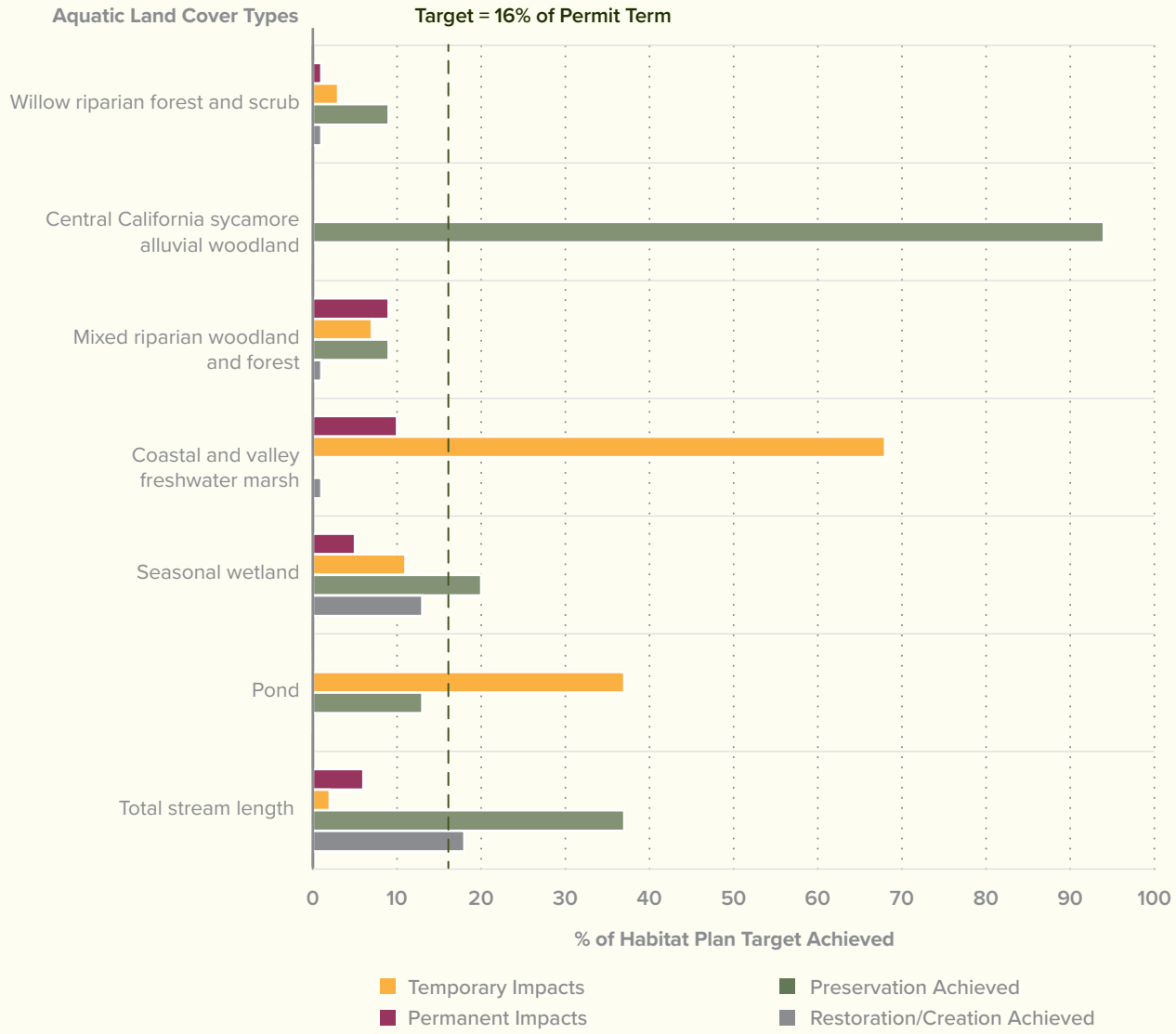
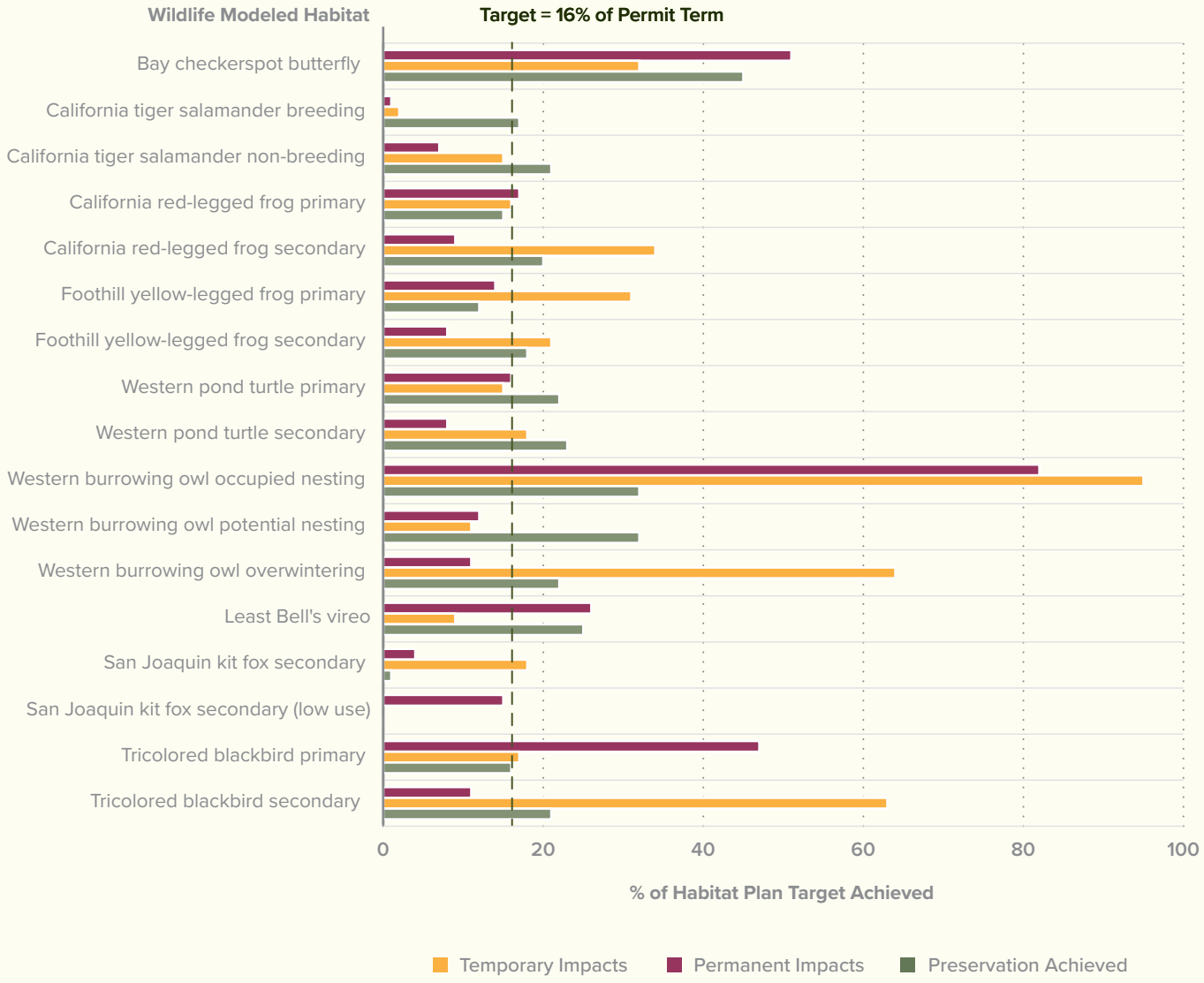


Figure 8. Impacts Incurred and Preservation Achieved for Wildlife Habitat

Permanent impact accrual rates far exceed 16% for Bay checkerspot butterfly (51%), western burrowing owl occupied nesting habitat (82%), and tricolored blackbird primary habitat (47%). Temporary impact accrual rates far exceed 16% for western burrowing owl occupied nesting habitat (95%) and overwintering habitat (64%). Habitat preservation is generally tracking closely with impacts except for western burrowing owl. The Habitat Agency has alerted the Co-Permittees that they are at their impact cap for burrowing owl impacts.



As in previous years, only smooth lessingia and most beautiful jewelflower exceeded the 16% impact cap for the reporting period. Impacts on both species increased slightly during the reporting period, but preservation of modeled habitat for both species exceeds impacts. The reporting period also showed significant increases in preservation of fragrant fritillary secondary habitat and Loma Prieta hoita primary habitat.

Figure 9. Impacts Incurred and Preservation Achieved for Plant Habitat

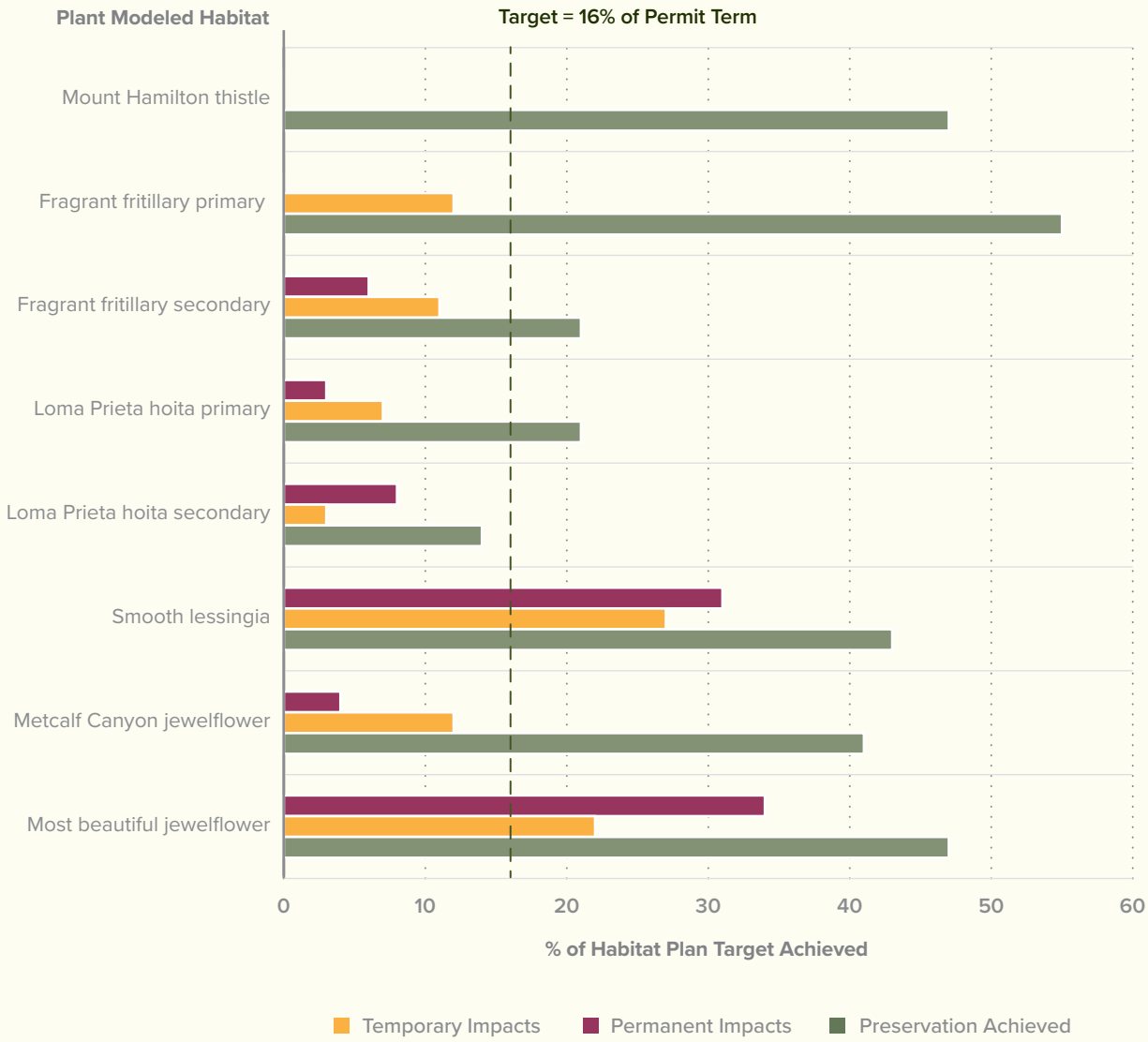


Figure 10. Impacts Incurred, Preservation Achieved, and Funding Received as Percentages of Habitat Plan Targets

Project impacts have largely occurred in urban and agricultural areas—41% and 38%, respectively—with only 21% occurring in natural lands. This results in lower fees paid, as most projects avoid high-fee sensitive land cover types. For this reason, the impacts accrued appear to outpace the fees paid. As more natural lands are developed and sensitive land cover types impacted, the fees paid will increase. The Reserve System totals approximately 6,500 acres with about 18% of the conservation target being achieved.

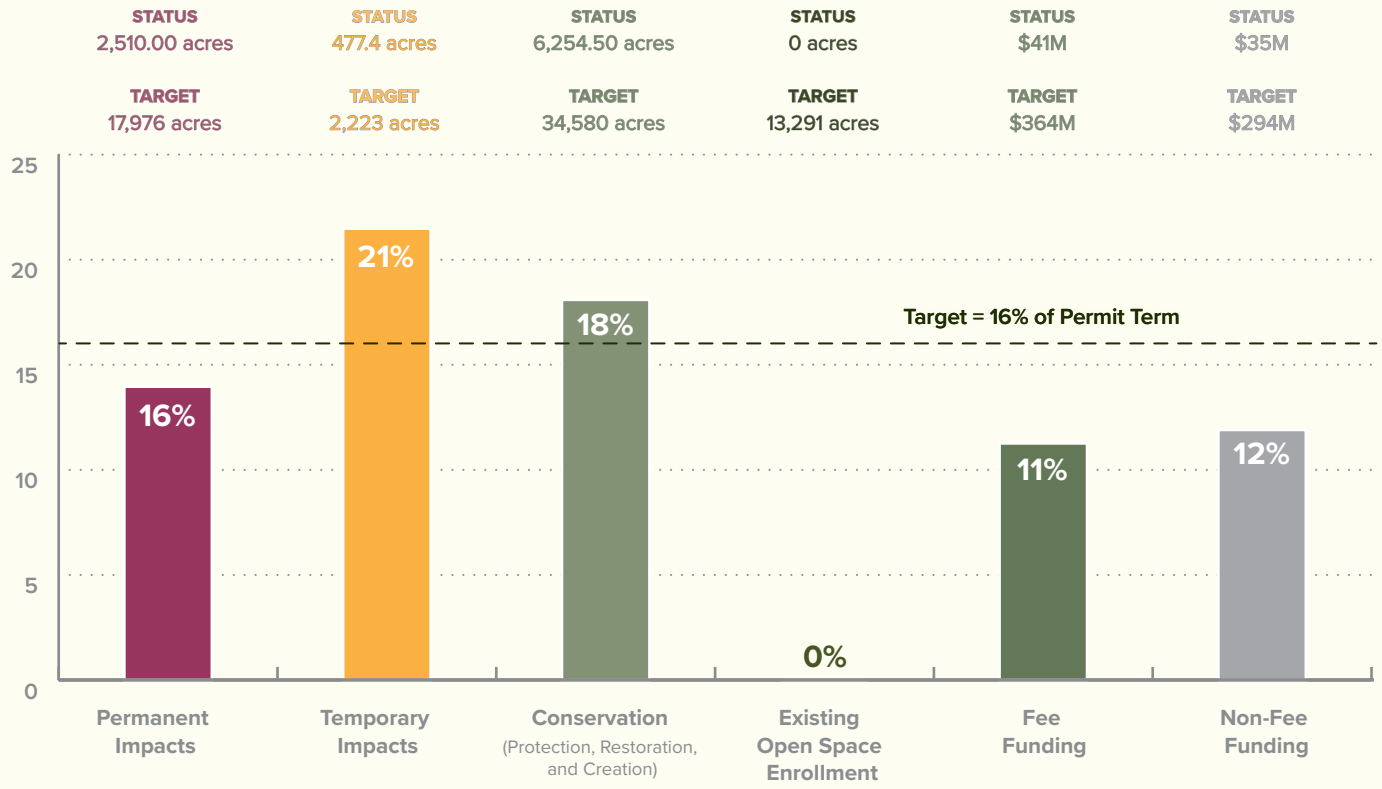


Table 8. Status of Species Occupancy Requirements for Select Species in Reserve System

Location	Status	Date	Notes
Bay Checkerspot Butterfly [a]			
Requirement: Four core habitat units (Kirby, Metcalf, San Felipe, and Silver Creek Hills) occupied at least 4 out of every 10 consecutive years of the permit term)			
Reserve System	1 of 4 core habitat units occupied		
Kirby	Occupied	2008	
Kirby	Occupied	2009	
Kirby	Occupied	2010	
Kirby	Occupied	2011	
Kirby	Occupied	2012	
Kirby	Occupied	2013	
Kirby	Occupied	2014	
Kirby	Occupied	2015	
Kirby	Occupied	2016	
Kirby	Occupied	2017	
Kirby	Occupied	2018	
Kirby	Occupied	2019	
Kirby	Occupied	2020	
Kirby	Occupied	2021	
Requirement: 50% of satellite habitat units W. Hills of Santa Clara Valley, Tulare Hill, Santa Teresa Hills, Calero, Communication Hill, or North of Llagas Avenue occupied once by Year 45			
Calero, Tulare Hill, and W. Hills of Santa Clara Valley (Tilton and Tilton South Reserves)	Occupied	2021	
California Red-Legged Frog [c, d, e]			
Requirement: 40% of ponds and wetlands occupied (support full life-cycle) in each of the federal Recovery Units 4 and 6 in the Reserve System (which correspond to the two major watersheds in the study area) by year 45			
Reserve System	25%: 2 of 8 ponds support full life cycle and occupied		
Recovery Unit 4			
CROSP-01	Sheltering	2016	Targeted for Restoration in 2019
CROSP-02	Sheltering	2016	Targeted for Restoration in 2020
CROSP-03	Sheltering	2016	Targeted for Restoration in 2020
CROSP-04		2016	Targeted for Restoration in 2019
CROSP-05	Breeding	2016	
CROSP-06	Breeding	2016	
CROSP-07	Sheltering	2016	
CROSP-08		2016	

Table continues on following page

Table 8. Status of Species Occupancy Requirements for Select Species in Reserve System (continued)

Location	Status	Date	Notes
Other Surveyed Areas	0%: 0 of 15 ponds support full life cycle and occupied		
Calero Pond 1		2017	Low Restoration Priority
Calero Pond 2		2017	High Restoration Priority
Calero Seep 3		2017	Lowest Restoration Priority
Calero Pond 4		2017	Moderate Restoration Priority
Calero Pond 5		2017	Moderate Restoration Priority
Calero Pond 9		2016, 2017, 2018, 2019	Restored 2016
Calero Seep 10		2016, 2017, 2018, 2019	Restored 2016
Calero Pond 11		2017	Highest Restoration Priority
Calero Pond 12		2017	Moderate Restoration Priority
Calero Pond 13		2017	Moderate Restoration Priority
Calero Seep 14		2017	
Calero Seep 15		2017	
Calero Pond 16		2017	Moderate Restoration Priority
Calero Pond 17		2017	High Restoration Priority
Calero Pond 18		2017	Moderate Restoration Priority
California Tiger Salamander [b, d, e]			
Requirement: 30% of ponds and wetlands occupied (support the full life cycle) in the entire Reserve System by year 45			
Reserve System	25%: 2 of 8 ponds support full life cycle and occupied		
CROSP-01		2016	Targeted for Restoration in 2019
CROSP-02		2016	Targeted for Restoration in 2020
CROSP-03		2016	Targeted for Restoration in 2020
CROSP-04		2016	Targeted for Restoration in 2019
CROSP-05	Breeding	2016	
CROSP-06		2016	
CROSP-07	Breeding	2016	
CROSP-08		2016	
Other Surveyed Areas	20%: 3 of 15 ponds support full life cycle and occupied		
Calero Pond 1		2017	Low Restoration Priority
Calero Pond 2		2017	High Restoration Priority
Calero Seep 3		2017	Lowest Restoration Priority
Calero Pond 4		2017	Moderate Restoration Priority

Table continues on following page

Table 8. Status of Species Occupancy Requirements for Select Species in Reserve System (continued)

Location	Status	Date	Notes
Calero Pond 5		2017	Moderate Restoration Priority
Calero Pond 9	Breeding	2016, 2017, 2018, 2019	Restored 2016
Calero Seep 10	Breeding	2016, 2017, 2018, 2019	Restored 2016
Calero Pond 11		2017	Highest Restoration Priority
Calero Pond 12		2017	Moderate Restoration Priority
Calero Pond 13		2017	Moderate Restoration Priority
Calero Seep 14		2017	
Calero Seep 15		2017	
Calero Pond 16		2017	Moderate Restoration Priority
Calero Pond 17	Breeding	2017	High Restoration Priority
Calero Pond 18		2017	Moderate Restoration Priority
Western Pond Turtle [b, d, e]			
Requirement: 25% of ponds and wetlands occupied (provide basking for adults and juveniles) in the entire Reserve System by year 45			
Reserve System	0%: 0 of 8 ponds provide basking habitat for adults and juveniles and occupied		
CROSP-01		2016	Targeted for Restoration in 2019
CROSP-02		2016	Targeted for Restoration in 2020
CROSP-03		2016	Targeted for Restoration in 2020
CROSP-04		2016	Targeted for Restoration in 2019
CROSP-05		2016	
CROSP-06		2016	
CROSP-07		2016	
CROSP-08		2016	
Other Surveyed Areas	27%: 4 of 15 ponds provide basking habitat for adults and juveniles and occupied		
Calero Pond 1		2017	Low Restoration Priority
Calero Pond 2	Occupied	2017	High Restoration Priority
Calero Seep 3		2017	Lowest Restoration Priority
Calero Pond 4		2017	Moderate Restoration Priority
Calero Pond 5		2017	Moderate Restoration Priority
Calero Pond 9	Occupied	2016, 2017, 2018, 2019, 2020	Restored 2016
Calero Seep 10		2016, 2017, 2018	Restored 2016
Calero Pond 11	Occupied	2017	Highest Restoration Priority

Table continues on following page

Table 8. Status of Species Occupancy Requirements for Select Species in Reserve System (continued)

Location	Status	Date	Notes
Calero Pond 12		2017	Moderate Restoration Priority
Calero Pond 13		2017	Moderate Restoration Priority
Calero Seep 14		2017	
Calero Seep 15		2017	
Calero Pond 16		2017	Moderate Restoration Priority
Calero Pond 17		2017	High Restoration Priority
Calero Pond 18		2017	Moderate Restoration Priority
Foothill Yellow-Legged Frog [d]			
Requirement: Occupied habitat (perennial streams with an observation of egg masses) in the Reserve System in 4 watersheds as defined in Habitat Plan Figure 3-6			
Other Surveyed Areas			
Llagas Creek—D4	Occupied	2017	Llagas Watershed
Llagas Creek, unnamed tributary—D2	Occupied	2017	Llagas Watershed

Note

For California red-legged frog, California tiger salamander, and western pond turtle, occupancy requirements must also be met for the Reserve System at Year 30, minus 5% for each one (i.e., 35% for California red-legged frog, 25% for California tiger salamander, and 20% for western pond turtle). The measurement will be made based on the total Reserve System at Year 30.

Abbreviation

CROSP = Coyote Ridge Open Space Preserve

Sources

[a] Creekside Center for Earth Observation. 2021. *Western Addition Properties: Bay Checkerspot Butterfly Surveys 2021*. Prepared for the Santa Clara Valley Habitat Agency. Morgan Hill, CA.

[b] H.T. Harvey and Associates 2018. *Calero County Park Pond and Wetland Restoration Project—Year 2 Monitoring Report*. Los Gatos, CA. Prepared for the Santa Clara Valley Habitat Agency. Morgan Hill, CA.

[c] H.T. Harvey and Associates 2019. *Calero County Park Pond and Wetland Restoration Project—Year 3 Monitoring Report*. Los Gatos, CA. Prepared for the Santa Clara Valley Habitat Agency. Morgan Hill, CA.

[d] Nomad Ecology. 2019. *2017 Stream Habitat and Restoration Assessment, Calero Conservation Easement, Santa Clara County, California*. Technical Memorandum.

[e] Vollmar Natural Lands Consulting. 2016. *Pond Survey Report and Management Recommendations: Coyote Ridge Open Space Preserve, Santa Clara County, California*. Berkeley CA. Prepared for the Santa Clara Valley Open Space Authority. San José, CA.

Habitat Restoration and Creation

This section summarizes habitat restoration and creation projects undertaken during the reporting period and documents cumulative restoration and creation by watershed.

Habitat restoration and creation is a critical component of the Habitat Plan's conservation strategy. Restoration and creation of specific habitats and land cover types are required in addition to protection of land within the Reserve System.

Table 9 at the end of this section shows acres of restoration and creation of aquatic land cover types (except streams, which are quantified in linear feet) in the Habitat Plan by watershed. Restoration has occurred in three of the five watersheds in the Permit Area.

Coyote Ridge Open Space Preserve Ponds Restoration Project, Ponds CR1 and CR4

In 2019, the Habitat Agency constructed the Coyote Ridge Open Space Preserve Ponds Restoration Project, Ponds CR 1 and CR 4in partnership with the Santa Clara Valley Open Space Authority. The project was constructed to restore and establish pond habitat at two locations (CR 1 and CR 4) in the Coyote Ridge Open Space Preserve, located in the Coyote Creek watershed. Within the 5-year post-construction monitoring period, 2021 was Year 2 of monitoring.

Year 2 management activities included infrastructure maintenance and invasive plant species control. Because 2020–2021 was a below-average rainfall year, only CR 1 appeared to be inundated during the rainy season. Performance standards for target hydrologic regime, California red-legged frog and California tiger salamander breeding, western pond turtle presence, and aquatic predator presence/absence were not applicable because of below-average precipitation. Wetland vegetation was recruiting in the ponds, and the cover exceeded the performance standard but species richness was not sufficient to achieve the performance standard. Invasive plant cover decreased from Year 1 and poses a minimal threat to wetland habitat establishment at the pond sites, but cover of some individual invasive species exceeded the performance standard. Both planting of native wetland vegetation per the project's design and management of invasive plant species will occur during Year 3, and these actions are expected to increase the likelihood that the site achieves performance standards in the future.

Future monitoring will be conducted to determine if California red-legged frog and/or California tiger salamander are present and successfully breeding during at least 1 of the first 5 monitoring years.

LINK TO FULL PROJECT REPORT

This project will help restore habitat California red-legged frog, California tiger salamander, and western pond turtle. Shown here is Pond CR4 before (left) and after (right) restoration.

This restoration project will help increase the size of the Mount Hamilton population. These photos show Mount Hamilton thistle before restoration (top) and after restoration (bottom) at Calero Pond.

Calero Pond and Wetland Restoration

The Habitat Agency constructed the Calero County Park Pond and Wetland Restoration Project in 2016. The project was constructed to restore and establish pond and wetland habitats at two locations (the pond mitigation site and wetland mitigation site) in Calero County Park, located in the eastern foothills of the Santa Cruz Mountains in the Alamitos Creek watershed. Within the 5-year post-construction monitoring period, 2021 was Year 5.

Year 5 management activities included infrastructure maintenance to repair fencing and remove sediment from troughs and invasive plant species control. Because 2020–2021 was a below-average rainfall year, performance standards for target hydrologic regime were not applicable, and the pond water depth did not exceed 2 feet on August 31, 2021. The pond and wetland mitigation sites continued to show minimal sedimentation from Year 1 and are geomorphically stable.

All applicable wildlife performance standards were achieved, except for the California red-legged frog standard, which calls for documented successful breeding in at least 1 monitoring year, and the California tiger salamander performance standard, which requires continued successful breeding in each year. California red-legged frog was not observed in Years 1–5.

The Mount Hamilton thistle population was stable, and invasive plant species remained at low densities and below 5% cover across the pond and wetland sites: accordingly, these performance standards were met. However, the pond and wetland mitigation sites did not meet their percent wetland vegetation cover nor wetland area extent performance standards—likely attributable to consecutive extremely dry water years in Years 4 and 5 rather than any deficiency in design.

This project will help restore, establish, and enhance aquatic resources. Photos show San Felipe Creek before restoration (top) and after restoration (bottom).

San Felipe Creek Restoration at Grant Park

Monitoring results for Year 3 of the San Felipe Creek Restoration Project consist of the restoration, establishment, and enhancement of aquatic resources along San Felipe Creek and its tributaries between the Corral and Cañada de Pala trails in the Joseph D. Grant County Park.

Monitoring began in October 2018 following the completion of construction activities and will extend for a 10-year period through October 2028. Qualitative monitoring was conducted during Year 1 (2019), Year 2 (2020), and Year 3 (2021), and quantitative monitoring began in Year 2 and continued in Year 3.

The success of the project site is determined through comparison of the monitoring data to the performance standards and success criteria described in the San Felipe Creek Restoration Project Mitigation and Monitoring Plan. These include wetland re-establishment success criteria, wetland rehabilitation and enhancement performance standards, and stream and riparian buffer performance standards.

In Year 3, the project has met most performance standards. The site met all but one of the performance standards related to hydrology and geomorphology. The site did not meet the success criterion for there to be flow in two or more Boyds Creek channels. This deficiency is a result of two subsequent below-average rainfall years, and it is anticipated that during an average water year this criterion would be met. There are also some deficiencies in performance related to the vegetation criteria, including container plant cover, weed species cover, vegetated cover of cuttings, and relative cover of native species.

Site challenges that influenced site performance have been identified and include feral pig activity, irrigation system reliability, and a below-average water year.

LINK TO FULL PROJECT REPORT

Pacheco Creek Reserve Riparian Planting

In early 2018, native riparian species were planted in a 2-acre portion of the Pacheco Creek Reserve extending east and west of the primary access driveway between Pacheco Creek and Highway 152.

Plant establishment monitoring was performed on October 14, 2021. The overall plant survival rate at the end of 2021 at the riparian planting area was 41%—down from 53% last year. Of the surviving plants, most are of high vigor, exhibiting new height and foliage growth as well as flowering and fruiting.

The 2021 maintenance season focused on keeping areas with surviving plants weeded and watered. After an initial weeding in late spring, little weeding was required throughout the summer. Of note, yellow star-thistle (*Centaurea solstitialis*) infestations seemed subdued and required only hand-pulling in some areas. Cages were removed from dead plants, and driplines were reconfigured to reduce the length of tubing onsite.

To ensure adequate watering capacity, battery voltages at the solar well pump were monitored and the Habitat Agency was notified if they were too low to operate. Habitat Agency staff regularly ensured the battery was charged before another maintenance visit was conducted. Irrigation maintenance visits continued until October and temporarily stopped given early season rains. Irrigation resumed in early December because significant rains did not resume until mid-December.

LINK TO FULL PROJECT REPORT

This project will generate habitat restoration credits for the Habitat Agency. These photos should the Pacheco Creek Reserve Riparian Planting in Year 1 (left) and Year 4 (right).

Pacheco Creek Reserve Oak Contingency Planting

Plant monitoring was performed at the Pacheco Creek Reserve Oak Contingency Planting area on October 7, 2021; this was Year 4 of monitoring. Monitoring indicates an overall survival percentage of 28%, almost half of the percentage from last year's finding. Of the surviving plants, nearly all are of high vigor, exhibiting new height and foliage growth.

The 2021 maintenance season focused on keeping areas with surviving plants weeded and watered. After an initial weeding in late spring, plants required little weeding maintenance over the summer. Cages were removed from dead plants, and driplines were reconfigured to reduce the length of tubing onsite. Rodents chewing through driplines proved to be a weekly occurrence, and each maintenance visit involved repairing leaks. Of note, two rodent "hotspots" in the western end of the planting area were observed repeatedly throughout summer. It remains unclear why these "hotspots" were located in these specific areas. Gallons of water used per watering session varied weekly based on how many leaks were found in driplines.

After late October rains, there was an observed increase in wild pig activity as evidenced by rooting, although no major damage to the plantings occurred because of their activity. The maintenance season ended in early December after planting 35 plants to replace some that have died off.

LINK TO FULL PROJECT REPORT

This project will enhance oak woodland habitat in the Pacheco Creek Reserve. These photos show the contingency oak restoration area prior to planting (top) and after planting (bottom).

The Pacheco Creek Restoration Project

The Habitat Agency initiated the Pacheco Creek Restoration Project in 2018 to meet as many Habitat Plan goals and objectives as possible, including sycamore alluvial woodland habitat restoration. A watershed approach was taken to understand the historic and current hydrologic and geomorphic conditions, and site-specific studies and baseline monitoring were conducted to identify opportunities and constraints for habitat enhancement and restoration.

The Pacheco Creek Restoration Project Feasibility Study was completed in 2020 to describe the results of baseline studies and inform project design. The Pacheco Creek Restoration Project Phase 1 project description was prepared in 2020 and shared with the regulatory agencies to kick off the project design and receive feedback.

The Habitat Agency has contracted with two qualified native plant nurseries to begin collection of native California sycamore (*Plantanus racemosa*) plant propagules for the project, building on previous California sycamore genetics and propagation studies and mapping efforts partially funded by the Habitat Agency. Project design is underway, and it is anticipated that final design and permitting will be completed during FY2023–2024, with project implementation beginning in spring or summer 2023.

This project will create in-channel wetland habitat and plant both native riparian and beneficial pollinator species adjacent to Pacheco Creek. These photos show the current conditions of the area to be restored; project implementation will begin in spring or summer of 2023.

Pajaro River Riparian Habitat Restoration

The Pajaro River Riparian Habitat Restoration Project is a coordinated effort between the Habitat Agency, Santa Clara Valley Open Space Authority, and Point Blue Conservation Science. The project purpose is to enhance the habitat value of approximately 3,800 linear feet of stream by creating riparian and wetland habitat in a currently channelized and degraded stream. The project will restore sustainable natural channel and floodplain functions within the reach of the Pajaro River located just upstream of the confluence with Llagas Creek.

The project site is near to one of the only recent observations of the least Bell's vireo in Santa Clara County. The current condition is variable within the project reach but can be generally categorized as an incised channel with a disconnected historical floodplain, limited groundwater connectivity, and areas that have converted to upland plant species (denuded of riparian vegetation). Agricultural activities have influenced overland flow pathways and channel morphology.

Restoration of Pajaro River will mitigate impacts from historical land uses and disturbances, enhance aquatic and upland habitats, and make Pajaro River more resilient to climate change. CDFW has awarded Local Assistance Grant funding for the project to support field studies, a feasibility study, design, and regulatory agency permitting. The project will be implemented in phases; the first two phases will create approximately 4 acres of riparian and wetland habitat along the Pajaro River.

This restoration project will help fulfill the Habitat Plan's biological goals and objectives and generate habitat restoration credits per the requirements of the Habitat Plan and Regional General Permit 18.

San José-Santa Clara Regional Wastewater Facility Bufferlands Pilot Planting

The Habitat Agency has an agreement with the City of San José to manage the San José-Santa Clara Regional Wastewater Facility (RWF) bufferlands and coordinates with the City, the Santa Clara Valley Audubon Society, and Talon Ecological Resource Group to enhance habitat quality, increase the number of nesting western burrowing owls, and increase their reproductive success.

Activities to restore breeding habitat for the burrowing owl include maintaining vegetation height, excluding predators, maintaining perimeter fencing, performing monitoring surveys, installing artificial burrow substrate and prey refugia, and active revegetation to expand the prey base.

The Habitat Agency selected Grassroots Ecology to implement pilot planting in plots throughout the RWF bufferlands to test the durability of their selected native plant palette and whether those plants will remain short-statured to prevent use as cover for predators at the site. Three pilot planting zones were established: a seasonally wet planting area, upland area, and a transition zone. Container plants and seed were installed that are suitable for insect pollinators. Grassroots Ecology staff along with community and student volunteers installed the pilot planting plots during winter 2020–2021 and subsequently maintained and monitored plant performance.

Maintenance of existing pilot planting plots and additional plantings based on pilot plot results will continue with funding from the Habitat Agency and SCVWD.

This project contributes to the Habitat Plan's requirement to manage 5,300 acres of occupied or potential nesting habitat in the Permit Area.

Table 9. Aquatic Land Cover Restoration and Creation by Watershed—Cumulative

Watershed	Aquatic Land Cover (acres)							
	Willow Riparian Forests, Woodlands, and Scrub	Central California Sycamore Alluvial Woodland	Mixed Riparian Woodland and Forest	Coastal and Valley Freshwater Marsh	Seasonal Wetland	Pond	Stream (linear feet)	Aquatic Land Cover Total
Coyote								
Restoration	0.82		0.82	0.15	3.72		9,645.00	5.51
Creation								0.00
Subtotal	*0.82*	*0.00*	*0.82*	*0.15*	*3.72*	*0.00*	*9,645.00*	*5.51*
Guadalupe								
Restoration				0.16	0.21	0.22		0.59
Creation					0.03			0.03
Subtotal				*0.16*	*0.24*	*0.22*		*0.62*
Pajaro								
Restoration			3.30					3.30
Creation								0.00
Subtotal	*0.00*	*0.00*	*3.30*	*0.00*	*0.00*	*0.00*	*0.00*	*3.30*
Uvas								
Restoration								
Creation								
Subtotal								
Llagas								
Restoration								
Creation								
Subtotal								
Total	**0.82**	**0.00**	**4.12**	**0.31**	**3.96**	**0.22**	**9,645.00**	**9.43**

Western Burrowing Owl Management and Monitoring

This section notes western burrowing owl–related management and monitoring actions undertaken during the reporting period and shows young fledged annually since 2014.

The Habitat Agency manages two of five western burrowing owl breeding sites and conducts surveys throughout the Permit Area and Extended Permit Area for burrowing owl conservation. Management agreements with the San José-Santa Clara RWF and the Don Edwards San Francisco National Wildlife Refuge include 920 acres of burrowing owl breeding habitat, approximately 17% of the total 5,300 acres required under the Habitat Plan.

The 2021 western burrowing owl surveys documented breeding owls at four of five sites; burrowing owls did not breed at the Don Edwards National Wildlife Refuge for the third year in a row, and 2021 is the first year in which no adult owls were observed during the breeding season. Accordingly, the total number of adults owls observed during the breeding season decreased from 38 to 36 adults between 2020 and 2021, of which a total of 17 pairs were documented. The number of young fledged decreased by approximately half, from 66 young to 36 young, and the average number of

Motion-triggered trail cameras installed at nest burrows provided valuable information during the breeding season.

Volunteers helped to install two artificial burrow complexes.
(Photograph taken November 2020)

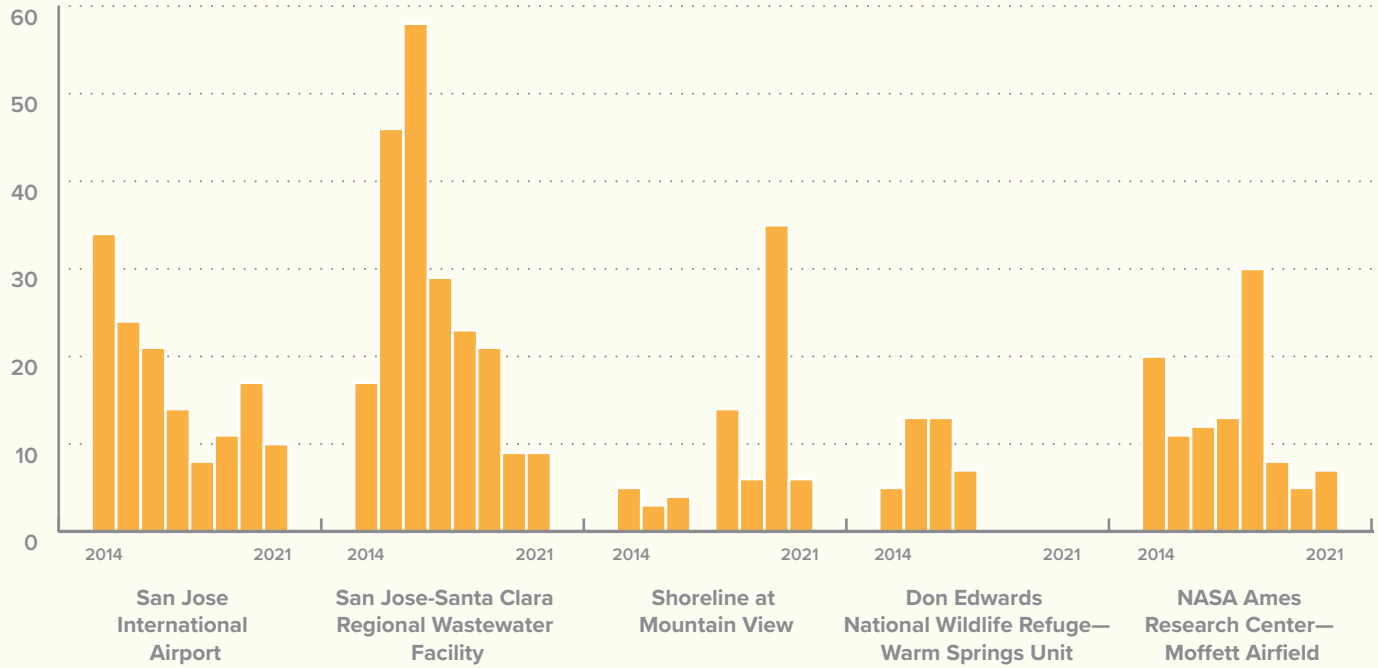
offspring per pair also decreased from 3.29 to 2.1 offspring per pair between 2020 and 2021. The decreasing trend in offspring rate is partly attributable to inbreeding depression (i.e., the reduction in the average fitness of offspring born to parents that are closely related to each other). Another factor is the extreme drought conditions exacerbated by climate change, which decrease prey availability and increases competition.

In addition to the annual breeding season surveys described above, the Habitat Agency conducted Tier 3 recovery actions during the FY2020–2021 reporting period. This year, six (three pairs) of the breeding owls as well as three single males were released at the RWF as part of the Juvenile Burrowing Owl Overwintering Project. These nine owls represented 25% of the total breeding population in the Habitat Plan's Permit Area and Extended Permit Area. Additionally, four owls (two females and two males) from the overwintering project were retained to initiate a captive breeding program. These two captive pairs produced a total of four offspring. The success of the overwintering project and the captive breeding program are crucial for maintaining—and hopefully increasing—a source population in the Permit Area.

Figure 11 on the following page shows the number of western burrowing owls fledged at management sites from 2014 through 2021.

The number of young fledged at the five conservation sites each year has varied over time; however, the total number of young produced across these sites has decreased since 2014. The decreasing trend in offspring rate is attributable partly to inbreeding depression (i.e., the reduction in the average fitness of offspring born to parents that are closely related to each other). Another factor is the extreme drought conditions exacerbated by climate change, which decrease prey availability and increases competition.

Figure 11. Number of Young Fledged (2014–2021)



This section summarizes management actions that took place during the reporting period and highlights notable accomplishments.

Reserve System Management

During the reporting period, the Reserve System land grew to encompass approximately 6,500 acres of conservation land. The Reserve System requires a wide array of land management actions that are geographically, topographically, and ecologically unique to each unit of land. A variety of management actions took place on all reserve properties throughout the year and included the following.

- Conservation easement preparation and monitoring
- Patrol and safety checks
- Grazing oversight
- Grazing water source maintenance
- Water source protection
- Fence maintenance
- Gate maintenance
- Access coordination
- Vegetation management
- Native seed collection
- Invasive plant and animal control
- Detractive nuisance removal
- Litter and trash removal
- Preparation for handoff to long-term land manager
- Outdoor fieldwork to support the above-listed tasks
- Contractor management to support the above-listed tasks

The Reserve System requires a wide array of land management actions that are geographically, topographically, and ecologically unique to each unit of land.

Highlights from the aforementioned tasks include the following.

- Habitat Agency staff made 135 site visits to reserve properties.
- Silicon Valley Demolition demolished and removed an old shack and cabin at Uvas South Reserve.
- Southwest Fence and Supply replaced 7,500 feet of old barbed wire fencing along Metcalf Road at East Coyote Ridge Reserve to keep cattle contained.
- Southwest Fence and Supply removed 21,742 feet of 6-foot chainlink fence and removed an additional 3,142 feet of old barbed wire fencing to improve wildlife connectivity at East Coyote Ridge Reserve.
- Habitat Agency staff removed over 1,000 pounds of trash illegally dumped on various reserves.
- Maggiora Bros Drilling installed a solar pump, 5,000-gallon water tank, and 450-gallon trough at Tilton Ranch Reserve and a second solar pump was installed into an existing old well in San Bruno Canyon to increase water availability for cattle.
- Habitat Agency staff documented a golden eagle nest and several abandoned mine adits supporting Townsend's big-eared bats at Tilton Ranch. They also found six Loma Prieta hoita plants and caged them to protect them from herbivory.
- Confluence Restoration and the Santa Clara Valley Open Space Authority removed large patches of artichoke thistle (*Cynara cardunculus*), purple star-thistle (*Centaurea calcitrapa*), stinkwort (*Dittrichia graveolens*), barbed goat grass (*Aegilops triuncialis*), yellow spurge (*Euphoriba* spp.), yellow star-thistle, and French broom (*Genista monspessulana*) from the reserves.
- Habitat Agency staff coordinated with several native plant nurseries to collect native seed and cuttings from Tilton Ranch South Reserve, Pacheco Creek Reserve, San Tilton Ranch Reserve, and Tulare Hill Wedge Reserve to grow out for future restoration projects.

Monitoring, Research, and Adaptive Management

This section summarizes monitoring, research, and adaptive management projects undertaken during the reporting period.

Lessingia Mapping

Funded by a Local Assistance Grant from the California Department of Fish and Wildlife (CDFW), baseline surveys were conducted across the Permit Area for presence of smooth lessingia. Using high-resolution multi-spectral aerial imagery, the project team produced a highly detailed dataset representing the spatial distribution and abundance of smooth lessingia. This baseline dataset will be used for the Habitat Agency's monitoring and adaptive management efforts in the future.

A total of 72 populations were identified in the study area, 69 of which meet the 2,000-individual minimum and 50 of which are new occurrences. Eleven populations are at least partially protected within accessible local regional parks and preserves, some of which already make up part of the Reserve System.

LINK TO FULL PROJECT REPORT

This project provided permit area–wide baseline data for the distribution and abundance of one covered species, smooth lessingia, to inform the conservation strategy, monitoring, and adaptive management implementation.

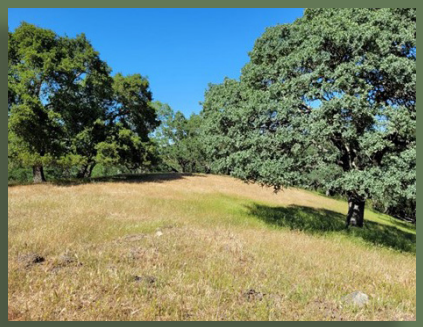
This project is crucial to the survival of breeding western burrowing owls in the South Bay given the below-average reproductive success of burrowing owls in this region.

Western Burrowing Owl Supplemental Feeding Study

The Western Burrowing Owl Supplemental Feeding Study, which contributes to the Habitat Plan's commitment to western burrowing owl conservation actions, is conducted at the Shoreline Regional Wildlife Area (Shoreline), NASA's Ames Research Center in the City of Mountain View, and San José-Santa Clara RWF in the city of San José.

Owls were fed mice each week throughout the breeding season. A total of 14 breeding pairs were observed at the three sites included in this study. At Shoreline, a total of five owl pairs attempted to breed in 2021; two pairs successfully reproduced. At the Ames Research Center, three owl pairs attempted to breed in 2021; two pairs successfully reproduced. At the RWF, a total of six owl pairs attempted to breed in 2021; two pairs successfully reproduced. In total, 22 offspring were produced.

LINK TO FULL PROJECT REPORT



Data gathered for this project contributed to the understanding of biodiversity and vegetation ecology in Santa Clara County.

Valley Water Vegetation Surveying on Reserve System

The Habitat Agency supported the Valley Water Reference Vegetation Study in its efforts to rapidly assess high-quality ecosystems in Santa Clara and adjacent counties. From April through June 2021, Valley Water biologists and California Native Plant Society botanists, with support from Habitat Agency staff, surveyed four reserves: Baird Ranch Reserve, Davidson Reserve, Tilton Ranch Reserve, and East Coyote Ridge Reserve. In total, biologists collected information from 19 sample plots from 14 unique vegetation alliances.

Moving forward, data will be analyzed and plot information will be maintained in a database for practitioners in the region to use. Information about reference vegetation communities will be presented in a forthcoming white paper.

This genomics project intends to produce the most comprehensive multispecies genomic dataset ever assembled to help manage and protect regional biodiversity.

This project tracks the status and trends of Bay checkerspot butterfly populations in the Reserve System to determine whether the number of populations and the geographic distribution of the species are increasing or decreasing.

Bigberry Manzanita Survey

The Habitat Agency provided staff support and site access to researchers from the University of California, Irvine, to collect plant material for herbarium specimens and DNA isolation from bigberry manzanitas (*Arctostaphylos glauca*) growing on the Baird Ranch Reserve, Davidson Reserve, and Coyote Ridge Open Space Preserve. Some plants on Habitat Agency properties occur in the northernmost portion of the species range; sampling these plants will assist in studying the species across its entire range. The genomics project intends to produce the most comprehensive multispecies genomic dataset ever assembled to help manage and protect regional biodiversity in the face of climate change. Results will be shared with the Habitat Agency when the project is complete. Interest parties can request a copy of the report from the Habitat Agency.

Bay Checkerspot Butterfly Surveys

In early 2021, the Habitat Agency retained Creekside Center for Earth Observation (Creekside) to conduct Bay checkerspot butterfly larvae and adult surveys to determine occupancy patterns in several new Reserve System properties: Coyote Ridge Open Space Preserve, Davidson Reserve, Tilton Ranch South Reserve, and Tilton Ranch Reserve. Also surveyed were Calero County Park, Rancho San Vicente Open Space Preserve, and Tulare Hill Wedge Reserve, which are further northwest along the foothills toward San José. As of March 2022, Calero County Park and Rancho San Vicente Open Space Preserve have not yet been enrolled in the Reserve System, but the process is underway.

Bay checkerspot butterfly phenology shifts every year, and its visible life stages are always ephemeral. This demands constant tracking of conditions and regional phenology so that surveys can be appropriately timed. Creekside found that phenology was very similar throughout the surveyed region this year.

Creekside found that all properties were occupied except Davidson Ranch, and all properties had at least some substantial areas of high-quality serpentine grassland habitat with varied topoclimates and abundant host plants and nectar sources, maintained through cattle grazing.

On the Coyote Ridge Open Space Preserve, Creekside used larvae surveys for population estimates, but on some preserve areas adult surveys were used to determine occupancy. In general, Bay checkerspot butterfly occupancy is best determined by adult surveys, especially in low-density areas. Because adults are easier to detect at low densities, surveying them on the western properties helped determine where to place postdiapause larval plots. However, because of the low densities at these properties, Creekside recommends adult surveys as the primary means of tracking annual presence.

LINK TO FULL PROJECT REPORT

Name that Jewelflower

This project will allow the Habitat Agency to develop protocols to protect the genetic integrity of both jewelflower species, as required by the Habitat Plan.

The Habitat Agency coordinated with Santa Clara University and Creekside Center for Earth Observation to design and initiate a research and mapping project to differentiate Metcalf Canyon jewelflower and most beautiful jewelflower. Both rare species occur in close proximity at the Coyote Ridge Open Space Preserve and other Coyote Ridge properties. The project—referred to as "Name that Jewelflower"—is being undertaken with help from a CDFW local assistance grant of $90,929.

For this project, the team will identify a consistent, reliable, biologically based method for defining each taxon (and any intermediates) necessary to determine the number of protected occurrences, collect and store seeds of each taxon, and establish new occurrences—all of which are required recovery actions in the Habitat Plan. To date, the researchers have germinated seeds to test flowers in the lab and have used a paint chip color tool in the field at known occurrences for cluster analysis to determine if distinct groups could be discerned.

State Route 152—Pacheco Pass and Coyote Valley Wildlife Connectivity Study

Through a local assistance grant agreement executed in March 2021, Pathways for Wildlife initiated a wildlife connectivity study to enhance critical wildlife linkages. State Route (SR-) 152—Pacheco Pass and Coyote Valley have been identified as providing important habitat for wildlife movement between the Santa Cruz Mountains and the Diablo Range.

In March and April 2021, 63 cameras were set up across Santa Teresa Boulevard and Bailey Avenue between the newly protected North Coyote Valley properties to record if and where wildlife are crossing at-grade. As part of the study, researchers are also monitoring four culverts within the study area and a bridge at Bailey Avenue to determine if wildlife are traveling safely under the roads.

In May 2021, 32 camera stations were set up in along SR-152—Pacheco Pass from San Felipe Lake to the San Luis Reservoir. With these cameras, researchers will monitor 7 bridges and 25 culverts within the study area, checking cameras each week in conjunction with conducting weekly roadkill surveys.

The overall goal of this project is to inform permeability analysis, infrastructure upgrades, and development of specific conservation strategy to improve wildlife permeability for the Highway. The Habitat Plan recognizes the importance of landscape linkages and identifies Pacheco Pass as a focal area. For Pacheco Pass, the Plan requires that wildlife movement across the highway is determined by year 10, important habitat linkages protected and enhanced, and that permeability is increased.

LINK TO FULL PROJECT REPORT

Stay-Ahead Provision

This section evaluates compliance with the Habitat Plan's Stay-Ahead provision for natural communities, the burrowing owl conservation strategy, and covered plants.

The Stay-Ahead provision requires that the amount of each land cover type conserved, restored, or created by the Habitat Agency as a proportion of the total requirement for each land cover type must be roughly proportional to the impact on that land cover type as a proportion of the total impact expected by all covered activities. For example, if 25% of the expected impacts on mixed serpentine chaparral have occurred, then at least 25% of the required land acquisition for mixed serpentine chaparral must also have occurred. To provide flexibility during implementation, the Habitat Agency may fall behind by a maximum of 10% of its conservation strategy requirements (conservation overall and by each applicable land cover type) and still be in compliance with the Stay-Ahead provision. This deviation accounts for the likely pattern of infrequent land acquisition of large parcels that will allow the Habitat Agency to jump far ahead of impacts with just one acquisition.

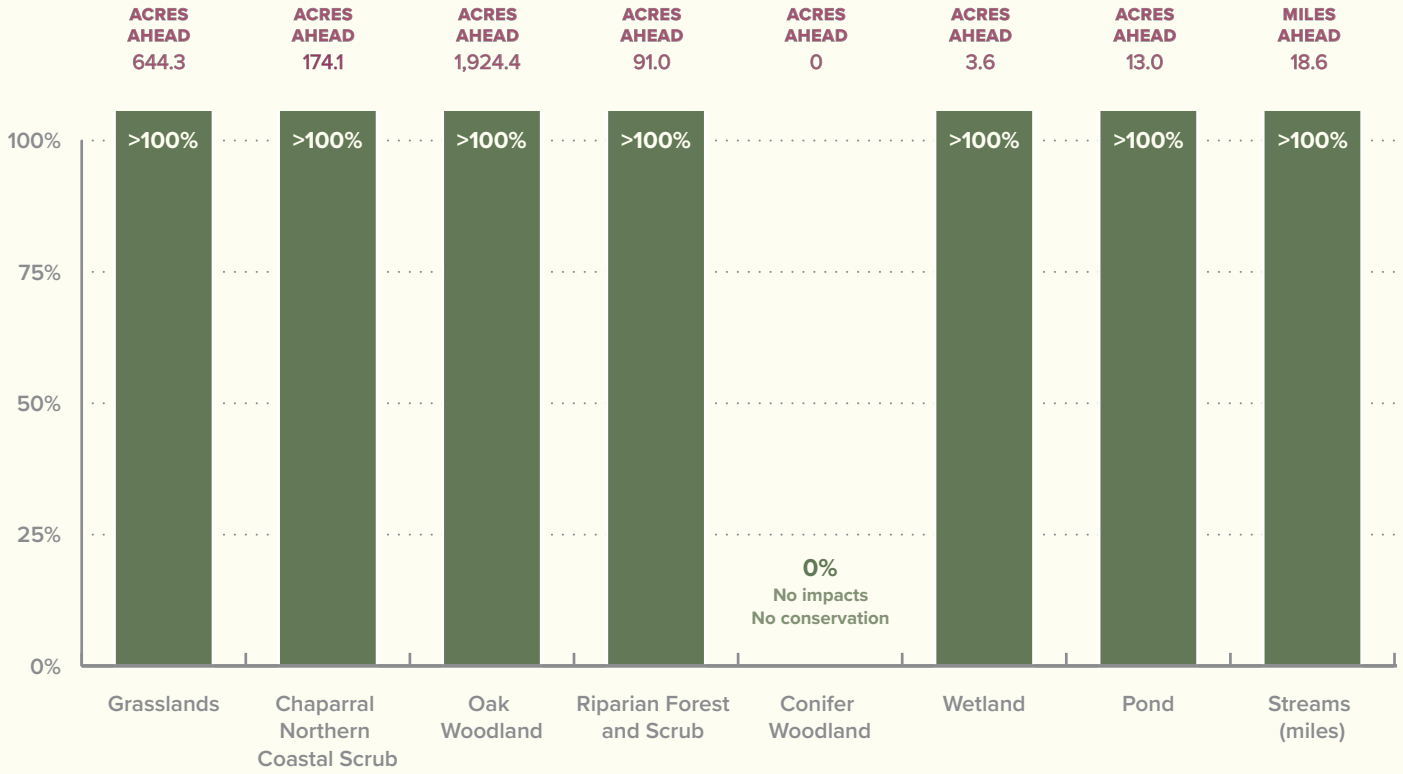
The Habitat Plan's Stay-Ahead provision requires that conservation is ahead of or proportional to impacts for natural communities, plants, and the western burrowing owl conservation strategy. For natural communities and plants, this is achieved by acquiring land for the Reserve System in advance of impacts. For the burrowing owl conservation strategy, land acquisition, management agreements, and conservation actions contribute to the Stay-Ahead requirements.

The following pages show Stay-Ahead compliance for natural communities (**Figure 12**), western burrowing owl (**Figure 13**), and plants (**Figure 14**).

Stay-Ahead requirements for natural communities are being exceeded. This is an improvement from past years, where grasslands, chaparral/ northern coastal scrub, and wetlands were not in compliance with the Stay-Ahead provision.

The Habitat Agency acquired seven properties in the FY2019–2020 and FY2020–2021 reporting periods, contributing to compliance with the Stay-Ahead provision. The two properties acquired in the reporting period—the Tilton Ranch and East Coyote Ridge Reserves—contributed to compliance with all natural community Stay-Ahead requirements in the Habitat Plan.

Figure 12. Stay-Ahead Compliance for Natural Communities



Notes

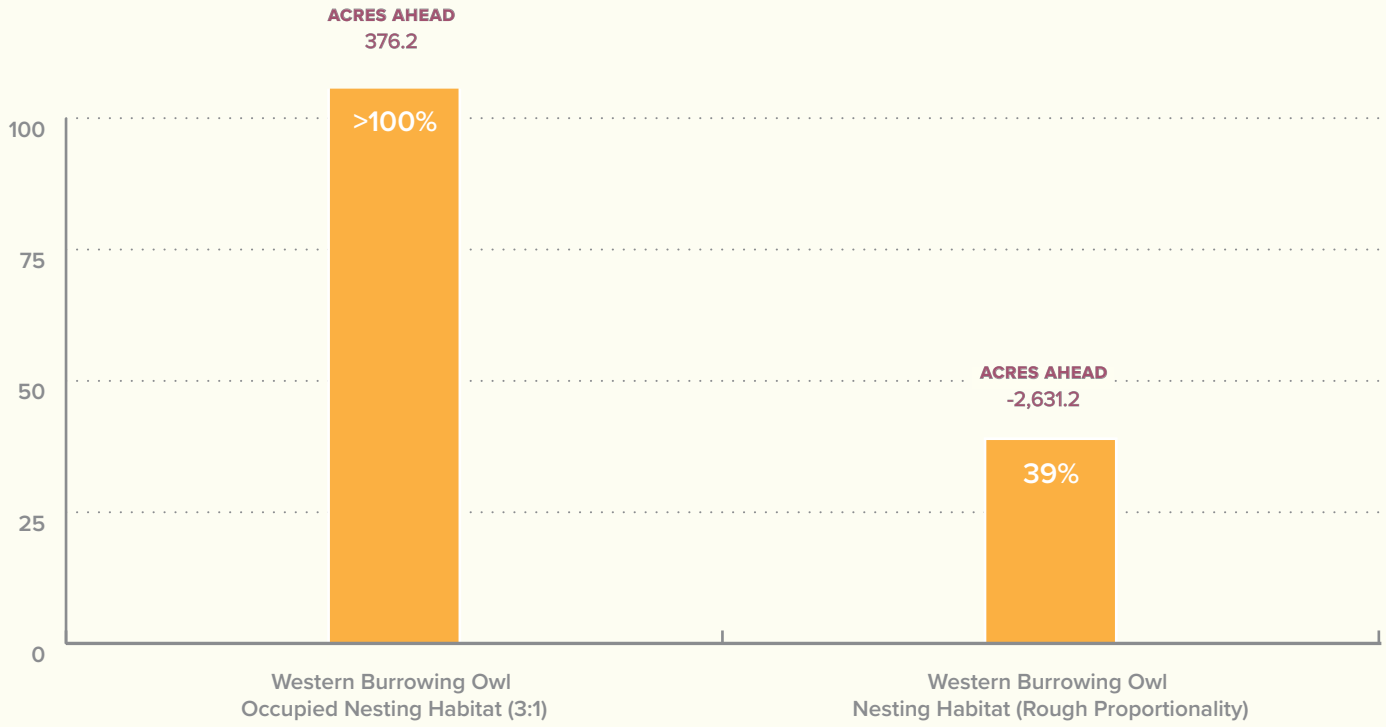
Stay-Ahead is tracked by natural community rather than land cover type to allow for flexibility in Reserve System assembly. Compliance is tracked as a proportion of conservation achieved/expected compared to impacts incurred/expected.

Acres Ahead = (Conservation Achieved) – (Conservation Required).

Conservation Required = (% of Allowable Impacts Accrued)*(Conservation Total).

The Habitat Agency continues to remain in compliance with the Stay-Ahead requirement for occupied nesting habitat but is not in compliance with nesting habitat (rough proportionality).

Figure 13. Stay-Ahead Compliance for Western Burrowing Owl



Notes

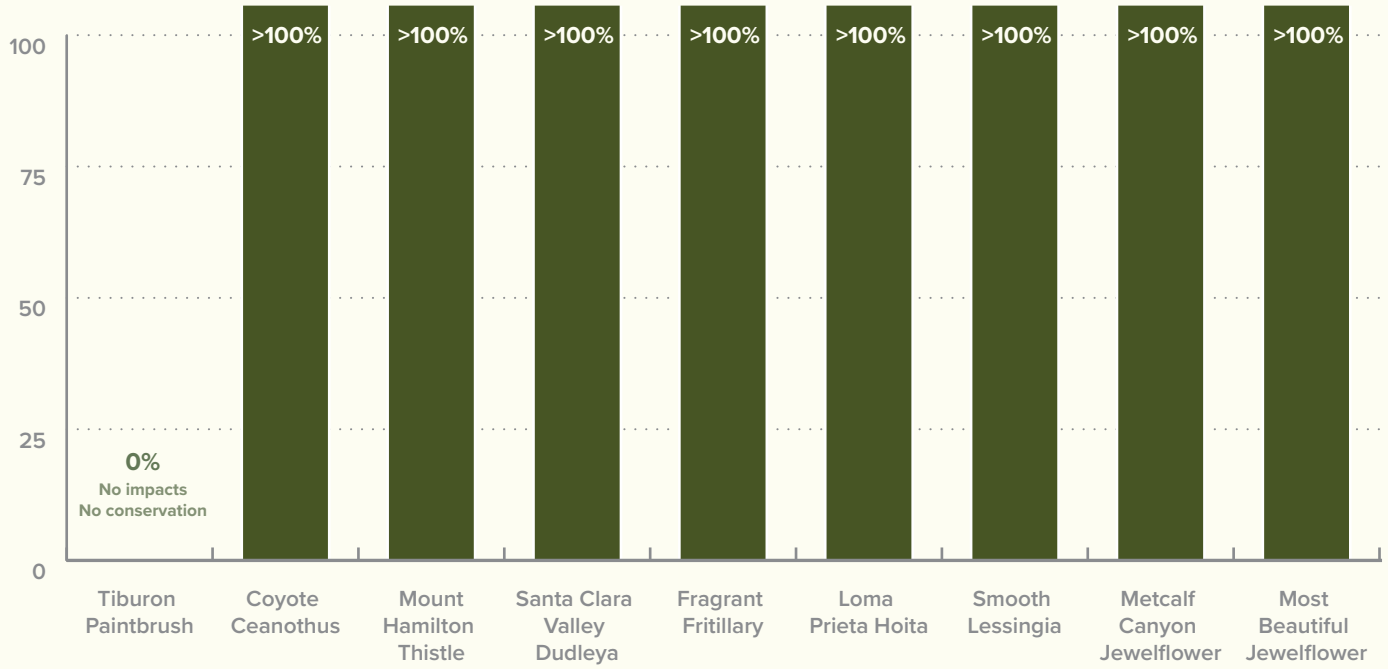
The western burrowing owl Stay-Ahead requirement measures two different compliance metrics— (1) occupied nesting habitat: impacts and conservation of occupied nesting habitat using a 3:1 ratio within a 10% deviation, and (2) nesting habitat rough proportionality: rough proportionality for impacts to occupied breeding habitat compared to conserved occupied nesting and potential breeding habitat within a 10-15% deviation. For both metrics, both lands enrolled in the Reserve System and lands under management agreements can be credited toward conservation. For the second metric, conservation actions implemented on managed lands allow for the 10% deviation to be increased to 15%.

Acres Ahead = (Conservation Achieved) – (Conservation Required).

Compliance = (Conservation Achieved)/(Conservation Required).

All the covered plant species continue to exceed the Stay-Ahead requirements in the Habitat Plan for the reporting period, given that there have been very few impacts on covered plant species occurrences to date.

Figure 14. Stay-Ahead Compliance for Plants



Notes

Stay-Ahead requirements for covered plants are tracked by covered plant occurrence and do not allow for 10% deviation or aggregation. Plant occurrences must be protected in advance of impacts. Only coyote ceanothus creation or acquisition is allowed to deviate—a 5-year grace period is allowed from the first impact.

Conservation Required = (% of Allowable Impacts Accrued)*(Conservation Total).

Compliance = (Conservation Achieved)/(Conservation Required).

This chapter notes any changed or unforeseen circumstances that occurred during the reporting period.

Changed and Unforeseen Circumstances

USFWS's "No Surprises" Regulation defines *changed circumstances* as those circumstances affecting a species or geographic area covered by an HCP that can be reasonably anticipated and to which the parties preparing the HCP can plan a response. Inversely, unforeseen circumstances cannot be reasonably anticipated and do not require a response. The NCCP Act has a similar provision for NCCPs.

Two changed circumstances occurred during the reporting period, as described below. Also discussed is climate change, which the Habitat Agency is required to measure as a 10-year running average. No unforeseen circumstances occurred during the reporting period.

Listing of Covered Species

On December 28, 2021, the Central Coast Distinct Population Segment for foothill yellow-legged frog was proposed for listing as threatened under the ESA. This species is a covered species under the Habitat Plan, and

A covered species under the Habitat Plan, foothill yellow-legged frog was proposed for listing as threatened under the ESA during the reporting period.

during Habitat Plan development, each covered species was treated as though it is listed under ESA and CESA. Under Section 2835 of the California Fish and Game Code, CDFW may issue take authorization for covered species (plants or wildlife) regardless of their listing under CESA.

Listing of Non-Covered Species

Ryan Hagerty / USFWS

On December 15, 2020, monarch butterfly (*Danaus plexippus*) was listed as a candidate species under the ESA. The Habitat Agency will evaluate the potential impacts of covered activities on this species. The Habitat Agency will also implement measures to avoid take of the newly listed species, such as advising applicants to seek separate take coverage for monarch butterfly. Monarch butterfly will be evaluated for inclusion by the Habitat Agency in its upcoming plan amendment.

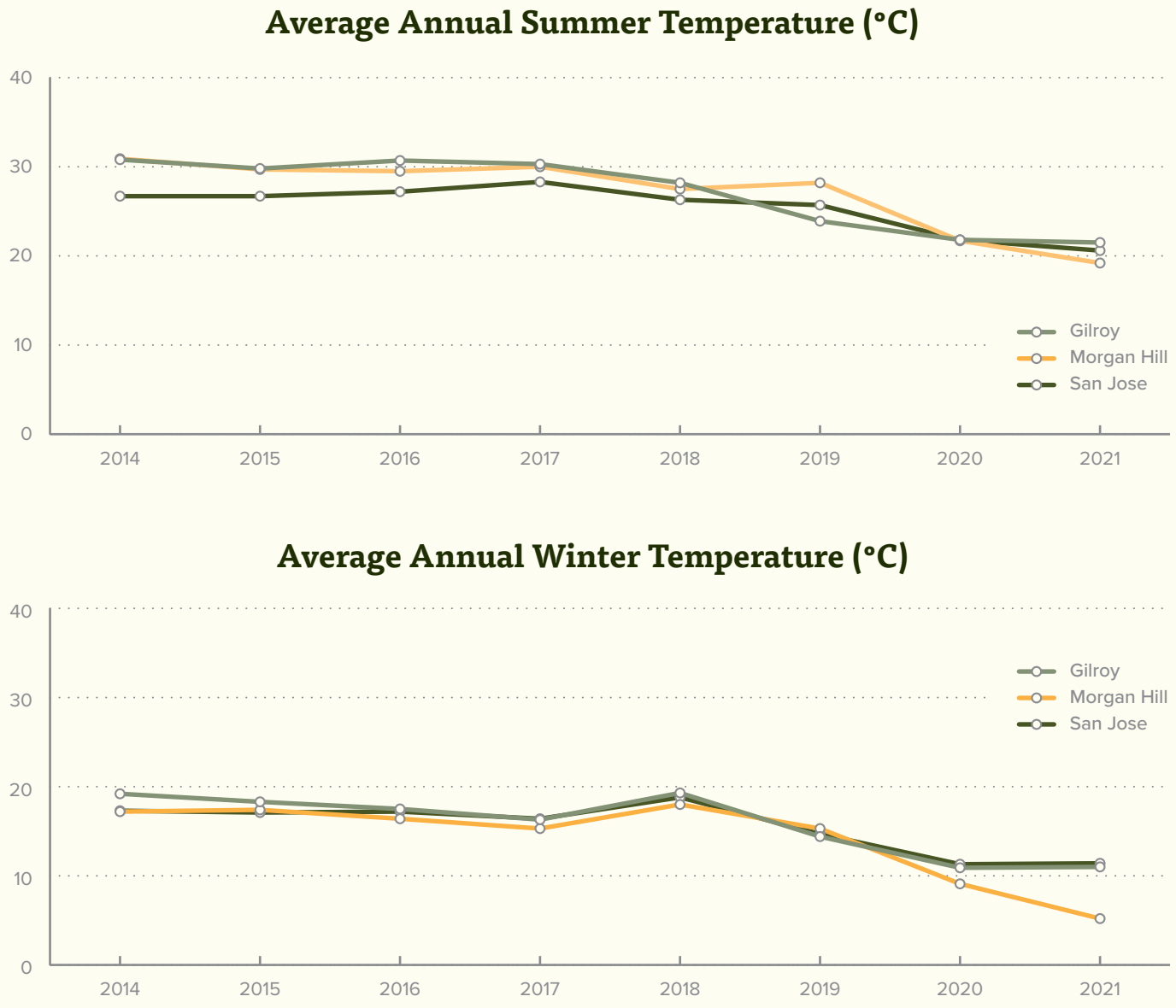
Monarch butterfly, which is not covered by the Habitat Plan, was listed during the reporting period as a candidate species under the ESA.

Climate Change

Under the Habitat Plan, an increase in temperature of up to 2.8 °C for any of the three baseline periods measured as a 10-year running average is a changed circumstance. The Habitat Agency is tracking these average annual temperatures. The changed circumstance has not been met; based on the last 8 years of data, temperatures have generally been stable or decreasing within the Permit Area. These trends are shown on the following page in **Figure 15**, which charts the average annual summer and winter temperatures in the Permit Area since Habitat Plan inception.

Since Habitat Plan inception, temperatures have generally been stable or decreasing within the Permit Area, meaning the climate change changed circumstance has not occurred.

Figure 15. Average Temperatures in the Permit Area



Finances

This section includes the economic assumptions on which the Habitat Plan was based, summarizes all revenues received, and assesses the post-permit term funding strategy.

The Habitat Agency's allocated budget and expenditures varied from what was anticipated by the Habitat Plan. For Years 6–10, the Habitat Plan assumed $11.7 million for its average annual budget. The FY2020–2021 Habitat Plan implementation budget was $4.1 million—35% of the anticipated budget. The Habitat Agency's budget focused on program administration, land enrollment, land management activities, burrowing owl management, reserve management, monitoring, and restoration (**Figure 16**).

The Habitat Plan anticipated 55% of funding from fees and 45% from non-fee sources. Private and public development-based fees fund mitigation to offset losses of land cover types, covered species habitat, and other biological values. These fees pay for the full cost of mitigating project effects on the covered species and natural communities addressed by the Habitat Plan. These fees are charged for permanent and temporary impacts and include an endowment fee and plan preparation cost recovery fee component. The endowment fee component is included in all development fees to build an endowment for post-permit term funding.

Non-fee-based funding comes from local, state, and federal sources other than Habitat Plan fees. These include land acquisitions and other conservation actions by local organizations and grants from federal, state, local, and private entities. These local funding sources typically require that funds be used to contribute to the recovery of the covered species (i.e., the NCCP portion of the Habitat Plan) or used to mitigate the impacts of their own agency. For example, County Parks will be enrolling its land to mitigate impacts of County public projects.

A set percentage of collected development fees is set aside for an endowment fund. For land cover and serpentine fees, the endowment is 20%. In the FY2020–2021 reporting period, endowment funds were deposited to and managed by the Silicon Valley Community Foundation.

The Habitat Agency received approximately **$8.6 million** in funds during the reporting period from fee and non-fee funding sources.

Fee funding totaled approximately **$8.4 million** (27% of total revenues) across private, public, and PSE projects.

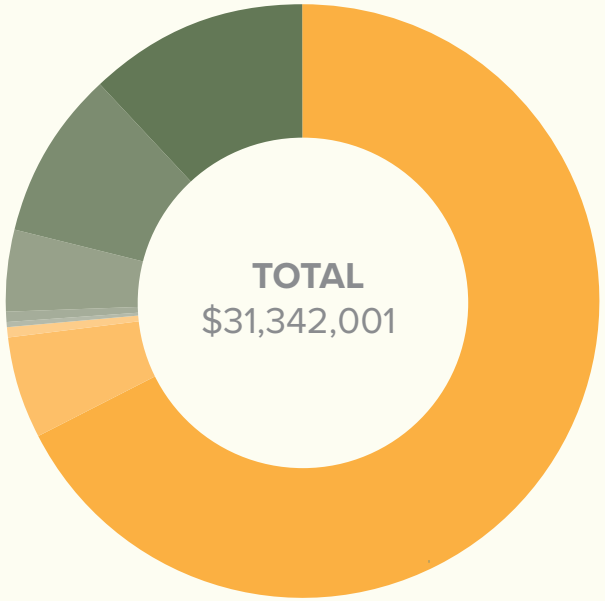
Non-fee funding totaled approximately **$23 million** (73%). This includes funds from three CDFW Local Assistance grants for the Pacheco Creek Restoration Project, smooth lessingia baseline surveys in the Permit Area, and fire monitoring research at the Coyote Ridge Open Space Preserve.

Figure 16. Summary of Revenue

Revenue (Reporting Period)

Total Fee Funding
$8,352,070

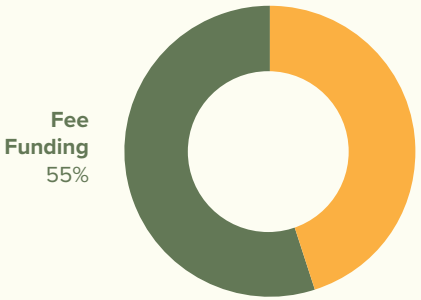
- **Wetland Fee** $3,822,622
- **Land Cover Fee** $2,872,761
- **Burrowing Owl Fee** $1,377,686
- **Nitrogen Deposition Fee** $144,711
- **Serpentine Fee** $104,789
- **Regional General Permit Fee** $19,500
- **PSE Charges** $10,000



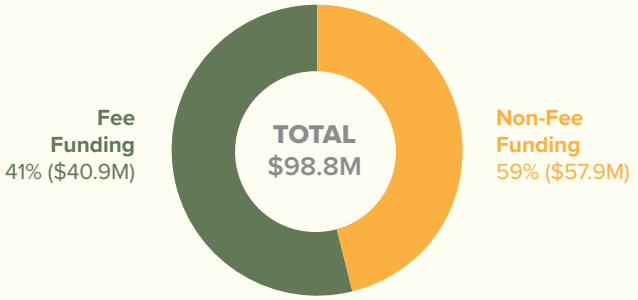
Total Non-Fee Funding
$22,989,941

- **Land Acquisition by Local Land Agencies, Non-Profits, and Foundations** $21,071,608
- **Mitigation Only and Voluntary Contributions** $117,593
- **Grants** $130,991

Habitat Plan Assumptions



Actual Revenue (Cumulative)



Plan Modifications

This section summarizes any administrative changes, minor modifications, and amendments made to the Habitat Plan during the reporting period.

During the FY2020–2021 reporting period, only one modification was made to the Habitat Plan: an administrative change, as described below. There were no minor modifications or amendments during the reporting period.

The Habitat Agency published one Clarification and Interpretation Memo entitled *Condition 11—Stream Setback Applicability*. Condition 11, Stream and Riparian Setback, in the Habitat Plan was designed to protect stream corridors and associated riparian habitat in the Permit Area. The condition requires covered activities to adhere to setbacks from creeks and streams and associated riparian vegetation in the Permit Area to minimize and avoid impacts from covered projects on aquatic and riparian land cover types, covered species, and wildlife corridors within these areas. Condition 11 applies to all covered activities (as shown in Table 6-7 in the Habitat Plan) that may permanently or temporarily impact streams, including all development inside the urban service area where a stream or the stream setback overlaps any portion of a parcel where a covered activity is implemented; outside the urban service area, the condition applies to all covered activities where a stream or the stream setback overlaps any portion of the development area.

Two stream setbacks exceptions were approved during the reporting period, one for the Christeph Drive Development Project (City of Morgan Hill) and the other for the South Almaden Office Project (City of San José). The stream setback for the first was reduced to 24 feet to accommodate a fire truck turnaround, and the latter reduced the stream setback to 35 feet due to site constraints.

Exceptions and exemptions may apply and are provided in Chapter 6 of the Habitat Plan. Questions have arisen regarding the scenarios under which Condition 11 applies. A summary of responses to those questions is provided below.

1. Redevelopment projects that will not disturb any additional (e.g., new, unimproved, or undisturbed) fee-paying land cover types are not subject to the Habitat Plan, in which case Habitat Plan conditions, including Condition 11, would not apply. **Figures 17 and 18** illustrate the differences between (1) a redevelopment project that would not automatically be covered by the Habitat Plan because it would not result in new impacts on a stream or riparian buffer and (2) a redevelopment project that becomes covered because it includes a development area buffer that extends into a stream or riparian area. The minimum stream setback distance for a redevelopment site is 35 feet.

2. Temporary impacts are allowed in the stream setback and are subject to Habitat Plan conditions and fees.

3. Approved new development less than 50 feet from a stream or riparian corridor, or an expansion of an existing developed site less than 35 feet from the stream or riparian corridor, would not be in compliance with the Habitat Plan nor its permits. Unless the project meets the criteria for an exemption or is granted an exemption, implementation of the covered activity within the stream or riparian setback is prohibited. New development projects less than 50 feet from a stream or riparian corridor, or redevelopment of an existing site less than 35 feet from a stream or riparian corridor, would not be in compliance with the Habitat Plan nor its permits. Redevelopment projects that would not disturb any additional (e.g., new, unimproved, or undisturbed) fee-paying land cover type are not subject to the Habitat Plan. The minimum setback for a redevelopment site is 35 feet. Temporary impacts are allowed in the stream and riparian setback and are subject to Habitat Plan conditions and fees.

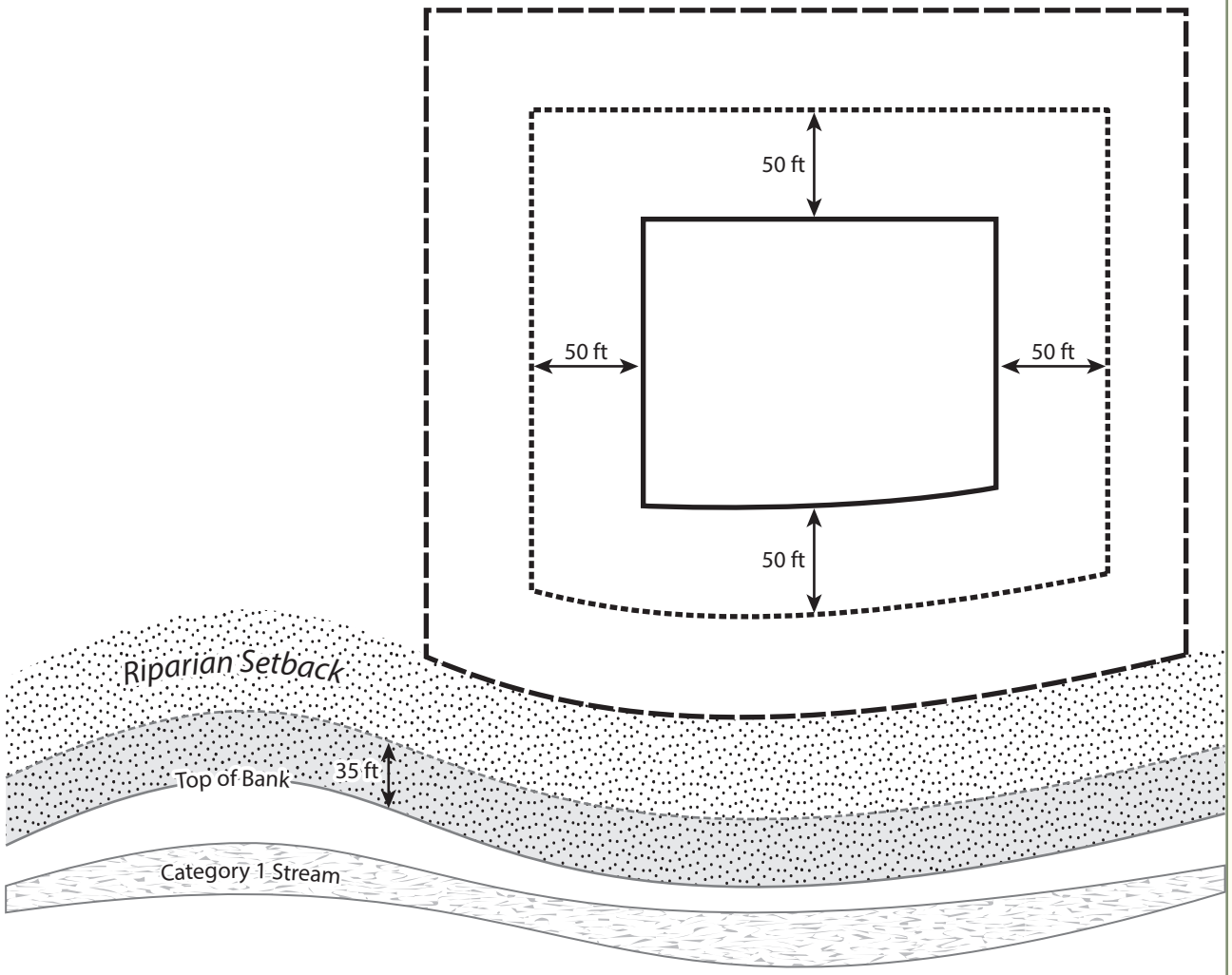
LINK TO CLARIFICATION AND INTERPRETATION MEMO

Figure 17. Redevelopment Projects Not Subject to the Habitat Plan

Source: Santa Clara Valley Habitat Plan Clarification and Interpretation: Condition 11—Stream Setback Applicability, Figure 1a

Legend

- Project Footprint
- Development Area [1]
- Riparian Setback [2]
- Category 1 Stream [3]
- Existing Development [4]



Notes

[1] The development area includes the project footprint plus the appropriate buffer.

[2] The riparian setback distance is measured from the top of the stream bank or the outer edge of verified riparian vegetation, whichever is greater

[3] For Category 1 streams, the setback distance is 100 feet or 150 feet if slopes exceed 30%. For Category 2 streams the setback distance is 35 feet. Stream setback exceptions may not reduce the Category 1 stream setback to less than 50 feet for new development or 35 feet for existing developed sites with legal buildings or uses.

[4] The development area is entirely within an area that is already developed.

Figure 18. Redevelopment Projects Subject to Habitat Plan Fees and Conditions

Source: Santa Clara Valley Habitat Plan Clarification and Interpretation: Condition 11—Stream Setback Applicability, Figure 1b

Legend

- Project Footprint
- Development Area [1]
- Riparian Setback [2]
- Category 1 Stream [3]
- Existing Development [4]
- Fee Area

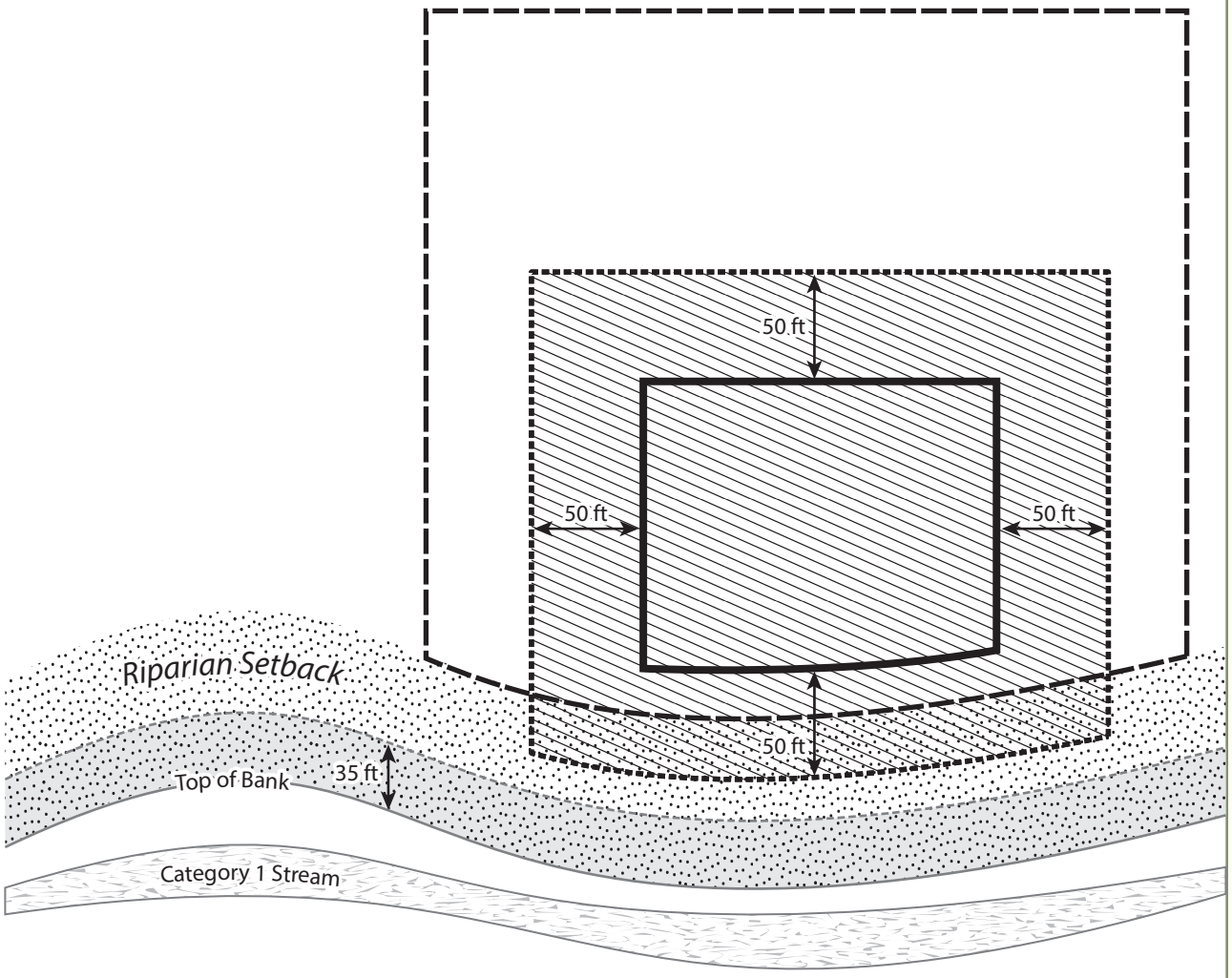
Notes

[1] The development area includes the project footprint plus the appropriate buffer.

[2] The riparian setback distance is measured from the top of the stream bank or the outer edge of verified riparian vegetation, whichever is greater

[3] For Category 1 streams, the setback distance is 100 feet or 150 feet if slopes exceed 30%. For Category 2 streams the setback distance is 35 feet. Stream setback exceptions may not reduce the Category 1 stream setback to less than 50 feet for new development or 35 feet for existing developed sites with legal buildings or uses.

[4] The development area expands beyond the limits of the existing developed area and further into the riparian setback, but still not closer than 35 feet from the top of streambank or edge of riparian buffer.



SANTA CLARA VALLEY
HABITAT AGENCY

This report was prepared by the Santa Clara Valley Habitat Agency with assistance from the County of Santa Clara and ICF.