

Table 3.1a. Total Extent of Existing and Protected Natural Communities within BDCP Conservation Zones 1-11 (acres)

<i>Natural Communities</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Percent Existing Protected</i>
Tidal perennial aquatic	86,240	18,080	21.0
Tidal mudflat ¹	Not available.	Not available.	Not available.
Tidal brackish emergent wetland	8,351	5,102	61.1
Tidal freshwater emergent wetland	8,947	4,990	55.8
Valley foothill riparian	17,337	5,338	30.8
Grassland	62,880	14,984	23.8
Alkali seasonal wetland complex	3,723	2,769	74.4
Vernal pool complex	6,958	4,379	62.9
Other natural seasonal wetland	265	205	77.2
Nontidal permanent freshwater emergent wetland	1,134	408	36.0
Nontidal perennial aquatic	5,341	1,239	23.2
Managed wetlands	64,844	52,676	81.2
Agricultural lands	503,779	57,168	11.3
Alfalfa	82,283	3,665	4.5
Irrigate Pasture	49,693	12,748	25.7
Vineyard	28,901	2,476	8.6
Orchard	18,020	343	1.9
Rice	12,637	2,202	17.4
Other Cultivated Crops	229,828	24,736	10.8
<i>Subtotal: Cropland only</i>	421,361	46,171	11.0
Other Agricultural lands	82,418	10,997	13.3
<i>Subtotal: All agricultural land</i>	503,779	57,168	11.3
Total	769,799	167,338	21.7

Table 3.1b. Current Extent of Existing and Protected Natural Communities in BDCP Conservation Zones 1-5

<i>Natural Communities</i>	<i>Conservation Zones (acres)</i>									
	1		2		3		4		5	
	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>
Tidal perennial aquatic	1,011	52	6,703	4,804	4,967	9	1,200	740	21,965	3,546
Tidal mudflat ¹	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tidal brackish emergent wetland	0	0	0	0	0	0	0	0	0	0
Tidal freshwater emergent wetland	454	160	1,710	1,633	167	4	648	545	3,585	2,305
Valley foothill riparian	357	107	2,427	1,674	2,080	20	2,575	1,711	2,718	1,065
Grassland	6,091	620	7,007	5,271	5,524	15	4,800	3,201	5,828	2,138
Alkali seasonal wetland complex	258	30	2,773	2,632	0	0	17	16	42	42
Vernal pool complex	3,355	1,425	1,716	1,716	0	0	1,082	1,082	0	0
Other natural seasonal wetland	38	9	8	8	0	0	193	187	1	0
Nontidal permanent freshwater emergent wetland	70	1	49	46	12	0	11	11	176	55
Nontidal perennial aquatic	289	23	718	343	692	0	645	510	437	133
Managed wetlands	714	0	6,936	6,343	122	2	1,089	1,053	1,030	737
Agricultural lands										
Alfalfa	5,909	0	1,703	412	14,556	155	4,896	747	6,872	1,726
Irrigated Pasture	18,107	390	10,178	5,703	2,033	57	2,688	991	7,311	4,874
Vineyard	0	0	0	0	10,233	0	8,330	2,319	5,065	11
Orchard	64	0	73	0	5,143	0	1,072	116	3,065	83
Rice	0	0	9,802	2,202	0	0	0	0	1,738	0
Other Cultivated Crops	9,741	353	12,714	3,783	28,583	1	12,466	3,945	54,243	12,205
<i>Subtotal: Cropland only</i>	33,821	743	33,297	12,101	60,549	213	29,452	8,158	78,294	18,899
Other Agricultural lands	7,605	1,276	4,364	3,126	9,131	197	7,119	2,800	9,602	1,999
<i>Subtotal: All agricultural land</i>	41,426	2,019	38,834	15,228	69,681	410	36,571	10,959	87,896	20,898
Total	54,061	4,443	68,904	39,697	83,246	460	48,832	20,014	123,679	30,919

Table 3.1c. Current Extent of Existing and Protected Natural Communities in BDCP Conservation Zones 6-11

<i>Natural Communities</i>	<i>Conservation Zones (acres)</i>											
	6		7		8		9		10		11	
	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>
Tidal perennial aquatic	16,721	3,521	2,355	77	3,475	2,295	1,443	5	738	195	25,662	2,837
Tidal mudflat ¹	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tidal brackish emergent wetland	0	0	0	0	0	0	0	0	0	0	8,351	5,102
Tidal freshwater emergent wetland	1,415	156	83	1	102	1	150	5	477	136	154	45
Valley foothill riparian	3,702	506	2,671	120	256	23	185	10	279	73	86	30
Grassland	13,603	3,774	5,951	194	4,517	763	3,692	100	2,536	70	3,333	926
Alkali seasonal wetland complex	35	0	12	0	188	7	22	0	105	0	270	42
Vernal pool complex	0	0	0	0	381	27	120	0	0	0	282	130
Other natural seasonal wetland	0	0	18	1	0	0	3	0	5	0	1	0
Nontidal permanent freshwater emergent wetland	628	264	69	0	39	2	33	17	37	5	9	6
Nontidal perennial aquatic	1,517	146	720	20	149	9	137	14	36	0	0	0
Managed wetlands	4,530	1,890	71	7	57	17	73	40	624	2	49,597	42,585
Agricultural lands												
Alfalfa	10,426	0	28,235	526	7,862	6	1,823	93	0	0	0	0
Irrigated Pasture	3,324	572	3,466	0	1,311	0	726	5	0	0	550	155
Vineyard	496	146	2,679	0	698	0	946	0	454	0	0	0
Orchard	402	1	5,776	126	61	0	2,339	17	23	0	0	0
Rice	1,097	0	0	0	0	0	0	0	0	0	0	0
Other Cultivated Crops	42,738	1,928	46,755	1,302	11,815	0	10,678	1,179	93	0	1	0
<i>Subtotal: Cropland only</i>	58,483	2,647	86,911	1,955	21,748	6	16,511	1,295	570	0	551	155

<i>Natural Communities</i>	<i>Conservation Zones (acres)</i>											
	6		7		8		9		10		11	
	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>
Other Agricultural lands	10,137	1,083	17,873	311	4,864	19	8,056	146	934	13	2,733	26
<i>Subtotal: All agricultural land</i>	68,620	3,730	104,785	2,266	26,612	26	24,567	1,441	1,505	13	3,284	181
Total	110,771	11,939	116,734	2,686	35,776	3,170	30,426	1,632	6,342	494	91,027	51,885

Table 3.2a. Extent of Existing and Protected Covered Species' Habitat Types within Conservation Zones 1-11 (acres)

<i>Covered Species</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Percent Existing Protected</i>
San Joaquin kit fox			
<i>Breeding, foraging, and dispersal habitat</i>	5,217	638	12.2
<i>Foraging and dispersal habitat</i>	20,573	151	0.7
Riparian woodrat	1,076	62	5.7
Salt marsh harvest mouse			
<i>Wetland habitat</i>	11,124	9,600	86.3
<i>Upland habitat</i>	2,815	2,334	82.9
Riparian brush rabbit	1,681	109	6.5
Townsend's western big-eared bat			
<i>Roosting and primary foraging habitat</i>	10,880	3,641	33.5
<i>Primary habitat</i>	6,892	1,876	27.2
<i>Secondary foraging habitat</i>	753,408	162,668	21.6
Suisun shrew	28,741	22,590	78.6
Tricolored blackbird			
<i>Nesting habitat</i>	24,036	14,372	59.8
<i>Foraging habitat: non-agriculture</i>	99,587	40,818	41.0
<i>Foraging habitat: agriculture</i>	275,937	33,097	12.0
Suisun song sparrow	26,959	21,177	78.6
Yellow-breasted chat			
<i>Primary nesting and migratory habitat [includes former Suisun Marsh category]</i>	8,640	3,125	36.2
<i>Secondary nesting and migratory habitat</i>	5,530	1,896	34.3
Least Bell's Vireo	14,139	5,008	35.4
Western burrowing owl			
<i>High-value habitat</i>	78,447	26,261	33.5
<i>Moderate value habitat</i>	52,800	16,214	30.7
<i>Low-value habitat</i>	243,129	27,833	11.4
Western Yellow-Billed Cuckoo			
<i>Breeding Habitat</i>	6,826	2,763	40.5
<i>Migratory Habitat</i>	4,891	1,325	27.1
California Least Tern			
<i>Foraging habitat</i>	86,240	18,080	21.0
Greater sandhill crane			
<i>Primary use area</i>	191,531	38,292	20.0
<i>Secondary use area</i>	37,694	25,545	67.8
California black rail	33,563	24,593	73.3
California clapper rail	7,895	5,013	63.5
Swainson's hawk			
<i>Foraging habitat</i>	436,417	75,743	17.4
<i>Nesting habitat</i>	10,149	3,258	32.1
White-tailed kite			
<i>Breeding habitat</i>	13,714	4,518	32.9
<i>Foraging habitat</i>	478,251	101,068	21.1
Giant garter snake			
<i>Aquatic breeding, foraging and movement</i>	19,824	5,725	28.9
<i>Upland aestivation and movement</i>	190,805	31,954	16.7
Western pond turtle			
<i>Aquatic habitat</i>	73,214	29,348	40.1
<i>Dispersal habitat</i>	517,532	84,623	16.4

<i>Covered Species</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Percent Existing Protected</i>
<i>Upland nesting and overwintering</i>	74,344	29,601	39.8
California red-legged frog			
<i>Aquatic habitat</i>	117	4	3.2
<i>Upland cover and dispersal habitat</i>	4,984	640	12.9
<i>Dispersal habitat</i>	19,572	151	0.8
Western spadefoot toad			
<i>Aquatic breeding habitat</i>	6,791	4,256	62.7
<i>Terrestrial cover and aestivation habitat</i>	14,352	5,071	35.3
California tiger salamander			
<i>Aquatic breeding habitat</i>	6,772	4,255	62.8
<i>Terrestrial cover and aestivation habitat</i>	14,352	5,071	35.3
Valley elderberry longhorn beetle			
<i>Riparian vegetation</i>	17,130	5,310	31.0
<i>Non-riparian channels and grasslands</i>	13,218	3,066	23.2
Vernal pool shrimp species (<i>Vernal pool tadpole shrimp, conservancy fairy shrimp, longhorn fairy shrimp, vernal pool fairy shrimp, mid valley fairy shrimp, and California linderiella</i>)			
<i>Vernal Pool Complex</i>	6,821	4,319	63.3
<i>Degraded Vernal Pool Complex</i>	2,480	683	27.5
Vernal pool plant species (<i>Alkali milk-vetch, San Joaquin spearscale, Boggs Lake hedge-hyssop, Heckard's peppergrass, dwarf downingia, and legenera</i>)			
<i>Vernal Pool Complex</i>	6,958	4,380	62.9
<i>Degraded Vernal Pool Complex</i>	2,480	683	27.5
Heartscale and brittlescale	496	127	25.6
Slough thistle	1,831	188	10.3
Suisun thistle and soft bird's-beak	1,225	869	71.0
Delta button celery	3,345	270	8.1
Carquinez goldenbush	1,032	391	37.9
Delta tule pea and Suisun Marsh aster	5,948	3,699	62.2
Mason's lilaeopsis and delta mudwort	6,931	1,717	24.8
Side-flowering skullcap	2,495	701	28.1
Caper-fruited tropidocarpum	1,410	21	1.5

Table 3.2b. Current Extent of Existing and Protected Covered Species' Habitat Types in BDCP Conservation Zones 1-5

Covered Species	Conservation Zones (acres)									
	1		2		3		4		5	
	Total Extent	Total Existing Protected	Total Extent	Total Existing Protected	Total Extent	Total Existing Protected	Total Extent	Total Existing Protected	Total Extent	Total Existing Protected
San Joaquin kit fox										
<i>Breeding, foraging, and dispersal habitat</i>	0	0	0	0	0	0	0	0	0	0
<i>Foraging and dispersal habitat</i>	0	0	0	0	0	0	0	0	0	0
Riparian woodrat	0	0	0	0	0	0	0	0	0	0
Salt marsh harvest mouse										
<i>Wetland habitat</i>	0	0	0	0	0	0	0	0	26	26
<i>Upland habitat</i>	0	0	0	0	0	0	0	0	12	12
Riparian brush rabbit	0	0	0	0	0	0	0	0	0	0
Townsend's western big-eared bat										
<i>Roosting and primary foraging habitat</i>	60	2	717	459	1,306	11	1,415	779	788	279
<i>Primary foraging habitat</i>	309	105	1,711	1,215	784	9	1,163	933	1,973	803
<i>Secondary foraging habitat</i>	53,693	4,336	66,509	38,023	81,156	439	46,254	18,302	120,918	29,837
Suisun shrew	0	0	0	0	0	0	0	0	2,648	2,004
Tricolored blackbird										
<i>Nesting habitat</i>	606	200	2,079	1,887	535	6	1,015	829	3,991	2,391
<i>Foraging habitat: non-agriculture</i>	10,455	2,083	18,462	15,969	5,646	17	7,180	5,538	6,902	2,918
<i>Foraging habitat: agriculture</i>	31,251	721	15,097	7,406	36,077	219	12,872	2,713	57,402	17,536
Suisun song sparrow	0	0	0	0	0	0	0	0	2,093	1,531
Yellow-breasted chat										
<i>Primary nesting and migratory habitat [includes former Suisun Marsh category]</i>	219	47	1,753	1,219	890	8	1,309	911	1,048	378
<i>Secondary nesting and migratory habitat</i>	112	60	496	416	405	7	601	460	1,144	580
Least Bell's Vireo	320	102	2,248	1,634	1,293	15	1,900	1,366	2,183	954
Western burrowing owl										
<i>High-value habitat</i>	10,364	2,043	11,231	9,546	5,922	15	5,846	4,249	5,836	2,146
<i>Moderate-value habitat</i>	17,855	409	11,595	6,944	1,473	57	2,678	997	6,568	5,295
<i>Low-value habitat</i>	14,559	460	7,791	4,372	34,934	162	11,521	2,867	52,322	12,937

<i>Covered Species</i>	<i>Conservation Zones (acres)</i>									
	1		2		3		4		5	
	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>
Western Yellow-Billed Cuckoo										
<i>Breeding Habitat</i>	99	63	1,623	1,178	527	3	886	724	939	461
<i>Migratory Habitat</i>	198	28	477	325	520	12	587	361	878	309
California Least Tern	1011	52	6,703	4,804	4,967	9	1,201	740	21,965	3,546
Greater sandhill crane										
<i>Primary use area</i>	0	0	135	135	40,751	233	24,481	10,725	69,040	20,702
<i>Secondary use area</i>	2	0	37,643	25,545	49	0	0	0	0	0
California black rail	515	157	1,782	1,658	169	4	647	545	3,488	2,188
California clapper rail	0	0	0	0	0	0	0	0	2,617	1,974
Swainson's hawk										
<i>Foraging habitat</i>	43,725	2,821	40,595	23,942	49,953	233	25,829	10,617	70,334	20,890
<i>Nesting habitat</i>	148	12	1,608	1,131	1,510	15	1,924	1,219	1,221	388
White-tailed kite										
<i>Breeding habitat</i>	297	90	2,096	1,498	1,744	18	2,209	1,421	1,970	776
<i>Foraging habitat</i>	43,959	2,825	48,467	24,075	50,333	234	26,104	10,724	70,907	21,070
Giant garter snake										
<i>Aquatic breeding, foraging and movement</i>	523	159	12,129	4,215	178	4	655	552	2,574	224
<i>Upland aestivation and movement</i>	17,583	1,430	11,630	7,168	27,267	157	13,660	4,620	38,913	13,026
Western pond turtle										
<i>Aquatic habitat</i>	1,529	211	8,413	6,436	3,199	12	1,849	1,285	10,549	1,585
<i>Dispersal habitat</i>	42,055	2,822	42,968	22,169	71,038	424	38,437	12,072	90,341	22,033
<i>Upland nesting and overwintering</i>	5,982	1,386	10,803	8,779	5,299	23	7,665	6,131	6,694	2,549
California red-legged frog										
<i>Aquatic habitat</i>	0	0	0	0	0	0	0	0	0	0
<i>Upland cover and dispersal habitat</i>	0	0	0	0	0	0	0	0	0	0
<i>Dispersal habitat</i>	0	0	0	0	0	0	0	0	0	0
Western spadefoot toad										
<i>Aquatic breeding habitat</i>	3,368	1,425	1,743	1,721	0	0	1,082	1,082	0	0
<i>Terrestrial cover and aestivation habitat</i>	4,659	477	2,536	2,202	0	0	1,879	1,760	0	0

Table 3.2c. Current Extent of Existing and Protected Covered Species' Habitat Types in BDCP Conservation Zones 6-11

Covered Species	Conservation Zones (acres)											
	6		7		8		9		10		11	
	Total Extent	Total Existing Protected	Total Extent	Total Existing Protected	Total Extent	Total Existing Protected	Total Extent	Total Existing Protected	Total Extent	Total Existing Protected	Total Extent	Total Existing Protected
San Joaquin kit fox												
<i>Breeding, foraging, and dispersal habitat</i>	0	0	356	0	3,873	618	594	19	394	0	0	0
<i>Foraging and dispersal habitat</i>	0	0	4,554	0	10,593	16	4,991	135	434	0	0	0
Riparian woodrat	0	0	1,076	62	0	0	0	0	0	0	0	0
Salt marsh harvest mouse												
<i>Wetland habitat</i>	0	0	0	0	0	0	0	0	0	0	11,098	9,574
<i>Upland habitat</i>	0	0	0	0	0	0	0	0	0	0	2,803	2,322
Riparian brush rabbit	1	0	1,599	106	81	3	0	0	0	0	0	0
Townsend's western big-eared bat												
<i>Roosting and primary foraging habitat</i>	610	97	1,628	70	36	2	58	1	29	15	245	160
<i>Primary foraging habitat</i>	3,156	409	1,066	50	234	21	137	9	255	58	92	30
<i>Secondary foraging habitat</i>	107,004	11,433	114,041	2,566	35,506	3,147	30,231	1,622	6,071	438	92,023	52,524
Suisun shrew	0	0	0	0	0	0	0	0	157	1	25,937	20,585
Tricolored blackbird												
<i>Nesting habitat</i>	2,945	433	468	26	268	20	247	29	518	179	11,365	8,371
<i>Foraging habitat: non-agriculture</i>	18,169	3,577	6,052	202	5,142	814	3,910	140	3,270	72	14,400	9,489
<i>Foraging habitat: agriculture</i>	46,958	2,480	47,872	781	17,731	9	10,396	1,183	39	0	243	50
Suisun song sparrow	0	0	0	0	0	0	0	0	86	1	24,779	19,645
Yellow-breasted chat												
<i>Primary nesting and migratory habitat [includes former Suisun Marsh category]</i>	1,186	173	1,485	91	152	13	113	3	148	62	339	241
<i>Secondary nesting and migratory habitat</i>	1,978	312	568	24	62	5	63	7	64	9	39	16
Western Yellow-Billed Cuckoo												
<i>Breeding Habitat</i>	1,319	213	1,267	89	49	0	50	1	54	28	12	4
<i>Migratory Habitat</i>	1,218	213	633	22	121	13	107	4	130	28	21	12
Western burrowing owl												
<i>High-value habitat</i>	13,600	1,709	5,972	194	4,717	765	3,815	100	1,701	70	9,442	5,425
<i>Moderate- value habitat</i>	3,554	604	3,244	1	1,311	6	739	3	0	0	3,784	1,898

<i>Covered Species</i>	<i>Conservation Zones (acres)</i>											
	6		7		8		9		10		11	
	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>	<i>Total Extent</i>	<i>Total Existing Protected</i>
<i>Low-value habitat</i>	47,876	3,557	45,675	806	16,689	34	9,832	1,215	43	0	1,886	1,423
Greater sandhill crane												
<i>Primary use area</i>	52,444	5,319	0	0	0	0	4,679	1,178	0	0	0	0
<i>Secondary use area</i>	0	0	0	0	0	0	0	0	0	0	0	0
California black rail	1,958	403	134	1	121	3	175	22	418	135	24,156	19,478
California clapper rail	0	0	0	0	0	0	0	0	157	1	5,121	3,039
White-tailed kite												
<i>Breeding habitat</i>	2,161	341	2,413	113	192	13	149	5	202	70	281	173
<i>Foraging habitat</i>	71,367	5,810	81,117	2,061	25,746	822	16,472	1,436	1,784	70	41,995	31,942
Swainson's hawk												
<i>Foraging habitat</i>	70,203	5,720	80,318	2,042	25,624	821	16,199	1,416	1,656	64	11,982	7,178
<i>Nesting habitat</i>	1,189	213	2,110	92	61	3	70	1	49	17	259	167
Least Bell's Vireo	3,163	485	2,052	116	214	18	175	10	211	71	378	237
California Least Tern	16,721	3,521	2,356	77	3,475	2,295	1,443	5	738	195	25,662	2,837
Giant garter snake												
<i>Aquatic breeding, foraging and movement</i>	3,049	409	144	1	131	3	178	22	264	135	0	0
<i>Upland aestivation and movement</i>	37,434	3,903	28,160	659	10,730	325	5,280	646	148	22	0	0
Western pond turtle												
<i>Aquatic habitat</i>	18,526	3,821	2,501	78	3,673	2,306	1,623	27	773	321	20,578	13,265
<i>Dispersal habitat</i>	72,878	4,262	88,338	1,768	27,817	27	17,051	1,306	2,184	13	24,425	17,727
<i>Upland nesting and overwintering</i>	17,275	3,545	5,078	294	3,888	835	1,284	129	1,114	143	9,262	5,787
California red-legged frog												
<i>Aquatic habitat</i>	0	0	13	0	86	4	19	0	0	0	0	0
<i>Upland cover and dispersal habitat</i>	0	0	341	0	3,830	619	462	21	351	0	0	0
<i>Dispersal habitat</i>	0	0	3,990	0	10,578	16	4,851	135	154	0	0	0
Western spadefoot toad												
<i>Aquatic breeding habitat</i>	0	0	0	0	381	27	122	0	0	0	94	1
<i>Terrestrial cover and aestivation habitat</i>	0	0	289	0	3,463	619	14	0	87	0	1,426	13

Covered Species	Conservation Zones (acres)											
	6		7		8		9		10		11	
	Total Extent	Total Existing Protected	Total Extent	Total Existing Protected	Total Extent	Total Existing Protected	Total Extent	Total Existing Protected	Total Extent	Total Existing Protected	Total Extent	Total Existing Protected
California tiger salamander												
<i>Aquatic breeding habitat</i>	0	0	0	0	381	27	122	0	0	0	76	1
<i>Terrestrial cover and aestivation habitat</i>	0	0	289	0	3,463	619	14	0	87	0	1,426	13
Valley elderberry longhorn beetle												
<i>Riparian vegetation</i>	3,702	506	2,656	120	256	23	185	10	279	73	95	30
<i>Non-riparian channels and grasslands</i>	2,817	440	1,352	95	865	271	404	68	56	15	601	422
Vernal pool shrimp species (<i>Vernal pool tadpole shrimp, conservancy fairy shrimp, longhorn fairy shrimp, vernal pool fairy shrimp, mid valley fairy shrimp, and California linderiella</i>)												
<i>Vernal Pool Complex</i>	0	0	0	0	381	27	120	0	0	0	145	69
<i>Degraded Vernal Pool Complex</i>	0	0	0	0	22	0	0	0	0	0	0	0
Vernal pool plant species (<i>Alkali milk-vetch, San Joaquin spearscale Boggs Lake hedge-hyssop, Heckard's peppergrass, dwarf downingia, and legenera</i>)												
<i>Vernal Pool Complex</i>	0	0	0	0	381	27	120	0	0	0	282	130
<i>Degraded Vernal Pool Complex</i>	0	0	0	0	22	0	0	0	0	0	0	0
Heartscale and brittlescale	0	0	6	0	83	11	16	7	20	0	180	40
Slough thistle	0	0	1,831	188	0	0	0	0	0	0	0	0
Suisun thistle and soft bird's-beak	0	0	0	0	0	0	0	0	0	0	1,129	830
Delta button celery	0	0	1,917	188	1,103	83	323	0	1	0	0	0
Carquinez goldenbush	0	0	0	0	0	0	0	0	0	0	806	323
Delta tule pea and Suisun Marsh aster	245	40	31	0	23	2	22	1	35	9	5,151	3,415
Mason's lilaopsis and delta mudwort	1,630	141	540	23	388	59	171	5	127	27	931	396
Side-flowering skullcap	841	95	77	2	8	0	35	2	15	4	1	0
Caper-fruited tropidocarpum	0	0	574	0	193	6	634	5	9	0	0	0

Table 3.3. Natural Community Conservation Targets by Conservation Zone

<i>Natural Community</i>	<i>Conservation Target (acres)</i>		<i>Total Conserved Land Base (acres)</i>	<i>Applicable Conservation Zones</i>	<i>Covered Species Habitats Supported by Conserved Natural Communities</i>
	Restored	Protected/Enhanced			
Tidal	65,000	0	65,000	1, 2, 4, 5, 7, and 11	Chinook salmon (all runs), steelhead, delta smelt, longfin smelt, splittail, salt marsh harvest mouse, Townsend's western big-eared bat, Suisun shrew, tricolored blackbird, Suisun song sparrow, California black rail, California clapper rail, giant garter snake, western pond turtle, Suisun thistle, soft bird's-beak, delta tule pea, Mason's lilaeopsis, delta mudwort, and Suisun marsh aster.
Valley/foothill riparian	5,000	0	5,000	1-9 and/or 11	Chinook salmon (all runs), steelhead, splittail, riparian woodrat, riparian brush rabbit, Townsend's big-eared bat, yellow-breasted chat, white-tailed kite, Swainson's hawk, western pond turtle, and valley elderberry longhorn beetle.
Grassland	2,000	8,000	10,000	1, 8, and 11	San Joaquin kit fox, Townsend's big-eared bat, tricolored blackbird, western burrowing owl, white-tailed kite, Swainson's hawk, giant garter snake, western pond turtle, western spadefoot toad, California red-legged frog, and California tiger salamander.
Nontidal freshwater permanent emergent wetland and nontidal perennial aquatic	400	0	400	2 and 4	Townsend's big-eared bat, tricolored blackbird, giant garter snake, and western pond turtle
Alkali seasonal wetland complex	0	400	400	1, 8, and 11	San Joaquin kit fox, Townsend's big-eared bat, tricolored blackbird, western burrowing owl, white-tailed kite, Swainson's hawk, giant garter snake, western pond turtle, western spadefoot toad, California red-legged frog, and California tiger salamander.

<i>Natural Community</i>	<i>Conservation Target (acres)</i>		<i>Total Conserved Land Base (acres)</i>	<i>Applicable Conservation Zones</i>	<i>Covered Species Habitats Supported by Conserved Natural Communities</i>
	Restored	Protected/Enhanced			
Vernal pool complex	200	300	500	1, 8, and 11	San Joaquin kit fox, Townsend's big-eared bat, tricolored blackbird, western burrowing owl, white-tailed kite, Swainson's hawk, giant garter snake, western pond turtle, western spadefoot toad, and California red-legged frog.
Other natural seasonal wetlands	0	0	0	Not applicable.	None
Inland dune scrub	To be determined.	To be determined.	To be determined.	To be determined.	To be determined.
Managed wetlands	Up to 5,000 ¹ (created)	Up to 2,000	Up to 7,000	5 and 6	Tricolored blackbird, white-tailed kite, Swainson's hawk, and greater sandhill crane.
Agriculture	0	16,620-32,640 ¹	16,620-32,640 ¹	1-9	San Joaquin kit fox, Townsend's western big-eared bat, Swainson's hawk, tricolored blackbird, greater sandhill crane, western burrowing owl, white-tailed kite, giant garter snake, and western pond turtle.
Total	Up to 82,600	Up to 26,320-40,340	Up to 103,720-117,740		

Table 3.4. Covered Species Habitat Conservation Targets

<i>Covered species</i>	<i>Conservation Provided by Conservation Zone (CZ)</i>	
	Preservation/ Enhancement (acres²)	Restoration (acres²)
San Joaquin kit fox		
<i>Breeding habitat</i>	1,000 CZ: 8	0
Riparian woodrat	0	100 CZ: 7
Salt marsh harvest mouse		
<i>Wetland habitat</i>	0	3,680-4,830 CZ: 11
<i>Upland habitat</i>	350-700 CZ: 11	350-700 CZ: 11
Riparian brush rabbit	0	100 CZ: 7
Townsend's western big-eared bat		
<i>Roosting and primary foraging habitat</i>	0	5,000 CZ: Any CZ
Suisun shrew	0	3,670-4,820 CZ: 11
Tricolored blackbird		
<i>Nesting habitat</i>	0	17,370-26,870 CZ 1, 2, 4, 5, 7, 11
<i>Foraging habitat: non-agriculture</i>	8,700 CZ1,2, or 4	0
<i>Foraging habitat: agriculture</i>	16,620-32,640 CZ 1-9	0
Suisun song sparrow	0	3,680-4,830 CZ:11
Yellow-breasted chat		
<i>Primary nesting and migratory habitat [includes former Suisun Marsh category]</i>	0	≥2,000 CZ: Any CZ
<i>Secondary nesting and migratory habitat</i>	0	≤3,000 CZ: Any CZ
Least Bell's vireo	0	≥2,000 CZ: Any CZ
Western burrowing owl		
<i>High-value habitat</i>	8,000 CZ: 1, 8, and 11	0
<i>Moderate- value habitat</i>	>3,900 CZ: Any CZ	0
Western yellow-billed cuckoo		≥1,000 CZ: Any CZ
California least tern <i>Foraging habitat</i>	0	≥25,000 CZ: 1, 2, 5, 7, 11
Greater sandhill crane		
<i>Primary use area</i>	>4,850 CZ: 3, 4, and/or 5	320

<i>Covered species</i>	<i>Conservation Provided by Conservation Zone (CZ)</i>	
	Preservation/Enhancement (acres²)	Restoration (acres²)
California black rail	0	16,970-26,470 CZ: 1, 2, 5, 7, and 11
California clapper rail	0	3,680-4,830 CZ: 11
Swainson's hawk		
<i>Foraging habitat</i>	20,020 to 36,040 CZ 1-9, and/or 11	0
<i>Nesting habitat</i>	0	4,000 CZ: Any CZ
White-tailed kite		
<i>Nesting habitat</i>	0	4,000 CZ: Any CZ
<i>Foraging habitat</i>	22,020-40,040 CZ: Any CZ	0
Giant garter snake		
<i>Primary Zone: Aquatic breeding, foraging and movement</i>	≥6,900 CZ: 1, 2, 4, and/or 5	400 CZ: 2 and 4
<i>Primary Zone; Upland aestivation and movement</i>	7,100 CZ 1, 2, 4, and/or 5	0
<i>Primary and Secondary Zone: Aquatic breeding, foraging</i>	Not applicable.	13,290-21,640 CZ: 1, 2, 5, 7, and 11
Western pond turtle		
<i>Aquatic habitat</i>	0	48,990-51,780 CZ: 1, 2, 5, 7, and 11
<i>Dispersal habitat</i>	4,000	0
<i>Upland nesting and overwintering</i>	≥5,230 CZ: Any CZ	5,000 CZ: Any CZ
California red-legged frog		
<i>Aquatic habitat</i>	3	
<i>Upland cover and dispersal habitat</i>	1,000 (including encompassed stream aquatic habitat) CZ: 8	0
Western spadefoot toad		
<i>Aquatic breeding habitat</i>	300 CZ: 1, 8, and 11	200 CZ: 1, 8, and/or 11
<i>Terrestrial cover and aestivation habitat</i>	8,400 CZ: 1, 8, and 11	0
California tiger salamander		
<i>Aquatic breeding habitat</i>	300 CZ: 1, 8, and 11	200 CZ: 1, 8, and/or 11
<i>Terrestrial cover and aestivation habitat</i>	8,400 CZ: 1, 8, and 11	0
Valley elderberry longhorn beetle		
<i>Riparian vegetation</i>	0	5,000 CZ: Any CZ

<i>Covered species</i>	<i>Conservation Provided by Conservation Zone (CZ)</i>	
	Preservation/Enhancement (acres²)	Restoration (acres²)
Vernal pool shrimp species (<i>vernal pool tadpole shrimp, conservancy fairy shrimp, longhorn fairy shrimp, vernal pool fairy shrimp, mid valley fairy shrimp, and California linderiella</i>)	300 CZ: 1, 8, and 11	200 CZ: 1, 8, and/or 11
Vernal pool plant species (<i>Alkali milk-vetch, San Joaquin spearscale, Boggs Lake hedge-hyssop, Heckard's peppergrass, dwarf downingia, and legenera</i>)	300 CZ: 1, 8, and 11	200 CZ: 1, 8, and/or 11
	Protect at least 3 alkali milkvetch and 2 Heckard's peppergrass unprotected occurrences CZ: 1, 8, and 11	
Heartscale and brittlescale	150 CZ: 1, 8, and/or 11	0
	Protect at least 3 heartscale and brittlescale unprotected occurrences CZ: 1, 8, and 11	
Slough thistle	0	≥1,000 CZ: 7
Suisun thistle and soft bird's-beak	Protect at least 3 Suisun thistle and soft bird's-beak unprotected occurrences CZ: 11	3,680-4,830 CZ: 11
Delta button celery	≥100 CZ: 8	≥1,000 CZ: 7
Carquinez goldenbush	300 CZ: 1 and/or 11	0
	Protect at least 3 Carquinez goldenbush unprotected occurrences CZ: 1 and/or 11	
Delta tule pea and Suisun Marsh aster	0	16,970-26,470 CZ: 1, 2, 5, 7, and 11

<i>Covered species</i>	<i>Conservation Provided by Conservation Zone (CZ)</i>	
	Preservation/ Enhancement (acres²)	Restoration (acres²)
Mason's lilaopsis and delta mudwort	0	16,980-26,560 CZ: 1, 2, 5, 7, and 11)
Side-flowered skullcap	<u>To come</u>	To come
Caper-fruited tropidocarpum	≥100 CZ: 8	0
	Protect occurrences of caper-fruited tropidocarpum that reestablish on BDCP conservation areas CZ: 8	
<i>Notes:</i> <ol style="list-style-type: none"> 1. Initial estimate prior to the full BDCP effects analysis. 2. Values above 10 are rounded to the nearest 10 acres. 		

Table 3.5. BDCP Covered Species that are Covered or Proposed for Coverage under Overlapping and Adjacent HCPs and NCCPs

BDCP Covered Species	Species Covered or Currently Proposed for Coverage in Adjacent and Overlapping HCPs and NCCPs					
	San Joaquin Co. HCP	East Contra Costa HCP/NCCP	Natomas Basin HCP	Solano County HCP ¹	South Sacramento HCP ²	Yolo County HCP/NCCP
Mammals						
San Joaquin kit fox <i>Vulpes macrotis mutica</i>	X	X				
Riparian woodrat <i>Neotoma fuscipes riparia</i>	X					
Salt marsh harvest mouse <i>Reithrodontomys ravivenstris</i>				X		
Riparian brush rabbit <i>Sylvilagus bachmani riparius</i>	X					
Townsend's western big-eared bat <i>Corynorhinus townsendii</i>		X				X
Suisun shrew <i>Sorex ornatus sinuosus</i>				X		
Birds						
Tricolored blackbird <i>Agelaius tricolor</i>	X	X	X	X	X	X
Suisun song sparrow <i>Melospiza melodia maxillaries</i>				X		
Yellow breasted chat <i>Icteria viriens</i>				X	X	X
Least Bell's vireo <i>Vireo bellii pusillus</i>						X (potentially, decision pending)
Western burrowing owl <i>Athene cunicularia</i>	X	X	X	X	X	X
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	X					X
California least tern <i>Sternula antillarum browni</i>						
Greater sandhill crane <i>Grus canadensis tabida</i>	X				X	
California black rail <i>Laterallus jamaicensis coturniculus</i>				X		X

¹ Per version of covered species on website, last updated February 2007.

² Per version of covered species on, last updated June 23, 2008.

<i>BDCP Covered Species</i>	<i>Species Covered or Currently Proposed for Coverage in Adjacent and Overlapping HCPs and NCCPs</i>					
	San Joaquin Co. HCP	East Contra Costa HCP/NCCP	Natomas Basin HCP	Solano County HCP¹	South Sacramento HCP²	Yolo County HCP/NCCP
California clapper rail <i>Rallus longirostris obsoletus</i>				X		
Swainson's hawk <i>Buteo swainsoni</i>	X	X	X	X	X	X
White-tailed kite <i>Elanus leucurus</i>					X	X
Reptiles						
Giant garter snake <i>Thamnophis gigas</i>	X	X	X	X	X	X
Western pond turtle <i>Emys marmorata</i>	X	X	X	X	X	X
Amphibians						
California red-legged frog <i>Rana aurora draytonii</i>	X	X		X		X
Western spadefoot toad <i>Spea hammondi</i>	X		X		X	X
California tiger salamander <i>Ambystoma californiense</i>	X	X	X	X	X	X
Fish						
Central Valley steelhead <i>Oncorhynchus mykiss</i>				X		
Sacramento River winter-run Chinook salmon <i>Oncorhynchus tshawytscha</i>				X		
Central Valley spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i>				X		
Central Valley fall- and late fall-run Chinook salmon <i>Oncorhynchus tshawytscha</i>				X		
Longfin smelt <i>Spirinchus thaleichthys</i>						
Delta smelt <i>Hypomesus transpacificus</i>	X			X		
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	X			X		
White sturgeon <i>Acipenser transmontanus</i>						
North American green sturgeon <i>Acipenser medirostris</i>						

<i>BDCP Covered Species</i>	<i>Species Covered or Currently Proposed for Coverage in Adjacent and Overlapping HCPs and NCCPs</i>					
	San Joaquin Co. HCP	East Contra Costa HCP/NCCP	Natomas Basin HCP	Solano County HCP¹	South Sacramento HCP²	Yolo County HCP/NCCP
Pacific lamprey <i>Lampetra tridentata</i>						
River lamprey <i>Lampetra ayresii</i>						
Invertebrates						
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	X		X	X	X	X
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	X	X	X	X	X	X
Conservancy fairy shrimp <i>Branchinecta conservation</i>	X			X		X
Longhorn fairy shrimp <i>Branchinecta longiantenna</i>	X	X				
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	X	X	X	X	X	X
Mid Valley fairy shrimp <i>Branchinecta mesovalleyensis</i>		X	X	X	X	X
Plants						
Suisun Marsh aster <i>Aster lentus</i>	X			X		
Alkali milk-vetch <i>Astragalus tener</i> var. <i>tener</i>				X		X
Heartscale <i>Atriplex cordulata</i>				X		
Brittlescale <i>Atriplex depressa</i>		X		X		X
San Joaquin spearscale <i>Atriplex joaquiniana</i>		X		X		X
Slough thistle <i>Cirsium crassicaule</i>	X					
Suisun thistle <i>Cirsium hydrophilum</i> var. <i>hydrophilum</i>				X		
Soft bird's-beak <i>Cordylanthus mollis</i> ssp. <i>mollis</i>				X		
Dwarf downingia <i>Downingia pusilla</i>				X	X	
Delta button celery <i>Eryngium racemosum</i>	X					

<i>BDCP Covered Species</i>	<i>Species Covered or Currently Proposed for Coverage in Adjacent and Overlapping HCPs and NCCPs</i>					
	San Joaquin Co. HCP	East Contra Costa HCP/NCCP	Natomas Basin HCP	Solano County HCP¹	South Sacramento HCP²	Yolo County HCP/NCCP
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	X		X	X	X	
Carquinez goldenbush <i>Isocoma arguta</i>				X		
Delta tule pea <i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	X		X	X		X
Legenere <i>Legenere limosa</i>	X		X	X	X	
Heckard's peppergrass <i>Lepidium latipes</i> var. <i>heckardii</i>				X		X
Mason's lilaeopsis <i>Lilaeopsis masonii</i>	X			X		X
Delta mudwort <i>Limosella subulata</i>	X			X		
Caper-fruited tropidocarpum <i>Tropidocarpum capparideum</i>						

Table 3.6. Goals and Objectives that Address Primary Constituent Elements of Critical Habitat Designated for Covered Species

<i>Primary Constituent Element of Critical Habitat</i>	<i>Goals and Objectives that Address Primary Constituent Elements</i>	
	Goals	Objectives
California tiger salamander critical habitat⁷		
Standing bodies of fresh water (including natural and manmade (e.g., stock)) ponds, vernal pools, and other ephemeral or permanent water bodies which typically support inundation during winter rains and hold water for a minimum of 12 weeks in a year of average rainfall.	VPNC1; VPNC2; VPNC3; GRNC1.1; ONSW1	VPNC1.1; VPNC2.1; VPNC3.1; GRNC1.1; ONSW1.1
Upland habitats adjacent and accessible to and from breeding ponds that contain small mammal burrows or other underground habitat that California tiger salamander depend upon for food, shelter, and protection from the elements and predation.	GRNC1; GRNC2; GRNC3; GRNC4; ONSW1	GRNC1.1; GRNC2.1; GRNC3.1; GRNC4.1; ONSW1.1
Accessible upland dispersal habitat between occupied locations that allow for movement between such sites.	GRNC1; GRNC2; GRNC3; GRNC4	GRNC1.1; GRNC2.1; GRNC3.1; GRNC4.1
Vernal pool tadpole shrimp, Conservancy fairy shrimp, and vernal pool fairy shrimp critical habitat⁸		
Topographic features characterized by mounds and swales, and depressions within a matrix of surrounding uplands that result in complexes of continuously, or intermittently, flowing surface water in the swales connecting the pools described in PCE (ii), providing for dispersal and promoting hydroperiods of adequate length in the pools.	VPNC1; VPNC2; VPNC3; GRNC1; GRNC2	VPNC1.1; VPNC2.1; VPNC3.1; GRNC1.1; GRNC2.1
Depressional features including isolated vernal pools with underlying restrictive soil layers that become inundated during winter rains and that continuously hold water for a minimum of 41 days (vernal pool tadpole shrimp), 19 days (Conservancy fairy shrimp, and 18 days for vernal pool fairy shrimp (Helm 1998), in all but the driest years; thereby providing adequate water for incubation, maturation, and reproduction. As these features are inundated on a seasonal basis, they do not promote the development of obligate wetland vegetation habitats typical of permanently flooded emergent wetlands.	VPNC1; VPNC2; VPNC3; GRNC1; GRNC2	VPNC1.1; VPNC2.1; VPNC3.1; GRNC1.1; GRNC2.1
Sources of food, expected to be detritus occurring in the pools, contributed by overland flow from the pools' watershed, or the results of biological processes within the pools themselves, such as single-celled bacteria, algae, and dead organic matter, to provide for feeding.	VPNC1; VPNC2; VPNC3; GRNC1; GRNC2	VPNC1.1; VPNC2.1; VPNC3.1; GRNC1.1; GRNC2.1;
Structure within the pools described in PCE (ii), consisting of organic and inorganic materials, such as living and dead plants from plant species adapted to seasonally inundated environments, rocks, and other inorganic debris that may be washed, blown, or otherwise transported into the pools, that provide shelter.	VPNC1; VPNC2; VPNC3; GRNC1; GRNC2	VPNC1.1; VPNC2.1; VPNC3.1; GRNC1; GRNC2
Suisun thistle⁹		

Table 3.6. Goals and Objectives that Address Primary Constituent Elements of Critical Habitat Designated for Covered Species

<i>Primary Constituent Element of Critical Habitat</i>	<i>Goals and Objectives that Address Primary Constituent Elements</i>	
	Goals	Objectives
Persistent emergent, intertidal, estuarine wetland at or above the mean high-water line (as extended directly across any intersecting channels).	BMNC1	BMNC1.1; BMNC1.2
Open channels that periodically contain moving water with ocean-derived salts in excess of 0.5 percent.	BMNC1	BMNC1.1; BMNC1.2
Gaps in surrounding vegetation to allow for seed germination and growth.	BMNC1	BMNC1.1; BMNC1.2
Soft bird's-beak⁹		
Persistent emergent, intertidal, estuarine wetland at or above the mean high-water line (as extended directly across any intersecting channels).	BMNC1	BMNC1.1; BMNC1.2
Rarity or absence of plants that naturally die in late spring (winter annuals)	BMNC1	BMNC1.1; BMNC1.2
Partially open spring canopy cover (approximately 790 nMol/m ² /s) at ground level, with many small openings to facilitate seedling germination.	BMNC1	BMNC1.1; BMNC1.2
<p><i>Notes:</i></p> <p>7. From Final Rule, Federal Register, Vol. 70, No. 154, August 11, 2005. pp. 46923-46999.</p> <p>8. From Final Rule, Federal Register, Vol. 72, No. 70, April 12, 2007. pp. 18517-18553.</p> <p>9. From Final Rule, Federal Register, Vol. 72, No. 70, April 12, 2007. pp. 18518-18553.</p>		

Table 3.8. Habitat Function of BDCP Natural Communities that Support Primary Habitats for Covered Wildlife and Plant Species

Covered Species	Natural Community												
	Tidal perennial aquatic	Tidal mudflat	Tidal brackish emergent wetland	Tidal freshwater emergent wetland	Valley/foothill riparian	Grassland	Alkali natural seasonal wetland complex	Vernal pool complex	Other natural seasonal wetlands	Nontidal freshwater permanent emergent wetland	Nontidal perennial aquatic	Managed wetlands	Agricultural lands
Mammals													
San Joaquin kit fox						All life history requirements	Foraging and movement	Foraging and movement					Foraging and movement
Riparian woodrat					All life history requirements								
Salt marsh harvest mouse			All life history requirements			Upland refugia during high tides						All life history requirements	
Riparian brush rabbit					All life history requirements								
Townsend's western big-eared bat	Foraging	Foraging	Foraging	Foraging	Foraging and roosting	Foraging	Foraging	Foraging	Foraging	Foraging	Foraging	Foraging	Foraging
Suisun shrew			All life history requirements			Upland refugia during high tides							
Birds													
Tricolored blackbird			Breeding	Breeding	Breeding	Foraging	Foraging	Foraging	Foraging	Breeding		Breeding and Foraging	Breeding and Foraging
Suisun song sparrow			All life history requirements										
Yellow-breasted chat					All life history requirements								
Least Bell's vireo					All life history requirements								
Western burrowing owl						Foraging and breeding	Foraging	Foraging	Foraging			Foraging	Foraging and breeding

<i>Covered Species</i>	<i>Natural Community</i>												
	Tidal perennial aquatic	Tidal mudflat	Tidal brackish emergent wetland	Tidal freshwater emergent wetland	Valley/foothill riparian	Grassland	Alkali natural seasonal wetland complex	Vernal pool complex	Other natural seasonal wetlands	Nontidal freshwater permanent emergent wetland	Nontidal perennial aquatic	Managed wetlands	Agricultural lands
Western yellow-billed cuckoo					All life history requirements								
California least tern	Foraging												
Greater sandhill crane						Foraging						Foraging and roosting	Foraging and roosting
California black rail			All life history requirements	All life history requirements								All life history requirements	
California clapper rail			All life history requirements										
Swainson's hawk					Breeding	Foraging	Foraging	Foraging	Foraging			Foraging	Foraging
White-tailed kite			Foraging		Breeding	Foraging	Foraging	Foraging	Foraging			Foraging	Foraging
Reptiles													
Giant Garter Snake	Breeding, foraging, and movement			Breeding, foraging, and movement		Aestivation and movement	Aestivation and movement	Aestivation and movement	Aestivation and movement	Breeding, foraging, and movement	Aestivation and movement	Aestivation and movement	Aestivation and movement
Western pond turtle	Foraging and movement		Foraging and movement	Foraging and movement	Foraging, breeding, aestivation, and movement	Foraging, breeding, aestivation, and movement	Foraging and movement	Foraging and movement	Foraging and movement	Foraging and movement	Foraging and movement	Foraging and movement	Foraging, aestivation, and movement
Amphibians													
California red-legged frog					Foraging, aestivation, and movement	Foraging, aestivation, and movement	Foraging and movement	Foraging and movement	Breeding, foraging and movement	Breeding, foraging and movement	Breeding		Foraging and movement
Western spadefoot toad					Foraging and movement	Foraging, aestivation, and movement	Foraging, aestivation, and movement	Foraging and breeding	Foraging, breeding, and movement	Foraging, breeding	Breeding		
California tiger salamander						Foraging, aestivation, and movement	Foraging and movement	Foraging and breeding			Foraging and breeding		
Invertebrates													

<i>Covered Species</i>	<i>Natural Community</i>												
	Tidal perennial aquatic	Tidal mudflat	Tidal brackish emergent wetland	Tidal freshwater emergent wetland	Valley/foothill riparian	Grassland	Alkali natural seasonal wetland complex	Vernal pool complex	Other natural seasonal wetlands	Nontidal freshwater permanent emergent wetland	Nontidal perennial aquatic	Managed wetlands	Agricultural lands
Resident Waterfowl	Foraging, resting, and brooding	Foraging and resting	Foraging and resting	Foraging and resting		Foraging, nesting, and resting	Foraging, nesting, and resting	Foraging, nesting, and resting	Foraging and resting	Foraging and resting	Foraging, resting, and brooding	Foraging and resting	Foraging, nesting, brooding, and resting
Migrant Shorebirds	Foraging and resting	Foraging and resting	Foraging and resting	Foraging and resting		Foraging and resting	Foraging and resting	Foraging and resting	Foraging and resting	Foraging and resting	Foraging and resting		Foraging and resting
Wading birds	Foraging	Foraging	Foraging and roosting	Foraging, breeding, and roosting	Roosting	Foraging	Foraging	Foraging	Foraging	Foraging and breeding	Foraging	Foraging	Foraging

Notes:

- Riparian brush rabbits will also use small grassland and seasonal wetlands that occur immediately adjacent to or as openings within riparian communities.
- Occurs along the upper margins of vernal pools, playa pools, and in swales in the clay alluvium vernal pools and playas, Montezuma Block vernal pools and playas, and alkaline sink/meadow vernal pools in the BDCP vernal pool complex regions.
- Occurs along intermittent and perennial drainages and along the borders of playa pools in the clay alluvium vernal pools and playas, Montezuma Block vernal pools and playas, and alkaline sink/meadow vernal pools in the BDCP vernal pool complex regions. Also occurs in alkali seasonal wetland complex in the same areas.
- Occurs in more saline or disturbed areas in the clay alluvium vernal pools and playas, Montezuma Block vernal pools and playas, and alkaline sink/meadow vernal pools in the BDCP vernal pool complex regions. Also occurs in grassland and alkali seasonal wetland complex in the same areas.
- Not known to occur in the BDCP Planning Area or ROAs.
- In the southern San Joaquin Valley it occurs in the scoured and overflow areas of stream channels on alkaline soils. In the northern San Joaquin Valley the historical occurrences have been along tidal river channels or in wetland inclusions in agricultural fields.
- Endemic to the Suisun Marsh where it occurs adjacent to first-order channels or mosquito control ditches that link to first-order channels.
- In Suisun Marsh soft bird's-beak is distributed in bands at the lower margin of the brackish high marsh that are not correlated with elevation, but with soil pore water salinity during the dry season which is determined by distance to channel and varies from season to season depending on freshwater flows from creeks draining into the marsh. Where the topography is more complex, such as areas with ridges or mounds and on levee banks, soft bird's-beak can be found in a variety of patch shapes.
- Delta button celery occurs in two habitat types. One habitat type is seasonally scoured and inundated swales, depressions, and clay flats in the floodplain of the San Joaquin River and the other alkaline clay deltas of Coast Range tributaries that are deposited immediately above the flood basin of the San Joaquin River where plant cover is typical alkaline sink vegetation.
- Carquinez goldenbush occurs along seasonal drainages, adjacent to the margins of alkaline playa pools, and in association with vegetation that is transitional between the brackish marsh and the grasslands within the 3.4-4.3 meter NAVD88 elevation band along the eastern border of Suisun Marsh.
- Occurrences in open vegetation in freshwater areas are on the landward side of the landward boundary of Tidal Freshwater Emergent Wetland and in brackish water areas in and near Suisun Marsh, within a range of tidal elevations that are generally near drainages.
- Occurs in all BDCP vernal pool complex regions on alkaline clays soils in areas that are not deeply inundated.
- Occurs on open areas of tidal mudflats that are susceptible to scour and deposition and it colonizes new areas through water transported seed and vegetative parts.
- Occurrences in open vegetation in freshwater areas are on the landward side of the landward boundary of Tidal Freshwater Emergent Wetland and in brackish water areas in and near Suisun Marsh, within a range of tidal elevations that are generally near drainages. It is also found in less densely vegetated areas of valley/foothill riparian vegetation.

Table 3.9. Natural Communities Supporting Modeled¹ Covered Species' Habitats

<i>Covered Species</i>	<i>Natural Communities Supporting Species Habitat</i>
San Joaquin kit fox	
<i>Breeding, foraging, and dispersal habitat</i>	Grassland
<i>Foraging and dispersal habitat</i>	Agricultural land
Riparian woodrat	Valley/Foothill Riparian
Salt marsh harvest mouse	
<i>Wetland habitat</i>	Tidal brackish emergent wetland, alkali seasonal wetland complex, managed wetlands
<i>Upland habitat</i>	Grassland
Riparian brush rabbit	Valley/Foothill Riparian
Townsend's western big-eared bat	
<i>Roosting and primary foraging habitat</i>	Valley/Foothill Riparian
<i>Primary foraging habitat</i>	Valley/Foothill riparian
<i>Secondary foraging habitat</i>	Tidal Perennial Aquatic, Tidal Mudflats, Tidal Brackish Emergent Wetland, Tidal Freshwater Emergent Wetland, Grassland, Alkali Seasonal Wetland Complex, Vernal Pool Complex, Other Natural Seasonal Wetland, Nontidal Permanent Freshwater Emergent Wetland, Nontidal Perennial Aquatic, Managed Wetlands, Other Natural Seasonal Wetlands, Grassland, Agricultural Lands
Suisun shrew	Tidal Brackish Emergent Wetland, Tidal Freshwater Emergent Wetland, Alkali Seasonal Wetland Complex, Nontidal Permanent Freshwater Emergent Wetland, , Managed Wetlands
Tricolored blackbird	
<i>Nesting habitat</i>	Tidal Brackish Emergent Wetland, Tidal Freshwater Emergent Wetland, Valley/Foothill Riparian, Nontidal Freshwater Permanent Emergent Wetland, Managed Wetlands
<i>Foraging habitat: non-agriculture</i>	Grassland, Alkali Seasonal Wetland Complex, Other Natural Seasonal Wetlands, Managed Wetlands ,
<i>Foraging habitat: agriculture</i>	Agricultural Land
Suisun song sparrow	Tidal Brackish Emergent Wetland, Tidal Freshwater Emergent Wetland, Alkali Seasonal Wetland, Nontidal Permanent Freshwater Emergent Wetland, Managed Wetlands
Yellow-breasted Chat	
<i>Primary nesting and migratory habitat (includes former Suisun Marsh category)</i>	Valley/Foothill Riparian
<i>Secondary nesting and migratory habitat</i>	Valley/Foothill Riparian
Least Bell's vireo	Valley/Foothill Riparian
Western burrowing owl	
<i>High-value habitat</i>	Grassland
<i>Moderate-value habitat</i>	Grassland, Alkali Seasonal Wetland Complex
<i>Low-value habitat</i>	Alkali Seasonal Wetland Complex, Vernal Pool Complex, Other Natural Seasonal Wetland, Managed Wetlands, Agricultural Lands
Western yellow-billed cuckoo	Valley/Foothill Riparian
California least tern	To come.
Greater sandhill crane	Alkali Seasonal Wetland Complex, Vernal Pool Complex, Other Natural Seasonal Wetlands, Managed Wetlands, Grassland, Agricultural Lands

¹ See species habitat models (Appendix A) for description of specific conditions under which each natural community supports habitat for each species.

<i>Covered Species</i>	<i>Natural Communities Supporting Species Habitat</i>
California black rail	Tidal Brackish Emergent Wetland, Tidal Freshwater Emergent Wetland, Alkali Seasonal Wetland Complex, Nontidal Permanent Freshwater Emergent Wetland, , Managed Wetlands
California clapper rail	Tidal Brackish Emergent Wetland, Tidal Freshwater Emergent Wetland, Alkali Seasonal Wetland Complex, Nontidal Permanent Freshwater Emergent Wetland,
Swainson's hawk	
<i>Nesting habitat</i>	Valley/Foothill Riparian
<i>Foraging habitat</i>	Grassland, Alkali Seasonal Wetland Complex, Other Natural Seasonal Wetlands, Managed Wetlands, Agricultural Lands
White-tailed kite	
<i>Breeding habitat</i>	Valley/Foothill Riparian
<i>Foraging habitat</i>	Grassland, Alkali Seasonal Wetland Complex, Other Natural Seasonal Wetlands, Managed Wetlands, Agricultural Lands
Giant garter snake	
<i>Primary Zone: Aquatic breeding, foraging, and movement</i>	Tidal Perennial Aquatic, Tidal Freshwater Emergent Wetland, Other Natural Seasonal Wetlands, Nontidal Permanent Freshwater Emergent Wetland
<i>Primary zone: Upland aestivation and movement</i>	Grassland, Alkali Seasonal Wetland Complex, Vernal Pool Complex, Other Natural Seasonal Wetland, Managed Wetlands, Agricultural land
Western pond turtle	
<i>Aquatic habitat</i>	Tidal Perennial Aquatic, Tidal Freshwater Emergent Wetland
<i>Dispersal habitat</i>	Managed Wetlands, Other Natural Seasonal Wetlands, Agricultural land
<i>Upland nesting and overwintering</i>	Valley/Foothill Riparian, Grassland
California red-legged frog	
<i>Aquatic habitat</i>	Tidal Freshwater Emergent Wetland, Nontidal Freshwater Permanent Emergent Wetland, Managed Wetlands
<i>Upland cover and dispersal habitat</i>	Valley/Foothill Riparian, Grassland
<i>Dispersal habitat</i>	Agricultural land
Western spadefoot toad	
<i>Aquatic breeding habitat</i>	Vernal Pool Complex, Other Natural Seasonal Wetland, Nontidal Perennial Aquatic,
<i>Terrestrial cover and aestivation habitat</i>	Grassland, Alkali Seasonal Wetland Complex
California tiger salamander	
<i>Aquatic breeding habitat</i>	Vernal Pool Complex, Other Natural Seasonal Wetland
<i>Terrestrial cover and aestivation habitat</i>	Grassland, Alkali Seasonal Wetland Complex
Valley elderberry longhorn beetle	
<i>Riparian vegetation</i>	Valley/Foothill Riparian
<i>Non-riparian channels and grasslands</i>	Grassland
Vernal pool shrimp species (Conservancy fairy shrimp, longhorn fairy shrimp, vernal pool fairy shrimp, mid valley fairy shrimp, California linderiella)	Vernal Pool Complex
Vernal pool plant species (Alkali milk-vetch, San Joaquin spearscale, Boggs Lake hedge-hyssop, Heckard's peppergrass, legenere)	Vernal Pool Complex
Heartscale and brittlescale	Alkali Seasonal Wetland Complex, Vernal Pool Complex, Grassland

<i>Covered Species</i>	<i>Natural Communities Supporting Species Habitat</i>
Slough thistle	Valley/Foothill Riparian
Suisun thistle and soft bird's-beak	Tidal Brackish Emergent Wetland
Delta button celery	Valley/Foothill Riparian, Alkali Seasonal Wetland Complex, Vernal Pool Complex
Dwarf downingia	Vernal Pool Complex
Carquinez goldenbush	Grassland, Alkali Seasonal Wetland Complex, Vernal Pool Complex
Delta tule pea and Suisun marsh aster	Tidal Brackish Emergent Wetland, Tidal Freshwater Emergent Wetland, Valley/Foothill Riparian
Mason's lilaopsis and delta mudwort	Tidal mudflats
Side-flowering skullcap	Valley/Foothill Riparian
Caper-fruited tropidocarpum	Grassland

Table 3.10. Expected Extent of Conserved Natural Communities in Conservation Zones 1-11 with BDCP Implementation

<i>Natural Communities</i>	<i>Total Extent (acres)</i>	<i>Total Existing Preserved (acres)</i>	<i>Percent Existing Preserved (acres)</i>	<i>BDCP Preserved (acres)</i>	<i>Total Preserved with BDCP Implementation</i>	<i>Percent Preserved with BDCP Implementation</i>
Tidal perennial aquatic	86,240	18,080	21.0	To come.	To come.	To come.
Tidal mudflat ¹	Not available.	Not available.	Not available.	To come.	To come.	To come.
Tidal brackish emergent wetland	8,351	5,102	61.1	To come.	To come.	To come.
Tidal freshwater emergent wetland	8,947	4,990	55.8	To come.	To come.	To come.
Valley foothill riparian	17,337	5,338	30.8	To come.	To come.	To come.
Grassland	62,880	14,984	23.8	To come.	To come.	To come.
Alkali seasonal wetland complex	3,723	2,769	74.4	To come.	To come.	To come.
Vernal pool complex	6,958	4,379	62.9	To come.	To come.	To come.
Other natural seasonal wetland	265	205	77.2	To come.	To come.	To come.
Nontidal permanent freshwater emergent wetland	1,134	408	36.0	To come.	To come.	To come.
Nontidal perennial aquatic	5,341	1,239	23.2	To come.	To come.	To come.
Managed wetlands	64,844	52,676	81.2	To come.	To come.	To come.
Agricultural lands	503,779	57,168	11.3	To come.	To come.	To come.
Alfalfa	82,283	3,665	4.5	To come.	To come.	To come.
Irrigate Pasture	49,693	12,748	25.7	To come.	To come.	To come.
Vineyard	28,901	2,476	8.6	To come.	To come.	To come.
Orchard	18,020	343	1.9	To come.	To come.	To come.
Rice	12,637	2,202	17.4	To come.	To come.	To come.
Other Cultivated Crops	229,828	24,736	10.8	To come.	To come.	To come.
<i>Subtotal: Cropland only</i>	421,361	46,171	11.0	To come.	To come.	To come.
Other Agricultural lands	82,418	10,997	13.3	To come.	To come.	To come.
<i>Subtotal: All agricultural land</i>	503,779	57,168	11.3	To come.	To come.	To come.
Total	769,799	167,338	21.7	To come.	To come.	To come.

Notes:

1. Tidal mudflats are not delineated within the BDCP land cover type GIS data base, but are subsumed in acreages shown for tidal communities.

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

Ecosystem-Level Goals and Objectives	
<i>[The following goals and objectives are proposed to be added to provide NCCP “landscape-level” goals and objectives.]</i>	
Problem Statement: Habitat loss, fragmentation, and degradation within and outside the BDCP Plan Area have disrupted ecosystem function and large-scale habitat connectivity that are necessary for sustaining covered and other native species and maintaining biodiversity.	
Goal ECSY6: Protect, enhance, and restore or create large landscapes within the range of physical and biological attributes (e.g., hydrology, soil, plant associations) necessary to sustain covered species abundance and habitat, and to preserve native biodiversity.	Applicable Conservation Measures
Objective ECSY6.1: Protect 26,320-40,340 acres of BDCP natural communities that support covered species habitats.	CM11 Channel Margin Habitat Enhancement CM18 Preserve Natural Communities
Objective ECSY6.2: Protect a range of environmental gradients (e.g., slope, elevation, soils) across a diversity of natural communities.	CM18 Preserve Natural Communities
Objective ECSY6.3: Restore or create 77,600 acres of natural communities that support habitat for the covered species.	CM10 Tidal Habitat Restoration CM11 Channel Margin Habitat Enhancement CM12. Riparian Habitat Restoration CM13 Seasonally Inundated Floodplain Restoration CM16 Restore Vernal Pool Complex Terrain CM17 Restore Grassland Communities
Objective ECSY6.4: Manage protected and restored or created habitats to enhance habitat functions for associated covered and other native species over the term of the BDCP, including non-native predators and competitors.	CM19 Enhance and Manage Preserved Natural Communities
Problem Statement: The variability and range of disturbance regimes or dynamic ecosystem physical and chemical processes such as tidal and nontidal inundation dynamics, seasonal fluvial flooding and low flow dynamics, and nutrient flows have been drastically altered or eliminated in the BDCP Plan Area due to the widespread damping or elimination of those dynamics through the modification of ecosystem hydrology, conversion of native habitat to agricultural systems, residential and commercial development, and other anthropogenic activities which have resulted in the degradation or loss of habitat.	
Goal ECSY7: Maintain and rehabilitate ecosystem processes that	

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

support natural communities and covered and other native species and their habitats.	
Objective ECSY7.1: Maintain and improve disturbance regimes and other processes that support functioning natural communities.	CM10 Tidal Habitat Restoration CM13 Seasonally Inundated Floodplain Restoration CM19 Enhance and Manage Preserved Natural Communities
Problem Statement: Habitat destruction and fragmentation have reduced and isolated patches of habitat for native species within and outside of the BDCP Plan Area. This has disrupted existing patterns of individual dispersal and gene flow between populations, and threatens the health and survival of the species.	
Goal ECSY8: Maintain and enhance connectivity among protected lands to provide for the movement of native organisms among habitat areas and to facilitate genetic exchange among populations.	
Objective ECSY8.1: Protect corridors of habitat that provide linkages among protected habitat areas within and adjacent to the Planning Area.	CM18 Preserve Natural Communities
Objective ECSY8.2: Improve habitat corridors that allow covered and other native wildlife to move into protected habitats from adjacent lands and among habitat areas within protected lands.	CM10 Tidal Habitat Restoration CM11 Channel Margin Habitat Enhancement CM12. Riparian Habitat Restoration CM13 Seasonally Inundated Floodplain Restoration CM17 Restore Grassland Communities CM18 Preserve Natural Communities CM19 Enhance and Manage Preserved Natural Communities
Problem Statement: The effects of climate change on the BDCP Plan Area are expected to have far-reaching and potentially dramatic impacts on wildlife and their habitats. Sea-level rise will inundate some subsided and low-lying terrestrial habitat. Other effects of climate change are expected to be more complex. For example, changes in temperature and precipitation may cause some areas of suitable habitat to become unsuitable for some species while other currently unsuitable habitats may become suitable for other species. Many habitats and species are expected to be affected and their temporal dynamics and spatial distributions will change in unpredictable ways.	
Goal ECSY9: Protect lands with a sufficient range of conditions to accommodate future anticipated shifts in distributions of covered species and natural communities with climate change.	
Objective ECSY9.1: Protect sufficient upland transitional habitat	CM10 Tidal Habitat Restoration

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

area adjacent to restored brackish and freshwater tidal habitats to allow for the future upslope natural establishment of tidal marsh with sea level rise.	CM18 Preserve Natural Communities
Natural Community Goals and Objectives	
Tidal Perennial Aquatic	
Problem Statement: The historical functions of tidal perennial aquatic communities of the Delta have been substantially reduced from historical conditions through the effects of tidal habitat loss and conversion, fragmentation of remaining aquatic habitats, and the deterioration of natural tidal gradients.	
Goal TANC1: Restore or create tidal perennial aquatic communities that support habitats for covered and other native species and that support aquatic food web processes.	
Objective TANC1.1: Restore or create at least 10,000 acres of subtidal aquatic habitat in Conservation Zones 1, 2, 5, 7, and 11 that supports aquatic food production and habitat for covered and other native species in accordance with the BDCP implementation schedule for tidal habitat restoration presented in Chapter 6, <i>Plan Implementation</i> .	CM10 Tidal Habitat Restoration
Objective TANC1.2: Within the restored/created natural community, restore or create at least 1,100 acres of tidal aquatic western pond turtle habitat.	CM10 Tidal Habitat Restoration
Objective TANC1.3: Within the restored/created natural community, restore or create at least 600 acres of tidal aquatic giant garter snake habitat.	CM10 Tidal Habitat Restoration

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

Objective TANC1.4: Within the restored/created natural community, restore or create at least 1,500 acres of California least tern foraging habitat.	CM10 Tidal Habitat Restoration
Objective TANC1.5: Maintain and enhance the habitat functions of BDCP restored shallow subtidal aquatic habitats for covered fish and other native species over the term of the BDCP.	CM1 Water Facilities and Operations
Tidal Mudflat	
Problem Statement: The extent of tidal mudflats within the Delta and Suisun Marsh have been substantially reduced with construction of levees and resultant channelization of Delta waterways, and conversion of tidal marshes to agricultural and other uses. This reduction in tidal mudflats has reduced the availability of foraging habitats that support shorebird migrations in the Pacific Flyway and has reduced the extent of silt substrates at the interface of open water and vegetated tidal marsh that support habitat for covered species.	
Goal MFNC1: Restore or create tidal mudflats to provide foraging habitat for shorebirds and wading birds and to provide substrates suitable for the natural establishment of covered plant species.	
Objective MFNC1.1: Restore or create at least 20 linear miles of tidal mudflat substrate s that supports Delta tule pea, Mason’s lilaeopsis, delta mudwort, and Suisun Marsh aster habitat as a component of BDCP restored brackish and freshwater tidal habitat in accordance with the habitat BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	CM10 Tidal Habitat Restoration CM11 Channel Margin Habitat Enhancement
Objective MFNC1.2: Maintain and enhance the habitat and ecosystem functions of BDCP restored tidal mudflat as a component of BDCP restored brackish and freshwater tidal habitat for covered and other native species over the term of the BDCP.	CM1 Water Facilities and Operations CM19 Enhance and Manage Preserved Natural Communities
Tidal Brackish Emergent Wetland	
Problem Statement: Substantial reduction in the extent, distribution, and condition of historical tidal brackish emergent wetland natural	

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

community (brackish marshes) that surrounded the periphery of Suisun Bay has reduced the extent and diversity of tidal brackish habitats for associated covered and other native plant and wildlife species.	
Goal BMNC1: Restore or create tidal brackish emergent wetlands that support habitats for covered and other native species and to support aquatic food production and processes.	
Objective BMNC1.1: Restore or create 65,000 acres of tidal habitat of which at least 3,000 acres will be brackish tidal marsh plain habitat in Conservation Zone 11 that supports patches of salt marsh harvest mouse, Suisun shrew, Suisun song sparrow, California black rail, California clapper rail, Suisun thistle, soft bird's-beak, delta tule pea, Suisun Marsh aster, delta mudwort, and Mason's lilaepsis habitat in accordance with the tidal marsh BDCP restoration implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	CM10 Tidal Habitat Restoration
Objective BMNC1.2: Restore or create at least 900 acres of tidal freshwater marsh in Conservation Zone 5 that in future years with sea level rise could support salt marsh harvest mouse, Suisun shrew, Suisun song sparrow, and California clapper rail brackish tidal marsh habitat in accordance with the BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	CM10 Tidal Habitat Restoration
Objective BMNC1.3: Maintain and enhance the habitat and ecosystem functions of BDCP restored tidal brackish emergent wetlands for covered and other native species over the term of the BDCP.	CM19 Enhance and Manage Preserved Natural Communities
Tidal Freshwater Emergent Wetland	
Problem Statement: Substantial reduction in the extent, distribution, and condition of tidal freshwater marshes that historically covered most of the Delta that resulted from agricultural conversion and the modification of natural Delta hydrology has reduced the extent and diversity of tidal	

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

freshwater habitats for associated covered and other native plant and wildlife species.	
Goal FMNC1: Restore or create tidal freshwater emergent wetlands that support habitats for covered and other native species and to support aquatic food production and web processes.	
Objective FMNC1.1: Restore or create 65,000 acres of tidal habitat of which at least 9,700 acres will be freshwater tidal marsh plain habitat in Conservation Zones 1, 2, 4, 5, and 7 that supports patches of California black rail, giant garter snake, western pond turtle, Suisun Marsh aster, delta tule pea, Suisun Marsh aster, delta mudwort, and Mason's lilaeopsis habitat in accordance with the tidal marsh BDCP restoration implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	CM10 Tidal Habitat Restoration
Objective FMNC1.2: Maintain and enhance the habitat and ecosystem functions of BDCP restored tidal freshwater marshes for covered and other native species over the term of the BDCP.	CM19 Enhance and Manage Preserved Natural Communities
Non-Tidal Permanent Freshwater Emergent Wetland	
Problem Statement: Substantial reduction in the extent, distribution, and condition of historical nontidal permanent freshwater emergent wetland (freshwater marshes) that resulted from agricultural conversion and the deterioration of natural hydrology has reduced the extent and diversity of freshwater marsh communities for associated covered and other native plant and wildlife species.	

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

<p>Goal NWNC1: Protect, enhance, and create non-tidal permanent freshwater emergent wetland communities that support habitat for covered and other native species.</p>	
<p>Objective NWNC1.1: Create 400 acres of non-tidal marsh of which freshwater emergent wetland vegetation is a component that functions as habitat for the giant garter snake, tricolored black bird, and western pond turtle within or adjacent to habitat occupied by the Caldoni Marsh/White Slough and Yolo/Willow Slough giant garter snake subpopulations in Conservation Zones 2 and 4 in accordance with the habitat BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i>.</p>	CM 15 Restore Nontidal Marsh
<p>Objective NWNC1.2: Protect 1,000 acres of giant garter snake habitat within or adjacent to habitat occupied by the Yolo/Willow Slough giant garter snake subpopulation in Conservation Zone 2 that includes patches of freshwater emergent wetland supporting tricolored blackbird, giant garter snake, and western pond turtle habitat and created non-tidal marsh in accordance with the habitat BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i>.</p>	CM18 Preserve Natural Communities
<p>Objective NWNC1.3: Protect 1,000 acres of giant garter snake habitat within or adjacent to habitat occupied by the Caldoni Marsh/White Slough giant garter snake subpopulation in Conservation Zone 4 that includes patches of freshwater emergent wetland supporting tricolored blackbird, giant garter snake, and western pond turtle habitat and created non-tidal marsh in accordance with the habitat BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i>.</p>	CM18 Preserve Natural Communities
<p>Objective NWNC1.4: Maintain and enhance the habitat functions of protected and created non-tidal freshwater emergent wetlands for</p>	CM19 Enhance and Manage Preserved Natural Communities

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

covered and other native species over the term of the BDCP.	
Non-Tidal Perennial Aquatic	
Problem Statement: The distribution and historical functions of nontidal perennial aquatic communities of the Delta have been substantially reduced from historical conditions through the effects of agricultural conversion and land management practices resulting in the loss of natural hydrology.	

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

<p>Goal NANC1: Preserve, enhance, and restore non-tidal perennial aquatic communities that support habitat for covered and other native species.</p>	
<p>Objective NANC1.1: Create 400 acres of non-tidal marsh of which open water is a component that functions as habitat for the giant garter snake and western pond turtle within or adjacent to habitat occupied by the Caldoni Marsh/White Slough and Yolo/Willow Slough giant garter snake subpopulations in Conservation Zones 2 and 4 in accordance with the habitat BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i>.</p>	
<p>Objective NANC1.2: Protect 1,000 acres of giant garter snake habitat within or adjacent to habitat occupied by the Yolo/Willow Slough giant garter snake subpopulation in Conservation Zone 2 that includes patches of open water supporting giant garter snake and western pond turtle habitat and created non-tidal marsh in accordance with the habitat BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i>.</p>	CM18 Preserve Natural Communities
<p>Objective NANC1.3: Protect 1,000 acres of giant garter snake habitat within or adjacent to habitat occupied by the Caldoni Marsh/White Slough giant garter snake subpopulation in Conservation Zone 4 that includes patches of open water supporting giant garter snake and western pond turtle habitat and created non-tidal marsh in accordance with the habitat BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i>.</p>	CM18 Preserve Natural Communities
<p>Objective NANC1.4: Maintain and enhance the habitat functions of protected and created non-tidal open water habitats in conjunction with for covered and other native species over the term</p>	CM19 Enhance and Manage Preserved Natural Communities

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

of the BDCP.	
Valley/Foothill Riparian	
Problem Statement: Substantial reduction in the extent, distribution, and condition of Valley/foothill riparian communities that historically occurred along the upper elevation margins of the Delta and along natural levees along Delta channels from agricultural conversion, stream channelization, and urbanization has reduced the extent and diversity of valley/foothill riparian habitats for associated covered and other native plant and wildlife species.	
Goal VRNC1: Restore or create riparian forest and scrub in locations with supporting hydrology to improve native biodiversity and provide habitat for covered and other native species.	
Objective VRNC1.1: Restore or create at least 5,000 acres of riparian forest and scrub in within Conservation Zones 1, 2, 4, 5, 7, and/or 11 that supports patches of riparian woodrat, Townsend's big-eared bat,, western pond turtle, valley elderberry longhorn beetle, slough thistle, delta button celery, Suisun Marsh aster, and side-flowering skullcap habitat in accordance with the BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	CM12 Riparian Habitat Restoration
Objective VRNC1.2: Of the 5,000 acres of restored/created riparian habitat, restore/create and manage at least 100 acres riparian scrub within or adjacent to occupied riparian brush rabbit habitat in Conservation Zone 7 to support riparian brush rabbit habitat.	CM12 Riparian Habitat Restoration
Objective VRNC1.3: Of the 5,000 acres of restored/created riparian habitat, restore/create and manage at least 100 acres of riparian woodland in Conservation Zone 7 to support riparian woodrat habitat.	CM12 Riparian Habitat Restoration

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

Objective VRNC1.4: Of the 5,000 acres of restored/created riparian habitat, restore/create at least 4,000 acres riparian forest that supports Swainson's hawk and white-tailed kite nesting habitat.	CM12 Riparian Habitat Restoration
Objective VRNC1.5: Of the 5,000 acres of restored/created riparian habitat, restore/create at least 2,000 acres riparian forest and scrub that supports yellow-breasted chat and least Bell's vireo habitat.	CM12 Riparian Habitat Restoration
Objective VRNC1.6: Of the 5,000 acres of restored/created riparian habitat, restore/create at least 1,000 acres riparian forest that supports western yellow-billed cuckoo habitat.	CM12 Riparian Habitat Restoration
Objective VRNC1.7: Maintain and enhance the habitat and ecosystem functions of BDCP restored riparian forest and scrub and patches of riparian forest and scrub present on BDCP preserved lands over the term of the BDCP.	CM19 Enhance and Manage Preserved Natural Communities
Grassland	
Problem Statement: Loss, fragmentation, and degradation of grasslands from agricultural conversion, urbanization, and invasion of non-native species have reduced the extent, distribution, and condition of historical grasslands that surrounded the Delta. These changes have adversely affected overall ecological function and value of grasslands for associated covered species and other native species.	
Goal GRNC1: Protect large patches of interconnected annual grasslands that represent a range of ecological gradients and are adjacent to other conserved lands.	
Objective GRNC1.1: Protect 8,000 acres of grassland in Conservation Zones 1, 8, and 11 that support western burrowing owl, white-tailed kite, western spadefoot, and California tiger salamander habitat in accordance with the BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	CM18 Preserve Natural Communities
Objective GRNC1.2: Of the 8,000 acres of protected grassland,	CM18 Preserve Natural Communities

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

protect at least 1,000 acres in Conservation Zone 8 that supports San Joaquin kit fox breeding, foraging, and dispersal habitat.	
Objective GRNC1.3: Of the 8,000 acres of protected grassland, protect at least 4,000 acres within eight miles of occupied Swainson's hawk nesting habitat that supports Swainson's hawk foraging habitat.	CM18 Preserve Natural Communities
Objective GRNC1.4: Of the 8,000 acres of protected grassland, protect at least 1,000 acres supports contiguous California red-legged frog breeding, upland cover, and dispersal habitat in Conservation Zone 8.	CM18 Preserve Natural Communities
Goal GRNC2: Restore native grassland to improve connectivity, native biodiversity, and provide habitat for covered and other native species.	
Objective GRNC2.1: Restore 2,000 acres of grassland in Conservation Zones 1 and 11 to increase connectivity among fragmented patches of protected grassland, alkali seasonal wetland complex, and vernal pool complex communities that support high habitat functions for western burrowing owl, western spadefoot toad, and California tiger salamander, heartscale, brittlescale, San Joaquin spearscale, Carquinez goldenbush.	CM17 Restore Grassland Communities
Goal GRNC3: Enhance protected grassland to improve native biodiversity, habitat heterogeneity, and increase the ability of these communities to support populations of covered and other native species.	
Objective GRNC3.1: Maintain and, where habitat functions for covered species can be increased, increase the diversity and relative cover of native grasses and forbs.	CM19 Enhance and Manage Preserved Natural Communities
Goal GRNC4: Increase burrow availability for California tiger salamander, California red-legged frog, western burrowing owl, San Joaquin kit fox, western spadefoot toad, and other burrow-dependent species.	
Objective GRNC4.1: Maintain and, where habitat functions for	CM19 Enhance and Manage Preserved Natural Communities

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

covered species can be increased, increase the distribution and abundance of fossorial mammals in protected grassland habitats.	
Goal GRNC5: Increase prey availability (e.g. ground squirrels) for San Joaquin kit fox, western burrowing owl, Swainson’s hawk, and white-tailed kite.	
Objective GRNC5.1: Maintain and, where habitat functions for covered species can be increased, increase the distribution and abundance of small mammals in protected grasslands.	CM19 Enhance and Manage Preserved Natural Communities
Alkali Seasonal Wetland Complex	
Problem Statement: Conversion of land for agricultural and urban uses has eliminated or degraded the habitat functions of alkali seasonal wetland complex natural community through direct removal of vegetation, removal of watershed topography with land leveling, and establishment of non-native plants. These reductions in the extent, distribution, and condition of alkali seasonal wetland complex have reduced the diversity of native plant species uniquely associated with alkali soils and habitat for associated covered and other native wildlife species.	
Goal AWNC1: Protect alkali seasonal wetland complexes that represent a range of alkali seasonal wetland complex conditions that are adjacent to other conserved lands.	
Objective AWNC1.1: Protect 400 acres of alkali seasonal wetland complex in Conservation Zones 1, 8, and/or 11 in accordance with the BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	CM18 Preserve Natural Communities
Objective AWNC1.2: Of the 400 acres of protected alkali seasonal wetland complex, protect 150 acres that supports heartscale and brittle-scale habitat.	CM18 Preserve Natural Communities
Objective AWNC1.3: Of the 400 acres of protected alkali seasonal wetland complex, protect at least 100 acres that supports delta button celery habitat	CM18 Preserve Natural Communities
Goal AWNC2: Enhance protected alkali seasonal wetland complex to improve native biodiversity, habitat heterogeneity, and increase the ability of this community to support populations of covered and other	

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

native species.	
Objective AWNC2.1: Maintain and, where habitat functions for covered species can be increased, increase the diversity and relative cover of native grasses and forbs.	CM19 Enhance and Manage Preserved Natural Communities
Vernal Pool Complex	
Problem Statement: Conversion of land for agricultural and urban uses has eliminated or degraded the habitat functions and value of vernal pool complex natural community through direct removal of vegetation, the removal of vernal pool watershed topography with land leveling, and disruption of natural seasonal hydrology by flood irrigation. The reduction in the extent, distribution, and condition of vernal pools has reduced the diversity of native vernal pool plant species and habitat for associated covered and other native wildlife species.	
Goal VPNC1: Protect vernal pool complexes that represent a range of vernal pool complex conditions that are adjacent to other conserved lands.	
Objective VPNC1.1: Protect 300 acres of vernal pool complex that supports habitat for the western spadefoot toad, California tiger salamander, and the covered vernal pool shrimp and plant species in Conservation Zones 1, 8, and 11 in accordance with the BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	CM18 Preserve Natural Communities
Goal VPNC2: Restore vernal pool complex to improve native biodiversity and provide habitat for covered and other native species.	
Objective VPNC2.1: Restore 200 acres of vernal pool complex in Conservation Zones 1, 8, and/or 11 within patches of protected grasslands that supports habitat for the western spadefoot toad, California tiger salamander, and the covered vernal pool shrimp and plant species in accordance with the BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	CM16 Restore Vernal Pool Complex Terrain
Goal VPNC3: Enhance protected vernal pool complex terrain to improve native biodiversity, habitat heterogeneity, and increase the	

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

ability of this community to support populations of covered and other native species.	
Objective VPNC3.1: Maintain and, where habitat functions for covered species can be increased, increase the diversity and relative cover of native grasses and forbs.	CM19 Enhance and Manage Preserved Natural Communities
Agricultural Habitats	
Problem Statement: Some covered species utilize agricultural habitats and in some cases have come to rely on the habitat value of certain agricultural landscapes, practices, and crop types. Removing agricultural habitats through restoration of tidal and non-tidal wetland communities will reduce the extent of upland agricultural habitats and influence the distribution and abundance of some covered species.	
Goal ALNC1: Maintain and increase habitat functions for covered and other native species that are supported by agricultural land cover types and management practices.	
Objective ALNC1.1: Maintain the functions of 4,600 acres of rice lands as habitat for tricolored blackbird, white-tailed kite, giant garter snake, waterfowl, and migrant shorebirds in Conservation Zone 2 in accordance with the BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> . This objective may be partially or fully achieved by maintaining an equivalent extent of natural or managed wetlands that support habitat functions similar to rice lands for associated covered and other native wildlife species.	CM18 Preserve Natural Communities
Objective ALNC1.2: Maintain and protect (through easement for fee title) the functions of 12,020 to 28,040 acres of non-rice agricultural lands as foraging habitat for tricolored black bird, Swainson's hawk, and white-tailed kite that are located within 8 miles of occupied Swainson's hawk nesting habitat in accordance with the BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> . This objective may be partially or fully achieved by maintaining equivalent habitat values through protection of other land cover types that support habitat functions	CM18 Preserve Natural Communities

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

similar to non-rice agricultural lands for associated covered and other native species.	
Objective ALNC1.3: Of the maintained 12,020 to 28,040 acres of non-rice agricultural lands, maintain at least 3,900 acres of pasture that supports moderate-value western burrowing owl foraging habitat. This objective may be partially or fully achieved by maintaining equivalent or higher habitat values through preservation of other land cover types that support habitat functions similar to alfalfa fields for associated covered and other native species.	CM18 Preserve Natural Communities
Objective ALNC1.4: Of the maintained 12,020 to 28,040 acres of non-rice agricultural lands, maintain at least 4,850 acres that supports greater sandhill crane foraging habitat within its Primary Winter Use Area in Conservation Zones 3, 4, and/or 5. This objective may be partially or fully achieved by maintaining equivalent or higher habitat values through protection of other land cover types that support habitat functions similar to alfalfa fields for associated covered and other native species.	CM18 Preserve Natural Communities
Objective ALNC1.5: Of the maintained 12,020 to 28,040 acres of non-rice agricultural lands, annually manage two 160 acre parcels located within the greater sandhill crane within or adjacent to foraging habitat areas within its Primary Winter Use Area to create two crane winter roosting sites.	CM18 Preserve Natural Communities
Objective ALNC1.6: Protect 1,000 acres of giant garter snake habitat within or adjacent to habitat occupied by the Yolo/Willow Slough giant garter snake subpopulation in Conservation Zone 2 that includes agricultural lands supporting giant garter snake and western pond turtle habitat in accordance with the habitat BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	CM18 Preserve Natural Communities
Objective NANC1.7: Protect 1,000 acres of giant garter snake habitat within or adjacent to habitat occupied by the Caldoni	CM18 Preserve Natural Communities

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

Marsh/White Slough giant garter snake subpopulation in Conservation Zone 4 that includes agricultural lands supporting giant garter snake and western pond turtle habitat in accordance with the habitat BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	
Objective ALNC1.8: Maintain and protect small but important wildlife habitats associated with agricultural lands that occur within BDCP conserved agricultural lands, including isolated valley oak trees, trees and shrubs along field borders and roadsides, remnant groves, riparian corridors, water conveyance channels, grasslands, and wetlands.	CM18 Preserve Natural Communities
Managed Wetlands	
Problem Statement: Restoration of tidal wetlands will replace some existing managed wetlands that currently provide habitat for wintering and breeding waterfowl and migrant shorebirds. While tidal restoration is expected to replace most of the habitat functions removed through this conversion, it could potentially affect the distribution and abundance of some species.	
Goal MWNC1: Maintain the current level of habitat functions provided by existing managed wetlands in the Plan Area and Suisun Marsh through enhancement and restoration of natural communities on BDCP conservation lands such that those wildlife functions enable eventual achievement of the Central Valley Joint Venture (CVJV) Implementation Plan's waterfowl and shorebird conservation targets for the Delta and Yolo Basin.	
Objective MWNC1.1: Maintain the level of wintering and breeding waterfowl habitat functions currently supported by habitats in the Plan Area and Suisun Marsh through protection, restoration, and management of habitat of equivalent function on BDCP conservation lands.	CM10 Tidal Habitat Restoration CM17 Restore Grassland Communities CM18 Preserve Natural Communities
Objective MWNC1.2: Maintain the current level of migrant shorebird habitat functions currently supported by habitats in the Plan Area and Suisun Marsh through protection, restoration, and	CM10 Tidal Habitat Restoration CM18 Preserve Natural Communities

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

management of habitat of equivalent function on BDCP conservation lands.	
Other Natural Seasonal Wetland	
Problem Statement: Other natural seasonal wetlands are generally degraded natural habitats (e.g., vernal pools) that are interspersed within the agricultural landscape. While disturbed, they may still provide some limited value to some covered species (e.g., vernal pool fairy shrimp). Conversion of these areas to tidal wetlands could potentially remove sites that are currently occupied by covered species.	
Goal ONSW1: Manage other natural seasonal wetlands within maintained and protected agricultural habitat areas to increase habitat functions in support of covered species as appropriate.	
Objective ONSW1.1: Integrate management of other natural seasonal wetlands with management of BDCP maintained and protected agricultural lands to increase habitat functions for covered species.	CM18 Preserve Natural Communities
Covered Plant Species Goals and Objectives	
Alkali Milkvetch	
Problem Statement: Alkali milkvetch is generally confined to small scattered populations growing in vernal pools and swales on alkaline clay soils. Its population dynamics are highly variable and it may persist on particular sites as a long-lived soil seed bank. If rare individuals occur on unprotected land they are especially vulnerable to agriculture intensification or development. BDCP tidal marsh restoration activities could also affect occurrences.	
Goal ALMI1: Protect occurrences of unprotected alkali milkvetch.	
Objective ALMI1.1: Protect at least 3 unprotected occurrences of alkali milkvetch in Conservation Zones 1, 8, or 11. .	CM18 Preserve Natural Communities
Objective ALMI1.2: Maintain and enhance the habitat functions of preserved alkali milkvetch habitat over the term of the BDCP.	CM19 Enhance and Manage Preserved Natural Communities
Brittlescale	
Problem Statement: Brittlescale is found only in very limited habitat types in close proximity to hydrological features such as stream corridors and playa pools which are located on either alluvium associated with the Montezuma Block along the western boundary of the BDCP Plan Area or on alluvium associated with tertiary formations located along the southwest boundary of the BDCP Plan Area. The population sizes of the occurrences tend to be very small. Throughout its range it has been impacted by development, agricultural intensification, conversion of habitat	

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

to waterfowl habitat, and invasive species. BDCP tidal marsh restoration could affect populations.	
Goal BRSC1: Protect and enhance brittlescale occurrences and habitat to provide for its conservation.	
Objective BRSC1.1: Protect at least 3 occurrences of unprotected brittlescale in Conservation Zones 1, 8 and/or 11 in accordance with the BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	CM18 Preserve Natural Communities
Objective BRSC 1.2: Maintain and enhance the habitat functions of protected brittlescale occurrences over the term of the BDCP.	CM19 Enhance and Manage Preserved Natural Communities
Heartscale	
Problem Statement: Heartscale is found only in very limited habitat types in close proximity to hydrological features such as stream corridors and playa pools which are located on either alluvium associated with the Montezuma Block along the western boundary of the BDCP Plan Area or on alluvium associated with tertiary formations located along the southwest boundary of the BDCP Plan Area. The population sizes of the occurrences tend to be very small. Throughout its range it has been impacted by development, agricultural intensification, conversion of habitat to waterfowl habitat, and invasive species. BDCP tidal marsh restoration activities could potentially affect occurrences.	
Goal HASC1: Protect and enhance heartscale occurrences and habitat to provide for its conservation.	
Objective HASC1.1: Protect at least 3 unprotected occurrences of heartscale in Conservation Zones 1, 8 and/or 11 in accordance with the BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	CM18 Preserve Natural Communities
Objective HASC 1.2: Maintain and enhance the habitat functions of protected heartscale occurrences over the term of the BDCP.	CM19 Enhance and Manage Preserved Natural Communities
Suisun Thistle	
Problem Statement: Suisun thistle is found within the BDCP Plan Area as a few small populations in Suisun Marsh. Threats to the species include the loss of habitat, the elimination or muting of tidal regimes, wildfire, overgrazing and trampling by livestock, rooting by feral pigs, and invasion of its habitat by perennial pepperweed. BDCP tidal marsh restoration activities could potentially affect occurrences.	
Goal SUTH1: Protect and maintain occurrences Suisun thistle in	

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

Suisun Marsh.	
Objective SUTH1.1: Protect 3 unprotected occurrences of Suisun thistle in Suisun Marsh in Conservation Zone 11 in accordance with the BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	CM18 Preserve Natural Communities
Objective SUTH1.2: Maintain and enhance the habitat functions of protected Suisun thistle occurrences over the term of the BDCP.	CM19 Enhance and Manage Preserved Natural Communities
Soft Bird's-Beak	
Problem Statement: Soft bird's-beak is found within the BDCP Plan Area as a few small populations in Suisun Marsh. Threats to the species include the loss of habitat, the elimination or muting of tidal regimes, overgrazing and trampling by livestock, rooting by feral pigs, invasion of habitat by non-native annual plants that are inappropriate hosts, and invasion of its habitat by perennial pepperweed. BDCP tidal restoration activities could potentially affect occurrences.	
Goal SOBB1: Protect and maintain occurrences soft bird's-beak in Suisun Marsh.	
Objective SOBB1.1: Protect 3 unprotected occurrences of soft bird's-beak in Suisun Marsh in Conservation Zone 11 in accordance with the BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	CM18 Preserve Natural Communities
Objective SOBB1.2: Maintain and enhance the habitat functions of protected soft bird's-beak occurrences over the term of the BDCP.	CM19 Enhance and Manage Preserved Natural Communities
Carquinez Goldenbush	
Problem Statement: Carquinez goldenbush is found only in a very limited geographical range and the population sizes of each occurrence are very small. Some of the occurrences are found near the transition zone between tidal brackish emergent wetland and upland communities. It is not known why the abundance and distribution of Carquinez goldenbush is so limited. BDCP tidal restoration activities could potentially affect occurrences.	
Goal CAGO1: Protect and enhance Carquinez goldenbush occurrences and habitat to provide for its conservation.	

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

Objective CAGO1.1: Protect at least 3 unprotected occurrences of Carquinez goldenbush in Conservation Zones 1 and/or 11 in accordance with the BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	CM18 Preserve Natural Communities
Objective CAGO 1.2: Maintain and enhance the habitat functions of protected Carquinez goldenbush occurrences over the term of the BDCP.	CM19 Enhance and Manage Preserved Natural Communities
Heckard's Peppergrass	
Problem Statement: Heckard's peppergrass is generally confined to small scattered populations growing in vernal pools and swales on alkaline clay soils. If rare individuals occur on unprotected land they are especially vulnerable to agriculture intensification or development. BDCP tidal restoration activities could also potentially affect occurrences.	
Goal HEPE1: Protect occurrences of Heckard's peppergrass.	
Objective HEPE1.1: Protect at least 2 unprotected occurrences of Heckard's peppergrass in Conservation Zones 1, 8, or 11 in accordance with the BDCP implementation schedule presented in Chapter 6, <i>Plan Implementation</i> .	CM18 Preserve Natural Communities
Objective HEPE1.2: Maintain and enhance the habitat functions of protected Heckard's peppergrass occurrences over the term of the BDCP.	CM19 Enhance and Manage Preserved Natural Communities
Caper-fruited Troidocarpum	
Problem Statement: Caper-fruited troidocarpum was historically distributed along the southwestern boundary of the BDCP Plan Area but today may only reside as seeds in a long-lived soil seed bank. It is sporadically distributed in the inner southern Coast Range. Its potential habitat in the BDCP Plan Area ranges from pastures to abandoned dry-farmed grainlands to areas that were not farmed but which have been invaded by Eurasian annual grasses. Based on its historical distribution in the BDCP Planning Area, most impacts have occurred through intensive agriculture and urbanization or other development activities. BDCP tidal restoration activities could also potentially affect occurrences.	
Goal CFTR1: Protect occurrences of Caper-fruited troidocarpum.	
Objective CFTR 1.1: Protect occurrences of caper-fruited troidocarpum that reestablish on BDCP conservation areas.	CM18 Preserve Natural Communities
Objective CFTR1.2: Maintain and enhance the habitat functions	CM19 Enhance and Manage Preserved Natural Communities

Table 3.11 Terrestrial Conservation Measures that Meet BDCP Conservation Strategy Goals and Objectives

of protected caper-fruited tropidocarpum occurrences over the term of the BDCP.	
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