

**Appendix 10C      Special-status Wildlife  
Impacts Tables**

# Appendix 10C Special-status Wildlife Impacts Tables

This appendix contains the special-status wildlife impacts tables. To develop the tables, biologists overlaid GIS data for permanent and temporary impact areas from Project alternatives onto modeled habitat for each species or group of species (Appendix 10B, *Wildlife Habitat Models and Methods*). The acreages of permanent and temporary impact areas from Alternatives 1 and 3 are reported together because impacts from these alternatives would be similar, and those for Alternative 2 are reported separately. In addition, the acreage totals for indirect impact areas are included for vernal pool branchiopods.

**Table 10C-1. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Conservancy Fairy Shrimp, Vernal Pool Fairy Shrimp, and Vernal Pool Tadpole Shrimp (Vernal Pool Branchiopods) by Project Component**

	<b>Alternatives 1 and 3 Permanent Impacts</b>	<b>Alternatives 1 and 3 Temporary Impacts</b>	<b>Alternatives 1 and 3 Indirect Impacts</b>	<b>Alternative 2 Permanent Impacts</b>	<b>Alternative 2 Temporary Impacts</b>	<b>Alternative 2 Indirect Impacts</b>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	0	0	--	<1	0	--
Regulating Reservoirs and Conveyance Complex	16	0	--	16	0	--
Sites Reservoir Inundation Area	257	0	--	252	0	--
Inlet/Outlet Works	<1	0	--	<1	0	--
Dams and Dikes	13	0	--	10	0	--
Conveyance to Sacramento River	0	0	--	0	0	--
Roads	78	0	--	78	0	--
Recreation Areas	<1	0	--	0	0	--
Sites Reservoir and Related Facilities	2	0	--	2	0	--
<b>Total Impacts</b>	<b>366</b>	<b>0</b>	<b>120</b>	<b>358</b>	<b>0</b>	<b>123</b>

<sup>1</sup> Potentially suitable habitat for vernal pool branchiopods consists of seasonal wetland and ditch land cover types when the ditch is adjacent to or surrounded by annual grassland.

**Table 10C-2. Acreages of Permanent and Temporary Impacts on Potential Antioch Dunes Anthicid Beetle and Sacramento Anthicid Beetle Habitat by Project Component**

	<b>Alternatives 1 and 3 Permanent Impacts<sup>1</sup></b>	<b>Alternatives 1 and 3 Temporary Impacts<sup>1</sup></b>	<b>Alternative 2 Permanent Impacts<sup>1</sup></b>	<b>Alternative 2 Temporary Impacts<sup>1</sup></b>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	0	0	0	0
Regulating Reservoirs and Conveyance Complex	0	0	0	0
Sites Reservoir Inundation Area	0	0	0	0
Inlet/Outlet Works	0	0	0	0
Dams and Dikes	0	0	0	0
Conveyance to Sacramento River	0	0	<1	<1
Roads	0	0	0	0
Recreation Areas	0	0	0	0
Sites Reservoir and Related Facilities	0	0	0	0
<b>Total Impacts</b>	<b>0</b>	<b>0</b>	<b>&lt;1</b>	<b>&lt;1</b>

<sup>1</sup> Potentially suitable habitat for Antioch Dunes anthicid beetle and Sacramento anthicid beetle consists of sandy banks and sand bars along the Sacramento River.

**Table 10C-3. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Valley Elderberry Longhorn Beetle by Project Component**

	<b>Alternatives 1 and 3 Permanent Impacts<sup>1</sup></b>	<b>Alternatives 1 and 3 Temporary Impacts<sup>1</sup></b>	<b>Alternative 2 Permanent Impacts<sup>1</sup></b>	<b>Alternative 2 Temporary Impacts<sup>1</sup></b>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	<1	3	<1	3
Regulating Reservoirs and Conveyance Complex	19	570	122	519
Sites Reservoir Inundation Area	11,764	0	11,020	0
Inlet/Outlet Works	25	9	35	3
Dams and Dikes	167	45	92	26
Conveyance to Sacramento River	<1	36	1	62
Roads	852	211	709	235
Recreation Areas	294	0	272	0
Sites Reservoir Related Facilities	427	99	458	99
<b>Total Impacts</b>	<b>13,548</b>	<b>973</b>	<b>12,709</b>	<b>947</b>

<sup>1</sup> Potentially suitable habitat for valley elderberry longhorn beetle consists of upland riparian, scrub-shrub wetland, forested wetland, blue oak woodland, oak savanna, annual grassland, and ruderal land cover types at elevations below 500 feet.

**Table 10C-4. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Monarch Butterfly by Project Component**

	<b>Alternatives 1 and 3 Permanent Impacts<sup>1</sup></b>	<b>Alternatives 1 and 3 Temporary Impacts<sup>1</sup></b>	<b>Alternative 2 Permanent Impacts<sup>1</sup></b>	<b>Alternative 2 Temporary Impacts<sup>1</sup></b>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	<1	4	<1	4
Regulating Reservoirs and Conveyance Complex	22	827	127	773
Sites Reservoir Inundation Area	12,978	0	12,216	0
Inlet/Outlet Works	25	9	35	3
Dams and Dikes	183	47	105	29
Conveyance to Sacramento River	1	45	1	77
Roads	1,111	273	1,476	295
Recreation Areas	785	0	731	0
Sites Reservoir and Related Facilities	437	100	467	100
<b>Total Impacts</b>	<b>15,542</b>	<b>1,305</b>	<b>15,158</b>	<b>1,281</b>

<sup>1</sup> Potentially suitable monarch butterfly habitat consists of annual grassland, blue oak woodland, chamise chaparral, ditch, ephemeral stream, foothill pine, forested wetland, freshwater marsh, hayfield (includes alfalfa), intermittent stream, managed wetland, mixed chaparral, oak savanna, ornamental woodland, perennial stream, pond, reservoir, ruderal, scrub-shrub wetland, seasonal wetland, and upland riparian land cover types.

**Table 10C-5. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Crotch Bumble Bee and Western Bumble Bee by Project Component**

	<b>Alternatives 1 and 3 Permanent Impacts<sup>1</sup></b>	<b>Alternatives 1 and 3 Temporary Impacts<sup>1</sup></b>	<b>Alternative 2 Permanent Impacts<sup>1</sup></b>	<b>Alternative 2 Temporary Impacts<sup>1</sup></b>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	<1	1	<1	<1
Regulating Reservoirs and Conveyance Complex	20	581	122	531
Sites Reservoir Inundation Area	11,815	0	11,114	0
Inlet/Outlet Works	24	9	35	3
Dams and Dikes	171	44	94	26
Conveyance to Sacramento River	<1	6	<1	6
Roads	961	239	1155	262
Recreation Areas	698	0	670	0
Sites Reservoir and Related Facilities	428	99	459	99
<b>Total Impacts</b>	<b>14,117</b>	<b>979</b>	<b>13,649</b>	<b>927</b>

<sup>1</sup> Potentially suitable Crotch bumble bee and western bumble bee habitat consists of annual grassland, chamise chaparral, mixed chaparral, oak savanna, and seasonal wetland land cover types, as well as ruderal areas that are adjacent to these land cover types.

**Table 10C-6. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Western Spadefoot by Project Components**

	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Temporary Impacts	Alternatives 1 and 3 Temporary Impacts	Alternative 2 Permanent Impacts	Alternative 2 Permanent Impacts	Alternative 2 Temporary Impacts	Alternative 2 Temporary Impacts
	Aquatic Habitat <sup>1</sup>	Upland Habitat <sup>2</sup>	Aquatic Habitat <sup>1</sup>	Upland Habitat <sup>2</sup>	Aquatic Habitat <sup>1</sup>	Upland Habitat <sup>2</sup>	Aquatic Habitat <sup>1</sup>	Upland Habitat <sup>2</sup>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	0	0	<1	0	<1	0	<1	0
Regulating Reservoirs and Conveyance Complex	<1	16	18	457	1	69	17	432
Sites Reservoir Inundation Area	440	11,420	0	0	431	10,724	0	0
Inlet/Outlet Works	<1	24	0	9	<1	35	0	3
Dams and Dikes	14	162	2	43	11	90	2	25
Conveyance to Sacramento River	0	0	3	0	0	0	3	0
Roads	69	946	26	230	82	1,264	24	254
Recreation Areas	2	745	0	0	1	693	0	0
Sites Reservoir and Related Facilities	6	426	<1	99	6	456	1	99
<b>Total Impacts</b>	<b>532</b>	<b>13,739</b>	<b>50</b>	<b>838</b>	<b>532</b>	<b>13,331</b>	<b>48</b>	<b>813</b>

<sup>1</sup> Potentially suitable western spadefoot aquatic habitat consists of intermittent stream and seasonal wetland land cover types.

<sup>2</sup> Potentially suitable western spadefoot upland habitat consists of annual grassland, blue oak woodland, chamise chaparral, foothill pine, mixed chaparral, and oak savanna within 1,200 feet of modeled aquatic habitat.



**Table 10C-7. Acreages of Permanent and Temporary Impacts on Modeled Habitat for California Red-legged Frog by Project Component**

	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Temporary Impacts	Alternatives 1 and 3 Temporary Impacts	Alternative 2 Permanent Impacts	Alternative 2 Permanent Impacts	Alternative 2 Temporary Impacts	Alternative 2 Temporary Impacts
	Aquatic Habitat <sup>1</sup>	Upland Habitat <sup>2</sup>	Aquatic Habitat <sup>1</sup>	Upland Habitat <sup>2</sup>	Aquatic Habitat <sup>1</sup>	Upland Habitat <sup>2</sup>	Aquatic Habitat <sup>1</sup>	Upland Habitat <sup>2</sup>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	0	0	0	0	0	0	0	0
Regulating Reservoirs and Conveyance Complex	<1	2	6	145	<1	2	6	145
Sites Reservoir Inundation Area	260	5,792	0	0	256	5,502	0	0
Inlet/Outlet Works	<1	7	0	1	<1	7	<1	2
Dams and Dikes	5	82	1	17	4	49	<1	12
Conveyance to Sacramento River	0	0	0	0	0	0	0	0
Roads	13	371	9	138	12	314	9	144
Recreation Areas	2	219	0	0	2	202	0	0
Sites Reservoir and Related Facilities	7	292	1	64	6	307	1	63
<b>Total Impacts</b>	<b>287</b>	<b>6,765</b>	<b>17</b>	<b>365</b>	<b>280</b>	<b>6,383</b>	<b>16</b>	<b>366</b>

<sup>1</sup> Potentially suitable California red-legged frog aquatic habitat consists of freshwater marsh, perennial stream, intermittent stream, pond, and reservoir (excluding Funks Reservoir).

<sup>2</sup> Potentially suitable California red-legged frog upland habitat consists of annual grassland, blue oak woodland, ephemeral stream, foothill pine, forested wetland, oak savanna, ruderal, scrub-shrub wetland, seasonal wetland, and upland riparian land cover types within 300 feet of aquatic habitat.

**Table 10C-8. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Western Pond Turtle by Project Component**

	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Temporary Impacts	Alternatives 1 and 3 Temporary Impacts	Alternative 2 Permanent Impacts	Alternative 2 Permanent Impacts	Alternative 2 Temporary Impacts	Alternative 2 Temporary Impacts
	Aquatic Habitat <sup>1</sup>	Upland Habitat <sup>2</sup>	Aquatic Habitat <sup>1</sup>	Upland Habitat <sup>2</sup>	Aquatic Habitat <sup>1</sup>	Upland Habitat <sup>2</sup>	Aquatic Habitat <sup>1</sup>	Upland Habitat <sup>2</sup>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	<1	<1	23	4	<1	<1	23	4
Regulating Reservoirs and Conveyance Complex	4	28	265	565	9	124	256	511
Sites Reservoir Inundation Area	525	11,758	0	0	515	11,013	0	0
Inlet/Outlet Works	<1	25	0	9	<1	35	<1	3
Dams and Dikes	16	166	3	45	12	92	3	26
Conveyance to Sacramento River	<1	1	9	41	1	1	119	76
Roads	80	1,028	29	242	94	1,376	27	266
Recreation Areas	2	781	0	0	2	728	0	0
Sites Reservoir and Related Facilities	9	426	1	99	8	458	1	99
<b>Total Impacts</b>	<b>636</b>	<b>14,213</b>	<b>330</b>	<b>1,005</b>	<b>642</b>	<b>13,827</b>	<b>429</b>	<b>985</b>

<sup>1</sup> Potentially suitable western pond turtle aquatic habitat consists of ditch, canal, perennial stream, intermittent stream, forested wetland, freshwater marsh, managed wetland, pond, reservoir, rice, scrub-shrub wetland, and seasonal wetland land cover types.

<sup>2</sup> Potentially suitable western pond turtle upland habitat consists of annual grassland, blue oak woodland, chamise chaparral, disturbed, foothill pine, mixed chaparral, oak savanna, ruderal, and upland riparian that is within 1,640 feet of modeled aquatic habitat.

**Table 10C-9. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Giant Gartersnake by Project Component**

	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Temporary Impacts	Alternatives 1 and 3 Temporary Impacts	Alternative 2 Permanent Impacts	Alternative 2 Permanent Impacts	Alternative 2 Temporary Impacts	Alternative 2 Temporary Impacts
	Aquatic Habitat <sup>1</sup>	Upland Habitat <sup>2</sup>	Aquatic Habitat <sup>1</sup>	Upland Habitat <sup>2</sup>	Aquatic Habitat <sup>1</sup>	Upland Habitat <sup>2</sup>	Aquatic Habitat <sup>1</sup>	Upland Habitat <sup>2</sup>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	<1	<1	21	4	<1	<1	21	4
Regulating Reservoirs and Conveyance Complex	1	8	1	2	1	2	0	0
Sites Reservoir Inundation Area	0	0	0	0	0	0	0	0
Inlet/Outlet Works	0	0	0	0	0	0	0	0
Dams and Dikes	0	0	0	0	0	0	0	0
Conveyance to Sacramento River	0	<1	6	0	1	1	116	45
Roads	<1	18	0	11	<1	17	0	0
Recreation Areas	0	0	0	0	0	0	0	0
Sites Reservoir and Related Facilities	0	0	0	0	0	0	0	0
<b>Total Impacts</b>	<b>2</b>	<b>26</b>	<b>28</b>	<b>17</b>	<b>2</b>	<b>20</b>	<b>137</b>	<b>49</b>

<sup>1</sup> Potentially suitable giant gartersnake aquatic habitat consists of canal, ditch, freshwater marsh, managed wetland, pond, and rice land cover types east of the GCID Main Canal, and east and west of the GCID Main Canal south of Stone Corral Creek.

<sup>2</sup> Potentially suitable giant gartersnake upland habitat consist of annual grassland, disturbed, and ruderal land cover types within 200 feet of suitable aquatic habitats.

**Table 10C-10. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Northern Harrier by Project Component**

	<b>Alternatives 1 and 3 Permanent Impacts</b>	<b>Alternatives 1 and 3 Temporary Impacts</b>	<b>Alternative 2 Permanent Impacts</b>	<b>Alternative 2 Temporary Impacts</b>
	<b>Nesting and Foraging Habitat<sup>1</sup></b>	<b>Nesting and Foraging Habitat<sup>1</sup></b>	<b>Nesting and Foraging Habitat<sup>1</sup></b>	<b>Nesting and Foraging Habitat<sup>1</sup></b>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	<1	25	<1	25
Regulating Reservoirs and Conveyance Complex	64	600	130	543
Sites Reservoir Inundation Area	12,262	0	11,633	0
Inlet/Outlet Works	23	7	32	3
Dams and Dikes	168	45	90	26
Conveyance to Sacramento River	<1	79	2	215
Roads	894	224	946	246
Recreation Areas	461	0	457	0
Sites Reservoir and Related Facilities	413	98	443	98
<b>Total Impacts</b>	<b>14,286</b>	<b>1,078</b>	<b>13,733</b>	<b>1,156</b>

<sup>1</sup> Potentially suitable nesting and foraging habitat for northern harrier consists of annual grassland, disturbed, ephemeral stream, freshwater marsh, hayfield (includes alfalfa), managed wetland, rice, row crops, ruderal, and seasonal wetland land cover types.

**Table 10C-11. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Burrowing Owl by Project Component**

	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Temporary Impacts	Alternative 2 Permanent Impacts	Alternative 2 Temporary Impacts
	Nesting and Foraging Habitat <sup>1</sup>	Nesting and Foraging Habitat <sup>1</sup>	Nesting and Foraging Habitat <sup>1</sup>	Nesting and Foraging Habitat <sup>1</sup>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	<1	5	<1	5
Regulating Reservoirs and Conveyance Complex	30	576	125	523
Sites Reservoir Inundation Area	12,006	0	11,383	0
Inlet/Outlet Works	23	7	32	3
Dams and Dikes	156	42	82	24
Conveyance to Sacramento River	<1	45	1	66
Roads	916	204	973	228
Recreation Areas	459	0	455	0
Sites Reservoir and Related Facilities	409	98	440	98
<b>Total Impacts</b>	<b>14,000</b>	<b>977</b>	<b>13,491</b>	<b>947</b>

<sup>1</sup> Potentially suitable nesting and foraging habitat for burrowing owl consists of annual grassland, hayfields (includes alfalfa), ruderal, disturbed, and developed land cover types.

**Table 10C-12. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Golden Eagle by Project Component**

	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Temporary Impacts	Alternatives 1 and 3 Temporary Impacts	Alternative 2 Permanent Impacts	Alternative 2 Permanent Impacts	Alternative 2 Temporary Impacts	Alternative 2 Temporary Impacts
	Nesting Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Nesting Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Nesting Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Nesting Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	0	0	0	0	0	0	0	0
Regulating Reservoirs and Conveyance Complex	0	19	0	567	0	121	0	517
Sites Reservoir Inundation Area	442	11,271	0	0	317	10,648	0	0
Inlet/Outlet Works	2	23	2	7	3	31	0	3
Dams and Dikes	10	155	2	42	10	81	2	23
Conveyance to Sacramento River	0	0	0	0	0	0	0	0
Roads	218	773	38	202	330	976	38	227
Recreation Areas	317	459	0	0	270	455	0	0
Sites Reservoir and Related Facilities	17	409	1	98	17	440	1	98
<b>Total Impacts</b>	<b>1,006</b>	<b>13,109</b>	<b>43</b>	<b>916</b>	<b>947</b>	<b>12,752</b>	<b>41</b>	<b>868</b>

<sup>1</sup> Potentially suitable nesting habitat for golden eagle consists of blue oak woodland, foothill pine, and oak savanna land cover types.

<sup>2</sup> Potentially suitable foraging habitat for golden eagle consists of annual grassland, oak savanna, chamise chaparral, and mixed chaparral land cover types.

**Table 10C-13. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Bald Eagle by Project Component**

	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Temporary Impacts	Alternative 2 Permanent Impacts	Alternative 2 Temporary Impacts
	Nesting and Foraging Habitat <sup>1</sup>	Nesting and Foraging Habitat <sup>1</sup>	Nesting and Foraging Habitat <sup>1</sup>	Nesting and Foraging Habitat <sup>1</sup>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	0	1	0	1
Regulating Reservoirs and Conveyance Complex	<1	225	1	224
Sites Reservoir Inundation Area	210	0	155	0
Inlet/Outlet Works	<1	0	<1	0
Dams and Dikes	8	2	8	2
Conveyance to Sacramento River	<1	2	<1	2
Roads	105	23	260	24
Recreation Areas	83	0	58	0
Sites Reservoir and Related Facilities	<1	<1	<1	0
<b>Total Impacts</b>	<b>407</b>	<b>253</b>	<b>482</b>	<b>253</b>

<sup>1</sup> Potentially suitable nesting and foraging habitat for bald eagle consists of blue oak woodland, foothill pine, forested wetland, perennial stream, reservoir, and upland riparian land cover types.

**Table 10C-14. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Swainson's Hawk and White-tailed Kite by Project Component**

	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Temporary Impacts	Alternatives 1 and 3 Temporary Impacts	Alternative 2 Permanent Impacts	Alternative 2 Permanent Impacts	Alternative 2 Temporary Impacts	Alternative 2 Temporary Impacts
	Nesting Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Nesting Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Nesting Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Nesting Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	0	<1	1	1	0	<1	1	1
Regulating Reservoirs and Conveyance Complex	<1	54	2	582	<1	122	1	531
Sites Reservoir Inundation Area	504	12,206	0	0	376	11,578	0	0
Inlet/Outlet Works	2	23	1	7	4	32	0	3
Dams and Dikes	12	166	2	44	12	89	3	25
Conveyance to Sacramento River	<1	<1	2	69	<1	1	2	95
Roads	226	865	40	222	288	918	40	245
Recreation Areas	322	459	0	0	273	455	0	0
Sites Reservoir and Related Facilities	17	411	2	98	17	441	1	98
<b>Total Impacts</b>	<b>1,083</b>	<b>14,184</b>	<b>50</b>	<b>1,023</b>	<b>970</b>	<b>13,637</b>	<b>48</b>	<b>998</b>

<sup>1</sup> Potentially suitable nesting habitat for Swainson's hawk and white-tailed kite consists of blue oak woodland, forested wetland, oak savanna, ornamental woodland, and upland riparian land cover types.

<sup>2</sup> Potentially suitable foraging habitat for Swainson's hawk and white-tailed kite consists of annual grassland, hayfield, managed wetland, oak savanna, row crops, ruderal, and seasonal wetland land cover types.



**Table 10C-15. Acreages of Permanent and Temporary Impacts on Potential Mountain Plover Wintering Habitat<sup>1</sup> by Project Component**

	<b>Alternatives 1 and 3 Permanent Impacts</b>	<b>Alternatives 1 and 3 Temporary Impacts</b>	<b>Alternative 2 Permanent Impacts</b>	<b>Alternative 2 Temporary Impacts</b>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	0	<1	0	<1
Regulating Reservoirs and Conveyance Complex	54	582	122	532
Sites Reservoir Inundation Area	12,201	0	11,573	0
Inlet/Outlet Works	23	7	32	3
Dams and Dikes	166	44	89	25
Conveyance to Sacramento River	0	29	0	29
Roads	852	220	909	242
Recreation Areas	459	0	455	0
Sites Reservoir and Related Facilities	411	98	442	98
<b>Total Impacts</b>	<b>14,166</b>	<b>980</b>	<b>13,621</b>	<b>929</b>

<sup>1</sup> Potentially suitable wintering habitat for mountain plover consists of annual grassland, hayfield (includes alfalfa), row crops, and seasonal wetland land cover types.

**Table 10C-16. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Western Yellow-billed Cuckoo by Project Component**

	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Temporary Impacts	Alternative 2 Permanent Impacts	Alternative 2 Temporary Impacts
	Nesting and Foraging Habitat <sup>1</sup>	Nesting and Foraging Habitat <sup>1</sup>	Nesting and Foraging Habitat <sup>1</sup>	Nesting and Foraging Habitat <sup>1</sup>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	0	0	0	0
Regulating Reservoirs and Conveyance Complex	0	0	0	0
Sites Reservoir Inundation Area	0	0	0	0
Inlet/Outlet Works	0	0	0	0
Dams and Dikes	0	0	0	0
Conveyance to Sacramento River	0	0	0	0
Roads	0	0	0	0
Recreation Areas	0	0	0	0
Sites Reservoir and Related Facilities	0	0	0	0
<b>Total Impacts</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

<sup>1</sup> Potentially suitable nesting and foraging habitat for western yellow-billed cuckoo consists of forested wetland, scrub-shrub wetland, and upland riparian land cover types with a minimum patch size of 37 acres, a minimum patch width of 328 feet, and a maximum canopy gap width of 328 feet.

**Table 10C-17. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Yellow-breasted Chat and Yellow Warbler by Project Component**

	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Temporary Impacts	Alternative 2 Permanent Impacts	Alternative 2 Temporary Impacts
	Nesting and Foraging Habitat <sup>1</sup>	Nesting and Foraging Habitat <sup>1</sup>	Nesting and Foraging Habitat <sup>1</sup>	Nesting and Foraging Habitat <sup>1</sup>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	<1	2	<1	2
Regulating Reservoirs and Conveyance Complex	0	3	<1	1
Sites Reservoir Inundation Area	54	0	49	0
Inlet/Outlet Works	<1	0	<1	0
Dams and Dikes	2	<1	2	<1
Conveyance to Sacramento River	<1	2	<1	2
Roads	10	3	48	3
Recreation Areas	4	0	3	0
Sites Reservoir and Related Facilities	<1	<1	1	0
<b>Total Impacts</b>	<b>71</b>	<b>10</b>	<b>104</b>	<b>8</b>

<sup>1</sup> Potentially suitable nesting and foraging habitat for yellow-breasted chat and yellow warbler consists of forested wetland, scrub-shrub wetland, and upland riparian land cover types.

**Table 10C-18. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Song Sparrow (“Modesto” Population) by Project Component**

	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Temporary Impacts	Alternative 2 Permanent Impacts	Alternative 2 Temporary Impacts
	Nesting and Foraging Habitat <sup>1</sup>	Nesting and Foraging Habitat <sup>1</sup>	Nesting and Foraging Habitat <sup>1</sup>	Nesting and Foraging Habitat <sup>1</sup>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	<1	2	<1	2
Regulating Reservoirs and Conveyance Complex	<1	15	4	11
Sites Reservoir Inundation Area	92	0	87	0
Inlet/Outlet Works	<1	0	<1	0
Dams and Dikes	3	<1	2	<1
Conveyance to Sacramento River	<1	8	<1	8
Roads	12	3	49	3
Recreation Areas	4	0	3	0
Sites Reservoir and Related Facilities	1	<1	1	<1
<b>Total Impacts</b>	<b>112</b>	<b>28</b>	<b>147</b>	<b>25</b>

<sup>1</sup> Potentially suitable nesting and foraging habitat for song sparrow consists of forested wetland, freshwater marsh, managed wetland, scrub-shrub wetland, and upland riparian land cover types.

**Table 10C-19. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Bank Swallow by Project Component**

	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Temporary Impacts	Alternatives 1 and 3 Temporary Impacts	Alternative 2 Permanent Impacts	Alternative 2 Permanent Impacts	Alternative 2 Temporary Impacts	Alternative 2 Temporary Impacts
	Nesting Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Nesting Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Nesting Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Nesting Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	0	1	0	26	0	1	0	26
Regulating Reservoirs and Conveyance Complex	0	168	0	863	0	142	0	780
Sites Reservoir Inundation Area	0	12,941	0	0	0	12,183	0	0
Inlet/Outlet Works	0	25	0	9	0	35	0	3
Dams and Dikes	0	181	0	47	0	103	0	28
Conveyance to Sacramento River	0	1	0	98	0	2	0	242
Roads	0	1,131	0	270	0	1,451	0	293
Recreation Areas	0	780	0	0	0	728	0	0
Sites Reservoir and Related Facilities	0	436	0	100	0	467	0	100
<b>Total Impacts</b>	<b>0</b>	<b>15,664</b>	<b>0</b>	<b>1,413</b>	<b>0</b>	<b>15,111</b>	<b>0</b>	<b>1,472</b>

<sup>1</sup> Potentially suitable nesting habitat for bank swallow consists of the banks of the Sacramento River.

<sup>2</sup> Potentially suitable foraging habitat for bank swallow consists of annual grassland, blue oak woodland, barren, canal/ditch, chamise chaparral, disturbed, ephemeral stream, forested wetland, foothill pine, freshwater marsh, hayfield (includes alfalfa), intermittent stream, managed wetland, mixed chaparral, oak savanna, orchard, ornamental woodland, perennial stream, pond, reservoir, rice, row crops, ruderal, vineyard, scrub-shrub wetland, seasonal wetland, and upland riparian land cover types.

**Table 10C-20. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Tricolored Blackbird by Project Component**

	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Temporary Impacts	Alternatives 1 and 3 Temporary Impacts	Alternative 2 Permanent Impacts	Alternative 2 Permanent Impacts	Alternative 2 Temporary Impacts	Alternative 2 Temporary Impacts
	Nesting Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Nesting Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Nesting Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Nesting Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	0	0	0	21	0	0	0	21
Regulating Reservoirs and Conveyance Complex	<1	54	12	582	4	122	9	531
Sites Reservoir Inundation Area	38	11,548	0	0	38	10,920	0	0
Inlet/Outlet Works	0	23	0	7	0	32	0	3
Dams and Dikes	1	166	<1	44	<1	89	<1	25
Conveyance to Sacramento River	0	1	6	63	0	2	6	192
Roads	2	839	1	222	1	893	1	245
Recreation Areas	0	459	0	0	0	455	0	0
Sites Reservoir and Related Facilities	<1	411	<1	98	0	4412	<1	98
<b>Total Impacts</b>	<b>42</b>	<b>13,501</b>	<b>19</b>	<b>1,037</b>	<b>43</b>	<b>12,955</b>	<b>16</b>	<b>1,115</b>

<sup>1</sup> Potentially suitable nesting habitat for tricolored blackbird consists of freshwater marsh and managed wetland land cover types.

<sup>2</sup> Potentially suitable foraging habitat for tricolored blackbird consists of annual grassland, seasonal wetland, row crops, and rice (and ruderal land cover adjacent to these land cover types) within 3 miles of nesting habitat.

**Table 10C-21. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Pallid Bat and Long-eared Myotis by Project Component**

	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Temporary Impacts	Alternatives 1 and 3 Temporary Impacts	Alternative 2 Permanent Impacts	Alternative 2 Permanent Impacts	Alternative 2 Temporary Impacts	Alternative 2 Temporary Impacts
	Roosting/ Foraging Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Roosting/ Foraging Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Roosting/ Foraging Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Roosting/ Foraging Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	<1	<1	2	27	<1	1	2	27
Regulating Reservoirs and Conveyance Complex	104	65	40	829	12	130	14	772
Sites Reservoir Inundation Area	575	12,491	0	0	446	11,856	0	0
Inlet/Outlet Works	2	23	2	7	4	32	0	3
Dams and Dikes	13	172	2	45	12	93	3	26
Conveyance to Sacramento River	<1	<1	26	82	1	2	34	218
Roads	318	909	41	232	617	976	41	255
Recreation Areas	322	463	0	0	273	458	0	0
Sites Reservoir and Related Facilities	17	419	1	99	17	450	1	99
<b>Total Impacts</b>	<b>1,351</b>	<b>14,542</b>	<b>114</b>	<b>1,321</b>	<b>1,382</b>	<b>13,998</b>	<b>95</b>	<b>1,400</b>

<sup>1</sup> Potentially suitable roosting and foraging habitat for pallid bat and long-eared myotis consists of blue oak woodland, canal, chamise chaparral, developed, ditch, foothill pine, forested wetland, mixed chaparral, oak savanna, orchard, ornamental woodland, upland riparian land cover types.

<sup>2</sup> Potentially suitable foraging habitat for pallid bat and long-eared myotis consists of annual grassland, barren, ephemeral stream, freshwater marsh, intermittent stream, perennial stream, scrub-shrub wetland, seasonal wetland, pond, disturbed, hayfield, managed wetland, reservoir, rice, row crops, ruderal, and vineyard land cover types.

**Table 10C-22. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Townsend's Big-eared Bat and Silver-haired Bat by Project Component**

	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Temporary Impacts	Alternatives 1 and 3 Temporary Impacts	Alternative 2 Permanent Impacts	Alternative 2 Permanent Impacts	Alternative 2 Temporary Impacts	Alternative 2 Temporary Impacts
	Roosting/ Foraging Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Roosting/ Foraging Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Roosting/ Foraging Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Roosting/ Foraging Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	<1	<1	2	27	<1	1	2	27
Regulating Reservoirs and Conveyance Complex	104	65	40	829	12	130	14	772
Sites Reservoir Inundation Area	575	12,491	0	0	446	11,856	0	0
Inlet/Outlet Works	2	23	2	7	4	32	0	3
Dams and Dikes	13	172	2	45	12	93	3	26
Conveyance to Sacramento River	<1	<1	26	82	1	2	34	218
Roads	318	909	41	232	617	976	41	255
Recreation Areas	322	463	0	0	273	458	0	0
Sites Reservoir and Related Facilities	17	419	1	99	17	450	1	99
<b>Total Impacts</b>	<b>1,351</b>	<b>14,542</b>	<b>114</b>	<b>1,321</b>	<b>1,382</b>	<b>13,998</b>	<b>95</b>	<b>1,400</b>

<sup>1</sup> Potentially suitable roosting and foraging habitat for Townsend's big-eared bat and silver-haired bat consists of blue oak woodland, canal, chamise chaparral, developed, ditch, foothill pine, forested wetland, mixed chaparral, oak savanna, orchard, ornamental woodland, upland riparian land cover types.

<sup>2</sup> Potentially suitable foraging habitat for Townsend's big-eared bat and silver-haired bat consists of annual grassland, barren, ephemeral stream, freshwater marsh, intermittent stream, perennial stream, scrub-shrub wetland, seasonal wetland, pond, disturbed, hayfield, managed wetland, reservoir, rice, row crops, ruderal, and vineyard land cover types.



**Table 10C-23. Acreages of Permanent and Temporary Impacts on Modeled Habitat for Western Red Bat and Hoary Bat by Project Component**

	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Permanent Impacts	Alternatives 1 and 3 Temporary Impacts	Alternatives 1 and 3 Temporary Impacts	Alternative 2 Permanent Impacts	Alternative 2 Permanent Impacts	Alternative 2 Temporary Impacts	Alternative 2 Temporary Impacts
	Roosting/ Foraging Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Roosting/ Foraging Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Roosting/ Foraging Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>	Roosting/ Foraging Habitat <sup>1</sup>	Foraging Habitat <sup>2</sup>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	0	1	1	28	0	1	1	28
Regulating Reservoirs and Conveyance Complex	100	68	28	842	8	134	6	779
Sites Reservoir Inundation Area	504	12,562	0	0	376	11,927	0	0
Inlet/Outlet Works	2	23	2	7	4	32	0	3
Dams and Dikes	12	172	2	45	12	94	3	26
Conveyance to Sacramento River	<1	1	17	91	<1	2	18	235
Roads	231	996	41	232	522	1,070	41	255
Recreation Areas	322	463	0	0	273	458	0	0
Sites Reservoir and Related Facilities	17	419	1	99	17	450	1	99
<b>Total Impacts</b>	<b>1,188</b>	<b>14,705</b>	<b>92</b>	<b>1,345</b>	<b>1,212</b>	<b>14,168</b>	<b>70</b>	<b>1,425</b>

<sup>1</sup> Potentially suitable roosting and foraging habitat for western red bat and hoary bat consists of blue oak woodland, chamise chaparral, foothill pine, forested wetland, mixed chaparral, oak savanna, orchard, ornamental woodland, upland riparian land cover types.

<sup>2</sup> Potentially suitable foraging habitat for western red bat and hoary bat consists of annual grassland, barren, ephemeral stream, freshwater marsh, intermittent stream, perennial stream, pond, scrub-shrub wetland, seasonal wetland, canal, developed, disturbed, ditch, hayfield, managed wetland, reservoir, rice, row crops, ruderal, and vineyard land cover types.

**Table 10C-24. Acreages of Permanent and Temporary Impacts on Modeled Habitat for American Badger by Project Component**

	<b>Alternatives 1 and 3 Permanent Impacts<sup>1</sup></b>	<b>Alternatives 1 and 3 Temporary Impacts<sup>1</sup></b>	<b>Alternative 2 Permanent Impacts<sup>1</sup></b>	<b>Alternative 2 Temporary Impacts<sup>1</sup></b>
Sacramento River Diversion and Conveyance to Regulating Reservoirs	<1	2	<1	2
Regulating Reservoirs and Conveyance Complex	30	573	125	519
Sites Reservoir Inundation Area	11,736	0	10,988	0
Inlet/Outlet Works	24	9	35	3
Dams and Dikes	165	45	91	26
Conveyance to Sacramento River	0	2	0	2
Roads	1,022	242	1,332	267
Recreation Areas	779	0	726	0
Sites Reservoir and Related Facilities	428	99	459	99
<b>Total Impacts</b>	<b>14,184</b>	<b>972</b>	<b>13,756</b>	<b>918</b>

<sup>1</sup> Potentially suitable habitat for American badger consists of annual grassland, blue oak woodland, chamise chaparral, ephemeral stream, foothill pine, mixed chaparral, and oak savanna land cover types, as well as disturbed and ruderal land cover types that abut potentially suitable habitat.