

Appendix 8P. Consolidated Biology Impact Matrix

In response to multiple comments received from the Wildlife Agencies, including Comments A0024-21 and A0024-25 on the Draft EIR/EIS, stating that a consolidated matrix was not provided that would have assisted the reviewing agencies and members of the public with comparing the varying extent of impacts. In order to allow an overall project comparison, various segment alternatives were incorporated to create 4 composite route alternatives between the Imperial Valley Substation and the San Diego load center. These 4 composite segments are described in Section 5 of the Recirculated Draft EIR/Supplemental Draft EIS, and it is these 4 routes (i.e., the Proposed Project, Final Environmentally Superior Northern Route, Final Environmentally Superior Southern Route, and SDG&E's "Enhanced" Northern Route) that are analyzed in this appendix. The following summary table was completed to assess the impacts and required mitigation associated with the four composite routes being compared in the Final EIR/EIS.

The impacts provided in the table below are based on the results of the surveys conducted in 2007 by Arcadis for the Proposed Project and by HELIX for the alternatives. Quantification of the Final Environmentally Superior Southern Route's impacts to least Bell's vireo, southwestern willow flycatcher, arroyo toad, and coastal California gnatcatcher included the results of the surveys conducted in 2007 and included the use of a Forest Service GIS layer of suitable (modeled) habitat for each species (USDA 2007). In areas where habitat assessments were not conducted in accordance with protocols established by the USDA Forest Service or where protocol surveys were not completed, the species were assumed to be present within the suitable (modeled) habitat.

No focused surveys for special status plant or wildlife species were completed for several components of these composite routes (e.g., the Chocolate Canyon Option, for the revisions to the BCD Alternative and BCD South Option, and the various reroutes that have been incorporated into the Environmentally Superior Northern Route, SDG&E's "Enhanced" Northern Route, and the Environmentally Superior Southern Route). Where suitable habitat was identified for special status wildlife species, it was assumed that those species were present. The table below includes impacts to assumed occupied habitat for wildlife species. Impacts to the number of individuals of each special status plant species is provided below; however, the impact numbers vary widely for the four composite routes because focused surveys were not completed for the portions of the routes that changed.

Table Ap. 8P-1. Consolidated Biology Impact Matrix				
	Proposed Project	Final Environmentally Superior Northern Route	SDG&E's "Enhanced" Northern Route	Final Environmentally Superior Southern Route
SENSITIVE VEGETATION COMMUNITIES				
<i>Permanent Impacts (acres)</i>				
Desert Scrub and Dune Habitats	213.54	198.31	196.61	93.08
Coastal and Montane Scrub Habitats	60.10	42.19	60.41	54.52
Grasslands and Meadows	66.20	72.65	63.46	14.37
Chaparrals	192.60	101.64	196.79	320.17
Woodlands and Forests	44.50	13.56	35.08	6.54
Herbaceous Wetlands, Freshwater, and Streams	1.14	0.53	0.51	0.13
Riparian Scrubs	7.60	3.72	5.09	0.57
Riparian Forests and Woodlands	5.80	0.44	4.99	0.58
Total Permanent Impacts to Sensitive Communities	591.48	433.04	562.94	489.96
<i>Temporary Impacts (acres)</i>				
Desert Scrub and Dune Habitats	819.11	491.80	510.64	269.47
Coastal and Montane Scrub Habitats	88.50	78.57	86.61	118.39
Grasslands and Meadows	235.50	158.03	211.01	172.89
Chaparrals	60.70	67.40	64.16	271.20
Woodlands and Forests	25.10	10.18	14.34	12.78
Herbaceous Wetlands, Freshwater, and Streams	1.43	1.32	1.40	3.03
Riparian Scrubs	12.55	6.68	6.63	1.08
Riparian Forests and Woodlands	3.00	0.89	1.63	<0.01
Total Temporary Impacts to Sensitive Communities	1,245.89	814.87	896.42	848.85
On-site Restoration Requirements	1,245.89	814.87	896.42	848.85
Off-site Mitigation Requirements	1,787.44	1,175.62	1,396.81	920.93

SPECIAL STATUS PLANT SPECIES¹				
<i>Impacts (number of individuals)²</i>				
Borrego bedstraw (SR)	60	0	60	0
California adolphia (L2)	1,920	0	1,920	0
Coves' cassia (L2)	357	0	357	0
Delicate clarkia (L1B)	225	225	225	0

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	Proposed Project	Final Environmentally Superior Northern Route	SDG&E's "Enhanced" Northern Route	Final Environmentally Superior Southern Route
Del Mar manzanita (FE)	78	0	78	0
Del Mar sand aster (L1B)	1	0	1	0
SPECIAL STATUS PLANT SPECIES¹				
Impacts (number of individuals)²				
Felt-leaved monardella (L1B)	70	70	70	70
Nuttall's scrub oak (L1B)	4,061	25	4,061	0
Ramona horkelia (L1B)	75	75	75	0
San Bernardino bluegrass (FE, FSS)	0	0	0	unknown ³
San Diego barrel cactus (L2)	92	0	92	0
San Diego gumplant (L1B)	5	5	5	0
San Diego sand aster (L1B)	865	1	865	1
San Diego sunflower (L1B)	403	339	403	0
San Diego thorn-mint (FT, SE)	0	0	0	unknown ⁴
San Felipe monardella (L1B)	300	0	300	0
Summer holly (L1B)	2	0	2	0

SPECIAL STATUS ANIMAL SPECIES				
Flat-tailed Horned Lizard				
Permanent Impacts (acres)				
Management Areas	85.07	78.56	78.11	22.62
Habitat Outside of Management Areas ⁵	55.59	97.62 ⁶	51.14	52.95
Total Permanent Impacts	140.66	176.18	129.25	75.57
Temporary Impacts (acres)				
Management Areas	266.60	188.17	186.43	91.31
Habitat Outside of Management Areas ⁵	341.50	133.29	140.25	141.53
Total Temporary Impacts	608.10	321.46	326.68	232.84
On-site Restoration Requirements	608.10	321.46	326.68	232.84
Off-site Mitigation Requirements⁷	1,172.70	985.26	935.73	403.48
Peninsular Bighorn Sheep				
Designated Critical Habitat				

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Permanent Impacts (acres)	57.16	0.41	55.24	60.42
Temporary Impacts (acres)	90.34	59.77	74.04	111.81
Off-site Mitigation Requirements (Critical Habitat)	466.60	121.59	424.28	525.71
On-site Restoration Requirements	90.34	59.77	74.04	111.81

Burrowing Owl				
Number of pairs impacted	1	3	3	0
Options for Mitigation (acreage required for acquisition and preservation)	Occupied Habitat	9.75	29.25	29.25
	Unoccupied Habitat Contiguous with Occupied Habitat	13.00	39.00	39.00
	Unoccupied Habitat	19.50	58.50	58.50
Least Bell's Vireo				
Permanent Impacts (acres)				
Occupied Habitat	1.32	0	1.02	1.41
Assumed Occupied Habitat	1.23	0	0.84	7.17 ⁸
Total Permanent Impacts	2.55	0	1.86	8.58
Temporary Impacts (acres)				
Occupied Habitat	1.21	0	0.03	0
Assumed Occupied Habitat	0.36	0	0.36	13.54 ⁸
Total Temporary Impacts	1.57	0	0.39	13.54
Off-site Mitigation Requirements	10.79	0	6.36	52.81
On-site Restoration Requirements	1.57	0	0.39	13.54
Southwestern willow flycatcher				
Designated Critical Habitat				
Permanent Impacts (acres)	0.48	0	<0.01	0
Temporary Impacts (acres)	0.88	0	0.42	0
Off-site Mitigation Requirements (Critical Habitat)	3.20	0	0.84	0
On-site Restoration Requirements	0.88	0	0.42	0

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	Proposed Project	Final Environmentally Superior Northern Route	SDG&E's "Enhanced" Northern Route	Final Environmentally Superior Southern Route
<i>Assumed Occupied Habitat</i>				
Permanent Impacts (acres)	1.23	0	0.84	22.75 ⁸
Temporary Impacts (acres)	0.36	0	0.36	33.14 ⁸
Off-site Mitigation Requirements (Occupied Habitat)	4.41	0	3.24	68.41
On-site Restoration Requirements	0.36	0	0.36	33.14
Desert pupfish				
Impacts to Designated Critical Habitat (acres)	0	0	0	0
Desert tortoise				
Impacts to Occupied Habitat (acres)	0	0	0	0
Golden Eagle				
Number of Nest Areas Impacted	4	1	4	4
Bald Eagle				
Number of Nest Areas Impacted	0	0	0	0
Quino Checkerspot Butterfly ¹¹				
<i>Designated Critical Habitat</i>				
Permanent Impacts (acres)	0	0	0	19.20
Temporary Impacts (acres)	0	0	0	55.72
Off-site Mitigation Requirements (Critical Habitat)	0	0	0	94.12
On-site Restoration Requirements	0	0	0	55.72
Arroyo Toad				
<i>Assumed Occupied Breeding Habitat</i>				
Permanent Impacts (acres)	1.38	0.32	1.38	0.20 ⁸
Temporary Impacts (acres)	0.27	0.32	0.27	0.00

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Off-site Mitigation Requirements (Breeding Habitat)	4.66	1.59	4.66	0.60
On-site Restoration Requirements	0.27	0.32	0.27	0.00
<i>Assumed Occupied Upland Habitat</i>				
Permanent Impacts (acres)	40.70	9.20	36.33	32.45 ⁸
Temporary Impacts (acres)	10.47	2.67	8.88	150.69 ⁸
Off-site Mitigation Requirements (Upland Habitat)	91.87	21.06	81.54	215.58
On-site Restoration Requirements	10.47	2.67	8.88	150.69

Stephens' Kangaroo Rat				
<i>Permanent Impacts (acres)</i>				
Occupied Habitat	21.21	111.28	19.35	0
Assumed Occupied Habitat	2.19	0.16	1.33	0
Total Permanent Impacts	23.40	111.44	20.68	0
<i>Temporary Impacts (acres)</i>				
Occupied Habitat	2.20	20.08	2.20	0
Assumed Occupied Habitat	62.89	61.15	62.67	0
Total Temporary Impacts	65.09	81.22	64.87	0
Off-site Mitigation Requirements (Occupied Habitat)	111.89	304.10	106.22	0
On-site Restoration Requirements	65.09	81.22	64.87	0

Coastal California Gnatcatcher				
Number of Pairs Affected	11	0	11	unknown ⁹
Number of Unpaired Individuals Affected	1	0	1	unknown ⁹
<i>Designated Critical Habitat</i>				
Permanent Impacts (acres)	5.43	7.20	9.64	2.22
Temporary Impacts (acres)	7.14	8.38	9.32	32.97
Off-site Mitigation Requirements (Critical Habitat)	10.87	14.40	19.28	4.44
On-site Restoration Requirements	7.14	8.38	9.32	32.97
<i>Occupied Habitat</i>				
Permanent Impacts (acres)	2.83	0	2.83	0

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Temporary Impacts (acres)	3.14	0	3.14	0
Off-site Mitigation Requirements (Occupied Habitat)	8.80	0	8.80	0
On-site Restoration Requirements	3.14	0	3.14	0
<i>Assumed Occupied Habitat</i>				
Permanent Impacts (acres)	0	0	0	25.52 ⁸
Temporary Impacts (acres)	0	0	0	52.69 ⁸
Off-site Mitigation Requirements (Occupied Habitat)	0	0	0	103.73
On-site Restoration Requirements	0	0	0	52.69

Fairy Shrimp (listed species)				
Number of Vernal Pools/Road Pools Affected¹⁰	7	0	7	0
<i>Permanent Impacts (acres)</i>				
Occupied Habitat	0.03	0	0.03	0
<i>Temporary Impacts (acres)</i>				
Occupied Habitat	0.13	0	0.13	0
Off-site Mitigation Requirements (Occupied Habitat)	0.22	0	0.22	0
On-site Restoration Requirements	0.13	0	0.13	0

¹ Note: impacts to special status vary widely between the four composite routes because no rare plant surveys were completed for several of the route components (e.g., the Chocolate Canyon Option, for the revisions to the BCD Alternative and BCD South Option, or for the various reroutes that have been incorporated into the Final Environmentally Superior Northern Route, SDG&E's "Enhanced" Northern Route, and the Final Environmentally Superior Southern Route). Please note also that additional individuals or species could be found and determined to be impacted as a result of the required pre-construction survey (see Mitigation Measure B-5a).

² Status of special status plant species is provided in parentheses for each species. Abbreviations are defined as follows: FE=federally endangered, FT=federally threatened, SR=state rare, L1B or L2=CNPS List 1B or CNPS List 2, FSS=Forest Service Sensitive

³ San Bernardino bluegrass is assumed to be present between Structures 159 and 161 of the BCD South Option Revision based on the presence of USDA Forest Service modeled habitat for the species (USDA, 2007).

⁴ San Diego thorn-mint is assumed to be present between Mile Posts MRD-13.7 and 16.1 based on the presence of USDA Forest Service modeled habitat for the species (USDA, 2007; see Impact B-5 in Section E.4.2.2 of the Draft EIR/EIS).

⁵ FTHL habitat outside of management areas was determined by the current distribution of the species (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003).

⁶ Includes impacts to San Felipe substation, as it is a part of the Final Environmentally Superior Northern Route. San Felipe substation would result in

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63.40 acres of permanent impacts to habitat outside of FTHL Management Areas (the substation would not result in temporary impacts to habitat outside of Management Areas).				
⁷ Mitigation for impacts to FTHL habitat follows the guidelines established in the Flat-Tailed Horned Lizard Rangewide Management Strategy (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003); the mitigation ratios for impacts to the various habitats are provided in Mitigation Measure B-7b.				
⁸ Quantification of the Final Environmentally Superior Southern Route's impacts to least Bell's vireo, southwestern willow flycatcher, arroyo toad, and coastal California gnatcatcher included the results of the surveys conducted in 2007 and included the use of a Forest Service GIS layer of suitable (modeled) habitat for each species (USDA 2007). In areas where habitat assessments were not conducted in accordance with protocols established by the USDA Forest Service or where protocol surveys were not completed, the species were assumed to be present within the suitable (modeled) habitat. Pre-construction surveys are required for each species, in accordance with Mitigation Measures B-7e, B-7j, and B-7l, respectively. The impacts and mitigation requirements provided in this matrix are considered the worst case scenario for impacts; mitigation requirements are expected to decrease as a result of the pre-construction surveys.				
⁹ Impacts would occur to several areas of suitable habitat assumed to be occupied by the coastal California gnatcatcher; focused surveys were not completed in these areas either because right-of-entry was not granted or because changes occurred to the route after the 2007 breeding season. As a result the number of pairs and number of individual coastal California gnatcatchers could not be determined for this route.				
¹⁰ Number of vernal pools and road pools containing listed fairy shrimp or with the potential to contain listed fairy shrimp (see Impact B-1 of the Draft EIR/EIS).				
¹¹ Impacts are not quantified for Quino habitat that is assumed to be occupied .				