

California High-Speed Rail Authority

Fresno to Bakersfield Section

Draft Supplemental
Environmental Impact
Report/Environmental
Impact Statement

Appendix 3.7-B
Comparison of Impacts on Biological
Resources by Alternative

November 2017



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Attachment 1

Potential Acreage of Special-Status Plant Species Habitat Impacted by the May 2014 Project and the F-B LGA (acres)

	May 2014 Project	F-B LGA
	Direct Impacts	Direct Impacts
Special-status plant species (unsurveyed potential suitable habitat that could support special-status plant species)	112.26	62.13

 = least-impact alternative

F-B LGA = Fresno to Bakersfield Locally Generated Alternative

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Attachment 2

Potential Acreage of Special-Status Wildlife Species Habitat Impacted by the May 2014 Project and the F-B LGA (acres)

	May 2014 Project		F-B LGA	
	Permanent Impacts	Temporary Impacts	Permanent Impacts	Temporary Impacts
Federally and State-Listed Species				
Tipton kangaroo rat (ASC, AGS, BAR, PAS)	68.83	194.51	77.59	39.74
Buena Vista Lake ornate shrew (Kern River) (AGS, CRP, IRF, IRH, LAC, RIV)	2.56	0.71	2.44	0.74
San Joaquin kit fox (Bakersfield)	413.64	265.04	273.11	159.86
<i>Urban (URB)</i>	322.65	68.92	231.06	114.40
<i>Agricultural (CRP, DGR, DOR, IGR, IRF, IRH, VIN)</i>	29.13	194.11	15.43	6.71
<i>Natural (ASC, AGS, BAR, PAS)</i>	61.86	2.01	26.62	38.75
Nelson's (San Joaquin) antelope squirrel (ASC, AGS, BAR, PAS)	68.83	194.51	77.59	39.74
Ringtail (AGS, RIV, VFR)	49.07	37.88	65.75	35.00
Golden eagle (ASC, AGS, BAR, CRP, FEW, IRH, PAS, URB, VFR)	626.49	371.65	525.61	157.03
Swainson's hawk (AGS, BAR, CRP, IRH, PAS, URB, LAC, VFR)	634.08	371.23	526.69	157.44
Western snowy plover (LAC)	7.59	1.89	0.00	0.00
White tailed kite (ASC, AGS, CRP, BAR, DOR, DGR, FEW, IRH, IRF, IGR, URB, VFR, VIN)	957.32	675.48	795.67	169.14

	May 2014 Project		F-B LGA	
	Permanent Impacts	Temporary Impacts	Permanent Impacts	Temporary Impacts
American peregrine falcon (AGS, BAR, CRP, FEW, IGR, IRH, LAC, RIV, URB, VFR)	632.47	373.62	545.96	160.65
Greater sandhill crane (AGS, DGR, CRP, FEW, IGR, IRH, IRF, LAC, VFR)	143.99	43.15	86.53	32.31
Bald eagle (AGS, BAR, FEW, LAC, RIV, VFR)	74.16	195.75	97.94	43.36
Other Special-Status Species				
Kern brook lamprey (Friant Kern Canal)	0.40	0.07	0.00	0.00
Western spadefoot (ASC, AGS, FEW, RIV)	60.58	39.98	62.75	35.00
Western pond turtle (AGS, FEW, LAC, PAS, RIV, VFR)	58.30	39.86	63.84	35.41
Silvery legless lizard (VFR)	0.70	0.30	1.13	0.41
San Joaquin whipsnake (ASC, AGS, PAS, VFR)	52.05	38.84	43.49	31.80
Coast (California) horned lizard (ASC, AGS, VFR)	50.41	38.75	43.49	31.80
Western burrowing owl (ASC, AGS, PAS, BAR, URB)	560.27	368.02	483.65	156.93
Special-Status Raptor Species (ASC, AGS, CRP, PAS, VFR, DGR, IGR, IRH, IRF)	150.24	43.74	85.44	31.90
Special-Status Passerine Species (ASC, AGS, CRP, PAS, VRI, FEW, LAC, RIV, DGR, IGR, IRH, IRF)	168.71	47.15	105.79	35.51

	May 2014 Project		F-B LGA	
	Permanent Impacts	Temporary Impacts	Permanent Impacts	Temporary Impacts
Special-Status Wading Birds, Shorebirds, and Duck Species (ASC, AGS, CRP, PAS, DGR, IGR, IRH, IRF, RIV, FEW, LAC)	168.00	46.85	105.79	35.51
Pallid bat (ASC, AGS, BAR, CRP, DGR, IGR, IRH, IRF, PAS, RIV, URB, VFR, VIN)	685.22	374.76	615.83	168.76
Dulzura pocket mouse (AGS)	37.50	36.10	—	—
Townsend's big-eared bat (ASC, AGS, BAR, CRP, IGR, IRH, IRF, PAS, VFR, URB, VIN, RIV)	661.46	374.55	—	—
Western mastiff bat (ASC, AGS, BAR, CRP, FEW, IGR, IRH, IRF, PAS, URB, VFR, VIN)	650.60	373.03	596.57	165.56
Western red bat (AGS, FEW, IRH, LAC, PAS, RIV, URB, VFR)	572.71	213.53	469.90	152.60
Tulare grasshopper mouse (ASC, AGS, VFR)	50.41	38.75	43.49	31.80
American badger (ASC, AGS, BAR, PAS, VFR)	69.54	194.81	77.59	39.74


= least-impact alternative
 — = no impact or not applicable
 ASC = Alkali Desert Scrub
 AGS = Annual Grassland
 BAR = Barren
 CRP = Cropland
 DGR = Dryland Grain Crops
 DOR = Deciduous Orchard
 EOR = Evergreen Orchard
 F-B LGA = Fresno to Bakersfield Locally Generated Alternative
 FEW = Fresh Emergent Wetland

IGR = Irrigated Grain Crops
 IRH = Irrigated Hayfield
 IRF = Irrigated Row and Field Crops
 LAC = Lacustrine
 PAS = Pasture
 RIV = Riverine
 VIN = Vineyard
 VFR, VRI = Valley Foothill Riparian
 VOW = Valley Oak Woodland
 URB = Urban

Attachment 3

Potential Acreage of Black Willow Thicket Impacts for the May 2014 Project and the F-B LGA (acres)

	Impact Type	May 2014 Project	F-B LGA
Black Willow Thickets	Direct Permanent	0.70	1.13
	Direct Temporary	0.30	0.41
GRAND TOTAL		1.00	1.54

 = least-impact alternative


Impacts for the May 2014 Project were calculated based on the Final EIR/EIS 15% engineering design Project Footprint, and impacts for the F-B LGA were calculated based on the Preliminary Engineering for Project Definition Project Footprint.

F-B LGA = Fresno to Bakersfield Locally Generated Alternative

Attachment 4

Potential Acreage of Riparian Area Impacts for the May 2014 Project and the F-B LGA (acres)

	Impact Type	May 2014 Project	F-B LGA
Riparian Areas ¹	Direct permanent	0.70	—
	Direct temporary	0.30	—
GRAND TOTAL		1.00	—

 = least-impact alternative

¹ Calculations are based on raw, unrounded geographic information system source data. As a result, the subtotals and totals may not match the rounded feature values because of the number of aquatic features. These minor discrepancies may result in small differences in the presentation of the acreage.

Impacts for the May 2014 Project were calculated based on the Final EIR/EIS 15% engineering design Project Footprint, and impacts for the F-B LGA were calculated based on the Preliminary Engineering for Project Definition Project Footprint.

EIR/EIS = Environmental Impact Report/Environmental Impact Statement

F-B LGA = Fresno to Bakersfield Locally Generated Alternative

Attachment 5

Potential Acreage of Waters of the U.S. Impacts for the May 2014 Project and the F-B LGA (acres)

Wetlands and Other Waters (TYPE/HSR water type)	Impact Type	May 2014 Project	F-B LGA
TOTAL IMPACTS ON WETLANDS ¹	Direct permanent	0.51	—
	Direct temporary	—	—
Seasonal wetland	Direct permanent	0.51	—
	Direct temporary	—	—
TOTAL IMPACTS ON OTHER WATERS OF THE U.S. ¹	Direct permanent	16.52	15.96
	Direct temporary	3.11	1.18
Canals/Ditches	Direct permanent	8.31	13.45
	Direct temporary	1.10	0.11
Man-made lacustrine	Direct permanent	6.35	1.38
	Direct temporary	1.61	0.66
Seasonal riverine	Direct permanent	1.86	1.13
	Direct temporary	0.40	0.41
TOTAL IMPACTS ON WATERS OF THE U.S. ¹	Direct permanent	17.03	15.96
	Direct temporary	3.11	1.18
	TOTAL DIRECT	20.14	17.14

☐ = least-impact alternative
 — = no impact or not applicable

¹ Calculations are based on raw, unrounded geographic information system source data. As a result, the subtotals and totals may not match the rounded feature values because of the number of aquatic features. These minor discrepancies may result in small differences in the presentation of the acreage.

Impact calculations in this table include project alternatives and station alternatives but do not include the heavy maintenance facility site alternatives.

Impacts for the May 2014 Project were calculated based on the Final EIR/EIS 15% engineering design Project Footprint, and impacts for the F-B LGA were calculated based on the Preliminary Engineering for Project Definition Project Footprint.

Impact types and/or existing condition types that do not appear in the table are not present in these alternatives.

EIR/EIS = Environmental Impact Report/Environmental Impact Statement

F-B LGA = Fresno to Bakersfield Locally Generated Alternative

HSR = high-speed rail

U.S. = United States