Table 4-5. Distances Used to Model the Extent of Construction-Related Temporary Direct Effects and Permanent Indirect Effects of Permanent Development Facility Projects on Modeled Covered Species Habitats and Occurrences from Project Footprint Boundaries

Covered Species and Habitat Type	Area of Indirect Effect Extending from Covered Activity Work Sites				
	100 feet	250 feet	500 feet	1,300 feet	2,600 feet
Tricolored blackbird (modeled nesting and foraging habitat) [1]			X		
Yellow-breasted chat (modeled habitat)[2]			X		
Bank swallow (modeled nesting habitat)[2]			X		
Western burrowing owl (modeled nesting habitat)[2]			X		
Western yellow-billed cuckoo (modeled habitat)[3]				X	
Greater sandhill crane (modeled habitat)[1]			X		
California black rail (known occurrences) [2]			X		
American peregrine falcon (modeled habitat)[2]			X		
Swainson's hawk (modeled nesting habitat and known nest sites)[4]				X	
Swainson's hawk (modeled foraging habitat)			X		
White-tailed kite (modeled nesting habitat and known nest sites)[4]				X	
White-tailed kite (modeled foraging habitat)			X		
Bald eagle (modeled nesting and roosting habitat, known nest and roosting sites)[5]				X	
Bald eagle (modeled foraging habitat)[2]			X		
Giant garter snake (modeled habitat)[6]			X		
Blainville's horned lizard (known occurrences) [6]			X		
Western pond turtle (modeled habitat) [6]			X		
Foothill yellow-legged frog (modeled habitat) [6]			X		
Western spadefoot toad (modeled habitat) [6]			X		
Central Valley steelhead, Central Valley Spring-run Chinook Salmon, Central Valley Fall/Late Fall-run Chinook Salmon, and Green Sturgeon (modeled habitat)[7]	100 feet downstream and 20 feet upstream from the centerline of bridge project footprints.				
Valley elderberry longhorn beetle[8]	X				
Vernal pool tadpole shrimp and vernal pool fairy shrimp (modeled habitat)[9]		X			
Conservancy fairy shrimp (known extant occurrences) [9]		X			
Ferris's milkvetch (modeled habitat and known extant occurrences) [9]		X			

Table 4-4. Distances Used to Model the Extent of Construction-Related Temporary Direct Effects and Permanent Indirect Effects of Permanent Development Facility Projects on Modeled Covered Species Habitats and Occurrences from Project Footprint Boundaries[1] (continued)

Covered Species and Habitat Type	Area of Indirect Effect Extending from Covered Activity Work Sites				
	100 feet	250 feet	500 feet	1,300 feet	2,600 feet
Lesser saltscale, veiny monardella, California beaked-rush (known extant occurrences)[9]		X			
Hoover's spurge, Ahart's dwarf rush, Red Bluff dwarf rush, hairy Orcutt grass, slender Orcutt grass, Ahart's paronychia, Butte County checkerbloom, Butte County golden clover, Greene's tuctoria (modeled habitat and known extant occurrences)[9]		X			
Butte County meadowfoam	Delineation of area of indirect effect				

[1] This covered bird species is highly mobile and less sensitive to construction-related and post-project related disturbances that could cause them to alter their foraging behavior. The use of 500 feet to model the extent of temporary direct and permanent indirect effects from the boundary of project footprints on this species modeled foraging habitat is considered to be a reasonable assumption, based on this species typical behaviors, to ensure that all potential temporary direct and permanent indirect effects are identified in the impact assessment.

[3] Human disturbances in close proximity to this covered bird species nest sites can cause abandonment of nests. There are no specified USFWS or CDFW guidelines for buffer distances from these species nest sites outside of which project impacts would be considered to be avoided. The use of 500 feet to model the extent of temporary direct and permanent indirect effects from the boundary of project footprints on modeled habitat is considered to be a reasonable assumption, based on these species' typical behaviors, to ensure that all potential temporary direct and permanent indirect effects are identified in the impact assessment.

[3] Human disturbances in proximity to western yellow-billed cuckoo nest sites can cause abandonment of nests. There are no specified USFWS or CDFW guidelines for buffer distances from these species nest sites outside of which project impacts would be considered to be avoided. The use of 1,300 feet to model the extent of temporary direct and permanent indirect effects from the boundary of project footprints on modeled nesting is considered to be a reasonable assumption, based on these species' typical behaviors, to ensure that all potential temporary direct and permanent indirect effects are identified in the impact assessment.

[4] Based on DFG (1994) recommended disturbance impact avoidance buffer distance from occupied Swainson's hawk nest sites.

[5] Based on CALFED (2000) recommended disturbance impact avoidance buffer distance from occupied bald eagle nest sites.

[6] USFWS guidelines recommend a 200-foot avoidance buffer from the boundary of project footprints to potentially occupied habitat (USFWS 1997). The use of 500 feet to model the extent of temporary direct and permanent indirect effects from the boundary of project footprints is a worst case assumption to ensure that all potential temporary direct and permanent indirect effects are identified in the impact assessment. The 500-foot buffer distance is applied to the remaining covered reptiles and amphibians because no avoidance buffer guidelines have been established for these species and they are assumed to be no more sensitive to construction- and post-project-related impacts than giant garter snake.

[7] BRCP-specific assumption of the likely distance of construction-related temporary direct effects of in-channel operations associated with bridge construction projects across streams with the range of hydrological conditions in the Plan Area.

[8] Based on USFWS (1999a) valley elderberry longhorn beetle mitigation guidelines.

[9] Based on CALFED (2000) recommended disturbance impact avoidance buffer distance from vernal pool habitats. Also applied to covered plant species that are not associated with vernal pools based on assumption that their responses to temporary direct and permanent indirect effects will be similar to that of vernal pool covered plant species.