

**STUDY REPORT TR-08
CALIFORNIA TIGER SALAMANDER**

ATTACHMENT A

CTS SITE ASSESSMENT

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1.0 DON PEDRO RESERVOIR STUDY AREA

Potential study sites within the Project Boundary and within 1.24 miles of the Project Boundary were identified, characterized, and mapped based on review of existing aerial photography, NWI maps, and other pertinent resource agency GIS layers as available. Using available information, these aquatic habitat sites were characterized by habitat type (e.g., natural seasonal pond, stock pond, or creek), surface area, depth, seasonality, topography, and types of associated aquatic or emergent vegetation. Lands adjacent to the aquatic habitats were described by plant community, burrow presence, current land use, and an assessment of potential barriers to CTS movement. Following habitat mapping, the district selected potentially suitable aquatic habitats for field visits and additional characterization. Data were collected at each site sufficient to complete a site assessment as defined in the Interim Guidance (USFWS 2003) at each site where reconnaissance level examination was performed, along with photographs depicting habitat and other notable findings.

A total of 392 sites were assessed in the study area, including 73 sites within the Don Pedro Hydroelectric Project Boundary (Table 1.0-1). The Don Pedro Reservoir has a normal maximum water surface elevation of 830 ft, and has a capacity of 2,030,000 acre-feet of water. A study area extending 2.0 km (1.24 mile) from the FERC Project Boundary of Don Pedro Reservoir was evaluated for appropriate California tiger salamander (*Ambystoma californiense*) (CTS).

Sites were evaluated to determine if they met the criteria for suitable CTS breeding habitat, as outlined by the USFWS Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander (2003). Those criteria are as follows:

- 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 10 weeks in a year of average rainfall;
- Upland habitats adjacent and accessible to and from breeding ponds that contain small mammal burrows or other underground habitat that CTS depend upon for food, shelter, and protection from the elements and predation; and
- Accessible upland dispersal between occupied locations allow for movement between such sites.

Twenty nine sites representing potentially suitable California tiger salamander (CTS) breeding habitat were identified within the Project Boundary (Table 1.0-1). Six of these sites are pools within the spillway channel; these were not safely accessible and were evaluated from aerial photographs. Details of the site assessments are presented in Section 1.1. The site locations in Section 1.1 describe the closest horizontal distance landward of the normal maximum water surface elevation (NMWSE) of Don Pedro Reservoir.

Don Pedro Reservoir is likely a substantial barrier to CTS movement in the project area, especially at those sites located directly adjacent to the reservoir. Highways in the project vicinity, including State Route (SR) 49, 59, 120, and 132, could affect CTS movement, but are

not considered substantial barriers due to relatively low traffic volumes. The roads in the study area are generally small and may not be heavily traveled at night, when adult CTS migrate to and from breeding sites, and young-of-the-year disperse after metamorphosis.

Table 1.0-1. Aquatic habitat locations within the Project Boundary potentially suitable for CTS breeding habitat.

Site #	Habitat Feature	Land Ownership	Accessible for Field Assessment	Area / Depth ¹	Comments
F3	Stream, perennial (unnamed), near Marshes Flat Road	TID/MID	Yes	7.5 / 0.1	Includes stream and in-stream pool
F13	Stream, perennial (unnamed), 49er Bay	TID/MID	Yes	60 / 0.5	American bullfrog present Sierran treefrog present Fish present
F15	Stream, perennial (Big Creek), near Old Don Pedro Road	TID/MID	Yes	3 / 1.5	American bullfrog present Western toad present
F17	Stream, perennial, Poor Man's Gulch	BLM	Yes	60 / 0.8	
F22	Stream, perennial and associated pond, Big Creek Arm	TID/MID	Yes	10 / 0.1	American bullfrog present Fish present
F24	Stream, ephemeral, Upper Bay	BLM	Yes	10 / 1.25	
F25	Stream, perennial, Wreck Bay	TID/MID	Yes	3 / 0.2	American bullfrog present
F30	Stream, perennial, Kanaka Creek, near Jacksonville Road	BLM/ TID/MID	Yes	15 / 0.5	
F35	Stream, perennial, Woods Creek	BLM	Yes	200 / 0.75	American bullfrog present Fish present
F36	Stream, seasonal (unnamed), near Molina Street	TID/MID	Yes	8 / 0.75	
F39	Stream, seasonal (unnamed), 49er Bay	Private/Other	Yes	0.25 bank full / 0.1	
F40	Pond, seasonal (unnamed), near SR 132	TID/MID	Yes	14,300 / >2	Sierran treefrog present
F41	Pond, perennial, near SR 132	TID/MID	Yes	7.5 / 0.1	Sierran treefrog adults present
F43	Pond, perennial, near Fleming Meadow Recreation Area	TID/MID	Yes	9,900 / >2	
F53	Stream, seasonal (unnamed), near Hoyito Circle	TID/MID	Yes	24 / 2	
F60	Pond, seasonal, near Jacksonville Road	BLM	Yes	650 / >1	American bullfrog present
F68	Stream, seasonal (unnamed)	TID/MID	Yes	5 bank full / >2	
F75	Stream, seasonal (unnamed)	TID/MID	Yes	24 / 0.5	American bullfrog present upstream

Site #	Habitat Feature	Land Ownership	Accessible for Field Assessment	Area / Depth ¹	Comments
F77	Pool in spillway channel	TID/MID	Yes	547 / >2	
F78	Pool in spillway channel	TID/MID	Yes	250 / >2	Unidentified frog species present
F80	Pool in spillway channel	TID/MID	Yes	6,500 / >2	
F81	Stock pond, near Bonds Flat Road	TID/MID	Yes	3,565 / 2	
F82	Pool in spillway channel	TID/MID	No	1,325 / unknown	
F83	Pool in spillway channel	TID/MID	No	1,800 / unknown	
F84	Stream, perennial (Big Creek), crosses La Grange Road	TID/MID	Yes	16 / 0.75	
F85	Pool in spillway channel	TID/MID	No	1,345 / unknown	
F86	Pool in spillway channel	TID/MID	No	3,250 / unknown	
F87	Pool in spillway channel	TID/MID	No	1,300 / unknown	
F88	Pool in spillway channel	TID/MID	No	1,350 / unknown	

¹ Total surface area (m²) and depth (cm) of aquatic habitat; for streams, dimensions are maximums of pool habitats.

Other aquatic habitats within the Project Boundary that do not represent potential habitat for CTS include the reservoir itself, moderate to high gradient perennial and seasonal streams, and seasonal wetlands that are too small and/or hold water for an insufficient period. Details regarding these unsuitable sites are presented in the Study Report for ESA-Listed Amphibians – California Red-Legged Frog (TID/MID 2013). Photographs illustrating the types of aquatic habitats in the Project Boundary and the surrounding 1.24 mile (mi) area are presented in Section 1.2.

Land ownership within the 1.24-mile study area is principally MID, TID, and BLM, with some private and other land. Existing land uses include ranching, limited residential development and recreation. Uplands in the study area consist of blue and live oak woodland, oak-foothill pine, scrub-shrub chaparral, and annual grassland. Much of the terrain is rugged and was inaccessible for field assessments due to private property restrictions, steep slopes, and lack of roads. Potential barriers to CTS dispersal include steep terrain, highways, including State Route (SR) 120, SR 59, SR 139, and SR 49, and Don Pedro Reservoir. Five historic CTS locations occur within the vicinity of the project. All occurrences are assumed to be extant.

Outside of the Project Boundary, 15 of the 21 field assessed aquatic habitats were identified as potentially suitable for CTS breeding habitat within the 1.24 mi radius Don Pedro Reservoir study area. The remaining 297 sites were assessed from a combination of aerial photographs and NWI maps. Of the aerially assessed sites, 191 were determined to hold water for at least 10 weeks during the CTS breeding seasons, but the presence of suitable upland habitat could not be

determined. Characteristics of site outside of the Project Boundary, as determined from aerial photographs, NWI maps, and field assessments, are summarized in Section 1.2.

1.1 Sites Potentially Suitable for CTS within Project Boundary

Site F3



F3

F3 is a freshwater pond formed at the confluence of three perennial tributaries to Don Pedro Reservoir, located east of SR 182, 65 m east of Don Pedro Reservoir, and within the FERC Project Boundary. NWI data for the area depict a palustrine, unconsolidated bottom, permanently flooded, diked/impounded (PUBHh) wetland feature in the area of the site. SSURGO data classify soils in this location as Rock outcrop-Henneke-Delpiedra.

The site was assessed on February 8, 2012. The bank full width was estimated at 1.5 m with a maximum depth of 0.5 m. The stream gradient was approximately 3 percent. Pools measuring up to 5 m x 1.5 m and 0.1 m deep were present at the site. Non-pool habitat was made up of riffles. Substrate consisted of silt. Banks were gently sloping with an incised vegetated channel. The dominant emergent and margin vegetation was grass with no overhanging vegetation present. Surrounding upland habitat consisted of blue oak pastureland. A juvenile American bullfrog was observed during the survey. Numerous burrows measuring approximately 2 inches in diameter were present in the upland area.

The nearest known CTS occurrence is located 2.9 miles west. F3 holds water for at least 10 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. The site is situated in suitable upland habitat with underground retreats present.

Site F13



F13

F13 is a 736-m-long section of an unnamed perennial tributary to 49er Bay, located 15 m south of Old Don Pedro Road, partially below the high water line of Don Pedro Reservoir and within the FERC Project Boundary. NWI data for the area depict a riverine, intermittent, streambed, seasonally flooded (R4SBC) wetland feature in the area of the site. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on April 19, 2012. F13 is a series of pools within a stream and is not located near any other sites. The pools and stream were fed by two smaller streams, one perennial and one seasonal. The bank full width was 8 m with a depth of 1 m. The stream gradient was 2 - 4 percent. Pools measuring up to 20 m x 3 m and 0.5 m deep were present in the stream. Non-pool

habitat consisted of low gradient run and riffle. The substrate was made up of organic matter, soil, and some subangular cobbles. Stream banks were mainly low gradient vegetated soil, and those around non-pool habitat were undercut by the stream. Emergent vegetation was made up of rushes, grasses, forbs, and submerged pondweed with no vegetation overhanging the site. Upland habitat was made up of oak savannah with 60 percent canopy cover. Larval western toads (*Anaxyrus boreas*), adult and juvenile American bullfrogs, larval sierran treefrog, and fish were all observed during the site visit. A small dirt road crossed the stream within the site. A cluster of burrows 4 - 5 inches in diameter were observed in the steep sections of the bank.

The nearest known CTS occurrence is located 5.1 miles south. F13 holds water for at least 10 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. The site is situated in suitable upland habitat with underground retreats present.

Site F15



F15

F15 is a 1,218-m-long section of Big Creek and associated tributaries, located partially below the high water line of Don Pedro Reservoir within the FERC Project Boundary. NWI data for the area depict a riverine, intermittent, streambed, seasonally flooded (R4SBC) wetland feature from the mouth at the reservoir upstream. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on April 17, 2012. Big Creek is a large perennial tributary to Don Pedro Reservoir in a landscape characterized by bedrock outcroppings. The

bank full width of the stream was observed to be 7 - 8 m with a depth of 0.5 m. The stream gradient was 2 - 4 percent. Pools measuring up to 1 m x 3 m and 1.5 m deep were present in the stream. Non-pool habitat consisted of riffle, run, and cascade. The substrate was made up of bedrock, gravel, cobble, and boulder. Stream banks were low gradient near the stream, turning to steeper rolling hills. Emergent and margin vegetation were a combination of grasses and forbs with no vegetation overhanging the site. Upland habitat was a mixed oak and foothill pine savannah with approximately 45 percent canopy cover. Juvenile and larval American bullfrogs were present throughout the site, and 3 western toads were observed in amplexus during the survey. A bald eagle was observed feeding on a bass near the stream with a juvenile or subadult nearby. Horses were observed grazing near the stream. Two burrows were present in the hillside near the stream, measuring between 1.5 and 2 inches in diameter.

The nearest known CTS occurrence is located 6.3 miles south. F15 holds water for at least 10 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. The site is situated in suitable upland habitat with underground retreats present.

Site F17

F17

F17 is a 187-m-long section of Poor Man's Gulch, below the high water line of Don Pedro Reservoir within the FERC Project Boundary. NWI data for the area depict a riverine, intermittent, streambed, seasonally flooded (R4SBC) wetland feature in the area of the site. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on February 9, 2012. F17 is a section of a perennial stream north of F65. The bank full width was 6 m with a depth of 1.5 - 2 m. The stream gradient was 2 - 4 percent. Pools measuring up to 10 m x 6 m and 0.8 m deep were present in the stream. Non-pool habitat was a combination of cascade, step-pool, run, and low gradient riffle. The substrate was made up of bedrock, boulder, and subangular cobble. Stream banks were a mix of confined, steep rocky soil and low gradient vegetated soil. Emergent vegetation consisted of grasses with foothill pine overhanging. Upland habitat was made up of foothill pine woodland and toyon (*Heteromeles arbutifolia*). No fish or amphibians were observed; however, fish are known to be present in Don Pedro Reservoir. Burrows measuring 2.5 inches in diameter were sparse but present in clusters.

The nearest known CTS occurrence is located 9.3 miles south. F17 holds water for at least 10 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. The site is situated in suitable upland habitat with underground retreats present.

Site F22

F22

F22 is a 145-m-long section of an unnamed perennial tributary to the Big Creek arm of Don Pedro Reservoir, located 10 m north of Don Pedro Reservoir within the FERC Project Boundary. NWI data for the area depict a riverine, intermittent, streambed, seasonally flooded (R4SBC) wetland feature in the area of the site. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on April 19, 2012. F22 is a perennial stream with an associated seasonal pond that is not located near any other sites. The bank full width of the stream was 0.1 m with a depth of 1 m. The stream gradient was 2 - 4 percent. Pools measuring up to 2 m x 5 m and less than 0.1 m deep were present in the stream. Non-pool habitat consisted of step pool, cascade pool, and low riffle. The substrate was made up of organic matter and soil with bedrock outcroppings. Stream banks varied from low gradient to steeper areas of vegetated soil with some bedrock outcroppings. The seasonal pool covered an area of 20 m² and had a maximum depth of 0.3 m. The banks of the pond were steeply sloped gravel and bedrock with some low gradient areas that may connect to other ponds that were dry at the time of the

survey. Emergent vegetation at both the stream and the pond was a mix of grasses and forbs, with no overhanging vegetation. Vegetation in the margin was mostly grasses. Upland habitat was made up of a gently sloping meadow with oak above the high water line of the reservoir. American bullfrogs and small fish were observed at the site during the survey. Multiple burrows measuring 2 inches in diameter were present along the bank and three additional 5 - 7 inches in diameter burrows were associated with a tree trunk.

The nearest known CTS occurrence is located 6.2 miles south. F22 holds water for at least 10 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. The site is situated in suitable upland habitat with underground retreats present.

Site F24



F24

F24 is a 77-m-long section of an ephemeral tributary to the upper bay of Don Pedro Reservoir, below the high water line of Don Pedro Reservoir within the FERC Project Boundary. NWI data for the area depict a riverine, intermittent, streambed, seasonally flooded (R4SBC) wetland feature in the area of the site. SSURGO data classify soils in this location as Rock outcrop-Henneke-Delpiedra.

The site was assessed on June 19, 2012. F24 is in east of the group of seven other ephemeral tributaries to the upper bay of Don Pedro Reservoir. The site is adjacent to a large constructed gravel slope and beneath power lines. The bank full width was 3 m with a depth of 1.25 m. The stream gradient was 6 percent. The stream was dry at the time of survey, but it was assumed that pools up to 5m x 2m would be present during flow conditions. Non-pool habitat was assumed to be a mix of cascade and riffle. The substrate was made up of soil and gravel with bedrock in the upstream portion. Stream banks were steeply incised and made up of a combination of soil and gravel with bedrock upstream. Emergent and margin vegetation consisted of desiccated grasses and forbs, with no overhanging vegetation. Upland habitat was a mix of pine and oak with 60 percent canopy cover. No fish or amphibians were observed; however, fish are known to be present in Don Pedro Reservoir. No evidence of burrowing mammals was present.

The nearest known CTS occurrence is located 7.6 miles south. F24 holds water for at least 10 weeks during the CTS breeding season. The site is situated in suitable upland habitat, but no underground retreats were observed during the survey.

Site F25*F25*

F25 is a 54-m-long section of an unnamed perennial tributary to Don Pedro Reservoir, located below the high water line of Don Pedro Reservoir and within the FERC Project Boundary in Wreck Bay. NWI data for the area depict a riverine, intermittent, streambed, temporarily flooded (R4SBA) wetland feature in the area. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on June 19, 2012. The bank full width was estimated at 1.5 m. The stream depth at the bank full width was determined to be 0.75 m. The stream gradient was 2 percent. Pools measuring up to 1 m x 3 m and 0.2 m deep were present in the stream. Non-pool habitat was a mix of riffle and run. The substrate consisted of soil, bedrock, gravel, and cobbles. The banks of the channel were made up of moderately sloping bedrock. Emergent and margin vegetation consisted of desiccated grasses and forbs with no overhanging vegetation. Submerged algae was abundant in the stream. Larval American bullfrogs and small fish were present. Surrounding upland habitat included mixed oak and pine woodland with 60 percent canopy cover. A cluster of 1 inch diameter burrows was observed on the south bank of the stream, near the reservoir

The nearest known CTS occurrence is located 8.2 miles south. F25 holds water for at least 10 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. The site is situated in suitable upland habitat with underground retreats present.

Site F30*F30*

F30 is a 321-m-long section of a perennial tributary to Don Pedro Reservoir, Kanaka Creek, located south of Jacksonville Road, partially below the high water line of Don Pedro Reservoir, and within the FERC Project Boundary. NWI data for the area depict a riverine, intermittent, streambed, seasonally flooded (R4SBC) wetland feature from the mouth at the reservoir upstream including Site F30. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on February 9, 2012. F30 is located northwest of Site F32. The bank full width was estimated at 2 m with a maximum depth of 0.6 m. The stream gradient was 4 percent. Pools with a maximum size of 5 m x 3 m and 0.5 m deep were present in the stream. Non-pool habitat was a mix of cascade, step pool, and riffle. The substrate consisted of boulders, bedrock, cobble, and gravel. The banks of the channel were steep, rocky, and confined above the high water line. Below the high water line the banks were made up of channelized vegetated soil with a moderate slope. Dehisced forbs were the dominant vegetation and were overhanging the stream

in combination with buckthorn and willow. Emergent vegetation was made up of water purslane (*Ludwigia* sp.), beggar-tick (*Bidens* sp.), and algae. Margin vegetation consisted of annual and perennial grasses and asters (*Asteracea*) and vetch (*Vicia* sp.). Surrounding upland habitat included foothill pine and interior live oak. No fish or amphibians were observed; however, fish are known to be present in Don Pedro Reservoir. Burrows measuring 1 - 3 inches were densely concentrated in the hillsides surrounding the site.

The nearest known CTS occurrence is located 11.3 miles south. F30 holds water for at least 10 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. The site is situated in suitable upland habitat with underground retreats present.

Site F35



F35

F35 is a 173-m-long section of Woods Creek, located below the high water line of Don Pedro Reservoir within the FERC Project Boundary. NWI data for the area depict a lacustrine, littoral, unconsolidated shore, seasonally flooded, diked/impounded (L2USCh) wetland feature in the area of the site. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on April 18, 2012. F35 is a perennial tributary to Don Pedro Reservoir with areas of large ponding that is not located near any other sites.

The bank full width of the stream was 20 m with a depth of greater than 2 m. The stream gradient was 0 - 2 percent. Pools measuring up to 20 m x 10 m and less than 0.75 m deep were present in the stream. Non-pool habitat consisted of run and riffle. The substrate was made up of bedrock, round and subangular cobbles, and large gravel. The stream bank was low gradient soil sloping to a steeper hillside. Emergent vegetation was dominated by grasses, but also included sedges and cattail (*Typha* sp.), with dispersed willow overhanging the stream and grasses and rushes in the margin. Submerged vegetation included pondweed and algae. Upland habitat was a mix of pine and oak scrub-shrub with chamise (*Adenostoma fasciculatum*). American bullfrogs and small fish were observed at the site during the survey. Shade and overhead cover of the stream were extremely limited. An adult American bullfrog was observed near the ponded section of Woods Creek during the survey. Clusters of burrows measuring 2 - 3 inches in diameter were present on the bank of the stream, and had been recently inundated by high flows.

The nearest known CTS occurrence is located 13.7 miles southwest. F35 holds water for at least 10 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. The site is situated in suitable upland habitat with underground retreats present.

Site F36*F36*

F36 is a 78-m-long section of a seasonal unnamed tributary to Don Pedro Reservoir, located below the high water line of Don Pedro Reservoir within the FERC Project Boundary. NWI data for the area depict a lacustrine, limnetic, unconsolidated bottom, permanently flooded, diked/impounded (L1UBHh) wetland feature in the area of the site. SSURGO data classify soils in this location as Rock outcrop-Henneke-Delpiedra.

The site was assessed on April 19, 2012. F36 is a small seasonal stream with areas of rock and debris jam creating cascades and pools. The bank full width of the stream was 2 m with a depth of 0.25 m. The stream gradient was 2 - 4 percent. Pools measuring up to 2 m x 4 m and less than 0.75 m deep were present in the stream. Non-pool habitat consisted of run, riffle, and cascade. The substrate was made up of bedrock, boulder, gravel, and sand. The stream bank varied from moderately sloped vegetated soil with some areas undercut by the stream to steep bedrock outcroppings. Emergent and margin vegetation was dominated by forbs, but also included grasses and monkey flower (*Mimulus* sp.). No vegetation was overhanging the stream. Upland habitat was dominated by chamise (90 percent canopy cover) with some scattered oak and clusters of foothill pine (20 percent canopy cover). No fish or amphibians were observed; however, fish are known to be present in Don Pedro Reservoir. No evidence of burrowing mammals was present.

The nearest known CTS occurrence is located 2.7 miles southwest. F35 holds water for at least 10 weeks during the CTS breeding season. The site is situated in suitable upland habitat, but no underground retreats were observed during the survey.

Site F39*F39*

F39 is a 24-m-long section of a seasonal unnamed tributary to Don Pedro Reservoir's 49er Bay, 185 m northwest of Don Pedro Reservoir within the FERC Project Boundary. NWI data for the area depict a riverine, intermittent, streambed, temporarily flooded (R4SBA) wetland feature in the area of the site. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on April 19, 2012. F39 is a seasonal stream in a depression located within a hilly landscape. Although the stream was mostly dry at the time of the survey, the bank full width was estimated to be 0.25 m with a depth of 0.1 m. The stream gradient was 1 percent. No pools were present in the stream, and habitat consisted of low-gradient run. The substrate was made up of soil and organic matter. Stream banks were low

gradient, vegetated soil. Emergent vegetation was a mix of forbs and grasses with no overhanging vegetation. Upland habitat was oak savannah with approximately 40 percent canopy cover. Residential homes and associated structures were located nearby the site. No amphibians or fish were observed during the survey. Three or four burrows, measuring 5 - 6 inches in diameter, were present near the stream and the adjacent stream.

The nearest known CTS occurrence is located 4.5 miles south. F39 holds water for at least 10 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. The site is situated in suitable upland habitat with underground retreats present.

Site F40



F40

F40 is a palustrine freshwater pond, located south of US Hwy 132, below the high water line of Don Pedro Reservoir and within the FERC Project Boundary. NWI data for the area depict a palustrine, unconsolidated shore, seasonally flooded, diked/impounded (PUSCh) wetland feature in the area of the site. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on February 8, 2012. F40 is a pond located above a culvert within a gently sloping drainage. The site covers approximately 14,300 m²; the maximum observed water depth was greater than 2 m; the bank full depth was greater than 2 m. The pond was dry at the time of assessment. Substrate consisted of soil, silt, bedrock, and boulders. Emergent vegetation consisted of sparse grass and forbs, the dominant vegetation in the area. No vegetation was overhanging the pond. Sierran treefrog was heard calling but was not observed. Upland habitat was made up of blue oak pastureland. Burrows measure 2 - 4 inches in diameter were abundant in clusters along the banks and upslope.

The nearest known CTS occurrence is located 2.6 miles west. Hydrological conditions at F40 vary greatly from year to year depending on reservoir operations. In most years F40 holds water for at least 10 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. The site is situated in suitable upland habitat with underground retreats present.

Site F41



F41

F41 is a freshwater pond formed at the confluence of three perennial tributaries to Don Pedro Reservoir, located east of SR 182, 65 m east of Don Pedro Reservoir, and within the FERC Project Boundary. NWI data for the area depict a palustrine, unconsolidated bottom, permanently flooded, diked/impounded (PUBHh) wetland feature in the area of the site. SSURGO data classify soils in this location as Rock outcrop-Henneke-Delpiedra.

The site was assessed on February 8, 2012. The bank full width was estimated at 1.5 m with a maximum depth of 0.5 m. The stream gradient was approximately 3 percent. Pools measuring up to 5 m x 1.5 m and 0.1 m deep were present at the site. Non-pool habitat was made up of riffles. Substrate consisted of silt. Banks were gently sloping with an incised vegetated channel. The dominant emergent and margin vegetation was grass with no overhanging vegetation present. Surrounding upland habitat consisted of blue oak pastureland. A juvenile American bullfrog was observed during the survey. Numerous burrows measuring approximately 2 inches in diameter were present in the upland

The nearest known CTS occurrence is located 2.8 miles west. F41 holds water for at least 10 weeks during the CTS breeding season. The site is situated in suitable upland habitat with underground retreats present.

Site F43



F43

F43 is a palustrine, freshwater pond created by a natural impoundment within West Big Fork Creek, located below the high water line of Don Pedro Reservoir and within the FERC Project Boundary. NWI data for the area depict a palustrine, unconsolidated bottom, permanently flooded, diked/impounded (PUBHh) wetland feature in the area of the site. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on April 17, 2012. F43 is adjacent to site F21. The site covers approximately 9,900 m²; the maximum observed water depth was greater than 2 m; the bank full depth was greater than 2 m. Substrate consisted mostly of organic matter and silt with some small gravel. The banks of the pond were mostly vegetated and varied from low grade to somewhat steep with angular bedrock outcroppings. Emergent vegetation was dominated by grasses, but included a mix of grasses and forbs with willows overhanging. The margins were vegetated with grasses and forbs. An abundance of large woody debris was present at the time of survey. Upland habitat consisted of rolling hills dominated by oak with a few large willows near the pond. An unidentified frog species jumped into the pond while vocalizing and a western pond turtle was seen basking on the opposite side of the pond. No evidence of burrowing mammals was present.

The nearest known CTS occurrence is located 6.0 miles south. F43 holds water for at least 10 weeks during the CTS breeding season. The site is situated in suitable upland, but no underground retreats were observed during the survey.

Site F53*F53*

F53 is a 62-m-long section of a seasonal unnamed tributary to Don Pedro Reservoir, 8 m northwest of Don Pedro Reservoir and within the FERC Project Boundary. NWI data for the area depict a palustrine, scrub-shrub temporarily flooded (PSSA) wetland feature in the area of the site. SSURGO data classify soils in this location as Rock outcrop-Henneke-Delpiedra.

The site was assessed on April 19, 2012. F53 is a seasonal stream surrounded by steep bedrock cliffs with vegetated slopes. The bank full width of the stream was

4 m with a depth of 0.25 m. The stream gradient was 10 percent. Pools, measuring up to 4 m x 6 m and 2 m deep were present in the stream. Non-pool habitat consisted of riffle, run, and cascade. The substrate was made up of gravel, subangular cobble, organic matter, and bedrock. Stream banks were mostly steep bedrock with some lower gradient areas of vegetated soil. Emergent vegetation was dominated by forbs, but also contained some grasses. Overhanging vegetation consisted of oak, beggar-tick, and foothill pine that were growing on the steep slopes above the stream. Upland habitat was mixed oak and foothill pine with approximately 30 percent canopy cover and some tickbush shrub with approximately 10 percent canopy cover. One burrow measuring 3 inches in diameter was observed at the site.

The nearest known CTS occurrence is located 2.4 miles southwest. It is unknown if F53 holds water for at least 20 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. The site is situated in suitable upland habitat with underground retreats present.

Site F60*F60*

F60 is a seasonal, freshwater pond, located below the high water line of Don Pedro Reservoir, within the FERC Project Boundary. NWI data for the area depict a palustrine, emergent, temporarily flooded, diked/impounded (PEMAh) wetland feature in the area of the site. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on April 18, 2012. F60 is a pond fed by a seasonal branch of a creek. The site covers approximately 650 m²; the maximum observed water depth was greater than 1 m; the bank full depth was

greater than 2 m. Substrate consisted of soil, organic matter, and subangular cobble. The banks of the pond were flat but adjacent to a steep hillside. Emergent vegetation was made up of grasses, with cocklebur, grasses and forbs in the margin around the entire pond. Cockleburs were the dominant vegetation in the area and two smaller willows were overhanging the site.

Submerged vegetation consisting of duckweed and algae was present in the upstream end of the pool. Upland habitat was a mix of Manzanita and chamise with some oak and foothill pine with approximately 20 percent canopy cover. Adult, juvenile, and many larval American bullfrog were observed during the survey. No evidence of burrowing mammals was present.

The nearest known CTS occurrence is located 14.0 miles southwest. F60 holds water for at least 10 weeks during the CTS breeding season. The site is situated in suitable upland, but no underground retreats were observed during the survey.

Site F68



F68

F68 is a 34-m-long section of a seasonal unnamed tributary to Don Pedro Reservoir, located partially below the high water line of Don Pedro Reservoir within the FERC Project Boundary. NWI data for the area depict a palustrine, emergent, saturated (PEMB) wetland feature in the area of the site. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on April 19, 2012. F68 flows over a valley created by bedrock outcropping within a vegetated hillside. The bank full width of the stream was observed to be 5 m with a depth of 1 - 3 m. The stream gradient was 5 - 12 percent. Pools measuring up to 1 m x 3 m and 0.25 m deep were present in the stream. Non-pool habitat consisted of high gradient riffle. The substrate was made up of bedrock with some soil and gravel. Stream banks were moderately sloping with vegetated soil lining the bedrock. Emergent vegetation was a mix of sparse grass and forbs with thick willows in the stream and overhanging the site. Upland habitat was made up of oak savannah with 30 - 60 percent canopy cover. A large metal pipe was observed in the stream channel. Clusters of burrows measuring 2 - 3 inches in diameter were present on the bank, but had been inundated by high flows.

The nearest known CTS occurrence is located 3.5 miles southeast. F68 holds water for at least 10 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. The site is situated in suitable upland habitat with underground retreats present.

Site F75

F75

F75 is a 49-m-long section of a seasonal unnamed tributary to Don Pedro Reservoir, located 110 m northeast of Don Pedro Reservoir within the FERC Project Boundary. NWI data for the area do not show a wetland feature at the site. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on April 19, 2012. F75 flows in a depression through a hilly, vegetated area. The bank full width of the stream was observed to be 4 m with a depth of 0.25 m. The stream gradient was 0 -1 percent.

Pools measuring up to 4 m x 6 m and 0.5 m deep were present in the stream. Non-pool habitat consisted of run and low gradient riffle. The substrate was made up of soil and organic matter with a few subangular cobbles. Stream banks varied from low to higher gradient, somewhat incised, and vegetated throughout the stream channel. Emergent vegetation was a mix of grasses, rushes, and forbs with no vegetation overhanging the site. Upland habitat was made up of oak savannah with 60 percent canopy cover. A juvenile American bullfrog was observed in a pool upstream of the site. Fences were present at the site, but grazing was still occurring along the stream. No evidence of burrowing mammals was present.

The nearest known CTS occurrence is located 4.8 miles south. F75 holds water for at least 10 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. No underground retreats were observed during the survey, but suitable upland habitat may be present.

Site F77

F77

F77 is a series of perennial, freshwater ponds, located east of Bonds Flat Road, 110 m west of Don Pedro Reservoir, within the FERC Project Boundary. NWI data for the area do not show a wetland feature in the area of the site. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on February 8, 2012. F77 is located east of site F78, within the spillway channel. The site covers 547 m² with ponds ranging from small (1 m x 0.5 m) to very large (30 m x 15 m) within the

scoured bedrock channel. Observed water depth ranged from 0.1 m at small ponds to greater than 2 m at large ponds; the bank full depth was estimated to be greater than 3 m. The substrate was made up of bedrock and boulders. Emergent vegetation consisted of cattail, monkeyflower, bulrush, and primrose (*Ludwigia* sp.) with no vegetation overhanging the site or in the margin. Upland habitat was made up of angular cobble with no canopy over the site. An unidentified frog, red-wing blackbirds (*Agelaius phoeniceus*), and waterfowl were observed at the site.

American bullfrogs have been observed at the site in the past. Burrows measuring 2 inches in diameter were sparsely distributed near the pond and more densely distributed along the gravel road.

The nearest known CTS occurrence is located 2.7 miles east. F77 holds water for at least 10 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. The site is situated in suitable upland habitat with underground retreats present.

Site F78



F78

F78 is a perennial, freshwater pond, located west of Bonds Flat Road, 200 m west of Don Pedro Reservoir, within the FERC Project Boundary. NWI data for the area do not show a wetland feature in the area of the site. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on February 8, 2012. F77 is located east of site F78, within the spillway channel. The site covers approximately 250 m²; the maximum observed water depth was greater than 2 m; the bank

full depth was estimated to be 4 m. Emergent vegetation consisted of cattail, bulrush, primrose, and fern (*Azolla* sp.) with no vegetation overhanging the site. Some deciduous trees were present in the margin. Upland habitat was made up of oak pastureland and the nearby highway. Small frogs, likely American bullfrogs, were present at the site along with various waterfowl. Some burrows measuring approximately 3 inches in diameter were observed upslope of the site, along the road.

The nearest known CTS occurrence is located 2.8 miles southeast. F78 holds water for at least 10 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. The site is situated in suitable upland habitat with underground retreats present.

Site F80



F80

F80 is a perennial, freshwater pond, located southwest of Bonds Flat Road, 480 m southwest of Don Pedro Reservoir, within the FERC Project Boundary. NWI data for the area do not show a wetland feature in the area of the site. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on February 8, 2012. F80 is located south of site F79, connected to the Tuolumne River. The site covers approximately 6,500 m²; the maximum observed water depth was greater than 2 m; the bank

full depth was greater than 4 m. Banks of the pond were vegetated and varied from steep to sloping. The substrate consisted entirely of bedrock. Emergent vegetation was made up of cattail and some sedges with sparse buckeye overhanging the site. Upland grasses and vetch

were present in the margin. Dominant species at the site were cattail and upland grasses. Upland habitat was blue oak rangeland with no canopy cover at the site. Fish presence is highly likely in the pond due to the connection with the Tuolumne River, although no fish were observed at the time of the survey. Waterfowl and red wing blackbirds were observed during the survey. Burrows measuring 2 - 3 inches in diameter were sparsely distributed in the upland area.

The nearest known CTS occurrence is located 2.8 miles east. F80 holds water for at least 10 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. The site is situated in suitable upland habitat with underground retreats present.

Site F81



F81

F81 is a man-made, freshwater stock pond above a small dam, located southwest of Bonds Flat Road, 800 m southwest of Don Pedro Reservoir, within the FERC Project Boundary. NWI data for the area do not show a wetland feature in the area of the site. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on February 8, 2012. F81 is located southwest of site F80, and is generally manually filled by the Tuolumne Irrigation District each year at the request of a local cattle rancher. The site covers approximately 3,565 m²; the maximum observed water depth was 2 m; the bank full depth was greater than 4 m. The substrate consisted of soil with a limited amount of bedrock. Emergent vegetation consisted of primrose and bulrush with sparse blue oak overhanging the site. Grasses were the dominant vegetation at the site. Upland habitat was blue oak pastureland with approximately 20 percent canopy cover on the northeast side of the site and may represent potentially suitable CTS breeding habitat. Clusters of burrows measuring 3 - 6 inches in diameter were observed in the bank upslope of the pond.

The nearest known CTS occurrence is located 2.6 miles south. It is unknown if F81 holds water for at least 10 weeks during the CTS breeding season. The site is situated in suitable upland habitat with underground retreats present.

Sites F82, F83, F85, F86, F87, and F88

F82, F83, F85, F86, F87, and F88 are all pools within the spillway channel that are connected via a seasonal stream during high flow conditions. All of the sites were determined to be inaccessible for assessment due to unsafe conditions. The sites are located in a bedrock lined canyon, south of Bonds Flat Road, within the FERC Boundary. NWI data for the area do not show a wetland feature in the area of the sites.

F82 covers approximately 1,325 m², is 2.6 miles southwest of the nearest known CTS occurrence. Emergent vegetation was present and willows were overhanging. Upland habitat was oak pastureland above a steep ravine and rock cliffs. F82 holds water for at least 10 weeks during the CTS breeding season and therefore represents potential CTS breeding habitat.

F83 covers approximately 1,800 m², is 2.5 miles southwest of the nearest known CTS occurrence. Emergent vegetation was present and willows were overhanging. Upland habitat was oak pastureland above a steep ravine and rock cliffs. F83 holds water for at least 10 weeks during the CTS breeding season and therefore represents potential CTS breeding habitat.

F85 covers approximately 1,345 m², is 2.5 miles southwest of the nearest known CTS occurrence. Emergent and aquatic vegetation was present and willows and shrubs were overhanging. Upland habitat was oak pastureland above a steep ravine and rock cliffs. F85 holds water for at least 10 weeks during the CTS breeding season and therefore represents potential CTS breeding habitat.

F86 covers approximately 3,250 m², is 2.4 miles southwest of the nearest known CTS occurrence. Emergent vegetation was present and willows were overhanging. Upland habitat was oak pastureland above a steep ravine and rock cliffs. F86 holds water for at least 10 weeks during the CTS breeding season and therefore represents potential CTS breeding habitat.

F87 covers approximately 1,300 m², is 2.3 miles southwest of the nearest known CTS occurrence. Emergent vegetation was present with oaks and willows overhanging. Upland habitat was oak pastureland above a steep ravine and rock cliffs. F86 holds water for at least 10 weeks during the CTS breeding season and therefore represents potential CTS breeding habitat.

F88 covers approximately 1,350 m², is 2.2 miles southwest of the nearest known CTS occurrence. Emergent and aquatic vegetation were present with shrubs overhanging. Upland habitat was oak pastureland above a steep ravine and rock cliffs. F88 holds water for at least 10 weeks during the CTS breeding season and therefore represents potential CTS breeding habitat.

Site F84



F84

F84 is a 357-m-long section of a Big Creek, a perennial tributary to Don Pedro Reservoir that crosses and is adjacent to La Grange Road, within the FERC Project Boundary. NWI data for the area do not show a wetland feature in the area of the site. SSURGO data classify soils in this location as Whiterock-Rock outcrop-Auburn.

The site was assessed on February 8, 2012. F84 is made up of a pool within a stream running under La Grange Road through a culvert. The maximum observed water depth was 0.75 m; the bank full width was 3 m with a depth of 2 m; the stream gradient was 0.5 percent. One large pool was present, measuring 8 m x 2 m and approximately 0.75 m deep. No non-pool habitat was present. The substrate consisted of cobbles, boulders, and a culvert. The banks were steep, eroded, and vegetated with grasses. Emergent vegetation included cattail, willow, and primrose with willow overhanging the site. Willow and grasses were present in the margin. The dominant vegetation at the site was willow. Upland habitat was blue oak pastureland with approximately 80 percent canopy cover from willow in water. Burrows measuring approximately 4 inches in diameter were present at the site.

The nearest known CTS occurrence is located 1.5 miles east. F84 holds water for at least 10 weeks during the CTS breeding season and may represent potentially suitable CTS breeding habitat. The site is situated in suitable upland habitat with underground retreats present.

1.2 Other Potentially Suitable Aquatic Habitats within Study Area

Table 1.2-1. Summary of sites (aquatic habitat locations) assessed for potential California tiger salamander breeding habitat within the Don Pedro Project study area (excluding sites within Project Boundary). (357 sites)

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
N1	Pond, emergent	Yes	Emergent, aquatic, and margin vegetation present Oak and shrub overhanging	N/A
N2	Wetland, depression	No	No emergent vegetation present Oak and shrub overhanging Depression caused by road No standing water present	N/A
N3	Pond, forested shrub wetland	No	Emergent and aquatic vegetation present Shrub and some oak overhanging Large woody debris present	N/A
N4	Stream in emergent wetland, near SR 49	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N5	Pond, perennial, near SR 49	Yes	Emergent and aquatic vegetation present No tree cover or overhanging vegetation	N/A
N6	Pond, perennial, near Twist Road	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N7	Stream in emergent wetland, near Sims Road	No	Emergent vegetation present Willow overhanging	N/A
N8	Pond, perennial, near Perri Con Road	Yes	Emergent and aquatic vegetation present Shrub overhanging Pond surrounded by plastic fence	N/A
N9	Pond, perennial, in forested/shrub wetland	Yes	Emergent and margin vegetation present Pine and oak overhanging	N/A
N10	Pond, perennial	Yes	Emergent vegetation present Oak overhanging	N/A
N11	Pond, perennial	Yes	Emergent and margin vegetation present Shrub overhanging	N/A
N12	Pond, perennial	Yes	Emergent and aquatic vegetation present No tree cover or overhanging vegetation	N/A
N13	Wetland, emergent	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water	N/A
N14	Wetland, forested/shrub	No	No emergent vegetation present Oak and shrub overhanging No standing water	N/A
N16	Pond, perennial	Yes	Emergent vegetation present Oak and pine overhanging	N/A
N18	Pond, seasonal, near Juniper Mine Road	No	Emergent vegetation present Oak overhanging No standing water in July	N/A
N19	Pond, perennial,	Yes	Emergent and aquatic vegetation present Oak and shrub overhanging	N/A
N20	Pond, perennial	Yes	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N21	Pond, perennial, near Stamp Mill Loop Road E	Yes	Emergent, aquatic and margin vegetation present	N/A

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
			Oak and shrub overhanging Large vegetated island takes up most of pond	
N22	Wetland, emergent	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water	N/A
N23	Wetland, emergent	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water	N/A
N24	Pond, perennial	Yes	Emergent and aquatic vegetation present No tree cover or overhanging vegetation	N/A
N25	Wetland, emergent	No	Emergent vegetation present Shrub overhanging	N/A
N27	Wetland, emergent	Yes	Emergent vegetation present No tree cover or overhanging vegetation Small pond present through year round	N/A
N29	Pond, perennial	Yes	Emergent vegetation present Some oak overhanging Bordered by dirt road on all sides	N/A
N32	Pond, perennial	Yes	Emergent and aquatic vegetation present No tree cover or overhanging vegetation	N/A
N33	Pond, perennial	Yes	Emergent, aquatic and margin vegetation present Oak and shrub overhanging	N/A
N34	Pond, perennial	Yes	Emergent vegetation present No tree cover or overhanging vegetation Densely vegetated throughout	N/A
N35	Pond, perennial	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N36	Wetland, emergent, near Hidalgo Street and Banderilla Drive	No	Emergent vegetation present No tree cover or overhanging vegetation Passes through a school that is mostly impervious surface	N/A
N37	Wetland, emergent with pond, near Castillo Way	Yes	Emergent vegetation present Oak and shrub overhanging Perennial pond present near El Prado Road Wetland follows small stream that parallels Castillo Way	N/A
N39	Wetland, emergent	No	Emergent vegetation present Oak and shrub overhanging	N/A
N40	Pond, perennial, near Marshes Flat Road	Yes	Emergent vegetation present Oak and shrub overhanging Connected to N41 and reservoir by small stream	N/A
N41	Pond, perennial, near Marshes Flat Road	Yes	Emergent and aquatic vegetation present Oak and shrub overhanging Connected to N40/N53 and reservoir by small stream	N/A
N42	Wetland, emergent, near Merced Falls Road	No	Emergent vegetation present Oak overhanging	N/A

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
N43	Wetland, emergent	No	No emergent vegetation present No tree cover or overhanging vegetation Residential driveway	N/A
N44	Wetland, emergent, near SR 132 and Las Palmas Way	Yes	Emergent and margin vegetation present Oak and shrub overhanging Wetland created between two branches of seasonal stream channel	N/A
N47	Wetland, emergent, near El Prado Road	No	Emergent and margin vegetation present Oak and shrub overhanging on east side Wetland in seasonal stream channel Crosses Merced Falls Road	N/A
N48	Wetland, forested/shrub, near Marshes Flat Road	No	Emergent vegetation present Oak and shrub overhanging Directly connected to N41/N49	N/A
N49	Wetland, forested/shrub, near Marshes Flat Road	Yes	Emergent and margin vegetation present Oak, pine, and shrub overhanging Directly connected to N41 (pond)	N/A
N50	Pond, perennial, near Alamo Road	Yes	Emergent and margin vegetation present Oak and rushes overhanging	N/A
N51	Freshwater emergent wetland, near Merced Falls Road	No	Emergent vegetation present Oak overhanging No standing water	N/A
N52	Pond, perennial, near Marshes Flat Road and Hatch Creek Road	Yes	Size: 40m x 53m Emergent vegetation: grass, forbs, duckweed Overhanging: blackberry, toyon, mountain mahogany, tree of heaven Substrate: soil and organic matter Cluster of 7 – 10 burrows about 1.5 inch in diameter present Field assessed on 4/17/12 Sierra treefrog present American bullfrog present	0793 - 0812
N54	Pond, seasonal, near Azucena Court	No	Emergent vegetation present Oak and shrub overhanging	N/A
N55	Pond, seasonal, near Penole Peak Road	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N56	Pond, perennial	Yes	Emergent vegetation present Oak and pine overhanging	N/A
N57	Stream, perennial with emergent wetland, near El Cerrito Way	Yes	Emergent vegetation present Oak and shrub overhanging	N/A
N60	Pond, perennial, near Marshes Flat Road	Yes	Size: 33m x 26m Emergent and margin vegetation: forbs and grasses Overhanging: redbud Substrate: soil and organic matter Cluster of 2 or 3 burrows 1-2 inches in diameter present Field assessed on 4/17/12 Sierra treefrog present	0777 - 0782
N61	Pond, perennial, near	Yes	No emergent vegetation	N/A

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
	Arbolada Drive		Oak and pine overhanging	
N62	Pond, perennial, near Hoyito Circle	Yes	Emergent and margin vegetation present Oak and shrub overhanging Directly connected to F53	N/A
N63	Pond, perennial, near Las Palmas Way	Yes	Emergent vegetation present No tree cover or overhanging vegetation Pond near school	N/A
N67	Pond, perennial, near Buena Vista Court	Yes	Emergent and margin vegetation present Oak and, pine, and shrub overhanging Adjacent to N68/N72 (pond)	N/A
N69	Pond, perennial, near Penole Peak Road	Yes	Emergent and margin vegetation present Oak overhanging	N/A
N71	Stream, perennial, adjacent to SR 132	Yes	Emergent vegetation present Oak overhanging Vegetated throughout stream channel	N/A
N73	Wetland, emergent, around ephemeral stream channel stream channel, near Madreselva Street	No	Emergent vegetation present Oak and shrub overhanging No standing water present	N/A
N74	Wetland, emergent, near Merced Falls Road	No	No emergent vegetation present No tree cover or overhanging vegetation Field adjacent to baseball diamond near school	N/A
N75	Stream, perennial	Yes	Bankfull width: 2 – 3 m; gradient: 2 – 4 percent Pool size: 1m x 10m Non-pool habitat: run, riffle, step-pool, cascade Emergent Vegetation: forbs and grasses Overhanging: oak Substrate: soil, organic matter, boulders, cobbles, gravel Banks are steep and deeply incised with vegetation Scattered burrows 1 – 2 inches in diameter present Field assessed on 4/17/12 Sierra treefrog present Within 1 mile of historic California red legged frog location	0783 - 0790
N76	Stock pond, perennial	Yes	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N77	Pond, perennial, near Old Don Pedro Road	Yes	Emergent vegetation present Oak overhanging	N/A
N78	Stream, perennial, Sixbit Gulch	Yes	Bank full width: 3m Depth at bank full: 0.5m Size of pools: 2m x 4m Maximum depth of pool: 0.5m Emergent vegetation: sedges, grasses, forbs Overhanging: willow and Western	1681 - 1688

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
			spicebush Substrate: bedrock and cobbles No burrows present Field assessed on 6/21/12 Fish present	
N79	Stream, seasonal, near Red Hills Road	Yes	Emergent and margin vegetation present Some oak overhanging Wetland follows stream channel	N/A
N81	Wetland, emergent, near SR 49	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N82	Pond, perennial, near Shawmut Road	Yes	Size: 480m x 20m Emergent vegetation: rushes, plantago, grass No overhanging vegetation Substrate: soil and organic matter Abundant burrows with diameter 1.5 – 3 inches in diameter scattered throughout the field adjacent to wetland Field assessed on 4/18/12	0987 – 0992
N83	Wetland, forested/shrub	No	No emergent vegetation present Oak and shrub overhanging No standing water	N/A
N84	Pond, perennial	Yes	Emergent and aquatic vegetation present No tree cover or overhanging vegetation	N/A
N85	Stream, perennial with emergent wetland, near Old Don Pedro Road	Yes	Emergent and margin vegetation present Oak overhanging	N/A
N87	Pond, perennial	Yes	Emergent and aquatic vegetation present Oak and shrub overhanging Connected to Don Pedro Reservoir by small stream	N/A
N89	Pond, perennial	Yes	Emergent vegetation present Some oak overhanging	N/A
N90	Wetland, emergent	No	Emergent vegetation present No tree cover or overhanging vegetation Connected to Big Creek by intermittent stream channel	N/A
N91	Pond, perennial, near Old Don Pedro Road	Yes	Emergent and aquatic vegetation present Oak overhanging	N/A
N92	Wetland, emergent	No	No emergent vegetation overhanging No tree cover or overhanging vegetation	N/A
N93	Wetland, emergent in ephemeral streambed	No	Emergent vegetation present Sparse oak and shrub overhanging	N/A
N94	Stream, seasonal, near SR 49	Yes	Ephemeral vegetation present Oak and shrub overhanging	N/A
N97	Pond, perennial, near Menke Hess Road	Yes	Ephemeral and margin vegetation present Oak, pine, and shrub overhanging	N/A
N98	Stream, seasonal	Yes	Ephemeral vegetation present Oak overhanging	N/A

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
N99	Pond, perennial, near Jacksonville Road	Yes	Emergent and margin vegetation No tree cover or overhanging vegetation	N/A
N100	Pond, perennial	Yes	Emergent vegetation present No tree cover or overhanging vegetation Large woody debris present	N/A
N101	Stream, seasonal	Yes	Emergent and margin vegetation present Some oak and shrub overhanging	N/A
N103	Wetland, emergent	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water	N/A
N106	Pond, perennial	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N107	Stream, perennial (Sixbit Gulch), with forested/shrub wetland	Yes	Emergent vegetation present Pine and shrub overhanging	N/A
N108	Wetland, emergent	No	No emergent vegetation present No tree cover or overhanging vegetation Crosses SR 49 Wetland in ephemeral stream channel	N/A
N109	Wetland, emergent	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water	N/A
N110	Wetland, emergent	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water Vegetation community is red colored in July	N/A
N112	Wetland, emergent, near Old Don Pedro Road	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N113	Wetland, emergent, near Old Don Pedro Road	No	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N115	Stream, perennial, near SR 49 and Menke Hess Road	Yes	Emergent vegetation present Oak, pine, and shrub overhanging	N/A
N116	Wetland, emergent	Yes	Emergent vegetation present Oak overhanging Formed in streambed that has been cutoff from N125 (pond) by berm	N/A
N117	Stream, perennial with emergent wetland, near Old Don Pedro Road	Yes	Emergent and margin vegetation present Oak overhanging	N/A
N118	Wetland, emergent	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water Beneath power lines	N/A
N120	Wetland emergent, near Old Don Pedro Road	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water Formed in ephemeral stream channel	N/A
N121	Pond, perennial, near Old Don Pedro Road	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N122	Wetland, emergent, near SR 49	No	No emergent vegetation present Some oak overhanging	N/A

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
N123	Pond, perennial, near SR 49	Yes	Emergent and margin vegetation present Rushes overhanging	N/A
N124	Pond, perennial, near Shawmut Road	Yes	Emergent vegetation present Oak and shrub overhanging Berm separates site from N82/N95/N96	N/A
N125	Pond, perennial	Yes	Emergent and aquatic vegetation present No tree cover or overhanging vegetation	N/A
N128	Wetland, emergent	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water	N/A
N131	Pond, perennial	Yes	Emergent vegetation present Oak overhanging	N/A
N132	Pond, perennial	Yes	Emergent vegetation present No tree cover or overhanging vegetation Separated from N332/N333 by berm	N/A
N133	Pond, perennial, near El Encanto and SR 59 behind gravel parking area	Yes	Size: 50m x 26m Emergent vegetation: scirpus, grasses, forbs, duckweed Overhanging: oak Substrate: soil and organic matter No evidence of burrows present Field assessed on 4/19/12 Great egret present	1142 – 1145
N134	Pond, perennial	Yes	Emergent and aquatic vegetation present Oak overhanging Beneath powerlines	N/A
N135	Pond, seasonal, near Pased Seven Legends	No	No emergent vegetation No tree cover or overhanging vegetation Dry most of the year	N/A
N136	Pond, seasonal	No	No emergent vegetation No tree cover or overhanging vegetation	N/A
N137	Wetland, emergent	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water Concrete trough structure present	N/A
N138	Stream pool, seasonal	No	No emergent vegetation No tree cover or overhanging vegetation	N/A
N139	Pond, perennial, near Los Nogales Road	Yes	Emergent and margin vegetation present Oak, shrub, and rushed overhanging Impoundment caused by road	N/A
N140	Pond, seasonal	No	No emergent vegetation present Oak overhanging Dry by June	N/A
N141	Pond, perennial, near La Grange Road	Yes	Size: 10m x 20m Emergent vegetation: grasses and forbs No overhanging vegetation Substrate: soil and organic matter Clusters of 4 inch burrows present on east side of pond Field assessed on 4/19/12	1152 – 1157
N142	Pond, seasonal	No	No emergent vegetation present	N/A

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
			Oak overhanging Dry by June Adjacent to dirt road	
N143	Pond, perennial, near Paseo Seven Legends	Yes	Size: 40m x 20m Emergent vegetation: rushes Aquatic: algae Oak overhanging Substrate: soil Many scattered 1 inch diameter burrows present Field assessed on 6/20/12 Berm separating pond from ditch or stream Juvenile western toad present	1592 – 1609
N144	Pond, perennial	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N145	Pond, perennial	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N146	Pond, seasonal	Yes	No emergent vegetation No tree cover or overhanging vegetation	N/A
N147	Pond, perennial	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N148	Pond, perennial, near La Grange Road	Yes	Size: 78m x 15m Emergent vegetation: Typha. Duckweed Margin vegetation: rushes, grass, forbs Overhanging vegetation: plantago, oak Substrate: soil, organic matter Burrows were likely but could not be detected in thick vegetation Field assessed on 4/19/12 American bullfrog present	1169 – 1172
N149	Pond, perennial, near Bonds Flat Road	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N150	Pond, seasonal, near Don Pedro Road	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N151	Pond, seasonal	No	No emergent vegetation present No tree cover or overhanging vegetation Depression in roadway No standing water	N/A
N152	Pond, perennial	Yes	Emergent vegetation present Shrub overhanging	N/A
N153	Wetland, forested/shrub	No	No emergent vegetation present Oak overhanging No standing water	N/A
N154	Pond, perennial	Yes	Emergent and margin vegetation present No tree cover or overhanging vegetation Densely vegetated throughout	N/A
N155	Wetland, emergent	No	Emergent vegetation present No tree cover or overhanging vegetation	N/A

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
N156	Pond, perennial	Yes	Emergent vegetation present Oak and shrub overhanging	N/A
N157	Pond, seasonal	Yes	No emergent vegetation present Oak overhanging	N/A
N158	Pond, perennial, near Paseo Seven Legends	Yes	Size: 10m x 20m Emergent vegetation: grasses and rushes Aquatic vegetation: algae No overhanging Substrate: soil and cobbles One cluster of 4 – 5 1 inch diameter burrows present on berm Field assessed on 6/20/12 Separated from N165 by berm American bullfrog present	1631 – 1632, 1634, 1636 – 1641
N159	Stream pool, seasonal	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N160	Pond, seasonal	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N161	Pond, perennial	Yes	Size: 45m x 20m Emergent vegetation: rushes Aquatic vegetation: algae Oak overhanging Substrate: soil and cobbles Approximately 15 1 – 4 inch burrows present around pond Field assessed on 6/20/12 American bullfrog present	1611 – 1622
N162	Pond, seasonal	Yes	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N163	Wetland, emergent, near Don Pedro Road	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water	N/A
N164	Pond, seasonal, near Paseo Seven Legends	Yes	Size: 15m x 15m No emergent vegetation Margin vegetation : desiccated grasses No overhanging Substrate: soil Scattered burrows ranging from 1 – 4 inches in diameter were present in the berm on the west side of the pond Field assessed on 6/21/12	1689 – 1696
N165	Pond, seasonal, near Paseo Seven Legends	No	Size: 10m x 15m No emergent vegetation Forbs present throughout No overhanging Substrate: soil and cobbles One cluster of 4 – 5 1 inch diameter burrows present on berm Separated from N158 by berm Field assessed on 6/20/12	1633, 1635, 1636 – 1641

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
N166	Pond, perennial	Yes	Emergent vegetation present Oak overhanging	N/A
N167	Stream pool, seasonal	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N168	Stream pool, seasonal	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N169	Pond, seasonal	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N170	Pond, seasonal	Yes	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N171	Pond, seasonal, near Pased Seven Legends	No	No emergent vegetation No tree cover or overhanging vegetation Pond created by culvert in ephemeral stream channel	N/A
N172	Pond, perennial, near La Grange Road	Yes	Size: 97m x 27m Emergent and margin vegetation: grasses and forbs No overhanging vegetation Substrate: soil, organic matter, subangular cobble Abundant 2 – 4 inch diameter burrows present Field assessed on 4/19/12	1158 – 1168
N173	Pond, perennial	Yes	Emergent and margin vegetation present No tree cover or overhanging vegetation	N/A
N174	Wetland, emergent	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N175	Stream pool, seasonal	No	No emergent vegetation present Oak overhanging	N/A
N176	Pond, perennial	Yes	Emergent and aquatic vegetation present No tree cover or overhanging vegetation	N/A
N177	Pond, perennial	Yes	Emergent and aquatic vegetation present Oak overhanging	N/A
N178	Pond, perennial, near Las Armomitas	Yes	Emergent and margin vegetation present Shrub overhanging	N/A
N179	Pond, seasonal, near Paseo Seven Legends	Yes	Size: 30m x 10m No emergent vegetation present, grasses and forbs throughout Oak overhanging Substrate: soil, grasses, cobbles Two 4 inch diameter burrows present on west side of pond Field assessed on 6/20/12 Fed by 1m wide ditch Dry in June 2012	1586 – 1590
N180	Wetland, forested/shrub	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N181	Pond, perennial	Yes	Emergent and aquatic vegetation present Oak overhanging	N/A
N182	Pond, perennial	Yes	Emergent and margin vegetation present No tree cover or overhanging vegetation	N/A

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
N184	Pond, seasonal	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N185	Pond, perennial, near Avenida Lugo Road	Yes	Emergent and margin vegetation present No tree cover or overhanging vegetation	N/A
N186	Pond, seasonal	Yes	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N187	Pond, perennial, near County Road J59	Yes	Emergent vegetation present No tree cover or overhanging vegetation Used by cows	N/A
N188	Pond, perennial, near Don Pedro Road	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N189	Pond, seasonal, near Pased Seven Legends	Yes	Emergent vegetation present Oak overhanging	N/A
N190	Pond, perennial, near Ward's Ferry Road	Yes	Emergent, aquatic, and margin vegetation present Oak and rushes overhanging Pond vegetated throughout	N/A
N191	Pond, perennial	Yes	Emergent and aquatic vegetation present Oak and shrub overhanging	N/A
N192	Pond, perennial, near Apple Colony Road	Yes	Emergent vegetation present Oak and shrub overhanging Located in landscaped residential area	N/A
N193	Pond, seasonal, near Apple Colony Road	No	Emergent vegetation present Oak overhanging	N/A
N195	Pond, perennial	Yes	Emergent vegetation present Oak overhanging	N/A
N196	Pond, perennial	Yes	Emergent and aquatic vegetation No tree cover or overhanging vegetation	N/A
N197	Pond, perennial, near Ward's Ferry Road	Yes	Emergent vegetation present Oak and shrub overhanging	N/A
N198	Pond, perennial, near Major Way	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N199	Pond, perennial	Yes	Emergent and aquatic vegetation present Oak overhanging	N/A
N200	Pond, perennial	Yes	Emergent vegetation present Oak and pine overhanging	N/A
N201	Pond, perennial	Yes	Emergent and aquatic vegetation present Willow overhanging	N/A
N202	Stream, perennial (Deer Creek) with forested/shrub wetland, near Ward's Ferry Road	Yes	No emergent vegetation present Oak, pine, and shrub overhanging Stream in bedrock channel	N/A
N203	Pond, perennial, near Jacksonville Road	Yes	Emergent and aquatic vegetation present Oak overhanging	N/A
N205	Wetland, emergent	No	No emergent vegetation present Some oak overhanging	N/A
N207	Wetland, emergent	No	No emergent vegetation Shrub and pine overhanging Overlaps maintained dirt area around treatment pond (N208)	N/A
N208	Treatment pond, perennial	Yes	Emergent and aquatic vegetation present No tree cover or overhanging vegetation	N/A

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
N210	Pond, perennial	Yes	Emergent vegetation present Oak overhanging	N/A
N211	Wetland, emergent, near SR 49 and New Priest Grade Road	No	No emergent vegetation present Shrub overhanging	N/A
N212	Pond perennial, near Moccasin Reservoir spillway	Yes	Emergent vegetation present Oak overhanging Connected to Moccasin Reservoir by spillway under Moccasin Switchback Road	N/A
N213	Pond, perennial	Yes	Emergent vegetation present Oak overhanging	N/A
N214	Pond, perennial, near Moccasin Reservoir spillway	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N215	Pool in stream	No	Size: 3m x 6m Bank full depth: 1m No emergent vegetation present Willow overhanging and in the margin Desiccated forbs along margins Depression between two hills Many 2 inch diameter burrows present next to road Upstream of culvert, dry at survey Field assessed on 6/18/12	1462 – 1467
N216	Wetland, forested/shrub	No	No emergent vegetation present Pine and shrub overhanging Depression between two hills No standing water	N/A
N217	Wetland, emergent	No	No emergent vegetation present Oak, pine, and shrub overhanging No standing water	N/A
N218	Pool in stream, near Old Priest Grade	No	Bank full depth: 1.25m No emergent vegetation present Forbs in bottom of streambed Manzanita, toyon, and caenothus overhanging No evidence of burrows present Dry at time of survey Field assessed on 6/18/12	1468 – 1474
N219	Pond, seasonal	No	Emergent vegetation present Oaks and shrub overhanging	N/A
N220	Pond, perennial	Yes	Emergent vegetation present Oak overhanging	N/A
N221	Stock pond, perennial	Yes	Emergent and aquatic vegetation present No tree cover or overhanging vegetation	N/A
N222	Pond, perennial, by Egan Road	Yes	Size: 100m x 75m Emergent vegetation: typha/scirpus, grasses, forbs, planago, algae Oak overhanging on north side Substrate: soil and organic matter	0994 – 1004

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
			Two 3 inch diameter burrows present Field assessed on 4/18/12 American bullfrog present Waterfowl present	
N223	Stream impoundment, seasonal	No	Stream channel appears intermittent	N/A
N224	Stream impoundment, perennial	Yes	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N225	Stream impoundment, perennial	Yes	Emergent and margin vegetation present No tree cover or overhanging vegetation In agricultural field	N/A
N226	Stream impoundment, perennial	Yes	Emergent and aquatic vegetation present No tree cover or overhanging vegetation In agricultural field	N/A
N227	Stream impoundment, perennial	Yes	Emergent vegetation present No tree cover or overhanging vegetation In agricultural field	N/A
N228	Stream impoundment, seasonal	Yes	Emergent vegetation present No tree cover or overhanging vegetation In agricultural field	N/A
N229	Pond, seasonal	No	No emergent vegetation present Shrub overhanging In agricultural field	N/A
N230	Reservoir, constructed	Yes	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N231	Stream impoundment	Yes	Emergent , aquatic, and margin vegetation present Some oak overhanging on northeast side	N/A
N232	Stock pond, constructed	Yes	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N233	Pond, perennial	Yes	Emergent , aquatic, and margin vegetation present Shrub overhanging on north side	N/A
N234	Pond, seasonal	No	No emergent vegetation present No tree cover or overhanging vegetation In agricultural field	N/A
N235	Pond, perennial	Yes	Some emergent vegetation present No tree cover or overhanging vegetation	N/A
N236	Pond , perennial	Yes	Emergent vegetation present Oak overhanging on south and west sides	N/A
N237	Pond, perennial	Yes	Emergent and margin vegetation present Oak overhanging on south side	N/A
N238	Pond, perennial	Yes	Emergent, aquatic, and margin vegetation present Oak overhanging on north side	N/A
N239	Pond, emergent depression	Yes	Emergent, aquatic, and margin vegetation present Shrub overhanging along west side	N/A
N240	Pond, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation Concrete trough structure present	N/A

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
			No standing water evident	
N241	Pond, emergent depression	Yes	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N242	Stream impoundment, perennial	Yes	Emergent and margin vegetation present No tree cover or overhanging vegetation	N/A
N243	Pond, perennial	Yes	Aquatic vegetation present No tree cover or overhanging vegetation	N/A
N244	Pond,	Yes	Emergent vegetation present Oak overhanging on south side	N/A
N245	Pond, emergent depression, seasonal	No	No emergent vegetation present No tree cover or overhanging vegetation Adjacent to cleared equipment parking area	N/A
N246	Pond, emergent depression, seasonal	No	Emergent and margin vegetation present No tree cover or overhanging vegetation Small seasonal pond in northern part of site, but otherwise no standing water	N/A
N247	Wetland, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water	N/A
N248	Stream impoundment, seasonal	No	No emergent vegetation Oak overhanging southeast side Pond is dry by June	N/A
N249	Pond, perennial	Yes	Emergent and margin vegetation present Oak and pine overhanging	N/A
N250	Pond, perennial	Yes	No emergent vegetation Oak overhanging	N/A
N251	Stock pond, seasonal	No	No emergent vegetation Oak overhanging northeast side	N/A
N252	Stock pond, perennial	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N253	Wetland, emergent depression	No	No emergent vegetation present Oak overhanging No standing water	N/A
N254	Stock pond, seasonal	No	No emergent vegetation present Oak overhanging	N/A
N255	Stream impoundment	Yes	Emergent and aquatic vegetation present Oak and shrub overhanging	N/A
N256	Wetland, emergent depression	No	No emergent vegetation present Oak overhanging No standing water	N/A
N257	Stock pond, Seasonal	No	No emergent vegetation Oak overhanging	N/A
N258	Wetland, emergent depression	No	No emergent vegetation present Oak overhanging No standing water	N/A
N259	Stock pond, seasonal	No	Emergent vegetation present Oak overhanging	N/A
N260	Stream impoundment, perennial	Yes	Emergent and margin vegetation present Shrub overhanging	N/A
N261	Pond, perennial, near	Yes	Emergent and margin vegetation present	N/A

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
	Powell Ranch Road		Oaks and shrub overhanging	
N262	Pond, emergent depression, seasonal, near Powell Ranch Road	Yes	No emergent vegetation present No tree cover or overhanging vegetation Dries by mid – late July	N/A
N263	Stream impoundment, perennial	Yes	Emergent and margin vegetation present Oaks and shrub overhanging Separated from stream by road or berm	N/A
N264	Pond, perennial	Yes	Emergent and aquatic vegetation present Oak overhanging In depression between hillside and road	N/A
N265	Pond, perennial	Yes	Emergent and margin vegetation present Oak and shrub overhanging In depression between hillside and road	N/A
N266	Road, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation Depression in dirt road No standing water	N/A
N267	Wetland, emergent depression, near Jacksonville Road	No	No emergent vegetation present Oak overhanging on south side Adjacent to road and parking area	N/A
N268	Stream pool	Yes	Emergent vegetation present Oak, pine, and shrub overhanging	N/A
N269	Pond, emergent depression	Yes	Emergent and margin vegetation present Oak overhanging	N/A
N270	Emergent marsh	No	Emergent and margin vegetation present No tree cover or overhanging vegetation	N/A
N271	Pond, seasonal, near New Priest Grade Road	No	Size: 10m x 5m Emergent vegetation: forbs, dock Margin vegetation: forbs No overhanging Substrate: soil and organic matter One 3-inch burrow 500 feet from pond Field assessed on 6/18/12 Dry in June 2012	1453 – 1460
N272	Stream impoundment, perennial	Yes	Emergent and aquatic vegetation present No tree cover or overhanging vegetation Impoundment cause by dirt road	N/A
N273	Pond, perennial	Yes	Emergent and aquatic vegetation present Shrub and oak overhanging	N/A
N274	Wetland, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water	N/A
N275	Wetland, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water	N/A
N276	Stock pond, perennial	Yes	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N277	Wetland, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
N278	Wetland, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N279	Pond, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation Dry by June	N/A
N280	Wetland , emergent	No	No emergent vegetation present Oak and shrub overhanging	N/A
N281	Wetland, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water	N/A
N282	Wetland, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water	N/A
N283	Wetland, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water	N/A
N284	Stream impoundment, perennial	Yes	Emergent, aquatic, and margin vegetation present Oak and shrub overhanging	N/A
N285	Stream impoundment	Yes	No emergent vegetation Some oak overhanging	N/A
N286	Wetland, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water	N/A
N287	Wetland, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N288	Wetland, emergent depression	No	No emergent vegetation present Oak overhanging	N/A
N289	Wetland, emergent depression	No	No emergent vegetation present Oak overhanging	N/A
N290	Wetland, emergent depression	No	No emergent vegetation present Oak overhanging No standing water	N/A
N291	Stream impoundment, perennial	Yes	Emergent and aquatic vegetation present Oak overhanging	N/A
N292	Stream impoundment, seasonal	Yes	No emergent vegetation present No tree cover or overhanging vegetation Dry by July in low flow years	N/A
N293	Stream impoundment, perennial	Yes	Emergent vegetation present Oak overhanging in during higher flow	N/A
N294	Stream impoundment, perennial	Yes	Emergent and aquatic vegetation present No tree cover or overhanging vegetation	N/A
N295	Stream pool, perennial	Yes	Emergent and aquatic vegetation present No tree cover or overhanging vegetation Pool created by bedrock outcropping	N/A
N296	Wetland, emergent depression, near Brunette Road	No	No emergent vegetation present No tree cover or overhanging vegetation In field adjacent to residence	N/A
N297	Stream pool, seasonal	No	No emergent vegetation present Oak overhanging Dry by June	N/A

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
N298	Emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation No standing water No vegetation present during growing season	N/A
N299	Stock pond, perennial	Yes	Margin vegetation present No tree cover or overhanging vegetation	N/A
N300	Stock pond, perennial, near Pased Seven Legends Road	Yes	Emergent vegetation present Oak overhanging	N/A
N301	Wetland, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N302	Pond, perennial	Yes	No emergent vegetation present Oak overhanging	N/A
N303	Pond, perennial	Yes	Emergent and margin vegetation present Oak overhanging on south side	N/A
N304	Pond, seasonal, near La Grange Road	No	Size: 2m x 4m Emergent vegetation: grasses, forbs Margin vegetation: grass, forbs Overhanging vegetation: oak on south side Substrate: soil, organic matter No evidence of burrows present Field assessed on 4/19/12 Redtail hawk nest on nearby powerline	1173 – 1178
N305	Pond, seasonal, by La Grange Road	Yes	Size: 10m x 20m Emergent vegetation: grasses, rushes, forbs No overhanging vegetation Substrate: soil and organic matter Many 1.5 – 3 inch diameter burrows present throughout field/pasture Field assessed on 4/18/12	1005 – 1011
N306	Pond, emergent depression	No	Emergent vegetation present Oak overhanging east side	N/A
N307	Pond, perennial, near Pased Seven Legends Road	Yes	Emergent vegetation present Oak overhanging west side	N/A
N308	Wetland, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N309	Stream impoundment	Yes	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N310	Emergent depression, near Las Cruces	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N311	Stream impoundment, perennial, near El Encino Drive	Yes	Emergent and aquatic vegetation present Oak and shrub overhanging	N/A
N312	Stream impoundment, seasonal, near El Encino Drive	Yes	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N313	Stream pool, perennial, near County Road J59 and Bonds Flat Road	Yes	Emergent vegetation present Oak overhanging	N/A

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
N314	Stream pool, perennial, near County Road J59 and Bonds Flat Road	Yes	Emergent vegetation present No tree cover or overhanging vegetation Stream enters culvert at Bonds Flat Road	N/A
N315	Pond, emergent depression	Yes	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N316	Pond, perennial, near El Encanto and SR 59 behind gravel parking area	Yes	2 excavated ponds, separated by earthen berm Pond 1 Size: 46m x 13m Pond 2 Size: 55m x 12m Emergent vegetation: rushes, grasses, forbs, dock Overhanging: oak Substrate: soil , organic matter, gravel No evidence of burrows present Field assessed on 4/19/12 American bullfrog present	1146 – 1151
N317	Pool, constructed	Yes	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N318	Wetland, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N319	Stock pond, constructed	Yes	No emergent vegetation present No tree cover or overhanging vegetation Rectangular concrete structure constructed in depression	N/A
N320	Wetland, emergent depression	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N321	Stream pool, perennial, near County Road J59	Yes	Emergent vegetation present No tree cover or overhanging vegetation Adjacent to driveway	N/A
N322	Stream pool, perennial	Yes	Emergent vegetation present Oak and shrub overhanging Stream flows through bedrock outcropping	N/A
N323	Stream pool, perennial, near Bonds Flat Road	Yes	No emergent vegetation present Oak overhanging	N/A
N324	Stream pool, near Bonds Flat Road	Yes	Emergent vegetation present No tree cover or overhanging vegetation Impoundment created by raised road grade	N/A
N325	Wetland, emergent depression	No	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N326	Stream pool, perennial, near Los Nogales Road	Yes	Emergent and margin vegetation present Shrub, willow and oak overhanging Pool between two road crossings	N/A
N327	Pond, perennial	Yes	Emergent and aquatic vegetation present No tree cover or overhanging vegetation	N/A
N328	Pond, seasonal	No	No emergent vegetation present Oak overhanging No standing water	N/A
N329	Stream impoundment, perennial	Yes	Emergent and margin vegetation present Oak and shrub overhanging	N/A

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
N330	Stream pool, perennial	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N331	Stream pool, perennial	Yes	Emergent vegetation present No tree cover or overhanging vegetation Connects to N332 via culvert	N/A
N332	Stream pool, perennial	Yes	Emergent vegetation present No tree cover or overhanging vegetation Connects to N331 via culvert	N/A
N333	Stream pool, perennial	Yes	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N334	Stream pool, Big Creek, perennial	Yes	Emergent and margin vegetation present Oak overhanging	N/A
N335	Stream pool, Big Creek, perennial	Yes	Emergent vegetation present Oak and shrub overhanging Pool in bedrock outcropping	N/A
N336	Stream pool, Big Creek, perennial	Yes	Emergent vegetation present Oak and shrub overhanging Pool in bedrock outcropping	N/A
N337	Stream pool, Big Creek, perennial	Yes	Emergent vegetation present Oak and shrub overhanging Pool in bedrock outcropping	N/A
N338	Stream pool, Big Creek, perennial	Yes	Emergent vegetation present Oak and shrub overhanging Pool in bedrock outcropping	N/A
N339	Pond, perennial	Yes	Emergent vegetation present Oak overhanging	N/A
N340	Pond, perennial, near Bonds Flat Road	Yes	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N341	Pond, seasonal	Yes	Emergent vegetation present No tree cover or overhanging vegetation Mostly dry by end of July	N/A
N342	Pond, seasonal	No	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N343	Pond, seasonal	No	No emergent vegetation present No tree cover or overhanging vegetation	N/A
N344	Stream impoundment, perennial	Yes	Emergent, aquatic, and margin vegetation present Oak and shrub overhanging	N/A
N345	Stream pool, perennial	Yes	No emergent vegetation present Oak and shrub overhanging	N/A
N346	Stream pool, perennial	Yes	Emergent vegetation present Oak and shrub overhanging	N/A
N347	Pond, perennial	Yes	Emergent vegetation present Oak and shrub overhanging	N/A
N348	Pond, perennial	Yes	Emergent vegetation and algae present No tree cover or overhanging vegetation	N/A
N349	Stream pool, perennial	Yes	Emergent vegetation present No tree cover or overhanging vegetation Pool in bedrock outcropping	N/A
N350	Stream pool, perennial	Yes	Emergent vegetation present No tree cover or overhanging vegetation Pool in bedrock outcropping	N/A

Site Number ^{1,2,3}	Habitat Feature/Seasonality/ Location	Meets 10-Week Criterion	Notes	Photo Number
N351	Stream pool, perennial, near Jalapa Way	Yes	Emergent vegetation present No tree cover or overhanging vegetation Stream flows behind residences	N/A
N352	Stream pool, perennial, near Jalapa Way	Yes	Emergent vegetation present No tree cover or overhanging vegetation Stream flows around a residence	N/A
N353	Pond, seasonal	No	Emergent vegetation present No tree cover or overhanging vegetation	N/A
N354	Pond, perennial	Yes	Emergent and margin vegetation present No tree cover or overhanging vegetation Adjacent to dirt road	N/A
N355	Pond, perennial	Yes	Emergent and margin vegetation present No tree cover or overhanging vegetation	N/A
N356	Stream pool, perennial	Yes	Emergent vegetation present Oaks and shrub overhanging Behind residence	N/A
N357	Pond, perennial	Yes	Emergent and aquatic vegetation present No tree cover or overhanging vegetation	N/A

¹ All sites in table are within the current or historic range of the CTS.

² Sites field-assessed in bold.

³ Some aspects of the site assessment are not discernible from aerial imagery (e.g. depth, substrate, etc.).

1.2.1 Photos of Sites (Aquatic Habitat Locations) Field Assessed for Potential California Tiger Salamander Breeding Habitat within the Don Pedro Study Area (Excluding Sites within the Project Boundary)



Figure 2.0-1. N52



Figure 2.0-2. N60

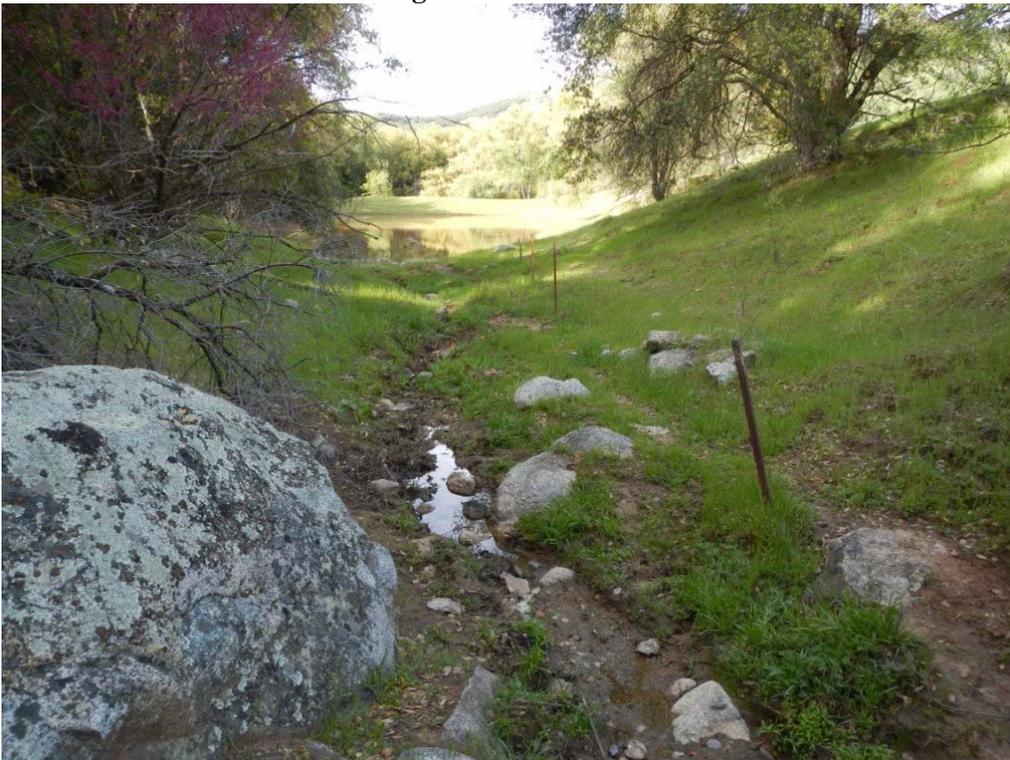


Figure 2.0-3. N75



Figure 2.0-4. N78



Figure 2.0-5. N82



Figure 2.0-6. N133



Figure 2.0-7. N141



Figure 2.0-8. N143



Figure 2.0-9. N148



Figure 2.0-10. N158



Figure 2.0-11. N161



Figure 2.0-12. N164



Figure 2.0-13. N165



Figure 2.0-14. N172



Figure 2.0-15. N179



Figure 2.0-16. N215



Figure 2.0-17. N218



Figure 2.0-18. N222



Figure 2.0-19. N271



Figure 2.0-20. N304



Figure 2.0-21. N316

2.0 REFERENCES

Turlock Irrigation District and Modesto Irrigation District (TID/MID). 2013. ESA-Listed Amphibians – California Red-Legged Frog Study Report (TR-07). Attachment to Don Pedro Hydroelectric Project Initial Study Report. January 2013.

U.S. Fish and Wildlife Service (USFWS). 2003. Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander. October 2003. USFWS, Sacramento Fish and Wildlife Office, Region 8. 8 pp. Available online: www.fws.gov/sacramento/es/documents/cts_survey_protocol.pdf.