PROTOCOL-LEVEL
CALIFORNIA RED-LEGGED FROG SURVEY REPORT
FOR THE FORMER SAN LUIS OBISPO TANK FARM SITE (TANK FARM)
SAN LUIS OBISPO COUNTY, CALIFORNIA

Prepared for:
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY

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1.0 INTRODUCTION

This report summarizes the results of a recent literature/database review and focused protocol-level California red-legged frog (*Rana aurora draytonii*) survey conducted on behalf of Chevron Environmental Management Company (CEMC) at the former San Luis Obispo Tank Farm Site located near the City of San Luis Obispo, San Luis Obispo County, California (Project Site). The surveys were conducted at the request of the United States Fish & Wildlife Service (USFWS) to determine the presence or absence of the federally-threatened California red-legged frog (CRLF) within the Project Site. All CRLF survey sites were selected based upon the results of a CRLF Habitat Assessment which included all proposed project impact areas that have the potential to affect aquatic habitats within the Project Site. Information on the survey protocols, methodologies, and findings are all detailed in this report including a detailed account of reported occurrences of CRLF within a five-mile radius of the Project Site. This report is intended to supplement project permit applications to local, state, and federal regulatory agencies with emphasis on the U.S. Army Corps of Engineers per the 404 Permit process and the USFWS per Section 7 of the Endangered Species Act.

2.0 PROJECT DESCRIPTION AND LOCATION

The Union Oil Company of California Tank Farm Site encompasses approximately 340 acres situated in the flat terrain of San Luis Valley, in San Luis Obispo County (see Figure 1). Tank Farm Road divides the site into distinct north and south sides. The west and southwest sides of the Project Site are bordered by industrial uses, the north and south bordered by agricultural uses, and residential development lies to the east. A portion of Acacia Creek runs along the eastern boundary of the Project Site and flows into the East Branch of San Luis Obispo Creek which is located along the remaining eastern and southern boundaries of the property. For a period of 70 years, the Project Site was used for storage and distribution of unrefined crude oil. In 1926, a catastrophic fire resulted in the destruction of the existing oil reservoirs on-site and the deposit of a tar and asphaltic slag material over a portion of the Project Site (ENTRIX 1998). Currently, the surface of the Project Site consists of extensive open areas and a network of large containment berms which creates a number of distinct habitat types with varied topography. As a result, the Project Site supports a variety of different aquatic and terrestrial wildlife due to the combination of historical activities (i.e., remnant berms and associated wetland habitat areas), the environmental setting, and minimal human activities.

3.0 PROJECT SITE SETTING

The following discussion details the respective Project Site characteristics observed during numerous biological surveys conducted by Padre Staff, including a focused CRLF Habitat Assessment. These characterizations include a physical description of the available aquatic habitat, dominant vegetation observed, and wildlife observed. Refer to Appendix A - Site Photographs.

3.1 EAST BRANCH OF SAN LUIS OBISPO CREEK

A portion of Acacia Creek runs along the eastern boundary of the property and flows into the East Branch of San Luis Obispo Creek located along the remaining eastern and southern boundaries of the property. Available CRLF habitat within the Project Site occurs in the East Branch of San Luis Obispo Creek predominately consisting of a narrow strip of mixed riparian habitat which comprises the riparian corridor of the creek. Ruderal areas surround the riparian habitat and include roadsides, agricultural and industrial uses. The channel width of the creek is approximately six to eight feet and the maximum depth exceeds six feet during the winter seasons. Vegetation observed in this habitat includes arroyo willow (*Salix lasiolepis*), cottonwood (*Populus fremontii*), western sycamore (*Platanus racemosa*), red willow (*Salix laevigata*), black walnut (*Juglans californica*) and a few occurrences of eucalyptus (*Eucalyptus* ssp.). Aquatic and semi-aquatic wildlife observed at this site included signal crayfish (*Pacifastacus leniusculus*), American bullfrog (*Rana catesbeiana*), Pacific chorus frog (*Pseudacris regilla*), common carp (*Cyprinus carpio*), south-central California coast steelhead (*Oncorhynchus mykiss*), three-spined stickleback (*Gasterostreus aculeatus*), and western pond turtle (*Actinemys marmorta pallida*). Bird species observed included but were not limited to mallard (*Anas platyrhynchos*), yellow warbler (*Dendroica petechia*), blue grosebeak (*Passerina caerulea*), great blue heron (*Ardea herodias*), wood duck (*Aix sponsa*), American coot (*Fulica Americana*), Audubon's warbler, (*Dendrica coronata*), great egret (*Ardea alba*), red-shouldered hawk (*Buteo lineatus*), violet green swallow (*Tachycineta thalassina*), song sparrow (*Melospiza melodia*), common yellowthroat (*Geothlypis trichas*), downy woodpecker (*Picoides pubescens*), chestnut-backed chickadee (*Poecile rufescens*), western scrub jay (*Aphelocoma californica*), red-tailed hawk (*Buteo jamaicensis*), and black phoebe (*Sayornis nigricans*).

3.2 FRESHWATER MARSH

Numerous freshwater marsh communities exist throughout the Project Site. A large area, adjacent to the north side of Tank Farm Road (North Marsh), comprises several acres of marsh. Additionally, two of the remnant concrete-lined reservoirs (Reservoirs 5 and 7) have established freshwater marsh vegetation. A drainage canal along the west side of the property (Western Marsh) and several small patches on the south side of the property also support freshwater marsh vegetation. Dominant plant species include cattail (*Typha angustifolia*), bulrush (*Scirpus acutus*), nutsedge (*Cyperus esculentus*), spikerush (*Eleocharis marcostachya*), and water plantain (*Alisma plantago-aquatica*). Amphibians and reptiles observed at these sites included Pacific chorus frog, American bullfrog, and coast garter snake (*Thamnophis elegans terrestris*). Bird species observed within the freshwater marsh habitat areas include red-winged blackbird (*Agelaius phoeniceus*), mallard, western meadowlark (*Sturnella neglecta*), killdeer (*Charadrius vociferous*), northern shoveler (*Anas clypeata*), great egret (*Ardea alba*), white-tailed kite (*Catharus guttatus*), American widgeon (*Anas amercana*), short-billed dowitcher (*Limnodromus griseus*), American coot, (*Fulica americana*), tri-colored blackbird (*Agelaius tricolor*), blue-winged teal (*Anas crecca*), common yellowthroat (*Geothlypis trichas*), cinnamon teal (*Anas cyanoptera*), brewer's blackbird (*Euphagus cyanocephalus*), common merganser (*Mergus merganser*), whimbrel (*Numenius phaeopus*), greater yellowlegs (*Tringa melanoleuca*), northern harrier (*Circus cyaneus*), great blue heron (*Ardea Herodias*), semipalmated plover

(*Charadrius semipalmatus*), western sandpiper (*Calidris mauri*), snowy egret (*Egretta thula*) bufflehead (*Bucephala albeola*), and common snipe (*Gallinago gallinago*). Lastly, mammals observed utilizing the freshwater marshes include mule deer (*Odocoileus hemionus*), raccoon (*Procyon lotor*), and Virginia opossum (*Didelphis virginiana*).

3.3 SEASONAL WET MEADOW

Seasonal wetlands occur throughout the Project Site in various patterns due to the historical activity within Tank Farm (e.g., excavation, construction of containment berms, etc.) and provide suitable habitat for CRLF in some areas. These patches of seasonal wet meadow habitat on the north and south side of Tank Farm Road were included in the North and West Marsh CRLF surveys respectively. Emergent vegetation observed in this habitat included saltgrass (*Distichlis spicata*), spikerush (*Eleocharis macrostachya*), beardgrass (*Polypogon monspeliensis*), tall flatsedge (*Cyperus eragrostis*), brass buttons (*Cotula coronopifolia*), rush (*Juncus* ssp.) curly dock (*Rumex crispus*), and cocklebur (*Xanthium strumarium*). Wildlife species occurring in the seasonal wet meadow was similar to those occurring in the freshwater marsh habitat, including Pacific tree frog and American bullfrog.

4.0 CALIFORNIA RED-LEGGED FROG LIFE HISTORY

The CRLF is federally-listed as threatened under the Endangered Species Act (ESA) and is a California species of special concern protected by the California Department of Fish and Game (CDFG). The historical range of the CRLF extended on the coast from the vicinity of Point Reyes National Seashore and inland from the vicinity of Redding southward to northwestern Baja California, Mexico (USFWS 2007). The largest extent of currently occupied habitat is found in Monterey, San Luis Obispo, and Santa Barbara Counties (USFWS 2007) (see Photograph 1). Thus, the Tank Farm Site is within the current and historic range of the species.

Photograph 1. CRLF observed by Padre in 2006 within a perennial stream on the Gaviota Coast, Santa Barbara County, CA.

Photograph 2. CRLF egg mass observed by Padre in 2001 within a perennial stream on the Gaviota Coast, Santa Barbara County, CA.

CRLF is generally found along marshes, streams, ponds, and other permanent sources of water where dense scrubby vegetation such as willows, cattails, and bulrushes dominate, and water quality is good. Breeding sites occur along watercourses with pools that remain long enough for breeding and the development of larvae (see Photograph 2). Breeding time depends on winter rains but is usually between late November and late April (Jennings 1988). This species is currently threatened by human activities, including, degradation and loss of habitat through urbanization, mining, improper management of grazing, recreation, water diversions, and degraded water quality. Populations have also declined due to the introduction of predators such as bullfrog, Centrarchid fish species (such as sunfish, blue gill, or large mouth bass), and crayfish.

5.0 SURVEY METHODOLOGY

The research and survey methodologies implemented for this survey were conducted in accordance with the *USFWS Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005). Specifically, the survey consisted of the following three elements:

1. First, an extensive background review was conducted to determine current and historical range of CRLF within a 5.0-mile radius of the Project Site. This review consisted of a thorough query of the California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB) for sighting records, reviewing previous CRLF survey reports conducted within the Project Site and surrounding areas, and contacting local resource professionals and agencies with knowledge of CRLF distribution within the vicinity of the Project Site (see Figure 2).

2. Second, a preliminary day-time CRLF Habitat Assessment was conducted within the 340-acre Project Site to evaluate the existing site and adjacent habitat areas to support CRLF. This included completion of the USFWS CRLF Habitat Site Assessment Data Sheet within each of the aquatic habitat types found within the Tank Farm Site (see Appendix B). The results of the CRLF Habitat Assessment were utilized to determine the survey scope of the subsequent protocol-level CRLF surveys of the Project Site (see Figure 3), as described below.

3. Third, protocol-level CRLF surveys were conducted to determine the presence or absence of CRLF at or near the Project Site in accordance with current USFWS survey protocol and guidelines (USWFS 2005). All surveys were completed with at

least four Padre Biologists working in two, two-person teams to cover all of the habitat areas of the Project Site. Each two-person team included a Padre Biologist with prior CRLF experience (see Appendix C - Padre Staff Resumes). At the beginning of each survey and prior to entering pre-designated survey areas, Padre Biologists would attempt to identify CRLF vocalizations. Following auditory identification attempts, surveys were conducted by walking transects of opportunity within all available CRLF habitat. A total of two (2) day surveys and four (4) night surveys were completed during the breeding season, between October 1 through June 30; and one (1) day and one (1) night survey was completed during the non-breeding season, between July 1 and September 30. A thermometer (Traceable® Calibration Control Company) and a wind meter (Kestrel® 2000) were utilized to record weather data. Binoculars (Swift 10x42, Leica 10x42, Olympus 10x50, and/or Audubon 10x42) and lights (Nite Lite® with < 100,000 candle power) were utilized to scan all available CRLF habitat, detect the species via eye-shine during night surveys, and to investigate potential CRLF refugium during the day. Please refer to Appendix D - Aquatic Survey Data Forms.

6.0 CALIFORNIA RED-LEGGED FROG LITERATURE REVIEW

Prior to conducting CRLF field surveys, a literature review was conducted to investigate the historical presence of CRLF proximate to the Project Site. The literature review examined multiple sources of information including the following documents:

a. *Scoping Ecological Risk Assessment and Biological Site Characterization for Unocal Tank Farm Road Site* (Entrix 1998);

b. *Damon-Garcia Sports Complex Project. Biological and Wetland Assessment* (Rincon 2000);

c. *Unocal San Luis Obispo Tank Farm Phase I Biological Resources Studies* (Rincon 2003);

d. *Natural Environmental Study, Wetland Assessment and Biological Assessment for the Tank Farm Road Safety and Operational Improvements Project* (Padre 2004);

e. *Unocal Corporation San Luis Obispo Tank Farm Comprehensive Fairy Shrimp Wet and Dry Season Survey Report* (Rincon 2005); and,

f. Personal computer version (RAREFIND 2) of the CNDDB, San Luis Obispo Quadrangle (CNDDB 2008).

Based upon review of the combined biological resources survey reports outlined above, no CRLFs have been identified within and/or directly adjacent to the Project Site in the last 10 years. Specifically, focused biological survey(s) of the Project Site completed by Entrix, Inc. in 1998 did not result in the identification of CRLF. Further, previous protocol-level CRLF surveys conducted by Rincon in suitable habitat areas within the Project Site and bordering habitat areas including seasonally ponded areas along Acacia Creek (Damon-Garcia Sports Complex) and the East Branch of San Luis Obispo Creek in June of 2000 and May of 2003 did not result in the identification of CRLF. Rincon also conducted aquatic fairy shrimp surveys in collaboration with David Wolff Environmental within the Project Site in 2005. This included wet season surveys of 86 seasonal wetland features within the Project Site using systematic dip-net sampling techniques. All amphibians, including larvae (i.e., tadpoles), captured in the dip-nets during these focused surveys were recorded to species level and no CRLF were documented. Lastly, Padre conducted general biological field surveys in March 2003 and June 2003, including aquatic species surveys within Acacia Creek as part of the Tank Farm Road Operational Improvements Project and no CRLFs were observed during these survey efforts. The only amphibians identified within and adjacent to the Project Site during the previous survey efforts documented above include American bullfrog (see Photograph 3), Pacific chorus frog, and western toad (*Bufo boreas*). The American bullfrog has been documented as most prevalent within Acacia Creek, East Branch of San Luis Obispo Creek and within the wetland habitat areas throughout the southern portion of the Project Site.

Photograph 3. Metamorphosed American bullfrog tadpole identified in Acacia Creek (Padre 2004).

However, the review of the CNDDB query resulted in numerous documented occurrences of CRLF within a five-mile radius of the Tank Farm property (see Table 1 and Figure 2). The CNDDB occurrences are mostly in tributaries of San Luis Obispo Creek to the north of the Project Site and near Avila Beach, significantly downstream of the project area. In addition to the CNDDB recorded CRLF observations, one adult CRLF was observed within the City of San Luis Obispo Water Treatment Facility ponds, located within one-mile northwest of the Project Site. This observation was made by a City of San Luis Obispo retained biologist(s) during protocol-level CRLF surveys conducted on August 9 and 10, 2006 (F. Otte, pers. comm. 2008).

Table 1. CNDDB Records of CRLF within Five-Mile Radius of Project Site

CNDDB Occurrence No.	Location	Date
155	Miossi Creek, 0.3 to 0.6-mile north of Highway 101, approximately 0.9-mile east of Cal Poly, San Luis Obispo.	October 1998
156	Tributary to San Luis Obispo Creek flowing under Hwy 101; approximately 0.06-mile southeast of Highway 101(cross section Fox Hollow Road).	May 1995
157	Tributary to Reservoir Canyon Creek, approximately 2.5 miles east of San Luis Obispo.	May 1995
245	Reservoir Canyon, vicinity of San Luis Obispo Creek, east of San Luis Obispo.	November 1996
258	Gragg Canyon, 0.7-mile east of Highway 101, east of Avila Beach.	September 1998
895	Just north of the confluence of Prefumo Creek and San Luis Obispo Creek.	August 2006

7.0 FIELD SURVEY RESULTS

The following Table 2 depicts the results of the focused protocol-level CRLF surveys conducted at the Project Site by Padre in 2008. The areas surveyed included the East Branch of San Luis Obispo Creek, North Marsh and other associated seasonal wetland features, including a number of the existing reservoirs which support wetland habitat along the north and south sides of the Project Site as determined by the prior CRLF Habitat Assessment (see Figure 3). As required in the USFWS protocol, if CRLF are identified during any course of the surveys, all surveys would be ceased at the respective site and further survey efforts would not be required (USFWS 2005). When CRLF are not detected, a total of eight surveys (2 day and 6 night surveys) must be conducted to determine CRLF absence. Padre Biologists did not observe CRLF at anytime during the combined survey efforts; therefore, a total of eight surveys (both breeding and non-breeding season) were conducted at each of the respective sites for confirmation of CRLF absence (see Table 2).

Table 2. 2008 CRLF Survey Results for Chevron Tank Farm Site

Survey Number	Survey Date Start Time	Survey Type	Air Temp. Water Temp.	Weather Conditions	CRLF Detected
Survey Results for East Branch of San Luis Obispo Creek					
1	Date: 1/30/08 Time: 1600	Day	Air: 56.4°F Water: 49.7°F	10% cloud cover, 4.2 mph NW wind	**No**
2	Date: 2/13/08 Time: 2000	Night	Air: 53°F Water: 55°F	90% cloud cover, 0.5 mph NW wind	**No**
3	Date: 2/27/08 Time: 2015	Night	Air: 54°F Water: 60°F	10% cloud cover, 4 mph NW wind	**No**
4	Date: 3/12/08 Time: 2100	Night	Air: 55°F Water: 63°F	10% cloud cover, 3.5 mph NW wind	**No**
5	Date: 5/28/08 Time: 2040	Night	Air: 58°F Water: 61.0°F	80% cloud cover, 3.5 mph NW wind	**No**
6	Date: 6/11/08 Time: 2115	Night	Air: 61.7°F Water: 65.8°F	10% cloud cover, 0.6 mph NW wind	**No**
7	Date: 9/23/08 Time: 1100	Day	Air: 81°F Water: 64.0°F	0% cloud cover, 3.5 mph NW wind	**No**
8	Date: 9/24/08 Time: 1930	Night	Air: 63°F Water: 63.5°F	0% cloud cover, 1.1 mph W wind	**No**
Survey Results for North Side of Tank Farm (including North Marsh)					
1	Date: 1/30/08 Time: 1400	Day	Air: 56.4°F Water: 51.3°F	10% cloud cover, 4.2 mph NW wind	**No**
2	Date: 2/13/08 Time: 1810	Night	Air: 55°F Water: 58°F	90% cloud cover, 0.5 mph NW wind	**No**
3	Date: 2/27/08 Time: 1830	Night	Air: 54°F Water: 60.5°F	15% cloud cover, 4.5 mph NW wind	**No**
4	Date: 3/12/08 Time: 2000	Night	Air: 55°F Water: 63°F	<10% cloud cover, 3.5 mph NW wind	**No**
5	Date: 5/28/08 Time: 2230	Night	Air: 58°F Water: 61.0°F	80% cloud cover, 3.5 mph NW wind	**No**
6	Date: 6/11/08 Time: 2030	Night	Air: 61.7°F Water: 65.8°F	10% cloud cover, 0.6 mph NW wind	**No**
7	Date: 9/23/08 Time: 1100	Day	Air: 81°F Water: n/a	0% cloud cover, 3.5 mph NW wind	**No**
8	Date: 9/24/08 Time: 1930	Night	Air: 63°F Water: n/a	0% cloud cover, 1.1 mph W wind	**No**

Table 2. (Continued)

Survey Number	Survey Date Start Time	Survey Type	Air Temp. Water Temp.	Weather Conditions	CRLF Detected
Survey Results for South Side of Tank Farm					
1	Date: 1/30/08 Time: 1700	Day	Air: 55°F Water: 51.2°F	10% cloud cover, 4.2 mph NW wind	**No**
2	Date: 2/13/08 Time: 2030	Night	Air: 55°F Water: 58°F	90% cloud cover, 0.5 mph NW wind	**No**
3	Date: 2/27/08 Time: 2015	Night	Air: 54°F Water: 60.5°F	10% cloud cover, 4 mph NW wind	**No**
4	Date: 3/12/08 Time: 2100	Night	Air: 55°F Water: 63°F	10% cloud cover, 3.5 mph NW wind	**No**
5	Date: 5/28/08 Time: 2040	Night	Air: 58°F Water: 61°F	80% cloud cover, 3.5 mph NW wind	**No**
6	Date: 6/11/08 Time: 2100	Night	Air: 61.7°F Water: 65.8°F	10% cloud cover, 0.6 mph NW wind	**No**
7	Date: 9/23/08 Time: 1100	Day	Air: 81°F Water: 66.0°F	0% cloud cover, 3.5 mph NW wind	**No**
8	Date: 9/24/08 Time: 1930	Night	Air: 63°F Water: 63.5°F	0% cloud cover, 1.1 mph W wind	**No**

Amphibians observed within the Project Site during the focused protocol-level CRLF surveys of the Project Site in 2008 were limited to Pacific chorus frog and American bullfrog. Specifically, both adult and larval-form Pacific chorus frog were abundant in the East Branch of San Luis Obispo Creek and throughout the north and south side of the Project Site during the surveys, including the North Marsh. Both juvenile and adult American bullfrogs were also observed in relatively high densities within the East Branch San Luis Obispo Creek and along the south side of the Tank Farm property. This included a large concentration of adult bullfrogs within the wetland complex along the southwest corner of the Project Site in June 2008 which represents the latter part of their breeding period (Stebbins 2003) (see Photograph 4). However, no American bullfrogs were identified within the North Marsh or surrounding wetland habitat areas during the surveys. Signal crayfish were also observed in the East Branch of San Luis Obispo Creek and within the North Marsh wetland complex, including the upper portion of Tank Farm Creek. Again, no CRLF were observed

Photograph 4. American bullfrog captured during CRLF night-time survey in southwest corner of Tank Farm Site in June 2008.

during the combined eight (8) focused, protocol-level CRLF field surveys of the Project Site from January to September 2008.

8.0 CALIFORNIA RED-LEGGED FROG PREDATOR CONTROL

During the night surveys, a total of three (3) adult bullfrogs were eliminated from the Tank Farm survey area. Prior to eradication, each American bullfrog was identified to species level. Additionally, signal crayfish observed in the East Branch of San Luis Obispo Creek and the North Marsh including the Tank Farm Creek were eliminated from the Tank Farm survey area, when feasible.

9.0 CONCLUSION

CRLF were not observed during the focused, protocol-level CRLF surveys of the Project Site or vicinity thereof by Padre in 2008 (i.e., negative finding). Additionally, data from past CRLF surveys dating back to 1998 have concluded that no CRLF observations have been recorded within the Project Site and adjacent suitable habitat areas. However, review of the CNDDB and information from the City San Luis Obispo indicate that six (6) CRLF sighting locations have been documented within a five-mile radius of the Project Site with the nearest of these sightings occurring within the vicinity of the main stem of San Luis Obispo Creek and associated tributaries west of the Project Site. Although suitable CRLF habitat exists in both the East Branch of San Luis Obispo Creek and the north and south sides of the Project Site, the catastrophic fire in 1926 and historic oil field operations coupled with the presence of bullfrogs in the majority of the available CRLF habitat areas including upstream and downstream of the Project Site may have assisted with the extirpation of CRLF from the project area. No American bullfrogs were observed within the North Marsh and associated wetland habitat areas (Tank Farm Creek) during the 2008 field surveys; however, bullfrogs are prevalent in the wetlands upstream (Damon-Garcia Sports Complex) and bordering the Project Site along Acacia Creek and the East Branch of San Luis Obispo Creek. Further, past surveys conducted downstream of the Project Site within the San Luis Obispo Land Conservancy Filiponi Wetland Restoration Area have noted an abundance of American bullfrogs and absence of CRLF (B. Stark, pers. comm. 2008). The predominance of the American bullfrog being both a predator and competitor of the CRLF within the Project Site further substantiates the negative findings of this study. Strong correlations between the presence of bullfrogs and the absence of CRLF have been identified in other studies (Jennings and Hayes 1986); therefore, it is considered unlikely that CRLF will be identified in the Tank Farm property or nearby habitat areas during proposed site remediation, restoration, and development activities at the Project Site.

10.0 RECOMMENDED MEASURES

Based upon the information presented above and the results of this study, no further focused CRLF surveys are recommended at this time. However, the following avoidance and minimization measures shall be implemented to avoid and/or minimize impacts to other potentially occurring semi-aquatic, special-status species during the proposed remediation, restoration, and re-development project activities:

- A County-approved biologist will conduct pre-construction surveys to determine presence/absence of special-status species (i.e., southwestern pond turtle, two-striped garter snake, etc.) within the wetland areas of the Project Site including areas adjacent to Acacia Creek and within the East Branch of San Luis Obispo Creek. If special-status species are identified adjacent to and/or within the work areas, they will be physically relocated by an approved biologist to a downstream location containing suitable habitat located outside the construction zone. Exact procedures and protocols for relocation will be based upon pre-project consultation with CDFG;
- A County-approved biological monitor will be on-site during all vegetation clearing and will periodically monitor the Project Site during remediation/construction activities to inspect protective fencing, equipment staging areas, and physically relocate/remove any special-status wildlife species entering or adjacent to the work areas (i.e., southwestern pond turtle, etc.). All special-status species will be relocated to suitable habitat located outside the construction zone by a qualified biologist. Exact procedures and protocols for relocation will be based upon pre-project consultation with CDFG; and,
- In event that the CRLF is identified within the work area(s) at anytime during the survey/monitoring periods outlined above, all work shall cease in the immediate area and the USFWS shall be contacted for further consultation at the number below:

  Ventura Fish and Wildlife Office
  2493 Portola Road, Suite B
  Ventura, California 93003
  805-644-1766

  At no time shall any CRLF be relocated from the work area(s) without prior written authorization and/or approval from the USFWS.

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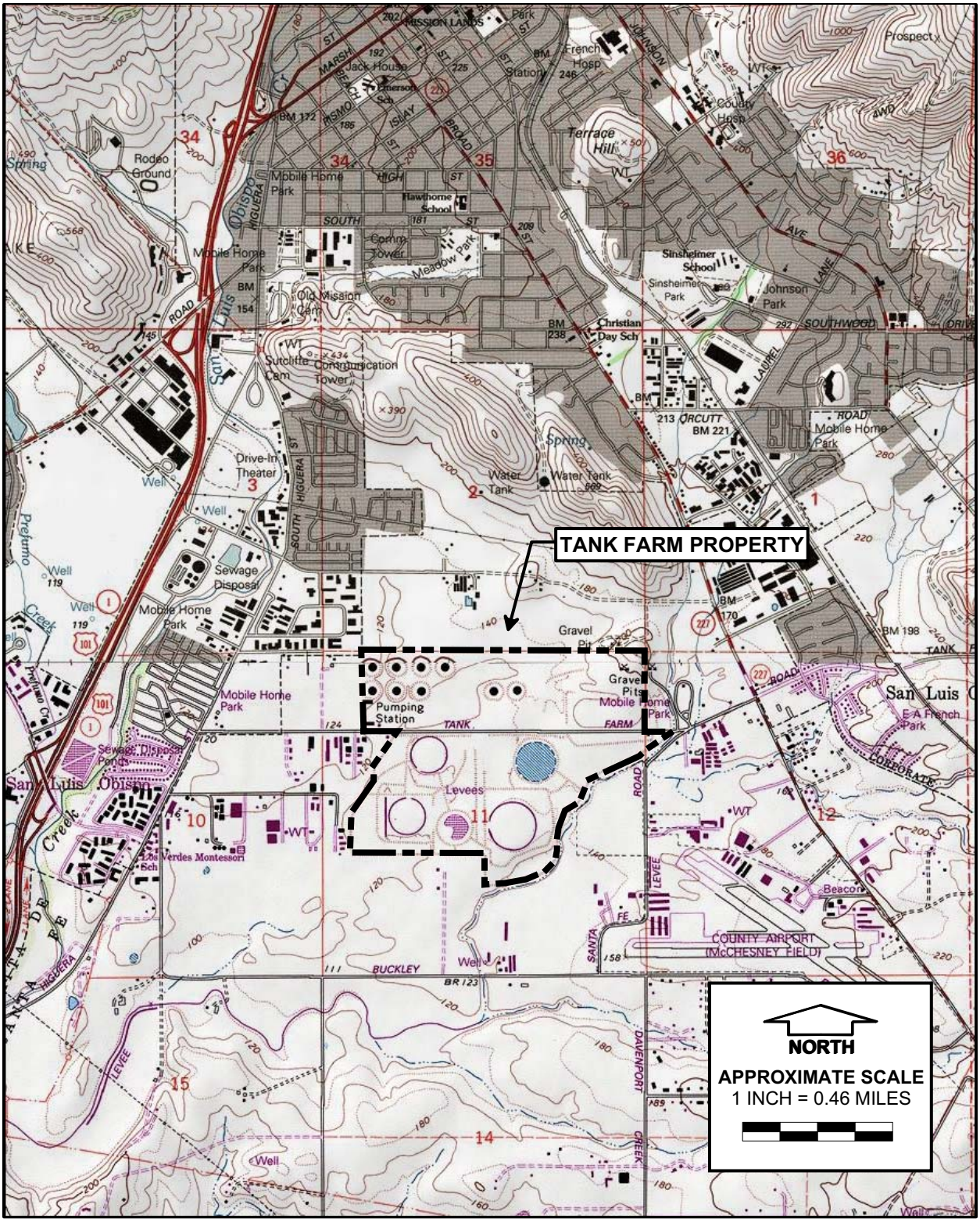
FIGURES

November 2008
Project No.0601-3281



Source: TOPO! c 2001 National Geographic Holdings (www.topo.com)

padre associates, inc.
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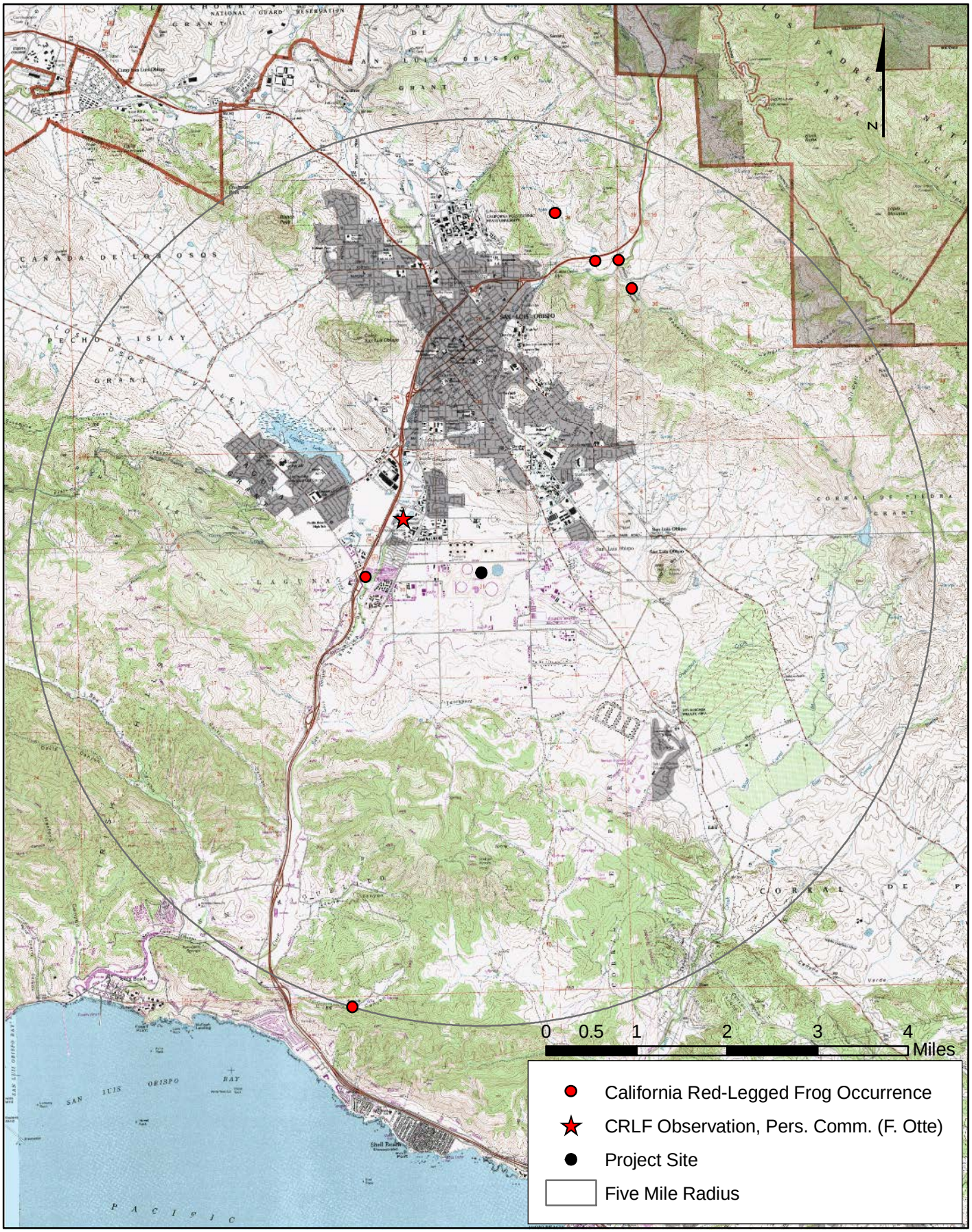
SITE LOCATION MAP

Chevron EMC - San Luis Obispo Tank Farm Restoration and Re-Development Project

FIGURE 1

November 2008
0601-3281



Source: Maptech

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Project Site Location and CNDDB CRLF Location Map
FIGURE 2

Chevron EMC - San Luis Obispo Tank Farm

November 2008
Project No. 0601-3281

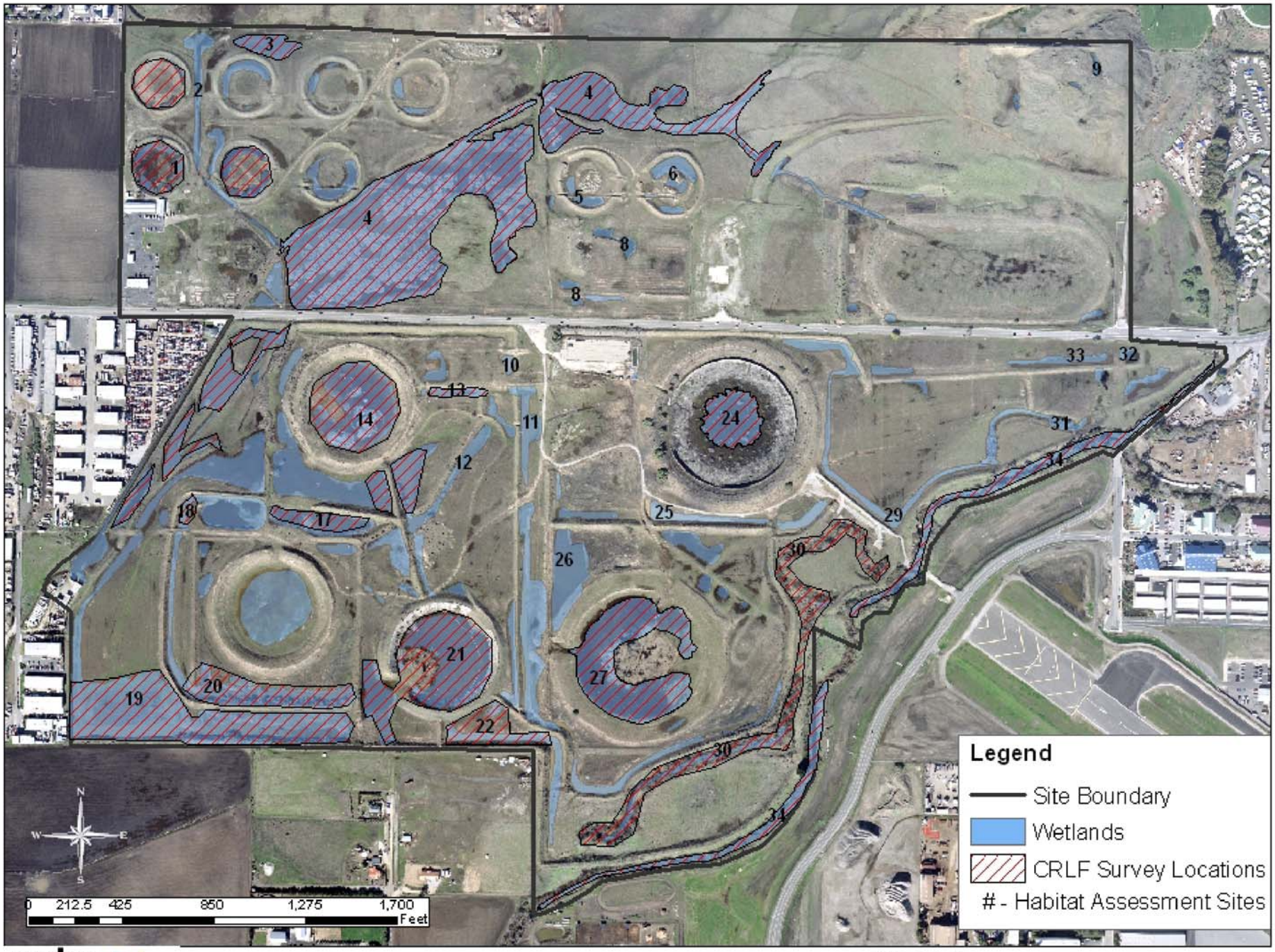


Figure 3
CRLF habitat assessment sites and survey locations.

Chevron EMC- San Luis Obispo Tank Farm Restoration and Re-development Project

APPENDIX A
SITE PHOTOGRAPHS

Photo 1: Representative view of potential CRLF habitat observed within the North Marsh (Site #4) at the Tank Farm Project Site.

Photo 2: Additional view of potential CRLF habitat observed within the North Marsh (Site #4) at the Tank Farm Project Site.

Appendix A – Site Photographs

Photo 3: Representative view of potential CRLF habitat observed within the East Branch of San Luis Obispo Creek (Site #34) at the Tank Farm Project Site.

Photo 4: Additional view of potential CRLF habitat observed within the East Branch of SLO Creek (Site #34) at the Tank Farm Project Site.

Appendix A – Site Photographs

Photo 5: View of potential CRLF habitat observed within the South Side (Site #15) of the Tank Farm Project Site.

Photo 6: View of potential CRLF habitat observed within the southwest corner (Site #20) of the Tank Farm Project Site.

Appendix A – Site Photographs

Photo 7: Representative view of relatively shallow seasonal wetlands providing potential habitat for CRLF within the South Side (Site #12) of the Tank Farm Project Site.

Photo 8: View of potential CRLF habitat containing emergent wetland vegetation located within the South Side (Site #14) of the Tank Farm Project Site.

Appendix A – Site Photographs

APPENDIX B
CRLF HABITAT SITE ASSESSMENT DATA SHEETS

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

Site Location: SLO County, North SLO Tank Farm, CRLF Site #1
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm Restoration and Re-development Project
Brief description of proposed action:
Restoration & Re-development of SLO Tank Farm

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 85ft x 25ft Maximum depth: 8 inches

Vegetation: emergent, overhanging, dominant species: no overhanging veg/canopy, 15% sub-canopy: Centromadia parryi ssp. congdonii, Picris echioides, Conium maculatum, Xanthium strumarium

Substrate: clay soils w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late spring/summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

Site Location: SLO County, North SLO Tank Farm, CRLF Site #2
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development project

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND: Drainage ditch
Size: 100ft x 5ft Maximum depth: 6 inches

Vegetation: emergent, overhanging, dominant species: no overhanging veg. little/no emergent veg. - Centromadia parryi ssp congdonii, Xanthium strumarium.

Substrate: clay soil w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late spring/summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

Site Location: SLO County, North SLO Tank Farm, CRLF Site #3
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:
Size: 200 ft x 80 ft Maximum depth: 10 inches

Vegetation: emergent, overhanging, dominant species: no overhanging veg. little emergent veg - Rumex crispus, Lotus corniculatus, Plantago coronopus

Substrate: clay soils w/ sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late spring/summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 1/16/08
(mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

★ **Site Location:** SLO County, North SLO Tank Farm, CRLF Site #4 (North marsh)
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND: North Marsh
Size: ≈ 3-4 acres Maximum depth: 4 ft

Vegetation: emergent, overhanging, dominant species: sub-canopy 50%
Distichlis spicata, Typha latifolia, Scirpus sp., Picris echioides
no overstory canopy

Substrate: clay soils w/ sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

★ survey location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

Site Location: SLO County, North SLO Tank Farm, CRLF Site #5 & 6
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: _____
Brief description of proposed action:

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND: two ponds

Size: (5) 90 ft x 70 ft
(6) 115 ft x 65 ft

Maximum depth: 12 inches

Vegetation: emergent, overhanging, dominant species: no overstory canopy, little/no emergent veg; - Brassica nigra, Plantago coronopus, Distichlis spicata, Cirsium vulgare

Substrate: clay soils w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late spring/summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 1/16/08
(mm/dd/yyyy)

Site Assessment Biologists: Gilliland Ken
(Last name) (first name) (Last name) (first name)

Peak Jessica
(Last name) (first name) (Last name) (first name)

Site Location: SLO County, North SLO Tank Farm/CRLF Site #1
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:
Size: 75ft x 8ft Maximum depth: 10 inches

Vegetation: emergent, overhanging, dominant species: Centromadia parryi ssp. congdonii Brassica nigra; little/no emerging veg, no overhanging veg.

Substrate: clay soils w/ sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late spring/summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 1/16/08
(mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

Site Location: SLO County, CRLF Site #8, North SLO Tank Farm
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Redevelopment & Restoration Project

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND: two small ponds
Size: 35ft x 20ft Maximum depth: 8 inches
20 ft x 15 ft 6 inches

Vegetation: emergent, overhanging, dominant species: little emergent veg., no overstory veg.: Rumex crispus, Brassica nigra, Lotus corniculatus

Substrate: clay soils w/ sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late spring / summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 1/16/08
(mm/dd/yyyy)

Site Assessment Biologists: Gilliland Ken
(Last name) (first name) (Last name) (first name)

Peak Jessica
(Last name) (first name) (Last name) (first name)

Site Location: SLO County, Rock Quarry, CRLF Site #9, North SLO Tank Farm
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:
Size: 120ft x 25ft Maximum depth: 3 ft

Vegetation: emergent, overhanging, dominant species: no emergent veg, no overhanging veg.

Substrate: Serpentine rock outcrop, old rock quarry

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

Site Location: SLO County, South SLO Tank Farm/CRLF Site #10
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:
Size: 35ft x 70ft Maximum depth: 18 inches

Vegetation: emergent, overhanging, dominant species: little emerging veg. no overhanging veg.; Rumex crispus, Centromadia parkeyi ssp congdonii Plantago lanceolata

Substrate: Clay soil w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 1/16/08
(mm/dd/yyyy)

Site Assessment Biologists: Gilliland Ken (Last name) (first name) _____ (Last name) (first name)

Peak Jessica (Last name) (first name) _____ (Last name) (first name)

Site Location: SLO County, CRLF site #11, South SLO Tank Farm
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 200 ft x 40 ft Maximum depth: 24 inches

Vegetation: emergent, overhanging, dominant species: little/no emerging veg., no overhanging veg.; Centromadia parryi ssp congdonii Rumex crispus, Lotus corniculatus

Substrate: clay soils w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 1/16/08
(mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

Site Location: South SLO Tank Farm, CRLF Site #12, SLO County
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND: two ponds
Size: 15ft x 35ft; 65ft x 30ft Maximum depth: 12 inches
Vegetation: emergent, overhanging, dominant species: little/no emergent veg. no overhanging veg., Rumex crispus, Lotus corniculatus, Centromadia parryi ssp congdii; Cirsium vulgare; Plantago coronopus
Substrate: clay soils w/ sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late spring/summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

★**Site Location:** SLO County, South SLO Tank Farm, CRLF Site #13
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 45ft x 12ft Maximum depth: 18 inches

Vegetation: emergent, overhanging, dominant species: no overhanging veg., some emergent veg., Typha latifolia, Xanthium strumarium,

Substrate: clay soils w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: summer

★ Survey Location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

★ **Site Location:** SLO County, South SLO Tank Farm, CRLF Site #14 (Res. 5)
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: several ponds ≈ 0.5-acre Maximum depth: 12 inches

Vegetation: emergent, overhanging, dominant species: emerging veg: Scirpus sp. Typha latifolia, Centromadia parryi ssp. congdonii
no overstory veg.

Substrate: clay soils w/ sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: Summer

★ Survey Location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

★ **Site Location:** SLO County, South SLO Tank Farm, CRLF Site #15
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:
Size: 90 ft x 35 ft Maximum depth: 24 inches

Vegetation: emergent, overhanging, dominant species: 10% overstory canopy; Salix lasiolepis; emerging veg - Typha latifolia

Substrate: sandy clay soils w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: Summer

★ Survey Location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by: _____ (USFWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

★ **Site Location:** SLO County, South SLO Tank Farm, CRLF Site #16
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 80ft x 12ft Maximum depth: 8 inches

Vegetation: emergent, overhanging, dominant species: no overhanging veg. some emergent veg: Typha latifolia, Cirsium vulgare

Substrate: sandy clay soils w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: summer

★ Survey Location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

★ **Site Location:** SLO County, South SLO Tank Farm, CRLF Site #17
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND: two ponds
Size: 50ft x 75ft, 50ft diameter — Maximum depth: 7 inches

Vegetation: emergent, overhanging, dominant species: emergent veg: Typha latifolia, Cirsium vulgare, Xanthium strumarium
no overhanging veg.

Substrate: sandy clay soils w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: summer

★ Survey Location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

★ **Site Location:** SLO County, South SLO Tank Farm CRLF Site #13 (Survey)
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:
Size: 13ft x 55ft Maximum depth: 12 inches

Vegetation: emergent, overhanging, dominant species: Some emergent veg. Cirsium vulgare Xanthium strumarium
no overhanging veg.

Substrate: Sandy Clay soils w/ sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: Summer

★ Survey Location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 11/16/08
(mm/dd/yyyy)

Site Assessment Biologists: Gilliland Ken
(Last name) (first name) (Last name) (first name)

Peak Jessica
(Last name) (first name) (Last name) (first name)

* **Site Location:** SLO County, South SLO Tank Farm, CRLF site #19 (Survey)
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:
Size: 200 ft x 30 ft Maximum depth: 12 inches

Vegetation: emergent, overhanging, dominant species: emerging veg: Typha latifolia; no overhanging veg.

Substrate: Sandy clay soils w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: Summer

*Survey Location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

★ **Site Location:** SLO County, South SLO Tank Farm, CRLF Site #20 (Survey)
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND: 3 ponds

Size: 45ft x 10ft; 25ft x 12ft & 300ft x 15ft Maximum depth: 8-12 inches

Vegetation: emergent, overhanging, dominant species: emerging veg: Xanthium strumarium, Cirsium vulgare; some overhanging veg 5% Salix lasiolepis; overstory minimal - Populus fremontii

Typha latifolia

Substrate: sandy clay soils w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: summer

★ Survey Location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 11/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

* **Site Location:** SLO County, South SLO Tank Farm, CRLF Site 21 (Res. 7 & adjacent pond) Survey (SW)
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: ≈ 1.0 acre Maximum depth: 15 inches

Vegetation: emergent, overhanging, dominant species: emergent veg: Typha latifolia, Scirpus spp., no overhanging veg.

Substrate: asphalt bottom & clay silts

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: summer

*Survey Location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

* **Site Location:** SLO County, South SLO Tank Farm, CRLF Site #22 (survey)
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND: two ponds
Size: 28 ft x 17 ft; 45 ft x 6 ft Maximum depth: 12 inches
Vegetation: emergent, overhanging, dominant species: little emerging veg - Xanthium strumarium; little overstory canopy - Populus fremontii in smaller pond (5%)
Substrate: sandy clay soils w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: summer

* Survey Location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

Site Location: SLO County, South SLO Tank Farm, CRLF Site #23
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND: Lineare feature w/3 ponds
Size: ~~15~~ ft x 8 ft ; 6 ft diameter Maximum depth: 6 inches
40 ft x 10 ft
Vegetation: emergent, overhanging, dominant species: minimal emergent veg: Rumex crispus ; no over hanging veg.

Substrate: clay soils w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: Summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

* **Site Location:** SLO County, South SLO Tank Farm (Survey) CRLF Site #24 (Res. 2)
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: ≈ 0.25 acre Maximum depth: 9 inches

Vegetation: emergent, overhanging, dominant species: no/little emergent veg
Some overhanging veg (10%) Salix lasiolepis

Substrate: asphalt bottom

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: summer

* Survey Location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 11/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

Site Location: SLO County, CRLF Site #25, South SLO Tank Farm
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 20ft x 45ft Maximum depth: 12 inches

Vegetation: emergent, overhanging, dominant species: little/no emergent veg.; Xanthium strumarium; no overhanging veg.

Substrate: clay soils w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: Summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

Site Location: South SLO Tank Farm, CRLF site #26, SLO County
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 90ft x 20ft Maximum depth: 5 inches

Vegetation: emergent, overhanging, dominant species: no emergent veg., no overhanging veg.

Substrate: clay soils w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: Summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/16/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland Ken (Last name) (first name) _____ (Last name) (first name)

Peak Jessica (Last name) (first name) _____ (Last name) (first name)

Site Location: SLO County, South SLO Tank Farm, CRLF Site #27 (Res. 3)
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND: several ponds
Size: ≈ 0.25 acre Maximum depth: 6 inches

Vegetation: emergent, overhanging, dominant species: little/no emergent veg: Picris echioides, Xanthium strumarium, Conium maculatum no overhanging veg.

Substrate: clay soils w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late spring/summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ _____ _____
(USFWS Field Office) (date) (biologist)

Date of Site Assessment: 1/18/08
(mm/dd/yyyy)

Site Assessment Biologists: Gilliland Ken
(Last name) (first name) (Last name) (first name)

Peak Jessica
(Last name) (first name) (Last name) (first name)

Site Location: SLO County, South SLO Tank Farm, CRLF Site #28
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 200 ft x 20 ft Maximum depth: 8 inches

Vegetation: emergent, overhanging, dominant species: no overhanging veg., little/no emergent veg – Cirsium vulgare

Substrate: Clay soil w/ sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late spring/summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/18/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

Site Location: SLO County, South SLO Tank Farm, CRLF Site #29
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND: two ponds

Size: 150 ft x 12 ft; 100 ft x 10 ft — Maximum depth: 10 inches

Vegetation: emergent, overhanging, dominant species: no overhanging veg. little/no emergent veg - Xanthium strumarium, Cirsium vulgare

Substrate: clay soils w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: Spring/summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/18/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

★ **Site Location:** SLO County, South SLO Tank Farm, CRLF Site #30 (ox-bow)
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 1500 ft x 12 ft Maximum depth: 10 inches

Vegetation: emergent, overhanging, dominant species: 75% overstory canopy Eucharis pilularis, Quercus agrifolia, Platanus racemosa, Salix lasiolepis; majority of ox-bow closed canopy

Substrate: clay soils w/ sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late spring/summer

★ Survey Location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/18/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

Site Location: SLO County, South SLO Tank Farm, CRLF Site # 31
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:
Size: 25ft x 9ft Maximum depth: 12 inches

Vegetation: emergent, overhanging, dominant species: no overhanging veg.
no ~~[illegible]~~ emergent veg.

Substrate: clay soils w/ sparse gravel

Perennial or (Ephemeral) *(circle one)*. If ephemeral, date it goes dry: late spring/summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (USFWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/18/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

Site Location: SLO County, South SLO Tank Farm, CRLF Site # 32
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:
Size: 18ft x 30ft Maximum depth: 10 inches

Vegetation: emergent, overhanging, dominant species: no overhanging veg. little/no emergent veg. - Xanthium strumarium, Brassica nigra

Substrate: Clay soils w/ sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late spring/summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/18/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

Site Location: SLO County, South SLO Tank Farm, CRLF Site # 33
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:
Size: 30ft x 10 ft (rectangular) Maximum depth: 8 inches

Vegetation: emergent, overhanging, dominant species: no overhanging veg. little/no emergent veg. – Cirsium vulgare, Cotula maculatum, Centromadia parryi ssp. congdonii, Deinandra sp.

Substrate: clay soils w/sparse gravel

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late spring/summer

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 1/18/08 (mm/dd/yyyy)

Site Assessment Biologists: Gilliland (Last name) Ken (first name) _____ (Last name) _____ (first name)

Peak (Last name) Jessica (first name) _____ (Last name) _____ (first name)

★ **Site Location:** SLO County, South SLO Tank Farm, CRLF Site #34 (East Fork SLO Creek)
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Chevron San Luis Obispo Tank Farm
Brief description of proposed action: Restoration & Re-development Project

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: _____ Maximum depth: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: ~~Summer~~ →

★ Survey Location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____ > see CRLF survey data
Depth at bank full: _____
Stream gradient: low

Are there pools (circle one)? (YES) NO
If yes,
Size of stream pools: _____ > see CRLF survey data
Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: glides interspersed w/ pools

Vegetation: emergent, overhanging, dominant species: 85%-90% overstory canopy, majority closed canopy, Salix lasiolepis, Populus fremontii Eucalyptus sp., Rubus ursinus
Substrate: clay soils w/ sparse gravel

Bank description: gradual to moderately sloped banks

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late summer

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species location

APPENDIX C
PADRE STAFF RESUMES

Kenneth Lee Gilliland

Staff Biologist

Experience Summary: Kenneth L. Gilliland has 5 years of experience as a wildlife biologist with an emphasis on the assessment and monitoring of special-status plant and wildlife species. During this period Mr. Gilliland has conducted habitat assessments; special-status plant and wildlife species surveys; ensured client compliance with the Endangered Species Act (ESA), Clean Water Act, National Pollution Discharge Elimination System, and the California Department of Fish and Game Code; habitat revegetation/restoration; invasive plant removal; wetland mitigation; special-status plant and wildlife biological monitoring; and National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) document preparation for a variety of projects. Project experience has included close coordination with all federal and state agencies involved. In addition, Mr. Gilliland has participated in numerous site-specific U.S. Fish and Wildlife Service (USFWS) protocol surveys for the California red-legged frog (*Rana aurora draytonii*), has acquired the ability to identify all of their life stages as they occur in their natural habitat, and has been approved by the USFWS to handle and relocate California red-legged frogs during various authorized projects.

Education: B.S. Zoology, Humboldt State University, Arcata, CA. 2002.
Pursuing a Masters of Science in Amphibian Ecology at Cal Poly San Luis Obispo.

Graduate level education applicable to the California red-legged frog

- **Herpetology 488 – (Spring 2000):** Course emphasized the identification and life history of southwestern herpetofauna species, including the California red-legged frog. Instructor: Dr. Howard Snell (email: howard@fcdarwin.org.ec)

Specific Project Experience: The following represents a chronological list of project experience relevant to the California red-legged frog. It should be noted that all project experience described below has been conducted to USFWS protocol and under the guidance and/or direct supervision of senior level biologists, including Mrs. Jamie Uyehara (U.S. Forest Service), Mr. Tom Murphey (U.S. Forest Service), Mr. David Freed (U.S. Forest Service), Mrs. Katherine Malengo (U.S. Forest Service), Mr. Matt Ingamells (Padre Associates Inc.), Mr. Chris Dunn (Padre Associates Inc.), Mr. Brian Dugas (Padre Associates Inc.), and Mr. Sam Sweet (University of California at Santa Barbara).

- **Nipomo Community Services District Waterline Intertie Project (1/2007).** Mr. Gilliland assisted the Nipomo Community Services District with protocol level California red-legged frog surveys in Nipomo Creek and proximate agricultural ponds and storm water drainages in Santa Barbara and San Luis Obispo Counties, CA.
- **County of Santa Barbara Tajiguas Landfill detention basin cleanout California red-legged frog survey (6/2006).** Mr. Gilliland assisted the County of Santa Barbara with California red-legged frog surveys prior to the implementation of the

Tajiguas Landfill basin cleanout. The northern and southern detention basins were surveyed for the presence of tadpoles prior to the conveyance of water to assist with the basin cleanout. Additionally, Mr. Gilliland was approved by the USFWS to handle and relocate California red-legged frogs encountered.

- **Venadito Canyon California red-legged frog surveys and monitoring, Santa Barbara, CA. (10/2006).** Mr. Gilliland assisted Exxon/Mobil with California red-legged frog surveys during emergency storm repair construction projects on Venadito Creek in Santa Barbara, CA. Additionally, Mr. Gilliland was approved by the USFWS to handle and relocate California red-legged frogs encountered.
- **Seneca Resources Hamp Bridge Replacement California red-legged frog survey, Ojai, CA. (5/2006).** Mr. Gilliland assisted Seneca Resources with California red-legged frog surveys during the replacement of Hamp Bridge on Sisar Creek.
- **Rancho Dos Rios California red-legged frog surveys, monitoring and relocation, Oak View, CA. (8/2005).** Mr. Gilliland assisted the owner of Rancho Dos Rios with California red-legged frog surveys and monitoring during a bridge fortification project on San Antonio Creek in Oak View, CA. In addition, Mr. Gilliland was directly involved in the relocation of a number of juvenile California red-legged frogs to areas of USFWS identified suitable habitat outside of the project impact area. These relocation efforts adhered to USFWS protocol and Declining Amphibian Populations Task Force (DAPTF) code and were performed under the direct supervision of Mr. Chris Dunn (Padre Staff Biologist).
- **Las Flores Canyon California red-legged frog surveys and monitoring, Santa Barbara, CA. (5/2005).** Mr. Gilliland assisted Exxon/Mobil with California red-legged frog surveys during emergency storm repair construction projects on Las Flores Creek in Santa Barbara, CA. In addition, Mr. Gilliland was directly involved in the relocation of numerous juvenile California red-legged frogs to areas of USFWS identified suitable habitat outside of the project impact area. These relocation efforts adhered to USFWS protocol and DAPTF code and were performed under the direct supervision of Mr. Chris Dunn (Padre Staff Biologist).
- **Cachuma Operations and Maintenance Board California red-legged frog surveys, Santa Barbara, CA. (6/2005).** Mr Gilliland assisted the Cachuma Operations and Maintenance Board with protocol level California red-legged frog surveys in a tributary of Glen Annie Reservoir in Santa Barbara, CA.
- **Upper Santa Ynez Creek California red-legged frog and arroyo toad (*Bufo californicus*) monitoring and surveys, Santa Barbara, CA. (12/2002-5/2003).** Mr. Gilliland assisted the U.S. Forest service with California red-legged frog and arroyo toad monitoring and surveys (day and night) at Santa Ynez Creek on the Los Padres National Forest, Santa Barbara, CA.
- **Mono Creek California red-legged frog and arroyo toad (*Bufo californicus*) monitoring and surveys, Santa Barbara, CA. (12/2002-5/2003).** Mr. Gilliland assisted the U.S. Forest service with California red-legged frog and arroyo toad monitoring and surveys (day and night) at Mono Creek on the Los Padres National Forest, Santa Barbara, CA.
- **Indian Creek California red-legged frog and arroyo toad monitoring and surveys, Santa Barbara, CA. (12/2002-5/2003).** Mr. Gilliland assisted the U.S.

Forest service with California red-legged frog and arroyo toad monitoring and surveys (day and night) at Indian Creek on the Los Padres National Forest, Santa Barbara, CA.

- **Piru Creek California red-legged frog and arroyo toad monitoring and surveys, Piru, CA (12/2002-5/2003).** Mr. Gilliland assisted the U.S. Forest service with California red-legged frog and arroyo toad monitoring and surveys (day and night) at Piru Creek on the Los Padres National Forest Piru, CA.
- **Canton Canyon California red-legged frog and arroyo toad monitoring and surveys, Piru, CA (12/2002-5/2003).** Mr. Gilliland assisted the U.S. Forest service with California red-legged frog and arroyo toad monitoring and surveys (day and night) in Canton Canyon on the Los Padres National Forest Piru, CA.
- **Agua Blanca California red-legged frog and arroyo toad monitoring and surveys, Piru, CA (12/2002-5/2003).** Mr. Gilliland assisted the U.S. Forest service with California red-legged frog and arroyo toad monitoring and surveys (day and night) at Piru Creek on the Los Padres National Forest Piru, CA.
- **Sespe Creek California red-legged frog and arroyo toad monitoring and surveys, Ojai, CA (12/2002-5/2003).** Mr. Gilliland assisted the U.S. Forest service with California red-legged frog and arroyo toad monitoring and surveys (day and night) at Sespe Creek on the Los Padres National Forest Ojai, CA.

Applicable Herpetological Experience: The following represents a chronological list of project experience relevant to the study of herpetology that Ken Gilliland has been involved with. It should be noted that all project experience described below has been conducted under the guidance and/or direct supervision of senior level biologists, including Mrs. Jamie Uyehara (U.S. Forest Service), Mr. Tom Murphey (U.S. Forest Service), Mr. David Freed (U.S. Forest Service), Mr. Sam Sweet (University of California at Santa Barbara), Mr. Howard Snell (University of New Mexico/Charles Darwin Research Station; Galapagos Islands, Ecuador), Mrs. Heidi Snell (Charles Darwin Research Station; Galapagos Islands, Ecuador) Mr. Thomas Fritts (United States Geological Survey), Mr. Cruz Marquez (Charles Darwin Research Station; Galapagos Islands, Ecuador), and the Desert Tortoise Council.

- **Desert Tortoise Council Handling Techniques Workshop Ridgecrest, CA. (11/6/2004).** Mr. Gilliland attended the desert tortoise council's desert tortoise handling technique workshop. The workshop provided an overview of desert tortoise ecology, threats associated with their decline, regulatory mechanisms in place for them (California Department of Fish and Game [CDFG], Bureau of Land Management [BLM], and USFWS), artificial burrow construction, nest relocation, handling techniques, health assessments, and biological monitoring protocol.
- **Herpetofauna of the Southern California Region (12/2002-5/2003).** Mr. Gilliland has been formally trained on the identification and ecology of the herpetofauna of the Southern California region by senior level biologists. The senior level biologists that provided this specific training included Mrs. Jamie Uyehara (U.S. Forest Service), Mr. Tom Murphey (U.S. Forest Service), Mr. David Freed (U.S. Forest Service), Vallerie Hubbart (U.S. Forest Service) and Mr. Sam Sweet (University of California at Santa Barbara).

- **Galapagos giant tortoise (*Geochelone elephanthopus)* monitoring, and surveys, Galapagos Islands, Ecuador (5/2000-12/2000).** Mr. Gilliland assisted the Charles Darwin Research Station with Galapagos giant tortoise handling, radio tracking, passive integrated transponder (PIT) tagging, ultrasounding, monitoring, and surveys on the islands of Santa Cruz, Isabela, and Espanola in the Galapagos Archipelago, Ecuador.
- **Galapagos land iguana (*Conolophus subcristatus*) monitoring, and surveys, Galapagos Islands, Ecuador (5/2000-12/2000).** Mr. Gilliland assisted the Charles Darwin Research Station with Galapagos land iguana handling, radio tracking, passive integrated transponder (PIT) tagging, monitoring, and surveys on the islands of Santa Cruz, Isabela, and Plazas Sur in the Galapagos Archipelago, Ecuador.
- **Research study on the monitoring of lava lizards (*Microlophus albermarlensis*) at the Charles Darwin Research Station and the Galapagos National Park Headquarters Galapagos Islands, Ecuador (5/2000-12/2000).** Mr. Gilliland investigated the spatial and temporal relative abundance of lava lizards in the developed and natural areas of the island of Santa Cruz, in the Galapagos Archipelago, Ecuador.

Applicable Professional Society Memberships:

- Society for the Study of Reptiles and Amphibians (SSAR)

California Red-legged Frog Professional References

Mr. Gilliland's California red-legged frog experience was conducted under the direct supervision of the following biologists:

Dr. Jamie Uyehara
6755 Hollister Ave., Suite 150
Goleta, Ca. 93117
(805) 961-5736
juyehara@fs.fed.us

Mr. Chris Dunn
1861 Knoll Dr.
Ventura, Ca. 93003
(805) 644-2220 ext. 59
c.dunn@padreinc.com

Mr. Matt Ingamells
1861 Knoll Dr.
Ventura, Ca. 93003
(805) 644-2220 ext. 59
m.ingamells@padreinc.com

Mrs. Katherine Malengo
406 S. Mildred
King City, CA 93930
(831) 385-5434 ext.219
kmalengo@fs.fed.us

Statement of Qualifications – California red-legged frog

Brian G. Dugas

Project Manager/Staff Biologist

Experience Summary: Brian Dugas has 10 years of experience in environmental and land use planning with focus on the assessment of biological resources. During this period Mr. Dugas has conducted habitat assessments, biological constraints analyses, special-status plant and wildlife species surveys, revegetation/restoration plans, wetland delineations, rapid-bioassessments, wetlands mitigation, biological monitoring, and CEQA/NEPA document preparation for a variety of projects. Project experience has included close coordination with all responsible agencies. In addition, Mr. Dugas has performed numerous site-specific surveys for the California red-legged frog (*Rana aurora draytonii*) and has acquired the ability to identify them as they occur in their natural habitats.

Education: B.S. Natural Resources Management, California Polytechnic State University, San Luis Obispo (Cal Poly), 1993.

Continued education towards M.S. at Cal Poly, Specialization: General Agriculture, Study Emphasis: Fisheries & Wildlife Management; includes the following coursework (2001-2003):

- **Zoology 329 – Vertebrate Field Zoology (Spring 2001):** Course emphasized the identification and life history of terrestrial vertebrate species, including the California red-legged frog. Instructor: Dr. Roger Gambs

- **Biology 427 – Wildlife Management (Fall 2001):** Course emphasized the important habitats and features critical to wildlife with emphasis on planning and designing habitats to meet the needs of wildlife, including riparian and wetland ecosystems. Instructor: Dr. Michael T. Hanson

- **Zoology 530 – Behavioral Ecology (Winter 2002):** Course emphasized habitat selection, spacing mechanisms, reproductive strategies, feeding strategies, agonistic, parasitic, and altruistic behavior; migration and comparative social systems of vertebrate species. Instructors: Dr. Dennis Frey and Dr. Roger Gambs

California Red-Legged Frog Workshop (April 8-10, 2002): Attended a California Red-Legged Frog Workshop presented by the Sacramento – Shasta Chapter of the Wildlife Society along with the Calif. Dept. of Water Resources, Calif. Dept. of Fish & Game, and Wildlands, Inc. The workshop provided an overview of the status and ecology of the Calif. red-legged frog, their habitat requirements, movements and life cycles, frog identification (field techniques and equipment); USFWS survey protocols and guidance, pit tagging and radio telemetry techniques (hands-on), Federal Endangered Species Act and consultations, and USFWS critical habitat and recovery plan implementation. In addition, the workshop contained a field component, which allowed participants to perform protocol-level day and nighttime surveys for Calif. red-legged frogs with a panel of selected experts at several sites located at Pt. Reyes, CA. Specifically, the hands-on field surveys focused on identification of egg masses,

larvae, subadult and adult stages of the frog, with emphasis on utilization of proper survey and frog handling techniques. Sponsor information: Sacramento-Shasta Chapter of the Wildlife Society, Ms. Melinda Dorin (Phone: 916-654-4024).

Specific Project Experience: The following represents a chronological list of project experience relevant to the California red-legged frog. It should be noted that all project experience described below has been conducted under the guidance and/or direct supervision of senior level biologists, including Mr. Matt Ingamells and Mr. Rick Meredith of Padre Associates, Inc. (Padre):

- **Nipomo Community Services District (NCSD) Waterline Inertie Project, Nipomo, CA (2006-2007).** Mr. Dugas recently led a focused, protocol-level Calif. red-legged frog survey of the proposed pipeline corridor which included several drainages located in northern Santa Maria, the Santa Maria River, Nipomo Creek, and a series of wetlands located along the Nipomo Mesa. Numerous adult and sub-adult Calif. red-legged frogs were identified during the survey.

- **ExxonMobil Las Flores Canyon Emergency Road Repair Project, Gaviota, CA (2005-2006):** As part of this project, Mr. Dugas led focused herpetological surveys of project area and identified Calif. red-legged frogs within Las Flores Canyon drainage and Venadito Creek. Worked with Corps and USFWS to develop appropriate avoidance and minimization measures for project. Additionally, Mr. Dugas conducted pre-activity surveys and performed appropriate worker orientations at the site. Contacts: Katie Drexhage, Biologist / USFWS: (805) 644-1766, Matthew Vandersande / U.S. Army Corps: (805) 585-2151.

- **Mahoney Road Storm Damage Repair Project, Santa Maria, California (2004).** As part of this project, Mr. Dugas conducted a worker orientation on the identification of Calif. red-legged frogs, performed protocol-level nighttime surveys of adjacent wetland areas and drainages, and captured and relocated numerous adult Calif. red-legged frogs to nearby suitable habitat areas. Contact: Katie Drexhage, Biologist / USFWS: (805) 644-1766.

- **Old Coast Highway Bridge Replacement Project, Santa Barbara County, California (May 2004).** Mr. Dugas conducted a worker orientation on the identification of Calif. red-legged frogs, performed protocol-level nighttime surveys of affected portions of Nojoqui Creek, and captured and relocated adult, juvenile, and larvae form Calif. red-legged frogs to suitable habitat areas during the course of the project. Contact: Katie Drexhage, Biologist / USFWS: (805) 644-1766.

- **River Road Bridge Replacement Project, San Miguel (April 2004):** Mr. Dugas led a series of pre-construction special-status species surveys which included protocol-level Calif. red-legged frog surveys of the proposed project area within the Salinas River drainage. Additional task will include conducting a worker orientation on the identification of Calif. red-legged frogs, and performance of construction monitoring of vegetation removal within the drainage. Contact: Kate Ballantyne, Environmental Specialist / San Luis Obispo County Public Works Department: (805) 788-2765.

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- **Warmuth Residence Development Project - Parcel 52, Hollister Ranch (Nov. 2003 [Late survey period pre-approved by B. Fahey, USFWS]):** As part of this biological assessment, Mr. Dugas conducted focused, protocol-level Calif. red-legged frog surveys of Agujas Creek within the Hollister Ranch. One adult Calif. red-legged frog was identified during the surveys. Contact: Melissa Mooney, Biologist / Santa Barbara County: (805) 934-6587.

- **Noyes Road Culvert Installation Project, Arroyo Grande (August 2003):** Mr. Dugas performed protocol-level Calif. red-legged frog surveys of an unnamed drainage, conducted a worker orientation on the identification of Calif. red-legged frogs, and performed construction monitoring of vegetation removal within the drainage.

- **Tassajara Creek Bridge Installation Project, San Luis Obispo (July 2003):** As part of this project, Mr. Dugas performed protocol-level Calif. red-legged frog surveys of Tassajara Creek and periodic construction monitoring of the bridge installation project.

- **Santa Barbara County Flood Control District, West Canyon Drainage Improvement Project (June 2003):** Mr. Dugas conducted focused, protocol-level Calif. red-legged frog surveys of the West Main Street drainage in Santa Maria, CA. Numerous adult Calif. red-legged frogs were identified during the survey. Contact: Bridget Fahey, Biologist / USFWS: (805) 644-1766.

- **Chevron Pipe Line Company Estero Hill Plant Sag Line Removal Project (May 2003).** Mr. Dugas conducted wildlife surveys of project area with specific emphasis on the presence of California red-legged frogs and/or existing suitable habitat within an intersecting drainage. Several adult Calif. red-legged frogs were identified during the survey.

- **Santa Barbara County, Laguna County Sanitation District, Brine Concentrate Pipeline Project & Brine Concentrate Disposal Well Project, Orcutt (2002):** Mr. Dugas conducted a worker orientation on the identification of Calif. red-legged frogs, performed protocol-level nighttime surveys of adjacent creeks and waterways, and captured and relocated Calif. red-legged frogs to suitable habitat areas during the course of the project. Contact: Bridget Fahey, Biologist / USFWS: (805) 644-1766.

- **Unocal Cojo Marine Terminal and Point Conception Facilities Decommissioning Project (2001-2003).** As part of this biological assessment, Mr. Dugas conducted focused herpetological surveys of project area and identified Calif. red-legged frogs within Wood Canyon drainage, directly east of Government Point, CA. Worked with Corps and USFWS to develop appropriate avoidance and minimization measures for project. Contacts: Katie Drexhage, Biologist / USFWS: (805) 644-1766, Jack Malone / U.S. Army Corps: (805) 585-2154.

- **Ventura County Transportation Commission, Casitas Bypass Project (October, 2001).** Conducted focused red-legged frog surveys of segments of the Ventura River and San Antonio Creek located in Ventura County, CA. The surveys collectively covered an area in

excess of two miles along the two stream reaches and their convergence zone. One adult Calif. red-legged frog was identified during the surveys.

- **Natural Environment Studies (NES), Jalama Road Bridge (51C-017), Santa Barbara County Public Works Department (August, 2001).** Conducted focused red-legged frog surveys of Jalama Creek at the Jalama Road Bridge crossing, located in Santa Barbara County, CA. Surveys focused on the segment of Jalama Creek located 500 feet upstream and downstream of the bridge crossing. One sub adult Calif. red-legged frog was identified during the surveys.

- **Williams Residence Biological Resources Assessment (June, 2001).** As part of this biological assessment, Mr. Dugas conducted amphibian and reptile surveys of a segment of Alamo Pintado Creek located in Buellton, CA, with specific emphasis on the presence of California red-legged frogs and/or existing suitable habitat.

- **Shell Molino Nearshore Flowline Removal Project (Spring/Summer, 2001).** Assisted on-site biologists during pre-activity surveys for California red-legged frogs within the equipment staging areas at the creek mouth of Arroyo Hondo Creek, Gaviota, CA. In addition, prepared a Site Restoration Plan for the project, which emphasized reestablishment of habitat for California red-legged frogs and other sensitive wildlife species within the project area. Contacts: Dan Dugan, Fisheries Biologist / Tenera: (805) 772-4080, John Storrer / Santa Barbara County EQAP Monitor: (805) 682-2065.

- **City of Thousand Oaks/Unit W - Phase 2 Sewer Interceptor Reconstruction Project (May, 2000).** Assisted Padre biologists during focused pre-construction surveys for California red-legged frogs along a 2-mile segment of Arroyo Conejo Creek located within the City of Thousand Oaks, CA.

- **Unocal Guadalupe A2A Emergency Excavation Project, Guadalupe, CA (1998).** Mr. Dugas participated in the monitoring (day/night) of the access routes and excavation areas throughout the project. During this period, Mr. Dugas conducted surveys with SAIC biologists and observed as well as participated in numerous California red-legged frog relocations. Using established handling protocols, all frogs observed were captured and relocated to a predetermined suitable habitat located outside the construction zone. Mr. Dugas also accompanied SAIC biologists, USFWS, and CDFG during several nighttime California red-legged frog surveys of the wetland habitats within the project area. Contact: Steve Henry, Biologist / USFWS: (805) 644-1766.

- **Rocky Canyon Quarry EIR, San Luis Obispo, CA (Sept. 1997).** Assisted Morro Group, Inc. wildlife biologist during several focused California red-legged frog surveys of Rocky Canyon Creek, Atascadero, CA. Conducted during previous employment with Morro Group, Inc., San Luis Obispo, CA.

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Thea Benson

Staff Biologist

As a Staff Biologist, her work focuses on biological assessments, biological resource contingency plans, biological surveys, willow flycatcher protocol level surveys, burrowing owl protocol level surveys, permit compliance monitoring and water quality sampling and reporting.

EDUCATION:

B.S. Wildlife Management and Conservation
Humboldt State University, 2004.

PERMITS:

USFWS Endangered Species Act 10(a)(1)(A) Recovery Permit (No. TE-137006) authorizing *take* of federally protected willow flycatcher (*Empidonax trialli extimus*) in the form of utilizing vocalization tapes to survey for presence/absence of the species.

CDFG Letter of Agreement allowing the *take* of the state protected willow flycatcher (*Empidonax trialli*) in the form of utilizing vocalization tapes while surveying for presence and absence of the species.

CDFG Scientific Collecting Permit (No. SC-009231) authorizing *take* of willow flycatcher (*Empidonax trialli*) in the form use utilizing vocalization tapes while surveying for presence and absence of the species.

CERTIFICATIONS:

40-Hour Hazardous Waste Operations and Emergency Response (HAZWOPER) Certification. In compliance with OSHA regulation 29 CFR 1910.120

Offshore Survival and Helicopter Underwater Egress Training (HUET). In Compliance with the International Association for Safety and Survival Training.

WORKSHOPS:

Wetland Delineation Workshop. *October 14, 2006.* Presented by: Colby Boggs of the CSU, Chico Friends of the Biological Sciences Herbarium.

Biology and Conservation of California Tiger Salamander Workshop. *June 17 and 18, 2008.* Presented by Chris Searcy in place of Pete Trenham. Alameda County Conservation Partnership.

Willow Flycatcher Workshop. *May 2007; May 2005; and May 2006.* Presented by Mary Whitfield (Southern Sierra Research Group) and Jamie Uyehara (US Forest Service) in Weldon, CA.

California Burrowing Owl Survey Workshop. *1999 and 2000.* Presented by Dan Rosenberg with Carrizo Plains National Monument, California Valley, CA.

Red-shouldered Hawk Survey Workshop. *1998.* Presented by Floyd Bero at the Kern River Preserve, Weldon, CA.

BIOLOGICAL AND CONSTRUCTION MONITORING AND REPORTING:

Chorro Creek electro-fishing – Pike minnow eradication, CDFG and Hydro-Terra Consulting, Inc.

Assisted CDFG and Terra Consulting, Inc. in electro-fishing of the Chorro Creek watershed to eradicate non-native pike minnow and Sacramento suckerfish and to weigh and measure south-central California coast steelhead as an ongoing effort to increase steelhead populations within the Chorro Creek watershed.

Best Western Beach Hotel Monterey Seawall Repair Project, Paul Davis Partnership, LLC.

Biological Resource Contingency Plan for USFWS, California Coastal Commission and the State Parks, snowy plover presence/absence surveys, coastal foredune sensitive plant surveys, construction monitoring and biological sensitivity training for project personnel and a project completion report.

Matilija Creek Vegetation Removal Project, VCWPD

Pre-construction biological survey and monitoring of Ventura County Watershed Protection District (VCWPD) vegetation removal along Matilija Creek off Hwy 33 in Ojai, CA. Duties included: pre-construction CRLF nighttime surveys, site reconnaissance, biological surveys, breeding bird surveys and permit compliance monitoring. CRLF was the species of concern associated with this project, however none were found within project limits.

San Luis Obispo Tank Farm, Chevron.

Sensitive plant surveys (including San Luis Obispo paintbrush, San Luis Obispo morning glory, congdon's tarplant, and button celery), burrowing owl surveys, netted enclosure wildlife rescue monitoring, and California red-legged frog surveys.

Ventura River Bank Protection Upgrade, VCWPD

Daily pre-construction biological surveys and permit compliance monitoring for Casitas Springs levee repair and flood wall installation along the Ventura River. Duties included: pre-construction biology survey, CRLF survey, breeding bird surveys and construction monitoring. California red-legged frog and least Bell's vireo were the specific species of concern associated with this project; however none were found within the work area.

Debris Basin Cleanout Projects, VCWPD

Pre-construction biological survey and monitoring of VCWPD vegetation removal within Debris Basins throughout Ventura County. Duties included: biological surveys, breeding bird surveys, and permit compliance monitoring. A pre-construction report and a project completion report were created. Nesting birds and riparian vegetation were the primary concerns associated with these projects.

South Branch Arroyo Conejo Channel Improvement Project, VCWPD

Biological surveys to determine presence/absence of sensitive species and nesting birds, monitoring of surface water diversion activities, water quality sampling and reporting, fish and wildlife rescue and relocation, permit compliance monitoring, and project completion reporting. Nesting birds and relocation of fishes and amphibians during stream diversion were the primary concerns during project construction.

Hwy 101 Bridge Construction over the Santa Clara River, Caltrans.

Biological and permit compliance monitoring during construction of Hwy 101 bridge over the Santa Clara River in Ventura, CA. Duties included: daily monitoring of construction crew (Parsons) to assure all work was conducted within project limits, in compliance with CDFG Streambed Alteration Agreement, USACOE (Section 404) Nationwide Permit, RWQCB Conditional (Section 401) Water Quality Certification, and USFWS and NMFS (Section 7) Consultations. Several species of concern were associated with this site, primarily least Bell's vireo, southwestern

willow flycatcher and Arroyo Chub. Weekly water quality monitoring required at this site (turbidity, total suspended solids, pH, temperature, dissolved oxygen).

Matilija Creek Bank Stabilization Project, Caltrans.

Biological and permit compliance monitoring during construction of Hwy 33 bank and road repair along the Sespe Creek north of Ojai, CA. Duties included: daily monitoring of construction crew (Parsons) to assure all work was conducted within project limits, in compliance with CDFG Streambed Alteration Agreement, USACOE (Section 404) Nationwide Permit, RWQCB Conditional (Section 401) Water Quality Certification, and USFWS and NMFS (Section 7) Consultations. Species of concern associated with this site include: steelhead, arroyo toad, arroyo chub, southwestern pond turtle, two-striped garter snake, coastal whiptail lizard, coast horned lizard, and Palmer's mariposa lily.

Moorpark Pump Station Project, CMWD.

Breeding/nesting bird pre-construction surveys and permits compliance monitoring within Peach Hill Wash, a tributary to Arroyo Las Posas. Calleguas Municipal Water District (CMWD) removed vegetation for the construction of an improved pump station. Species of concern associated with this site were nesting birds located within or near the project limits, including least tern.

Mesa Feeder Crossing Stabilization and Pipeline Relocation, CMWD.

Breeding bird and biological surveys, stream diversion consulting services, monitoring, fish and wildlife rescue and relocation, and water quality monitoring and reporting. Weekly progress meetings were also attended to discuss CDFG, USFWS, RWQCB and ACOE permit compliance for ongoing project activities. Sensitive species of concern for this project included: southwestern pond turtle, two-striped garter snake, arroyo chub and breeding birds.

Arroyo Simi 2007 Stabilizer Repair, VCWPD.

Biological Resource Study, breeding bird surveys, biological surveys, fish and wildlife rescue and relocation, permit compliance monitoring, and water quality monitoring and reporting. Riparian vegetation and fish and wildlife relocation were the primary concerns for this project.

Pole Creek Channel Invert Repair Project, VCWPD

Pre-construction breeding bird surveys, biological surveys, permit compliance monitoring, water quality monitoring and reporting, fish and wildlife rescue and relocation, and project completion reporting.

Bus Canyon Channel Improvement Project, VCWPD

Permit compliance monitoring, water quality monitoring and project completion report.

Lewis Road Widening/Santa Barbara Bridge Construction, Penfield and Smith, Inc.

Permit compliance monitoring, fish and wildlife rescue and relocation, water quality monitoring and reporting, agency correspondence, and project completion report.

Arroyo Simi Culvert Improvement Project, VCWPD

Permit compliance monitoring, and water quality monitoring and reporting.

Paso Robles Water Treatment Plant and Transmission Pipeline, City of Paso Robles.

Biological Resource Study, biological field surveys, and pre-construction field surveys.

Hammon Fee Tank Battery Removal Project, Chevron.

Biological Resource Study, biological field surveys, and pre-construction field surveys.

SPECIAL-STATUS SPECIES SURVEYS COMPLETED WITH PADRE:

CRLF Pre-Construction Surveys.

Ms. Benson has assisted in several CRLF nighttime pre-construction surveys along streams and drainages within Ventura County prior to construction activities to determine presence/absence and conduct habitat assessments.

Breeding Bird Surveys.

Ms. Benson has conducted several pre-construction breeding bird surveys throughout Ventura, Santa Barbara and San Luis Obispo Counties. These surveys are conducted prior to construction to determine presence/absence of breeding birds and sensitive species to assist in determining mitigation measures.

Biological Surveys.

During and prior to construction, Ms. Benson has conducted biological surveys to determine presence/absence of sensitive species, determine habitat within the project limits and surrounding areas, and relocate any fish and wildlife found within project limits.

Burrowing Owl Survey.

A protocol level burrowing owl survey was completed within the Chevron Tank Farm Property to determine breeding and wintering status within the Project Site. A burrowing owl report was completed.

Sensitive Plant Surveys.

Surveys for San Luis Obispo morning glory, San Luis Obispo paintbrush, congdon's tarplant, and button celery were conducted within the Chevron Tank Farm Property. Also, line transects were conducted in the City of Seaside to obtain pre-activity plant densities within sensitive foredune habitats within project limits.

Snowy Plover Presence/Absence Surveys.

Pre-activity western snowy plover surveys were conducted in the City of Seaside to determine presence and/or absence within and within the vicinity of project limits.

OIL SPILL TRAINING:

Oil Spill Training, ExxonMobil and Aera Energy, LLC.

Accompanied by Mr. Chris Dunn, Ms. Benson has assisted in oil spill training drills that ExxonMobil and Aera Energy perform frequently in case of an actual spill event. These training drills are to acknowledge the points of contact for various agencies, the steps required to assure immediate rescue and relocation for fish and wildlife, and to become familiar with specific resources, programs and paperwork used for each incident.

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PREVIOUS SPECIAL-STATUS SPECIES SURVEYING EXPERIENCE:

Ms. Benson has completed federal and State Endangered willow flycatcher protocol surveys within Kern County, Bishop, Death Valley and Amargosa Canyon, CA and State Endangered sub-species' surveys in Eldorado, Tahoe, Sequoia, and Kings Canyon Forests. She has also surveyed for the federally Endangered riparian brush rabbit in Modesto, Merced and Turlock, CA. Other specific sensitive species surveys Ms. Benson has experience with includes Pacific fisher, American martin, red-legged frog, arroyo toad, yellow-billed cuckoo, spotted owl, yellow warbler, northern goshawk, red-shouldered hawk and California burrowing owl. She has also conducted breeding bird surveys, snake, corvid and brown-headed cowbird surveys. She has also assisted in trapping, ear tagging, tooth extraction, and taking body measurements of black bear and gray fox in Hoopa, CA. Ms. Benson also has experience surveying for presence/absence and monitoring existing populations of federal and State Endangered Nipomo mesa lupine (*Lupinus nipomensis*) in San Luis Obispo County.

PREVIOUS WORK EXPERIENCE:

Ms. Benson joined Padre Associates, Inc. in 2007, with over 10 years of sensitive species experience with the South Sierra Research Station (Weldon), US Forest Service (Sequoia National Forest), CSU Sacramento (Truckee) and the Endangered Species Recovery Program (CSU Stanislaus). She also has experience in natural river restoration with the California Conservation Corps (Los Padres Unit) and the Land Conservancy (San Luis Obispo). Ms. Benson also has 1-year prior experience in environmental consulting as a Biologist in Paso Robles. Some previous employment descriptions are listed below.

Biologist. Ms. Benson was the Project Biologist responsible for preparing biological assessments, land use and conditional use permits, Streambed Alteration Agreements, ACOE and RWQCB permits, reclamation plans and other necessary CEQA documents required for several clients interested in sand and gravel mining in the Salinas River within San Luis Obispo County. Breeding bird surveys, botanical surveys, state listed California red-legged frog (*Rana aurora draytonii*) surveys, state listed California burrowing owl (*Speotyto cunicularia*) and site reconnaissance. Ms. Benson has also conducted Phase 1 ESAs and Transaction Screens for several businesses throughout northern California.

Restoration Project Manager. Ms. Benson was the Restoration Project Manager of an educational and experimental stream restoration project in San Luis Obispo. This project involved efforts to combine cattle management with the restoration and protection of vital riparian habitat. She worked with Cal Poly, the Morro Bay National Estuary Program, and the California Conservation Corps in effort to restore Chorro Creek tributaries by managing cattle movements, planting riparian plants, recontouring and stabilizing channels, invasive Northern pike (*Esox Lucius*) removal and CDFG habitat typing.

Biological Technician. Ms. Benson has conducted field research for the federal and state listed southwestern willow flycatcher (*Empidonax trialli extimus*) and the state listed willow flycatcher (*E.t. adastus* and *brewsterii*) with the US Forest Service, CSU Sacramento, and the South Sierra Research Station from 1997 to 2005. She also was involved with predator research for state listed yellow warbler (*Dendroica petechia*) and banding of state listed yellow-billed cuckoo (*Coccyzus americanus*). Duties included: nest searching, nest monitoring, nestling/adult banding, DNA sampling (nail/fecal/blood), band identification, surveying, camera stations, MAPS stations, brown-headed cowbird trapping, insect sampling and identification, as well as vegetation measuring.

Assistant Biologist. Ms. Benson was the Assistant Biologist for the Endangered Species Recovery Program located at CSU Stanislaus, Turlock, CA. Ms. Benson conducted research on the federally listed riparian brush rabbit (*Sylvilagus bachmani riparius*). Research consisted of radio telemetry, GIS, ear tagging, blood sampling, PIT tags and extensive health monitoring. Breeding facilities for riparian brush rabbit were also monitored for success and rabbits were fitted with radio transmitters and released. They were later located and mapped using GIS programs to map dispersal activities and habitat preferences.

Biological Technician. Ms. Benson was a Biological Technician for the US Forest Service within the Sequoia National Forest seasonally for four (4) years. She conducted spotted owl surveys to assist in determining protected habitats throughout the Sequoia and Kings Canyon National Forests. She also installed and monitored Pacific fisher and American martin track plate and camera bait stations

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ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Resume

Jessica K. Peak

Staff Biologist

EDUCATION: B.S. Botany and Environmental Biology, Humboldt State University, 2003

CERTIFICATIONS/ WORKSHOPS: California Division Occupational Safety and Health Administration (OSHA), 40-Hour Hazardous Waste Operations and Emergency Response Safety Training

Army Corps of Engineers Wetland Delineation & Management Training Program

Alameda County Conservation Partnership Contra Costa Water District, Los Vaqueros Reservoir & Watershed Workshop on Biology and Management of the California red-legged frog

EXPERIENCE: Ms. Peak joined Padre Associates, Inc. in August 2006. As a Staff Biologist, she has been involved in many aspects of the Environmental Sciences and Planning Group. Ms Peak has over 5 years of field experience conducting biological surveys and environmental assessments. Ms. Peak's job responsibilities include biological resources surveys, development of site-specific mitigation strategies, biological and construction monitoring activities such as pre-construction biological surveys, pre-construction worker environmental training sessions, restoration and mitigation monitoring, multi-agency interaction, and permit facilitation. Associated with these tasks she has prepared biological and botanical resources assessments, constraints analyses, mitigation monitoring reports, site-specific mitigation and restoration plans, construction monitoring plans, and has been involved in preparation of environmental impact reports (EIR) with emphasis on biological resources..

BIOLOGICAL STUDIES: Ms. Peak has conducted numerous botanical and biological resources surveys such as special-status/rare plant surveys, special-status wildlife surveys, vegetation mapping, habitat assessments, oak tree surveys, and routine wetland delineations. Activities include site analysis, preparation and implementation of restoration projects for native plant habitats and rare plant species, site preparation and seed collection, permit facilitation, and success criteria monitoring. Recent representative projects include Chevron EMC San Luis Obispo Tank Farm Remediation and Redevelopment Project, Morro Bay Marina Renovation Project, Plains Exploration and Production Produced Water Reclamation Facility Project, San Luis Obispo County Women's Jail Expansion Project, Roadhouse Development Bank Stabilization Project, Nipomo Community Services District Waterline Intertie Project, Chevron EMC Cojo/Point Conception Decommissioning Project, and the Oak Creek Estates Development Project.

BIOLOGICAL & CONSTRUCTION MONITORING: Ms. Peak has also conducted environmental monitoring for multiple development projects. Typical job responsibilities include daily monitoring and documentation of construction activities to ensure compliance with project specifications and conditions of approval, interaction with job foreman to remedy any non-compliance issues, and weekly reporting to regulatory agencies and local government departments. Recent representative projects include Edna Valley

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Resume

Estates Development Project, Valle Vista Development Project, Oak Shores Estates Development Project, and Exxon/Mobil Venadito Canyon Storm Damage Repair Project.

PRIOR WORK EXPERIENCE:

Prior to joining Padre Associates, Ms. Peak served as the associate botanist for LBJ Enterprises in Eureka, California from September 2004 to August 2006. There she conducted various botanical and biological surveys in and around Humboldt, Mendocino, and Trinity Counties. Typical job responsibilities included rare and endangered plant surveys, ethnobotanical surveys, routine wetland delineations, and terrestrial mollusk surveys.

Ms. Peak served as field botanist during the 2004 field season for the Lake Tahoe Urban Biodiversity Project in South Lake Tahoe, California conducting botanical surveys in and around the Lake Tahoe Basin. Typical duties included performing line-intercept surveys, percent cover analyses, and evaluation of forest physiognomy. She also served as a restoration crew intern for the California Tahoe Conservancy in South Lake Tahoe in the fall of 1999. Her duties on the restoration crew included soil erosion control, stream environment zones and watershed restoration, re-vegetation, and restoration of public and recreational areas.

In addition to field experience Ms. Peak worked as a greenhouse assistant at the Humboldt State Biological Sciences Greenhouse in 2002 and 2003. Duties included care and preservation of a large variety of plant species from around the world and overall general maintenance of the greenhouse.

Ms. Peak has also participated in international field studies, completing a Tropical Ethnobotany course at the Institute for Tropical Ecology and Conservation, Bocas del Toro, Panama, in 2005.

PROFESSIONAL AFFLIATIONS:

California Native Plant Society
California Society for Ecological Restoration
California Native Grasslands Association

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Resume

Christina L. Santala

Staff Biologist

EDUCATION: B.S. Biological Sciences, California Polytechnic State University, 1988

EXPERIENCE: Ms. Santala joined Padre Associates, Inc. in April 2007. As a Staff Biologist, she has been involved in many aspects of the Environmental Sciences Group. The majority of Ms. Santala's job responsibilities focus on biological resources surveys including; construction monitoring surveys, special-status plant and wildlife surveys, and restoration and mitigation monitoring. Associated with these tasks she has prepared biological and botanical resources assessments, constraints analyses, mitigation monitoring reports, and construction monitoring plans and reports.

RECENT PROJECTS: Ms. Santala has assisted in a variety of biological and botanical resources surveys such as special-status/rare plant surveys, special-status wildlife surveys, vegetation mapping, habitat assessments, and oak tree surveys. Recent representative projects include Valle Vista Estates Development Project, Skytt Mesa Subdivision Project, Oak Creek Estates Development Mitigation Monitoring, Chevron EMC Cojo/Point Conception Decommissioning Project, Nipomo Community Services District Waterline Intertie Project, PXP Reverse Osmosis Produced Water EIR, Exxon/Mobil Venadito Canyon Storm Damage Repair Project Mitigation Monitoring and Chevron EMC San Luis Obispo Tank Farm Remediation and Redevelopment Project. In addition, Ms Santala has conducted construction monitoring surveys focused on minimizing impacts to biological resources as required by project conditions of approval. Recent representative projects include; Villa Laguna Vista Development Project and San Luis Bay Bridge Replacement Project.

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Resume

PRIOR WORK EXPERIENCE:

Prior to working with Padre Associates, Ms. Santala has served in the following capacities;

- Environmental Scientist; Mesa Associates, Inc. Tasks included site reconnaissance, background data search and documentation for Phase I Environmental Site Assessments, sample collection (time-integrated and grab type) for ambient air monitoring, on-site training and supervision of field technicians at various air monitoring sites.
- Biologist; Aquatic Systems, Inc. Marine Biological Laboratory at Diablo Canyon Power Plant. Performed chronic and acute bioassays for seawater discharge water as required by NPDES permit. Conducted research on anti-fouling coatings by studying the settling characteristics of barnacle nauplii. Additional research included studies on abalone spawning techniques and the effect of temperature fluctuations on several species of marine algae. Fieldwork included intertidal zone quadrat surveys, record keeping of daily biological and meteorological observations at the seawater intake structure and assistance with periodic sea lion population studies.
- Chemist; Lifeline Nutritional Products, Inc. Managed hazardous materials and safety program, and analyzed products using various analytical instruments.
- Quality Control Laboratory Technician; JBL Scientific. Determined the quality of pharmaceutical products using HPLC, NMR and specrophotmeter. Developed and wrote test methods for all analytical procedures.

CERTIFICATIONS/ WORKSHOPS:

California Division Occupational Safety and Health Administration (OSHA), 40-Hour Hazardous Waste Operations and Emergency Response Safety Training

La Laguna de Santa Rosa Foundation, Sonoma State University, Rare Pond Species Survey Techniques Workshop

Regional Water Quality Control Board Erosion and Sediment Control Workshop

PROFESSIONAL AFFLIATIONS:

California Native Plant Society
Guild of Natural Science Illustrators

APPENDIX D
AQUATIC SURVEY DATA FORMS

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

AQUATIC SURVEY DATA FORM

DATE: 1/30/08	PROJECT: SLO Tank Farm - North marsh / Reservoirs, CRLF site 1		
SURVEY BIOLOGIST(S): K. Gilliland, J. Peak			
Time Start: 1400	Time End: 1600	Survey Duration: 2 hrs	Unit-Effort:

LOCATION

City/County SLO County, San Luis Obispo; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☒ Day ☐ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: (1) 2 3 4 5 6 7 8

Brand name/model of light used: n/a Brand/model/power of binoculars used: 10x42 Swift & 10x42 Audubon

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 56.4°F (3"); Water Temperature 51.3 °F; Wind Speed: 4.2 mph; Wind Direction NW; Cloud Cover 10 %

Precipitation 0 in.; Humidity 0 %; Moon Phase n/a

AQUATIC HABITAT TYPE

☐ River ☐ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☒ Marsh/Wetland

Hydrogeomorphology Class: ☒ Depression ☐ Slope ☐ Riverine

HYDROPERIOD

☐ Permanent ☐ Intermittent ☒ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name ____ River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height ____ Left Bank Height ____

Top Bank Width ____ Stream Width ____ Channel Width @ OHWM ____ Right Bank Slope ____ Left Bank Slope ____

Water Depth ____ Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☐ Pools (max. depth ____) ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ____

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: North Marsh Hydroperiod: ☐ Permanent ☒ Seasonal

Area: ≈ 3.0 acre Maximum Width ____ Maximum Length ____ Maximum Depth 3 ft

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☒ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ____

SUBSTRATE (Percent)

☐ Silt ☐ Sand ☐ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: Clay soils

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): 0 ; Emergent Vegetation: 40% Floating Vegetation — ; Open Water 60%
Dominant Species: Scirpus acutus

ADJACENT COVER TYPE(S)

☐ Woodland ☐ Shrub ☐ Savanna ☒ Grassland ☐ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
~~[illegible]~~						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
Pseudacris regilla						☐ Visual ☒ Call ☐ Capture ☐ Spotlight
~~[illegible]~~						☐ Visual ☒ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

~~bullfrogs, raccoons, raptors~~ N/A - no CRLF observed

DIAGRAM

NOTES

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AQUATIC SURVEY DATA FORM

DATE: 1/30/08	PROJECT: SLO Tank Farm - South Marsh/Reservoirs 5, 7, 2 CRLF Sites 13-20		
SURVEY BIOLOGIST(S): R. Gilliland, J Peak			
Time Start: 1700	Time End: 1800	Survey Duration: 1 hr	Unit-Effort:

LOCATION

City/County San Luis Obispo, SLO County; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☒ Day ☐ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: (1) 2 3 4 5 6 7 8

Brand name/model of light used: n/a Brand/model/power of binoculars used: 10x42 Swift/Audubon

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 55 °F (3"); Water Temperature 51.2 °F; Wind Speed: 4.2 mph; Wind Direction NW; Cloud Cover 10 %

Precipitation 0 in.; Humidity 0 %; Moon Phase n/a

AQUATIC HABITAT TYPE

☐ River ☐ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☒ Marsh/Wetland

Hydrogeomorphology Class: ☒ Depression ☐ Slope ☐ Riverine

HYDROPERIOD

☐ Permanent ☐ Intermittent ☒ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name ____ River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height ____ Left Bank Height ____

Top Bank Width ____ Stream Width ____ Channel Width @ OHWM ____ Right Bank Slope ____ Left Bank Slope ____

Water Depth ____ Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☐ Pools (max. depth ____) ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ____

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: South marsh & adjacent wetlands Hydroperiod: ☐ Permanent ☒ Seasonal

Area: ____ Maximum Width ____ Maximum Length ____ Maximum Depth 3 ft

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☒ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ____

SUBSTRATE (Percent)

☐ Silt ☒ Sand ☐ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: Clay

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): 0-5% Emergent Vegetation: 10% Floating Vegetation 0% ; Open Water 90%
Dominant Species: Typha latifolia, Salix lasiolepis, Platanus racemosa

ADJACENT COVER TYPE(S)

☐ Woodland ☐ Shrub ☐ Savanna ☒ Grassland ☐ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Pseudacris regilla					many	☐ Visual ☒ Call ☐ Capture ☐ Spotlight
~~Rana aurora baiteata~~						☐ Visual ☒ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

~~bullfrogs, raccoons, raptors~~ N/A no CRLF observed

DIAGRAM

NOTES

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AQUATIC SURVEY DATA FORM

DATE: 1/30/08	PROJECT: SLO Tank Farm – E. Fork San Luis Obispo Creek		
SURVEY BIOLOGIST(S): K. Gilliland, J. Peak			
Time Start: 1600	Time End: 1700	Survey Duration: 1 hr	Unit-Effort:

LOCATION

City/County San Luis Obispo, SLO County; ___ ¼; ___ -¼ Section ___ Township ___ Range ___

Latitude ___ Longitude ___; Quadrangle ___; Elevation ___

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☒ Day ☐ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: (1) 2 3 4 5 6 7 8

Brand name/model of light used: n/a Brand/model/power of binoculars used: 10x42 Swift / Audubon

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 56.4 °F (3"); Water Temperature 49.7 °F; Wind Speed: 4.2 mph; Wind Direction NW; Cloud Cover 10 %

Precipitation 0 in.; Humidity 0 %; Moon Phase n/a

AQUATIC HABITAT TYPE

☐ River ☒ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☐ Marsh/Wetland

Hydrogeomorphology Class: ☐ Depression ☐ Slope ☒ Riverine

HYDROPERIOD

☐ Permanent ☒ Intermittent ☐ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name E. Fork San Luis Obispo Creek River Mile ___ Stream Order ___

Hydroperiod: ☐ Permanent ☒ Intermittent ☐ Ephemeral Reach Length ___ Right Bank Height ___ Left Bank Height ___

Top Bank Width ___ Stream Width 8 ft Channel Width @ OHWM ~~20-25~~ ft Right Bank Slope 30°-45° Left Bank Slope 30°-45°

Water Depth 1 ft max Sinuosity Index ___ Stream Gradient ___ Flow Velocity ___ Wetted Perimeter ___

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ___)

Instream Structure: ☐ Riffles ☒ Pools (max. depth 8 ft) ☒ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ___

Channel Condition: ☐ Terracing ☒ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: ___ Hydroperiod: ☐ Permanent ☐ Seasonal

Area: ___ Maximum Width ___ Maximum Length ___ Maximum Depth ___

Shore Line ___ Shoreline Development ___ Width of Drawdown Zone ___

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ___)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ___

SUBSTRATE (Percent)

☐ Silt ☒ Sand ☒ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: ~~[illegible]~~ concrete-asphalt slag

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): 60%; Emergent Vegetation: 10%; Floating Vegetation —; Open Water 30%

Dominant Species: Salix lasiolepis, Eucalyptus sp., Rubus ursinus, Cotoneaster sp. Platanus racemosa

ADJACENT COVER TYPE(S)

☐ Woodland ☐ Shrub ☐ Savanna ☒ Grassland ☐ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
None						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

~~bullfrogs, raccoons, raptors~~ N/A - No CRLF observed

DIAGRAM

NOTES

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AQUATIC SURVEY DATA FORM

DATE: 2/13/08	PROJECT: SLO Tank Farm - North Marsh, CRLF site 1-3,		
SURVEY BIOLOGIST(S): K. Gilliland, B. Dugas, J. Peak, C. Santala			
Time Start: 18:10	Time End: 19:45	Survey Duration: 1hr 35min	Unit-Effort:

LOCATION

City/County San Luis Obispo, SLO County; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: 1 (2) 3 4 5 6 7 8

Brand name/model of light used: Nite Lite Brand/model/power of binoculars used: 10x42 Audubon/Swift/Leica

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 55 °F (3"); Water Temperature 58 °F; Wind Speed: 0-5 mph; Wind Direction NW; Cloud Cover 90 %

Precipitation 0 in.; Humidity ____%; Moon Phase ____

AQUATIC HABITAT TYPE

☐ River ☐ Stream ☒ Swale ☒ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☒ Impoundment ☐ Vernal Pool ☒ Marsh/Wetland

Hydrogeomorphology Class: ☒ Depression ☐ Slope ☐ Riverine

HYDROPERIOD

☐ Permanent ☐ Intermittent ☒ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name N/A River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height ____ Left Bank Height ____

Top Bank Width ____ Stream Width ____ Channel Width @ OHWM ____ Right Bank Slope ____ Left Bank Slope ____

Water Depth ____ Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☐ Pools (max. depth ____) ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ____

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: North Marsh Hydroperiod: ☐ Permanent ☒ Seasonal

Area: 3-4 acres Maximum Width various Maximum Length various Maximum Depth 3 ft

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☒ Turbid Water Color: ☐ Clear ☒ Stained (Color Brown)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ____

SUBSTRATE (Percent)

☒ Silt ☐ Sand ☒ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: clay soils

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): 0 ; Emergent Vegetation: 100% ; Floating Vegetation — ; Open Water 0%
Dominant Species: Scirpus acutus

ADJACENT COVER TYPE(S)

☐ Woodland ☐ Shrub ☐ Savanna ☒ Grassland ☒ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Pseudacris regilla					many	☒ Visual ☒ Call ☐ Capture ☒ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

N/A – NO CRLF Observed

DIAGRAM

NOTES

crayfish observed throughout N. marsh

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AQUATIC SURVEY DATA FORM

DATE: 2/13/08	PROJECT: SLO Tank Farm - South Marsh, CRLF Sites 13-22, 24		
SURVEY BIOLOGIST(S): K. Gilliland, B. Dugas, J. Peak, C. Santala			
Time Start: 20:30 hrs.	Time End: 22:00 hrs.	Survey Duration: 1.5 hrs.	Unit-Effort: —

LOCATION

City/County San Luis Obispo, SLO County; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: 1 (2) 3 4 5 6 7 8

Brand name/model of light used: Nite Lite Brand/model/power of binoculars used: 10x42 Swift/Leica/Audubon

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 55 °F (3"); Water Temperature 58 °F; Wind Speed: 0.5 mph; Wind Direction NW; Cloud Cover 90 %

Precipitation 0 in.; Humidity ____ %; Moon Phase QUARTER MOON

AQUATIC HABITAT TYPE

☐ River ☐ Stream ☑ Swale ☑ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☑ Impoundment ☐ Vernal Pool ☑ Marsh/Wetland

Hydrogeomorphology Class: ☑ Depression ☐ Slope ☐ Riverine

HYDROPERIOD

☐ Permanent ☐ Intermittent ☑ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name NA River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height ____ Left Bank Height ____

Top Bank Width ____ Stream Width ____ Channel Width @ OHWM ____ Right Bank Slope ____ Left Bank Slope ____

Water Depth ____ Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☐ Pools (max. depth ____) ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ____

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: VARIOUS RESERVOIRS & PONDED AREAS ON SOUTH SIDE Hydroperiod: ☐ Permanent ☑ Seasonal

Area: NA Maximum Width: VARIOUS Maximum Length VARIOUS Maximum Depth 5 ft. MAX

Shore Line — Shoreline Development — Width of Drawdown Zone —

Water Clarity: ☑ Clear ☐ Turbid Water Color: ☐ Clear ☑ Stained (Color BROWN)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☑ Other BROKEN CONCRETE / REMNANT RESERVOIR MATERIALS

SUBSTRATE (Percent)

☑ Silt ☑ Sand ☐ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☑ Other: CONCRETE RUBBLE

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): <5%; Emergent Vegetation: ±10%; Floating Vegetation 0%; Open Water 85%
Dominant Species: SALIX sp., TYPHA sp., & SCIRPUS sp.

ADJACENT COVER TYPE(S)

☐ Woodland ☑ Shrub ☐ Savanna ☑ Grassland ☑ Wetland ☑ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
PSEUDACRIS regilla					MULTIPLE	☑ Visual ☑ Call ☐ Capture ☑ Spotlight
RANA catesbeiana					ONE	☑ Visual ☐ Call ☐ Capture ☑ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

NA — NO CRLFS OBSERVED.

DIAGRAM

NOTES

> ONE LARGE BULLFROG OBSERVED W/IN A DENSE WILLOW THICKET @ SOUTH SIDE IS. WATER DEPTH @ THIS POND WAS > 5' (DEEPEST POND/DEPRESSION) ON SOUTH SIDE. NO OTHER RANIDS OBSERVED W/IN RESERVOIR AREAS OF SOUTH TANK FARM OR NORTH TANK FARM.

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AQUATIC SURVEY DATA FORM

DATE: 2/13/08	PROJECT: SLO Tank Farm – East Fork San Luis Obispo Creek
SURVEY BIOLOGIST(S): K. Gilliland, B. Dugas, C. Santala, J. Peak	
Time Start: 20:00	Time End: 21:45	Survey Duration: 1 hr 45 min	Unit-Effort:

LOCATION

City/County San Luis Obispo, SLO County; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: 1 (2) 3 4 5 6 7 8

Brand name/model of light used: Nite Lite Brand/model/power of binoculars used: 10 x 42 Audubon/Swift/Leica

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 53 °F (3"); Water Temperature 55 °F; Wind Speed: 0.5 mph; Wind Direction NW; Cloud Cover 90 %

Precipitation 0 in.; Humidity ____ %; Moon Phase ____

AQUATIC HABITAT TYPE

☐ River ☒ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☐ Marsh/Wetland

Hydrogeomorphology Class: ☐ Depression ☐ Slope ☒ Riverine

HYDROPERIOD

☐ Permanent ☒ Intermittent ☐ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name East Fork San Luis Obispo Creek River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☒ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height 10-18 ft Left Bank Height 10-18 ft

Top Bank Width ____ Stream Width 6-8 ft Channel Width @ OHWM 35 ft Right Bank Slope 30°-45° Left Bank Slope 30°-45°

Water Depth 6 ft max Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☒ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☒ Pools (max. depth 8 ft) ☒ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ____

Channel Condition: ☐ Terracing ☒ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: ____ Hydroperiod: ☐ Permanent ☐ Seasonal

Area: ____ Maximum Width ____ Maximum Length ____ Maximum Depth ____

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ____

SUBSTRATE (Percent)

☒ Silt ☐ Sand ☒ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: concrete-asphalt slag

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): 60% Emergent Vegetation: 10% Floating Vegetation — ; Open Water 30%

Dominant Species: Salix sp., Eucalyptus sp. Rubus ursinus, Cotoneaster sp., Platanus racemosa

ADJACENT COVER TYPE(S)

☒ Woodland ☒ Shrub ☐ Savanna ☒ Grassland ☒ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Rana catesbeiana					4	☒ Visual ☐ Call ☐ Capture ☒ Spotlight
Pseudacris regilla					many	☒ Visual ☐ Call ☒ Capture ☒ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

DIAGRAM

NOTES

- One juvenile steelhead & 3 spined stickleback observed in creek.

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AQUATIC SURVEY DATA FORM

DATE: 2/27/08	PROJECT: SLO Tank Farm - North Marsh, CRLF Sites 1-3		
SURVEY BIOLOGIST(S): B. Dugas, J. Peak, C. Santala, E. Snelling			
Time Start: 18:30	Time End: 20:00	Survey Duration: 1.5 hrs	Unit-Effort:

LOCATION

City/County San Luis Obispo / SLO County ; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: 1 2 (3) 4 5 6 7 8

Brand name/model of light used: Nite Lite Brand/model/power of binoculars used: 10x42 Audubon/Swift/Leica

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 54° °F (3"); Water Temperature 60.5 °F; Wind Speed: 4.5 mph; Wind Direction NW; Cloud Cover 15 20 %

Precipitation 0 in.; Humidity 0 %; Moon Phase ½ waning

AQUATIC HABITAT TYPE

☐ River ☐ Stream ☒ Swale ☒ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☒ Impoundment ☐ Vernal Pool ☒ Marsh/Wetland

Hydrogeomorphology Class: ☒ Depression ☐ Slope ☐ Riverine

HYDROPERIOD

☐ Permanent ☐ Intermittent ☒ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name N/A River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height ____ Left Bank Height ____

Top Bank Width ____ Stream Width ____ Channel Width @ OHWM ____ Right Bank Slope ____ Left Bank Slope ____

Water Depth ____ Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☐ Pools (max. depth ____) ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ____

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: North Marsh, CRLF Sites 1-3 Hydroperiod: ☐ Permanent ☒ Seasonal

Area: 3-4 acres Maximum Width Varions Maximum Length Varions Maximum Depth 3 ft

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☒ Turbid Water Color: ☐ Clear ☒ Stained (Color Brown)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ____

SUBSTRATE (Percent)

☒ Silt ☐ Sand ☒ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: Clay soils

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): 0 ; Emergent Vegetation: 40% ; Floating Vegetation — ; Open Water 60%
Dominant Species: Scirpus acutus

ADJACENT COVER TYPE(S)

☐ Woodland ☐ Shrub ☐ Savanna ☒ Grassland ☒ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Pseudacris regilla					many	☒ Visual ☒ Call ☐ Capture ☒ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

N/A – no CRLF ~~[illegible]~~ observed

DIAGRAM

NOTES

crayfish observed in N. marsh & Reservoirs

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AQUATIC SURVEY DATA FORM

DATE: 2/27/08	PROJECT: SLO Tank Farm - South Marsh, CRLF Sites 13-22 & 24		
SURVEY BIOLOGIST(S): B. Dugas, C. Santala, E. Snelling, J. Peak			
Time Start: 2015	Time End: 2215	Survey Duration: 2.0 hrs	Unit-Effort:

LOCATION

City/County San Luis Obispo / SLO County ; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: 1 2 (3) 4 5 6 7 8

Brand name/model of light used: Nite Lite Brand/model/power of binoculars used: 10x42 / Leica / Swift / Audubon

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 54 °F (3"); Water Temperature 60.5 °F; Wind Speed: 4 mph; Wind Direction NW; Cloud Cover 10 %

Precipitation Ø in.; Humidity Ø %; Moon Phase 1/2 waning

AQUATIC HABITAT TYPE

☐ River ☐ Stream ☒ Swale ☒ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☒ Impoundment ☐ Vernal Pool ☒ Marsh/Wetland

Hydrogeomorphology Class: ☒ Depression ☐ Slope ☐ Riverine

HYDROPERIOD

☐ Permanent ☐ Intermittent ☒ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name N/A River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height ____ Left Bank Height ____

Top Bank Width ____ Stream Width ____ Channel Width @ OHWM ____ Right Bank Slope ____ Left Bank Slope ____

Water Depth ____ Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☐ Pools (max. depth ____) ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ____

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: South Marsh & Various Reservoirs / Ponded Areas on South Side Hydroperiod: ☐ Permanent ☒ Seasonal

Area: N/A Maximum Width Various Maximum Length Various Maximum Depth 5 ft max

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☒ Turbid Water Color: ☐ Clear ☒ Stained (Color Brown)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☒ Other Broken concrete / Remnant reservoir materials

SUBSTRATE (Percent)

☒ Silt ☒ Sand ☐ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: Concrete Rubble

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): <5%; Emergent Vegetation: ±10%; Floating Vegetation 0; Open Water 85%
Dominant Species: scirpus acutus

ADJACENT COVER TYPE(S)

☐ Woodland ☒ Shrub ☐ Savanna ☒ Grassland ☒ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Bullfrog Rana catesbiana					X	☐ Visual ☐ Call ☐ Capture ☒ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
Pseudacris regilla					X	☐ Visual ☐ Call ☐ Capture ☒ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:
N/A - No CRLF observed

DIAGRAM

NOTES

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AQUATIC SURVEY DATA FORM

DATE: 2/27/08	PROJECT: SLO Tank Farm - E. Fork San Luis Obispo Creek		
SURVEY BIOLOGIST(S): B. Dugas, J. Peak, E. Snelling, C. Santala			
Time Start: 2015	Time End: 2145	Survey Duration: 1.5 hrs	Unit-Effort:

LOCATION

City/County San Luis Obispo / SLO County ; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: 1 2 (3) 4 5 6 7 8

Brand name/model of light used: Nite Lite Brand/model/power of binoculars used: 10x42 Leica/Swift/Audubon

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 54 °F (3"); Water Temperature 60 °F; Wind Speed: 4 mph; Wind Direction NW; Cloud Cover 10 %

Precipitation 0 in.; Humidity 0 %; Moon Phase 1/2 waning

AQUATIC HABITAT TYPE

☐ River ☒ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☐ Marsh/Wetland

Hydrogeomorphology Class: ☐ Depression ☐ Slope ☒ Riverine

HYDROPERIOD

☐ Permanent ☒ Intermittent ☐ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name E. Fork San Luis Obispo Creek River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☒ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height 10-18 ft Left Bank Height 10-18 ft

Top Bank Width ____ Stream Width 6-8 ft Channel Width @ OHWM 35 ft Right Bank Slope 30°-45° Left Bank Slope 30°-45°

Water Depth 6 ft max Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☒ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☒ Pools (max. depth 8 ft) ☒ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☒ Other Concrete slag/rubble

Channel Condition: ☐ Terracing ☒ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: ____ Hydroperiod: ☐ Permanent ☐ Seasonal

Area: ____ Maximum Width ____ Maximum Length ____ Maximum Depth ____

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ____

SUBSTRATE (Percent)

☐ Silt ☐ Sand ☒ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: Concrete-asphalt rubble/slag

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): 60% Emergent Vegetation: 10% Floating Vegetation ___; Open Water 30%
Dominant Species: Salix sp., Eucalyptus sp., Rubus ursinus, Cotoneaster sp. Platanus racemosa

ADJACENT COVER TYPE(S)

☒ Woodland ☒ Shrub ☐ Savanna ☒ Grassland ☒ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Rana catesbieana					6	☒ Visual ☐ Call ☐ Capture ☒ Spotlight
Pseudacris regilla					many	☒ Visual ☒ Call ☐ Capture ☒ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:
N/A - No CRLF Observed

DIAGRAM

NOTES

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AQUATIC SURVEY DATA FORM

DATE: 03/12/08	PROJECT: SLOTF - North Marsh, CRLF Sites 1-3		
SURVEY BIOLOGIST(S): B. Dugas, K. Gilliland, J. Peak, C. Santala			
Time Start: 20:00	Time End: 21:00	Survey Duration: 1 hr.	Unit-Effort:

LOCATION

City/County San Luis Obispo, SLO County; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: 1 2 3 (4) 5 6 7 8

Brand name/model of light used: Nite Lite Brand/model/power of binoculars used: Audubon/Swift 10x42

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 55 °F (3"); Water Temperature 63 °F; Wind Speed: 3.5 mph; Wind Direction NW; Cloud Cover >10 %

Precipitation 0 in.; Humidity 60 %; Moon Phase 1/2 moon waxing

AQUATIC HABITAT TYPE

☐ River ☐ Stream ☒ Swale ☒ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☒ Impoundment ☐ Vernal Pool ☒ Marsh/Wetland

Hydrogeomorphology Class: ☒ Depression ☐ Slope ☐ Riverine

HYDROPERIOD

☐ Permanent ☐ Intermittent ☒ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name N/A River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height ____ Left Bank Height ____

Top Bank Width ____ Stream Width ____ Channel Width @ OHWM ____ Right Bank Slope ____ Left Bank Slope ____

Water Depth ____ Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☐ Pools (max. depth ____) ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ____

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: North Marsh, CRLF Sites 1-3 Hydroperiod: ☐ Permanent ☒ Seasonal

Area: 3-4 acres Maximum Width varies Maximum Length varies Maximum Depth 3ft

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☒ Turbid Water Color: ☐ Clear ☒ Stained (Color Brown)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ____

SUBSTRATE (Percent)

☒ Silt ☐ Sand ☒ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☐ Other:

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): 0 ; Emergent Vegetation: 40% ; Floating Vegetation — ; Open Water 60%
Dominant Species: Scirpus acutus

ADJACENT COVER TYPE(S)

☐ Woodland ☐ Shrub ☐ Savanna ☒ Grassland ☒ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Pseudacris regilla					many >100	☒ Visual ☒ Call ☐ Capture ☒ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

N/A - No CRLF observed

DIAGRAM

NOTES crayfish observed in N. marsh

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AQUATIC SURVEY DATA FORM

DATE: 03/12/08	PROJECT: SLOTF - South Marsh, CRLF Sites 13-22, 24		
SURVEY BIOLOGIST(S): K. Gilliland, J. Peak, B. Dugas, C. Santala			
Time Start: 2100	Time End: 2300	Survey Duration: 2.0 hrs	Unit-Effort:

LOCATION

City/County San Luis Obispo, SLO County; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: 1 2 3 (4) 5 6 7 8

Brand name/model of light used: Nite Lite Brand/model/power of binoculars used: Audubon/Swift 10×42

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 55 °F (3"); Water Temperature 63 °F; Wind Speed: 3.5 mph; Wind Direction NW; Cloud Cover 10 %

Precipitation Ø in.; Humidity Ø %; Moon Phase 1/2 waxing

AQUATIC HABITAT TYPE

☐ River ☐ Stream ☒ Swale ☒ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☒ Impoundment ☐ Vernal Pool ☒ Marsh/Wetland

Hydrogeomorphology Class: ☒ Depression ☐ Slope ☐ Riverine

HYDROPERIOD

☐ Permanent ☐ Intermittent ☒ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name N/A River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height ____ Left Bank Height ____

Top Bank Width ____ Stream Width ____ Channel Width @ OHWM ____ Right Bank Slope ____ Left Bank Slope ____

Water Depth ____ Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☐ Pools (max. depth ____) ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ____

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: South Marsh & various ponded areas/reservoirs on S. Side Hydroperiod: ☐ Permanent ☒ Seasonal

Area: N/A Maximum Width various Maximum Length various Maximum Depth 5 ft max

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☒ Turbid Water Color: ☐ Clear ☒ Stained (Color Brown)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☒ Other Broken concrete/Remnant reservoir materials

SUBSTRATE (Percent)

☒ Silt ☒ Sand ☐ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: concrete rubble

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): <5% ; Emergent Vegetation: ±10% ; Floating Vegetation 0 ; Open Water 85%
Dominant Species: Scirpus acutus, Xanthium strumarium, Cirsium vulgare

ADJACENT COVER TYPE(S)

☐ Woodland ☒ Shrub ☐ Savanna ☒ Grassland ☒ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Pseudacris regilla					X	☐ Visual ☐ Call ☐ Capture ☒ Spotlight
(2) Rana catesbiana						☐ Visual ☐ Call ☐ Capture ☒ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

DIAGRAM

NOTES

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AQUATIC SURVEY DATA FORM

DATE: 03/12/08	PROJECT: SLOTF - East Fork of San Luis Obispo Creek		
SURVEY BIOLOGIST(S): K Gilliland, B Dugas, J. Peak, C. Santula			
Time Start: 21:00	Time End: 23:00	Survey Duration: 2 hrs	Unit-Effort:

LOCATION

City/County San Luis Obispo, SLO County; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: 1 2 3 (4) 5 6 7 8

Brand name/model of light used: Nite Lite Brand/model/power of binoculars used: Audubon/Swift 10x42

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 55 °F (3"); Water Temperature 63 °F; Wind Speed: 3-5 mph; Wind Direction NW; Cloud Cover 10 %

Precipitation 0 in.; Humidity 0 %; Moon Phase ~~full~~ ½ moon waxing

AQUATIC HABITAT TYPE

☐ River ☒ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☒ Marsh/Wetland

Hydrogeomorphology Class: ☐ Depression ☐ Slope ☒ Riverine

HYDROPERIOD

☐ Permanent ☒ Intermittent ☐ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name East Fork of San Luis Obispo Creek River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height 10-18ft Left Bank Height 10-18ft

Top Bank Width ____ Stream Width 6-8ft Channel Width @ OHWM 35ft Right Bank Slope 30°-45° Left Bank Slope 30°-45°

Water Depth 6ft Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☒ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☒ Pools (max. depth 8ft) ☒ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☒ Other Concrete rubble

Channel Condition: ☐ Terracing ☒ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: ____ Hydroperiod: ☐ Permanent ☐ Seasonal

Area: ____ Maximum Width ____ Maximum Length ____ Maximum Depth ____

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ____

SUBSTRATE (Percent)

☒ Silt ☒ Sand ☒ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: Concrete rubble

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): 60%; Emergent Vegetation: 10%; Floating Vegetation —; Open Water 30%
Dominant Species: Salix sp., Eucalyptus sp., Rubus ursinus, Cotoneaster sp., Platanus racemosa

ADJACENT COVER TYPE(S)

☐ Woodland ☒ Shrub ☐ Savanna ☒ Grassland ☒ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Pseudacris regilla					many	☒ Visual ☒ Call ☐ Capture ☒ Spotlight
Rana catesbieana					15	☒ Visual ☐ Call ☐ Capture ☒ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

N/A- No CRLF observed

DIAGRAM

NOTES 1 crayfish & 3 steelhead (juvenile) observed in creek.

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AQUATIC SURVEY DATA FORM

DATE: 5/28/08	PROJECT: SLO Tank Farm - North Marsh CBLF Sites 1-3		
SURVEY BIOLOGIST(S): K. Gilland, J. Peak, C. Santala, T. Benson			
Time Start: 2230	Time End: 2300	Survey Duration: 0.5 hr	Unit-Effort:

LOCATION

City/County San Luis Obispo, CA / SLO County; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: 1 2 3 4 (5) 6 7 8

Brand name/model of light used: Nite Lite Brand/model/power of binoculars used: Swift 10x42 / Audobon 10x42

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 58 °F (3"); Water Temperature 61.0 °F; Wind Speed: 3.5 mph; Wind Direction NW; Cloud Cover 80 %

Precipitation Ø in.; Humidity Ø %; Moon Phase ____

AQUATIC HABITAT TYPE

☐ River ☐ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☐ Marsh/Wetland

Hydrogeomorphology Class: ☐ Depression ☐ Slope ☐ Riverine

HYDROPERIOD

☐ Permanent ☐ Intermittent ☐ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name ____ River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height ____ Left Bank Height ____

Top Bank Width ____ Stream Width ____ Channel Width @ OHWM ____ Right Bank Slope ____ Left Bank Slope ____

Water Depth ____ Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☐ Pools (max. depth ____) ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ____

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: North Marsh Hydroperiod: ☐ Permanent ☒ Seasonal

Area: 3-4 Maximum Width Varies Maximum Length Varies Maximum Depth dry

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____) dry

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ____

SUBSTRATE (Percent)

☒ Silt ☐ Sand ☐ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: clay soils

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): Ø ; Emergent Vegetation: _____ ; Floating Vegetation Ø ; Open Water Ø Dry
Dominant Species: Scirpus acutus

ADJACENT COVER TYPE(S)

☐ Woodland ☐ Shrub ☐ Savanna ☒ Grassland ☒ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Ø						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

DIAGRAM

NOTES

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AQUATIC SURVEY DATA FORM

DATE: 05/28/08	PROJECT: CRLF Survey SLO Tank Farm, Southmarsh/Reservoirs
SURVEY BIOLOGIST(S): C. Santala, T. Benson, K. Gilliland, J. Peak	
Time Start: 2040	Time End: 22:15
Survey Duration: 1hr 25min	Unit-Effort:

LOCATION

City/County SLO, SLO County; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: 1 2 3 4 (5) 6 7 8

Brand name/model of light used: ~~Maglight~~ Nite Lite Brand/model/power of binoculars used: Barska 10x42

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 58 °F (3"); Water Temperature 61.0 °F; Wind Speed: 3.5 mph; Wind Direction NW; Cloud Cover 80 %

Precipitation 0 in.; Humidity ____ %; Moon Phase ____

AQUATIC HABITAT TYPE

☐ River ☐ Stream ☒ Swale ☒ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☐ Marsh/Wetland

Hydrogeomorphology Class: ☒ Depression ☐ Slope ☐ Riverine

HYDROPERIOD

☐ Permanent ☐ Intermittent ☒ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name ~~Southmarsh~~ N/A River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height ____ Left Bank Height ____

Top Bank Width ____ Stream Width ____ Channel Width @ OHWM ____ Right Bank Slope ____ Left Bank Slope ____

Water Depth ____ Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☐ Pools (max. depth ____) ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ____

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: Southmarsh/Reservoirs/Ponded areas on S. side Hydroperiod: ☐ Permanent ☒ Seasonal

Area: ____ Maximum Width various Maximum Length various Maximum Depth 5ft

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☒ Turbid Water Color: ☐ Clear ☒ Stained (Color Brown)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☒ Other Broken concrete/Remnant reservoir materials

SUBSTRATE (Percent)

☒ Silt ☒ Sand ☐ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: concrete rubble

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): <5%; Emergent Vegetation: ±10%; Floating Vegetation 0; Open Water 85%
Dominant Species: Scirpus acutus, Xanthium strumarium, Cirsium vulgare

ADJACENT COVER TYPE(S)

☐ Woodland ☒ Shrub ☐ Savanna ☒ Grassland ☒ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Pseudacris regilla					±100	☒ Visual ☒ Call ☐ Capture ☒ Spotlight
Rana catesbeiana					2	☒ Visual ☐ Call ☐ Capture ☒ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

N/A – No CRLF observed

DIAGRAM

NOTES

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AQUATIC SURVEY DATA FORM

DATE: 05/28/08	PROJECT: SLO Tank Farm – East Fork of San Luis Obispo Creek
SURVEY BIOLOGIST(S): K. Gilliland, J. Peak, C. Santala, T. Benson	

Time Start: 20:40	Time End: 22:15	Survey Duration: 1 hr 25 min	Unit-Effort:

LOCATION

City/County San Luis Obispo / SLO County; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: 1 2 3 4 (5) 6 7 8

Brand name/model of light used: Nite Lite Brand/model/power of binoculars used: Swift 10x42 / Audubon 10x42

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 58 °F (3"); Water Temperature 61.0 °F; Wind Speed: 3.5 mph; Wind Direction NW; Cloud Cover 80 %

Precipitation 0 in.; Humidity ____ %; Moon Phase ____

AQUATIC HABITAT TYPE

☐ River ☒ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☐ Marsh/Wetland

Hydrogeomorphology Class: ☐ Depression ☐ Slope ☒ Riverine

HYDROPERIOD

☐ Permanent ☒ Intermittent ☐ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name E. Fork San Luis Obispo Creek River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height 10-18 ft Left Bank Height 10-18 ft

Top Bank Width ____ Stream Width 6-8 ft Channel Width @ OHWM 35 ft Right Bank Slope ____ Left Bank Slope ____

Water Depth 6 ft Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☒ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☒ Pools (max. depth 8 ft) ☒ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☒ Other concrete rubble

Channel Condition: ☐ Terracing ☒ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: N/A Hydroperiod: ☐ Permanent ☐ Seasonal

Area: ____ Maximum Width ____ Maximum Length ____ Maximum Depth ____

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ____

SUBSTRATE (Percent)

☒ Silt ☒ Sand ☒ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: concrete rubble

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): 60%; Emergent Vegetation: 10%; Floating Vegetation: 0; Open Water 30%
Dominant Species: Salix sp., Eucalyptus sp., Rubus Ursinus, Cotoneaster sp., Platanus racemosa

ADJACENT COVER TYPE(S)

☐ Woodland ☒ Shrub ☐ Savanna ☒ Grassland ☒ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Rana catesbeiana					10	☒ Visual ☐ Call ☐ Capture ☒ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

N/A – No CRLF observed

DIAGRAM

NOTES many crayfish & many 3-spined stickleback observed in creek

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

AQUATIC SURVEY DATA FORM

DATE: 6/11/08 PROJECT: SLOTF - CRLF survey - North Marsh

SURVEY BIOLOGIST(S): C. Santala, J. Peak, B. Dugas, K. Gilkland

Time Start: 2030 Time End: 2100 Survey Duration: 0.5 hr Unit-Effort: _____

LOCATION

City/County SLO, SLO County; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude _____ Longitude _____; Quadrangle _____; Elevation _____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: 1 2 3 4 5 (6) 7 8

Brand name/model of light used: Nightlight Brand/model/power of binoculars used: Barska 10x42

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 61.7 °F (3"); Water Temperature 65.8 °F; Wind Speed: 0.6 mph; Wind Direction NW; Cloud Cover 10 %

Precipitation Ø in.; Humidity Ø %; Moon Phase half-moon

AQUATIC HABITAT TYPE

☐ River ☐ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☒ Marsh/Wetland

Hydrogeomorphology Class: ☐ Depression ☒ Slope ☒ Riverine complex

HYDROPERIOD

☐ Permanent ☐ Intermittent ☒ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name ~~No~~ N/A River Mile _____ Stream Order _____

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length _____ Right Bank Height _____ Left Bank Height _____

Top Bank Width _____ Stream Width _____ Channel Width @ OHWM _____ Right Bank Slope _____ Left Bank Slope _____

Water Depth _____ Sinuosity Index _____ Stream Gradient _____ Flow Velocity _____ Wetted Perimeter _____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color _____)

Instream Structure: ☐ Riffles ☐ Pools (max. depth ____) ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other _____

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: North Marsh Hydroperiod: ☐ Permanent ☒ Seasonal

Area: 3-4 Maximum Width Various Maximum Length Various Maximum Depth dry

Shore Line _____ Shoreline Development _____ Width of Drawdown Zone _____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color _____) dry*

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other _____

SUBSTRATE (Percent)

☒ Silt ☐ Sand ☐ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: clay soils

AQUATIC SURVEY DATA FORM

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

STREAM/POND VEGETATION

Canopy Cover(mid-day): Ø; Emergent Vegetation:_____; Floating Vegetation Ø; Open Water Ø dry
Dominant Species: scirpus acutus

ADJACENT COVER TYPE(S)

☐ Woodland ☐ Shrub ☐ Savanna ☒ Grassland ☒ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Ø						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

DIAGRAM

NOTES

Small amt of water present in cattle-hoof holes in channelized marsh area adjacent to road. Crayfish observed in these holes.

padre associates, inc. ENGINEERS, BIOLOGISTS & ENVIRONMENTAL SCIENTISTS

AQUATIC SURVEY DATA FORM

DATE: 6/11/08	PROJECT: SLO Tank Farm – South side Reservoirs & ponded areas		
SURVEY BIOLOGIST(S): K. Gilliland, B. Dugas, J. Peak, C. Santala			
Time Start: 21:00	Time End: 22:50	Survey Duration: 1hr 50min	Unit-Effort:

LOCATION

City/County San Luis Obispo – SLO County; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: 1 2 3 4 5 (6) 7 8

Brand name/model of light used: Nite Lite Brand/model/power of binoculars used: Audubon / Leica 10x42

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 61.7 °F (3"); Water Temperature 65.8 °F; Wind Speed: 0.6 mph; Wind Direction NW; Cloud Cover 10 %

Precipitation 0 in.; Humidity 0 %; Moon Phase half-moon

AQUATIC HABITAT TYPE

☐ River ☐ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☒ Stock Pond ☐ Impoundment ☐ Vernal Pool ☐ Marsh/Wetland

Hydrogeomorphology Class: ☒ Depression ☐ Slope ☐ Riverine

HYDROPERIOD

☐ Permanent ☐ Intermittent ☒ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name N/A River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height ____ Left Bank Height ____

Top Bank Width ____ Stream Width ____ Channel Width @ OHWM ____ Right Bank Slope ____ Left Bank Slope ____

Water Depth ____ Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☐ Pools (max. depth ____) ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ____

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: South Hydroperiod: ☐ Permanent ☒ Seasonal

Area: varions Maximum Width varions Maximum Length varions Maximum Depth varions

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☒ Turbid Water Color: ☐ Clear ☒ Stained (Color brown)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☒ Other concrete rubble

SUBSTRATE (Percent)

☒ Silt ☒ Sand ☐ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: Concrete Rubble

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day):_____; Emergent Vegetation:_____; Floating Vegetation_____; Open Water_____
Dominant Species: Scirpus (Schenoplectus) acutus, Xanthium strumarium

ADJACENT COVER TYPE(S)

☐ Woodland ☒ Shrub ☐ Savanna ☒ Grassland ☒ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Rana catesbeiana					10	☒ Visual ☐ Call ☐ Capture ☒ Spotlight
Pseudacris regilla					many	☒ Visual ☒ Call ☐ Capture ☒ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

N/A - no CRLF observed

DIAGRAM

NOTES

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AQUATIC SURVEY DATA FORM

DATE: 6/11/08	PROJECT: SLOTF - CRLF night survey - E. Fork SLO Creek		
SURVEY BIOLOGIST(S): K. Gilliland, C. Santala			
Time Start: 2115	Time End: 2300	Survey Duration: 2	Unit-Effort:

LOCATION

City/County SLO, SLO County; ___ ¼; ___-¼ Section ___ Township ___ Range ___

Latitude ___ Longitude ___; Quadrangle ___; Elevation ___

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☒ Breeding ☐ Non-Breeding; Survey Number: 1 2 3 4 5 (6) 7 8

Brand name/model of light used: Night light Brand/model/power of binoculars used: Barska 10x42

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 61.7 °F (3"); Water Temperature 65.8 F; Wind Speed: 0.6 mph; Wind Direction NW; Cloud Cover 10 %

Precipitation Ø in.; Humidity Ø %; Moon Phase half-moon

AQUATIC HABITAT TYPE

☐ River ☒ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☐ Marsh/Wetland

Hydrogeomorphology Class: ☐ Depression ☐ Slope ☒ Riverine

HYDROPERIOD

☐ Permanent ☒ Intermittent ☐ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name East Fork San Luis Obispo Creek River Mile ___ Stream Order ___

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ___ Right Bank Height ___ Left Bank Height ___

Top Bank Width ___ Stream Width ___ Channel Width @ OHWM ___ Right Bank Slope ___ Left Bank Slope ___

Water Depth ___ Sinuosity Index ___ Stream Gradient ___ Flow Velocity ___ Wetted Perimeter ___

Water Clarity: ☐ Clear ☒ Turbid Water Color: ☐ Clear ☒ Stained (Color brown)

Instream Structure: ☐ Riffles ☒ Pools (max. depth 8') ☒ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☒ Other Concrete rubble

Channel Condition: ☐ Terracing ☒ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: N/A Hydroperiod: ☐ Permanent ☐ Seasonal

Area: ___ Maximum Width ___ Maximum Length ___ Maximum Depth ___

Shore Line ___ Shoreline Development ___ Width of Drawdown Zone ___

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ___)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ___

SUBSTRATE (Percent)

☒ Silt ☒ Sand ☒ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: Concrete

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): 60% Emergent Vegetation: 10%; Floating Vegetation —; Open Water 30%
Dominant Species: Salix sp., Eucalyptus sp., Rubus ursinus, cotoneaster sp., Platanus racemosa

ADJACENT COVER TYPE(S)

☐ Woodland ☒ Shrub ☐ Savanna ☐ Grassland ☒ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Rana catesbiana					16	☐ Visual ☐ Call ☐ Capture ☒ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:
bullfrog predation

DIAGRAM

threespine stickleback & crayfish observed (numerous)

NOTES

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AQUATIC SURVEY DATA FORM

DATE: 9/23/08	PROJECT: SLOTF CRLF Survey - North Marsh Sites 1-3		
SURVEY BIOLOGIST(S): J. Peak, T. Benson, C. Santala			
Time Start: ~~1000~~ 1000	Time End: 1030	Survey Duration: 0.5 hrs	Unit-Effort:

LOCATION

City/County San Luis Obispo, SLO County; ____ ¼; ____-¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☒ Day ☐ Night; ☐ Breeding ☒ Non-Breeding; Survey Number: 1 2 3 4 5 6 (7) 8

Brand name/model of light used: n/a Brand/model/power of binoculars used: n/a

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 80 °F (3"); Water Temperature n/a °F; Wind Speed: 3.0 mph; Wind Direction SW; Cloud Cover Ø %

Precipitation Ø in.; Humidity Ø %; Moon Phase —

AQUATIC HABITAT TYPE

☐ River ☐ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☒ Marsh/Wetland

Hydrogeomorphology Class: ☒ Depression ☐ Slope ☐ Riverine

HYDROPERIOD

☐ Permanent ☐ Intermittent ☒ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name ~~North Marsh~~ River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☐ Intermittent ☒ Ephemeral Reach Length ____ Right Bank Height ____ Left Bank Height ____

Top Bank Width ____ Stream Width ____ Channel Width @ OHWM ____ Right Bank Slope ____ Left Bank Slope ____

Water Depth ____ Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☐ Pools (max. depth ____) ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ____

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: North Marsh - SLOTF Hydroperiod: ☐ Permanent ☒ Seasonal

Area: 3-4 Maximum Width Various Maximum Length Various Maximum Depth dry

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ____

SUBSTRATE (Percent)

☒ Silt ☐ Sand ☐ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: clay soils

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): ϕ ; Emergent Vegetation: ϕ ; Floating Vegetation ϕ ; Open Water ϕ (dry)
Dominant Species: scirpus acutus

ADJACENT COVER TYPE(S)

☐ Woodland ☐ Shrub ☐ Savanna ☒ Grassland ☐ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
ϕ						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

n/a

DIAGRAM

NOTES Due to the ephemeral nature of this area, no water was present.

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AQUATIC SURVEY DATA FORM

DATE: 9/23/08	PROJECT: SLOTF CRLF Survey		
SURVEY BIOLOGIST(S): J. Peak, T. Benson, C. Santala			
Time Start: 1400	Time End: 1500	Survey Duration: 1.0 hrs	Unit-Effort:

LOCATION

City/County San Luis Obispo, SLO County; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☒ Day ☐ Night; ☐ Breeding ☒ Non-Breeding; Survey Number: 1 2 3 4 5 6 (7) 8

Brand name/model of light used: Brand/model/power of binoculars used:

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 83 °F (3"); Water Temperature 66.0 °F; Wind Speed: 3.5 mph; Wind Direction SW; Cloud Cover Ø %

Precipitation Ø in.; Humidity Ø %; Moon Phase —

AQUATIC HABITAT TYPE

☐ River ☐ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☒ Marsh/Wetland

Hydrogeomorphology Class: ☒ Depression ☐ Slope ☐ Riverine

HYDROPERIOD

☐ Permanent ☐ Intermittent ☒ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name ____ River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height ____ Left Bank Height ____

Top Bank Width ____ Stream Width ____ Channel Width @ OHWM ____ Right Bank Slope ____ Left Bank Slope ____

Water Depth ____ Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☐ Pools (max. depth ____) ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ____

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: South Marsh SLOTF Hydroperiod: ☐ Permanent ☒ Seasonal

Area: ____ Maximum Width various Maximum Length various Maximum Depth various

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☒ Turbid Water Color: ☐ Clear ☒ Stained (Color brown)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ____

SUBSTRATE (Percent)

☒ Silt ☒ Sand ☐ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: Concrete rubble

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day):_____; Emergent Vegetation:_____; Floating Vegetation___Ø___; Open Water_____
Dominant Species: Scirpus acutus, Xanthium strumarium, Cirsium vulgare

ADJACENT COVER TYPE(S)

☐ Woodland ☒ Shrub ☐ Savanna ☒ Grassland ☒ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Pseudacris regilla					2	☒ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

N/A - no CRLF observed

DIAGRAM

NOTES

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AQUATIC SURVEY DATA FORM

DATE: 9/23/08	PROJECT: SLOTF CRLF Survey		
SURVEY BIOLOGIST(S): J. Peak, T. Benson, C. Santala			
Time Start: 11:00	Time End: 3:30	Survey Duration: 4.5 hrs	Unit-Effort:

LOCATION

City/County San Luis Obispo, SLO County; ___ ¼; ___-¼ Section ___ Township ___ Range ___

Latitude ___ Longitude ___; Quadrangle ___; Elevation ___

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☒ Day ☐ Night; ☐ Breeding ☒ Non-Breeding; Survey Number: 1 2 3 4 5 6 (7) 8

Brand name/model of light used: Brand/model/power of binoculars used:

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 81 °F (3"); Water Temperature 66.0 °F; Wind Speed: 3.5 mph; Wind Direction SW; Cloud Cover Ø %

Precipitation Ø in.; Humidity Ø %; Moon Phase ✓

AQUATIC HABITAT TYPE

☐ River ☒ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☐ Marsh/Wetland

Hydrogeomorphology Class: ☐ Depression ☐ Slope ☐ Riverine

HYDROPERIOD

☒ Permanent ☐ Intermittent ☐ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name San Luis Obispo Creek - East Fork River Mile ___ Stream Order ___

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ___ Right Bank Height ___ Left Bank Height ___

Top Bank Width ___ Stream Width 6-8 ft Channel Width @ OHWM ___ Right Bank Slope ___ Left Bank Slope ___

Water Depth 5-6 FT Sinuosity Index ___ Stream Gradient ___ Flow Velocity ___ Wetted Perimeter ___

Water Clarity: ☒ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ___)

Instream Structure: ☒ Riffles ☒ Pools (max. depth 6') ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ___

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: ___ Hydroperiod: ☐ Permanent ☐ Seasonal

Area: ___ Maximum Width ___ Maximum Length ___ Maximum Depth ___

Shore Line ___ Shoreline Development ___ Width of Drawdown Zone ___

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ___)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ___

SUBSTRATE (Percent)

☒ Silt ☐ Sand ☒ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☐ Other:

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day):_____; Emergent Vegetation:_____; Floating Vegetation_____; Open Water_____
Dominant Species:

ADJACENT COVER TYPE(S)

☐ Woodland ☐ Shrub ☐ Savanna ☐ Grassland ☐ Wetland ☐ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Rana Catesbieana					+/- 3	☑ Visual ☐ Call ☐ Capture ☐ Spotlight
Pseudacris regilla					2 +	☑ Visual ☑ Call ☐ Capture ☐ Spotlight
Actinemys marmorata					2	☑ Visual ☐ Call ☐ Capture ☐ Spotlight
pallida = SW						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
POND TURTLE						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

No CRLF observed

DIAGRAM

NOTES

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

AQUATIC SURVEY DATA FORM

DATE: 9/25/08	PROJECT: SLOTF CRLF survey - North Marsh Sites 1-3		
SURVEY BIOLOGIST(S): C. Santala, T. Benson, B. Dugas, K. Gilliland			
Time Start: 1900	Time End: 2000	Survey Duration: 0.5 hrs	Unit-Effort:

LOCATION

City/County San Luis Obispo, SLO County; ___ ¼; ___ -¼ Section ___ Township ___ Range ___

Latitude ___ Longitude ___; Quadrangle ___; Elevation ___

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☐ Breeding ☒ Non-Breeding; Survey Number: 1 2 3 4 5 6 7 (8)

Brand name/model of light used: Night Lite Brand/model/power of binoculars used: 10x42 Barska

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 63 °F (3"); Water Temperature 64.0 °F; Wind Speed: 1.1 mph; Wind Direction NW; Cloud Cover Ø %

Precipitation Ø in.; Humidity Ø %; Moon Phase new

AQUATIC HABITAT TYPE

☐ River ☐ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☒ Marsh/Wetland

Hydrogeomorphology Class: ☒ Depression ☐ Slope ☐ Riverine

HYDROPERIOD

☐ Permanent ☐ Intermittent ☒ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name ___ River Mile ___ Stream Order ___

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ___ Right Bank Height ___ Left Bank Height ___

Top Bank Width ___ Stream Width ___ Channel Width @ OHWM ___ Right Bank Slope ___ Left Bank Slope ___

Water Depth ___ Sinuosity Index ___ Stream Gradient ___ Flow Velocity ___ Wetted Perimeter ___

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ___)

Instream Structure: ☐ Riffles ☐ Pools (max. depth ___) ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ___

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: North Marsh - SLOTF Hydroperiod: ☐ Permanent ☒ Seasonal

Area: 3-4 Maximum Width Vanous Maximum Length Vanous Maximum Depth dry

Shore Line ___ Shoreline Development ___ Width of Drawdown Zone ___

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ___)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ___

SUBSTRATE (Percent)

☒ Silt ☒ Sand ☐ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☒ Other: clay soils

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day): Ø ; Emergent Vegetation: Ø ; Floating Vegetation Ø ; Open Water Ø (dry)
Dominant Species: Scirpus acutus

ADJACENT COVER TYPE(S)

☐ Woodland ☐ Shrub ☐ Savanna ☐ Grassland ☒ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Pseudacris regilla	/	—	/	—	I 10	☒ Visual ☐ Call ☐ Capture ☒ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

BIRDS - RACCOONS

DIAGRAM

NOTES

NO CRLF

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AQUATIC SURVEY DATA FORM

DATE: 9/25/08	PROJECT: SLOTF CRLF Survey		
SURVEY BIOLOGIST(S): C. Santala, T. Benson, B. Pugas, K. Gilliland			
Time Start: 1930	Time End: 2100	Survey Duration: 1.5 hrs	Unit-Effort:

LOCATION

City/County San Luis Obispo, SLO county; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☐ Breeding ☒ Non-Breeding; Survey Number: 1 2 3 4 5 6 7 (8)

Brand name/model of light used: Nitelite Brand/model/power of binoculars used: 10x42

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 63 °F (3"); Water Temperature 64.0 °F; Wind Speed: 1.1 mph; Wind Direction NW; Cloud Cover Ø %

Precipitation Ø in.; Humidity Ø %; Moon Phase new-ish

AQUATIC HABITAT TYPE

☐ River ☐ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☒ Marsh/Wetland

Hydrogeomorphology Class: ☒ Depression ☐ Slope ☐ Riverine

HYDROPERIOD

☐ Permanent ☐ Intermittent ☒ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name ~~South Marsh - SLOTF~~ River Mile ____ Stream Order ____

Hydroperiod: ☐ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height ____ Left Bank Height ____

Top Bank Width ____ Stream Width ____ Channel Width @ OHWM ____ Right Bank Slope ____ Left Bank Slope ____

Water Depth ____ Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Riffles ☐ Pools (max. depth ____) ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ____

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: South Marsh - SLOTF Hydroperiod: ☐ Permanent ☒ Seasonal

Area: various Maximum Width various Maximum Length various Maximum Depth <1 ft

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☒ Turbid Water Color: ☐ Clear ☒ Stained (Color brown)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ____

SUBSTRATE (Percent)

☒ Silt ☒ Sand ☐ Gravel ☐ Cobble ☐ Boulder ☐ Bedrock ☐ Other:

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day):_____; Emergent Vegetation:_____; Floating Vegetation_____; Open Water_____
Dominant Species: Scirpus acutus, Xanthium strumarium

ADJACENT COVER TYPE(S)

☐ Woodland ☒ Shrub ☐ Savanna ☒ Grassland ☐ Wetland ☒ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
Pseudacris regilla	—	—	—	—	3	☒ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

n/a

DIAGRAM

NOTES

NO WATER — NO CRLF

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

AQUATIC SURVEY DATA FORM

DATE: 9/25/08	PROJECT: SLOTF CRLF Survey		
SURVEY BIOLOGIST(S): C. Santala, T. Benson, B. Dugas, K. Gilliland			
Time Start: 1930	Time End: 2100	Survey Duration: 1.5 hrs	Unit-Effort:

LOCATION

City/County San Luis Obispo, SLO County; ____ ¼; ____ -¼ Section ____ Township ____ Range ____

Latitude ____ Longitude ____; Quadrangle ____; Elevation ____

ATTACH MAP (include habitat types, important features, and species locations)

TYPE OF SURVEY

☐ Day ☒ Night; ☐ Breeding ☒ Non-Breeding; Survey Number: 1 2 3 4 5 6 7 (8)

Brand name/model of light used: Nitelite Brand/model/power of binoculars used: 10x42

WEATHER CONDITIONS AT START OF SURVEY

Air Temperature 63 °F (3"); Water Temperature 63.5 °F; Wind Speed: 1.1 mph; Wind Direction W; Cloud Cover Ø %

Precipitation Ø in.; Humidity Ø %; Moon Phase new

AQUATIC HABITAT TYPE

☒ River ☐ Stream ☐ Swale ☐ Ditch ☐ Lake ☐ Natural Pond ☐ Stock Pond ☐ Impoundment ☐ Vernal Pool ☐ Marsh/Wetland

Hydrogeomorphology Class: ☐ Depression ☐ Slope ☒ Riverine

HYDROPERIOD

☒ Permanent ☐ Intermittent ☐ Ephemeral

STREAM MORPHOMETRY/FEATURES

River/Creek Name East Fork-San Luis Obispo Creek River Mile ____ Stream Order ____

Hydroperiod: ☒ Permanent ☐ Intermittent ☐ Ephemeral Reach Length ____ Right Bank Height ____ Left Bank Height ____

Top Bank Width ____ Stream Width 6-8' Channel Width @ OHWM ____ Right Bank Slope ____ Left Bank Slope ____

Water Depth 5-6' Sinuosity Index ____ Stream Gradient ____ Flow Velocity ____ Wetted Perimeter ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☒ Riffles ☒ Pools (max. depth 6') ☐ Glides ☐ Undercut Banks ☐ LOD (jams/snags) ☐ Other ____

Channel Condition: ☐ Terracing ☐ Bank or Bed Degradation

LAKE/POND MORPHOMETRY/FEATURES

Pond/Lake Name: ____ Hydroperiod: ☐ Permanent ☐ Seasonal

Area: ____ Maximum Width ____ Maximum Length ____ Maximum Depth ____

Shore Line ____ Shoreline Development ____ Width of Drawdown Zone ____

Water Clarity: ☐ Clear ☐ Turbid Water Color: ☐ Clear ☐ Stained (Color ____)

Instream Structure: ☐ Shoals ☐ Undercut Banks ☐ LOD (jams/snags ☐ Other ____

SUBSTRATE (Percent)

☒ Silt ☐ Sand ☒ Gravel ☐ Cobble ☒ Boulder ☐ Bedrock ☒ Other: Concrete

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AQUATIC SURVEY DATA FORM

STREAM/POND VEGETATION

Canopy Cover(mid-day):_____; Emergent Vegetation:_____; Floating Vegetation_____; Open Water_____
Dominant Species:

ADJACENT COVER TYPE(S)

☒ Woodland ☒ Shrub ☐ Savanna ☒ Grassland ☐ Wetland ☐ Agriculture ☐ Developed ☐ Other

SPECIES AND NUMBERS OBSERVED

Species	Egg Masses	Larvae	Metamorphs (w/legs)	Juvenile	Adult	Detection Method
~~[illegible]~~						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
Pseudacris regilla	/	/	/	/	±10	☒ Visual ☐ Call ☐ Capture ☒ Spotlight
Rana catesbeiana	/	/	/	1	7	☒ Visual ☐ Call ☐ Capture ☒ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
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						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight
						☐ Visual ☐ Call ☐ Capture ☐ Spotlight

Describe potential threats to California red-legged frogs observed, including non-native and native fish predators such as fish, bullfrogs, and raccoons:

bullfrog

DIAGRAM

NOTES south-central California is not steelhead in creek and crayfish