Pleasant Valley Road (SR 49)/Patterson Drive Intersection Signalization Project

California Red-Legged Frog Site Assessment

Diamond Springs, El Dorado County, California

April 2009

Prepared for:
El Dorado County
Department of Transportation
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Figures

Attachments

1 Introduction

This California red-legged frog (*Rana aurora draytonii*) site assessment was conducted on behalf of the El Dorado County Department of Transportation (County) for the Pleasant Valley Road/Patterson Drive Intersection Improvements and Signalization Project (project). The project is located at the intersection of Pleasant Valley Road and Patterson Drive in El Dorado County, California, approximately 1 mile north of the town of El Dorado. It is located within the *Placerville, California* U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Township 10 North, Range 10 East, Section 25 MDBM). A map of the study area is presented as Figure 1.

2 Project Description

The County is developing plans for improvements to the intersection of Pleasant Valley Road and Patterson Drive in El Dorado County, California (Figure 1). The project study area consists of approximately 1,,775 feet of Pleasant Valley Road (960 feet east of the intersection and 815 feet west of the intersection), a short portion of Ryan Drive, the majority of Assessor's Parcel Number (APN) 331-310-09 as a potential staging area, approximately 680 feet of Patterson Drive, and the majority of the Tower Mart frontage. The approximate acreage of the study area is 9 acres.

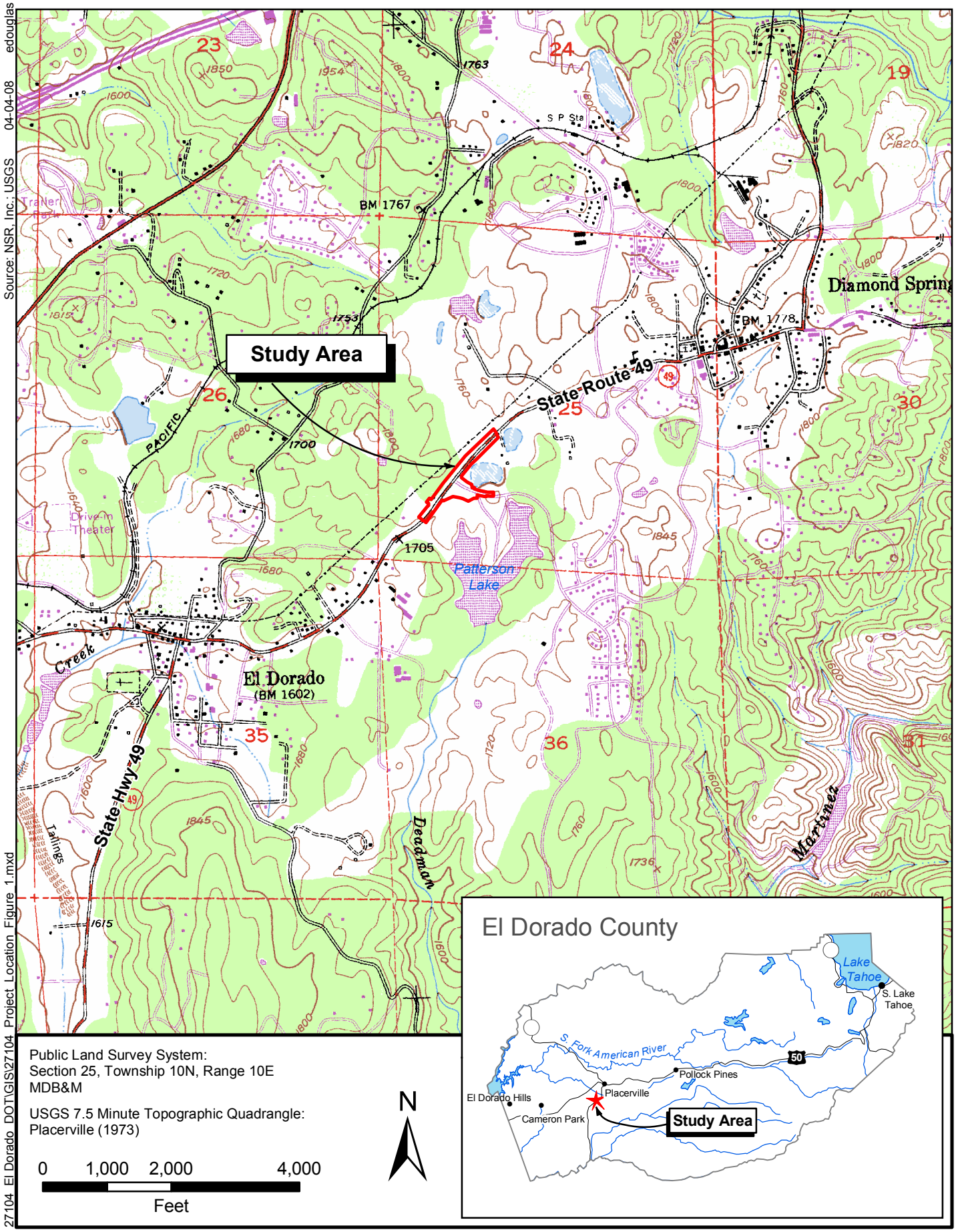
3 Environmental Setting

The elevation in the study area is approximately 1,740 feet above sea level. Plant communities consist of urban, oak woodland, and grassland. The local climate is characterized by cool, wet winters and warm, dry summers. Average maximum temperatures (92.6° F) occur in July and average minimum temperatures (32.4° F) occur in January (Western Regional Climate Center 2008). Average annual rainfall is 38.5 inches (Western Regional Climate Center 2008).

4 California Red-Legged Frog Biology

4.1 Range of the California Red-legged Frog

Historically, the California red-legged frog ranged from Point Reyes National Seashore in Marin County inland to the Central Valley and the Redding vicinity and south to northwestern Baja California, Mexico.



Public Land Survey System:
Section 25, Township 10N, Range 10E
MDB&M

USGS 7.5 Minute Topographic Quadrangle:
Placerville (1973)

0 1,000 2,000 4,000
Feet

N

Source: NSR, Inc.; USGS 04-04-08 edouglas
27104 El Dorado DOT\GIS\27104 Project Location Figure 1.mxd

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Pleasant Valley Road (SR 49)/Patterson Drive Intersection Signalization Project

Figure 1
Location and Vicinity Map

It occurred in 46 counties in California. Today, that range has been reduced to 31 counties(U.S. Fish and Wildlife Service 2007). Populations outside of the San Francisco Bay area and central coast areas are isolated, and the species is predominantly extirpated from the southern Transverse and Peninsular ranges in California, although some populations persist. A map of the historical and current range of the California red-legged frog is presented as Figure 2. The study area is located within the currently known range of the California red-legged frog (U.S. Fish and Wildlife Service 2002).

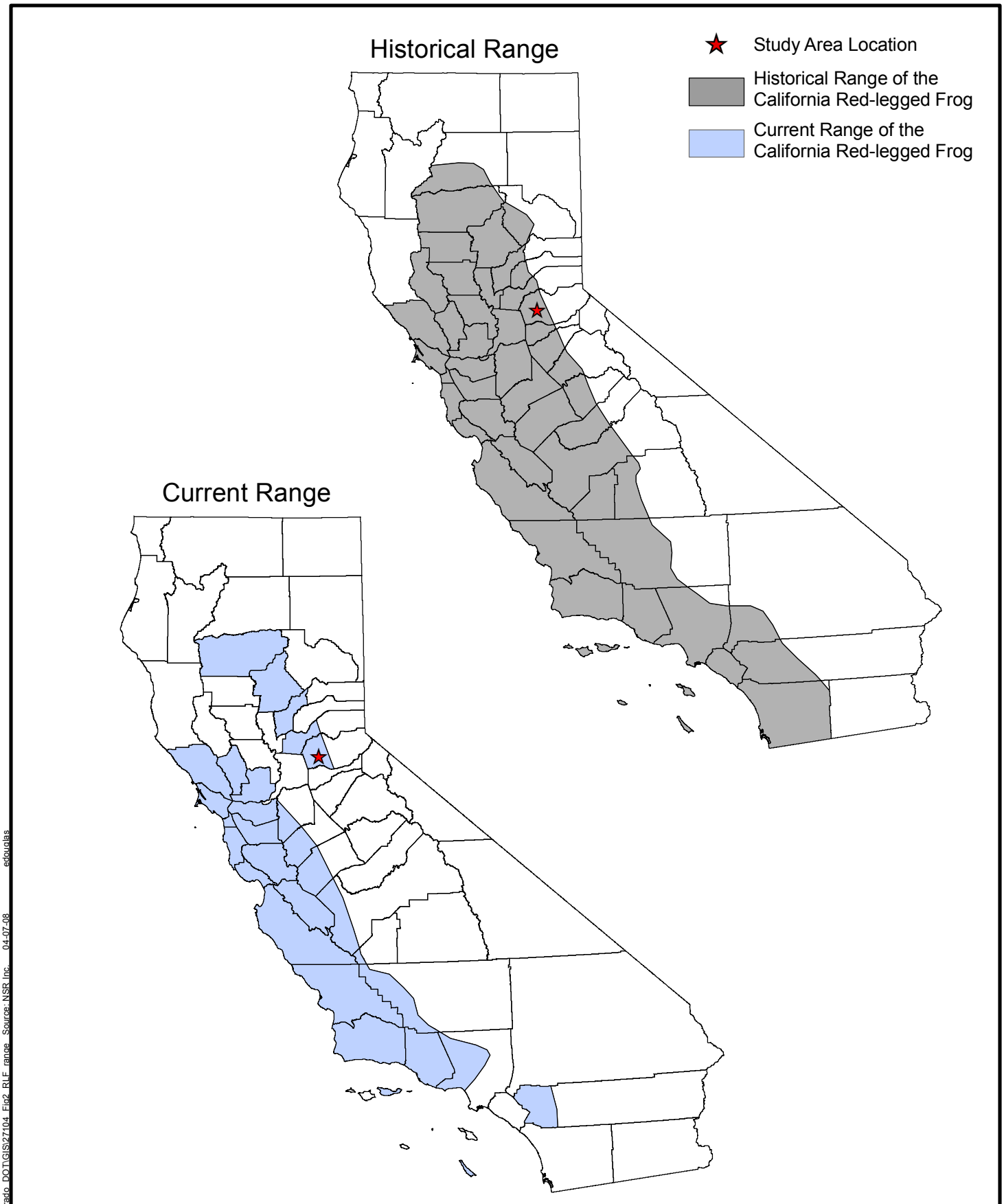
Life History

The California red-legged frog is a member of the family Ranidae within the order Anura, and is one of two subspecies of the red-legged frog (*Rana aurora*)(U.S. Fish and Wildlife Service 2002). The red-legged frog is the largest native frog in the western United States (Wright and Wright 1949), with adults obtaining a length of 3.4 to 5.4 inches from the tip of the snout to the rear of the vent (Jennings and Hayes 1994). Adult red-legged frogs have prominent dorsolateral folds, a bright red dorsum, and a well-defined stripe running along the upper lip. Juvenile frogs are 1.5 to 3.4 inches from the tip of the snout to the rear of the vent and have the same coloration as adults except that the dorsolateral folds are normally yellow or orange colored, especially in very young individuals (Stebbins 2003). Larval frogs range from 0.6 to 3.1 inches in length.

Adult California red-legged frogs have been observed to breed from late November through early May after the onset of warm rains (Storer 1925; Jennings and Hayes 1994). Females attach an egg mass of 2,000 to 6,000 moderate-sized (0.08 to 0.11 inch diameter) eggs to an emergent vegetation brace such as tule stalks (*Scirpus* spp.), annual grasses (Poaceae), or willow (*Salix* spp.) roots just below the water surface (Livezey and Wright 1947; Storer 1925).

Embryos of California red-legged frogs hatch 6 to 14 days after fertilization and the resulting larvae require 3.5 to 7 months to attain metamorphosis at a total length of 2.6 to 3.4 inches (Storer 1925). Larvae are thought to graze on algae, but they are rarely observed because they are often concealed in submergent vegetation or detritus (Jennings and Hayes 1994). Most larvae metamorphose into juvenile frogs between July and September. Post-metamorphic frogs grow rapidly by feeding on a wide variety of invertebrates. Adult frogs apparently eat a variety of animal prey including invertebrates, small fishes, frogs, and small mammals (Hayes and Tennant 1985; Arnold and Halliday 1986).

California red-legged frogs have been observed in a number of aquatic habitats throughout their historic range. The key to their occurrence in these habitats is the presence of perennial, or near perennial, water and the general lack of introduced aquatic predators such as crayfish (*Pacifastacus leniusculus* and *Procambarus clarkii*), bullfrogs (*Rana catesbeiana*), bluegill (*Lepomis macrochirus*), and other centrarchid fishes such as largemouth bass (*Micropterus salmoides*) (Jennings and Hayes 1994). Adults need dense, shrubby or emergent riparian vegetation closely associated with deep (greater than 2 $^{1}/_{3}$-foot deep) still or slow-moving water (U.S. Fish and Wildlife Service 2007). In addition to aquatic habitats, juvenile and adult California red-legged frogs use areas of riparian vegetation within a few yards of water. The species also uses small mammal burrows in or under vegetation, willow root wads, and the undersides of old boards and other debris within the riparian zone (Jennings and Hayes 1994).



Source: U.S. Fish and Wildlife Service. 2002. Recovery plan for the California red-legged frog (Rana aurora draytonii). Portland: U.S. Fish and Wildlife Service.

27104 El Dorado DOT\GIS\27104_Fig2_RLF_range Source: NSR Inc. 04-07-08 edouglas

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Figure 2
Historical and Current Range of the California Red-legged Frog

5 Methodology

5.1 Site Assessment

This California red-legged frog site assessment was conducted in accordance with the U.S. Fish and Wildlife Service (USFWS) *Revised Guidance on Site Assessment and Field Surveys for California Red-legged Frogs* (U.S. Fish and Wildlife Service 2005). Information for the assessment was gathered through a combination of literature review, database searches, review of topographic mapping and aerial photographs, and field visits to the site. The literature review identified the historic and current range of the California red-legged frog and provided information on specific habitat preferences of the species. The California Department of Fish and Game (CDFG) *California Natural Diversity Data Base* (CNDDB) records for El Dorado County (California Department of Fish and Game 2003), California Academy of Sciences collections database (California Academy of Sciences 2008), University of California at Berkeley Museum of Vertebrate Zoology collections database (Museum of Vertebrate Zoology 2008), the USFWS *Recovery Plan for the California Red-legged Frog* (U.S. Fish and Wildlife Service 2002), and communication with the local USFWS office (Fesnock pers comm. 2008) provided information regarding the known existing and historic populations of California red-legged frogs in the study area region.

A review of topographic mapping and aerial photographs provided information regarding vegetation communities and land uses occurring in the vicinity. NSR biologists Ginger Bolen and Brandon Amrhein conducted the field assessment. The study area and publicly accessible areas of the surrounding vicinity (areas within 1 mile of the study area) were characterized and evaluated for the presence of potentially suitable habitat for the California red-legged frog. Aquatic habitats were mapped and characterized (e.g., ponds vs. creeks, pool vs. riffle, ephemeral vs. permanent, vegetation type and characteristics, water depth, substrate, and description of bank), and the presence of bullfrogs and other aquatic predators documented (see Appendices A and B). Upland habitats were also characterized (e.g., vegetation communities, land uses, and potential barriers to California red-legged frog movements).

5.2 California Red-Legged Frog Identification

Identification of all amphibians was done visually *in situ*. Positive diagnostic marks used to identify adult California red-legged frogs include prominent dorsolateral folds, bright red dorsum, and a well-defined stripe running along the upper lip. Positive diagnostic marks used to identify California red-legged frog tadpoles include eyes set well in from the outline of the head [contrasts with chorus frogs (*Pseudacris* spp.)] and generally mottled body and tail with few or no distinct black spots on tail fins (contrasts with bullfrogs).

6 Results

6.1 Regional Assessment

The study area is not located within a designated critical habitat area for the California red-legged frog. The nearest designated critical habitat (Unit ELD-1) occurs approximately 6.5 miles to the east of the study area (70 FR 66905). The nearest CNDDB recorded occurrences of California red-legged frogs to the study area are located approximately 13 miles to the northeast and approximately 14 miles to the northwest (California Department of Fish and Game 2003). The most recent sighting at the location to the northeast occurred in 2002 at Spivey Pond on the north fork of Weber Creek in El Dorado County. Six adults and two individuals of unknown age were observed. California red-legged frogs at this location are threatened by the presence of bullfrogs and rainbow trout (California Department of Fish and Game 2003). From this recorded location, Weber Creek flows west, passing to the north of the study area at a distance of approximately 2 miles. The sighting at the location to the northwest occurred at a watercourse at the end of Fitch Way on the east side of Folsom Lake in 2005 (California Department of Fish and Game 2003). One juvenile California red-legged frog was observed at this location.

Historical records are present at locations within 5 miles of the study area (Figure 3). In 1961 a California red-legged frog was collected from a location approximately 3 miles to the south of the study area (38.6451° 120.84118°; Museum of Vertebrate Zoology Record #12289) (Museum of Vertebrate Zoology 2008). Another specimen was collected in 1935 approximately 3.25 miles to the northeast of the study area (38.71946° 120.78441°; Museum of Vertebrate Zoology Record #4785) (Museum of Vertebrate Zoology 2008).

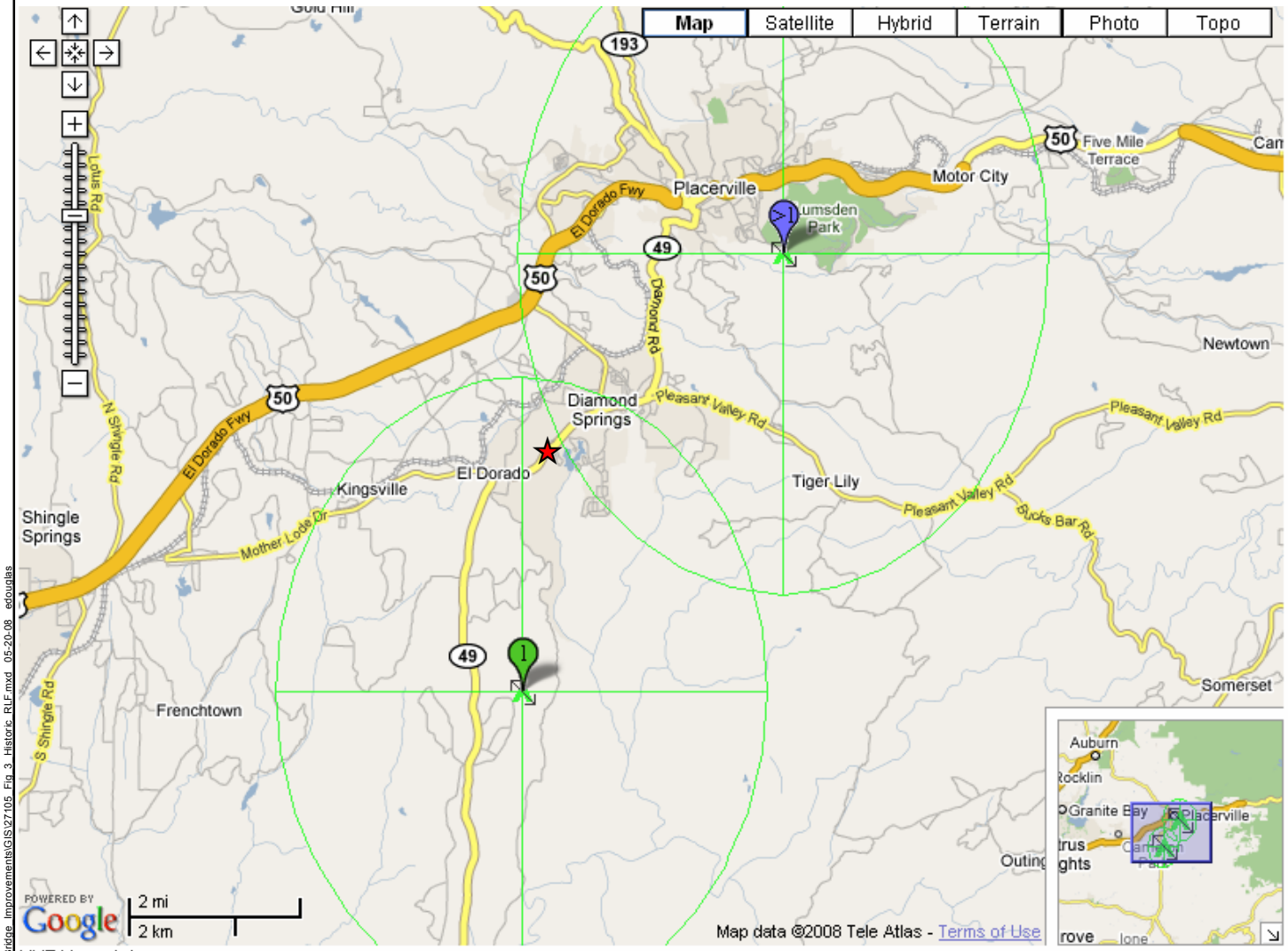
6.2 Study Area Assessment

Upland habitat within the study area boundary consists of urban, grassland, and oak woodland. Aquatic habitat within the study area is limited to an ephemeral pond, the boundary of which extends beyond the study area boundary. This feature was assessed for suitability as California red-legged frog habitat and is discussed in more detail below. The feature is identified in Figure 4, the corresponding Site Assessment Data Sheet is provided as Attachment B, and photographs are provided in Attachment C.

Pond

Ephemeral Pond (Location 1)

An approximately 3-acre ephemeral pond occurs partially within the northern boundary of the study area. At the time of the assessment, no standing water was present within the study area boundary and the entire feature likely goes dry by late June/early July. The pond reaches maximum depths of approximately 1 foot. To the west, the pond is bordered by a parking lot and Pleasant Valley Road. The remaining portion of the pond is bordered by stands of live oak, valley oak, and blackberry. Overstory vegetation shades the perimeter of the pond's surface, which is also partly covered by algal mats. No cattails, rushes, etc. or woody debris was observed within the pond. The substrate is soil.



Markers (clickable)

One item at this location

More than one item at this location

Point Symbols

MVZ Herp Collection

Unspecified Collection

Point Precision Symbols

Point certainty radius

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Study Area

Created by Berkeley Mapper

MVZ Herp data.

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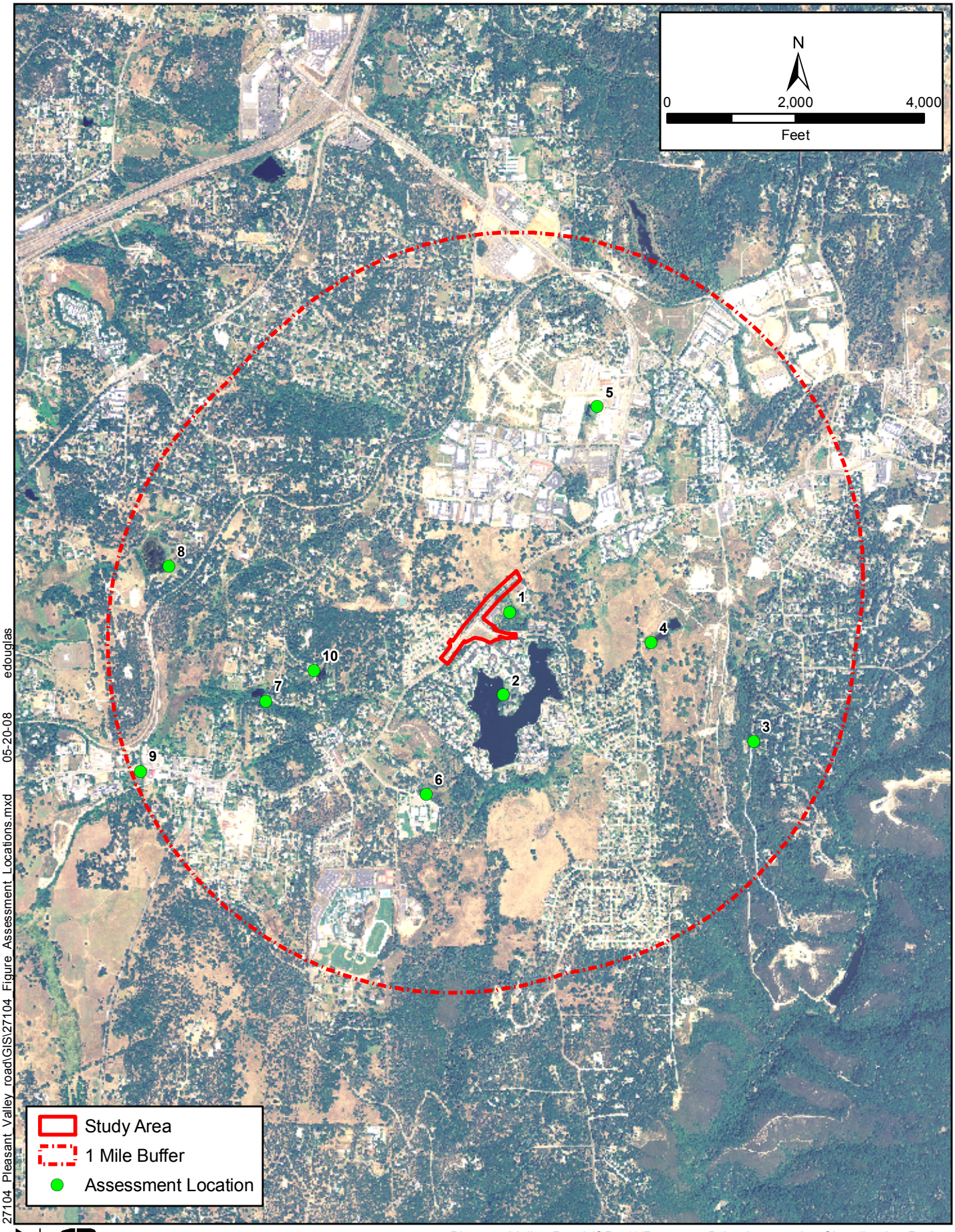

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Figure 4
California Red-Legged Frog Assessment Locations

This feature does not provide suitable breeding habitat for California red-legged frogs due to its shallowness and lack of emergent vegetation and woody debris.

6.3 Local Assessment

The local assessment area (the area within a 1-mile radius of the study area boundary) includes rural residential, urban, and open space. Aquatic habitats in this area include both ponds and streams. Each feature assessed for suitability as California red-legged frog habitat is discussed in more detail below.

These features are identified in Figure 4, the corresponding Site Assessment Data Sheets are provided in Attachment B, and photographs are provided as Attachment C.

Ponds

Patterson Lake (Location 2)

The 29-acre Patterson Lake is located approximately 0.2 mile to the east of the study area. The lake is the result of an earthen dam constructed on Deadman Creek in 1960. A concrete walking path located at the top of the lake bank encircles this feature, which is located in the middle of a mobile home park. Overstory vegetation along the top of the bank includes a mix of ornamental and native species including oaks, willows, cottonwoods, and pines. Patches of cattails are present along the lake edge. The lake substrate is muck. Fishing is allowed on Patterson Lake, but no information on the species present could be located. It is likely that the species present include predators of the California red-legged frog, reducing this features suitability as California red-legged frog breeding habitat.

Ephemeral Pond (Location 4)

The pond at Location 4 is located on private property to which the assessment biologist did not have access. The feature was viewed from the nearest publicly accessible road and its size, approximately 1 acre, estimated based on aerial photographs. Standing water was present at the time of the assessment, but visual evidence suggested the feature is ephemeral. The pond is primarily surrounded by grassland containing scattered large oaks and small pines. No emergent vegetation was observed. Maximum depth could not be determined.

Ephemeral Pond (Location 5)

The pond at Location 5 is located on private property, to which the assessment biologist did not have access, and surrounded by a chain link fence amid an area of light industrial development. The feature was viewed from a nearby parking lot. Based on aerial photographs, the pond is approximately 0.25 acre in size. However, at the time of the assessment, only a small fraction of this area appeared to retain standing water, suggesting the feature is ephemeral. It is surrounded by herbaceous and woody vegetation including willows, cottonwoods, and elderberries. Cattails were also observed. This feature does not appear to attain a sufficient depth or to retain water for a sufficient period to provide suitable California red-legged frog breeding habitat.

Seasonal Wetland (Location 6)

This seasonal wetland, approximately 0.3 acre in size, is located approximately 0.4 mile south of the project site, north of Oakdell Drive. No standing water was observed at the time of the assessment and maximum depth at during the wet season is likely less than 3 inches. Grasses were the dominant vegetation within the boundary of the feature with oaks, pines, and blackberry present along the perimeter. This feature does not appear to attain a sufficient depth or to retain water for a sufficient period to provide suitable California red-legged frog breeding habitat.

Ephemeral Pond (Location 7)

The approximately 0.6-acre ephemeral pond at Location 7 is fed by Slate Creek (see Location 9) and reaches a maximum depth of approximately 2.5 feet. The pond is bordered by a stringer of riparian vegetation around approximately 75 percent of its perimeter, which partially shades the pond surface. Dominant overstory species include live oak, valley oak, and willow. Understory vegetation includes blackberry. The remaining 25 percent of the pond's perimeter is bordered by grasses. Patches of cattails are present along the water's edge and algal mats cover a large portion of the water's surface. Substrate is soil. This feature has sufficient depth and the emergent vegetation necessary to provide breeding habitat for California red-legged frogs.

Perennial Pond (Location 8)

The pond at Location 8 occurs at the headwaters of Dry Creek, which flows west 8 miles to Weber Creek. The pond occurs on private property to which the assessment biology did not have access. Based on aerial photographs, the pond is approximately 6.5 acres in size. Maximum depth could not be determined.

Pond (Location 10)

The approximately 0.7-acre perennial pond at Location 10 reaches a maximum depth of approximately 4 feet. The pond is surrounded by rural residential development and is predominately unshaded, although a few overhanging willows are present in the southwest corner. To the west, the pond is bounded by a concrete block wall adjacent to a residence. To the east, the bank of the pond is dominated by grasses. No emergent vegetation was observed; although some downed woody material is present in the southwest corner and the pond surface is partially covered by algal mats. The substrate is muck. This feature has sufficient depth to provide breeding habitat for California red-legged frogs and the woody debris provides a substrate for the attachment of egg masses.

Streams

Unnamed Tributary (Location 3)

This unnamed, high gradient, ephemeral tributary to Martinez Creek flows south through the easternmost portion of the assessment area. In this area, the channel measures approximately 3 feet wide and 1 foot deep at bank full. The substrate is gravel and cobble. The stream banks are steeply inclined and well-vegetated. Dominate vegetation includes pines, live oak, ash, and blackberry. Overstory vegetation provides moderate shading of the stream.

Slate Creek (Location 9)

Slate Creek, an ephemeral tributary to Dry Creek, flows in a southerly direction through the west-central portion of the local assessment area. In this area, the channel measures approximately 2 feet wide and 1 foot deep at bank full. A narrow stringer (approximately 10-feet wide) of riparian vegetation is present on both slightly incised banks and shades the majority of the channel. Dominant species include willow, valley oak, sycamore, and tree-of-heaven. Dominant understory vegetation includes blackberry. Patches of cattails are present in the channel, which has a soil substrate.

7 Summary

NSR conducted a California red-legged frog site assessment for the Pleasant Valley Road/Patterson Drive Intersection Improvements and Signalization Project in El Dorado County, California. The site assessment was conducted in accordance with the USFWS *Guidance on Site Assessment and Field Surveys for California Red-legged Frogs* (2005).

The study area is located within the currently known range of the California red-legged frog. A review of the CNDDB (California Department of Fish and Game 2003)did not reveal any reported occurrences of the species within 5 miles. However, two historical records of occurrences within 5 miles of the site were located using the Museum of Vertebrate Zoology database (Museum of Vertebrate Zoology 2008). In 1935, a California red-legged frog was collected from a location approximately 3.25 miles to the northeast of the study area (38.71946° 120.78441°; Museum of Vertebrate Zoology Record #4785). A second specimen was collected in 1961 approximately 3 miles to the south of the study area (38.6451° 120.84118°; Museum of Vertebrate Zoology Record #12289).

Survey results indicate that no suitable California red-legged frog breeding habitat [i.e., dense, shrubby or emergent riparian vegetation closely associated with deep (greater than 2 $^{1}/_{3}$-feet deep) still or slow-moving water] is present within or immediately adjacent to the study area. However, aquatic habitat may be present in the study area during the wet season, increasing the chances that California red-legged frogs might migrate through the site if they are present elsewhere in the assessment area. Potentially suitable California red-legged frog breeding habitat is present within 1 mile of the study area (i.e., the ponds at Locations 7 and 10). Location 2 (Patterson Lake) also provides sufficient water depth and emergent vegetation for breeding. However, the presence of fish, likely including predators of the red-legged frog, reduces the suitability of this site as breeding habitat for the California red-legged frog.

8 References

8.1 Literature Cited

Arnold, S. J. and T. Halliday. 1986. Life history notes: *Hyla regilla*, predation. *Herp. Review* 17 (2):44.

California Academy of Sciences. 2008. *Herpetology Department collection catalog* [web database] 2008 [cited April 26, 2008]. Available from http://research.calacademy.org/research/herpetology/catalog/index.asp.

California Department of Fish and Game. 2003. California natural diversity database (CNDDB): California Department of Fish and Game. Updated March 2008.

Hayes, M.P. and M.R. Tennant. 1985. Diet and feeding behavior of the California red-legged frog, *Rana aurora draytonii* (Ranidae). *The Southwestern Naturalist* 30 (4):601-605.

Jennings, M. R. and M. P. Hayes. 1994. Amphibian and reptile species of special concern in California. Rancho Cordova, California: California Department of Fish and Game, Inland Fisheries Division.

Livezey, R.L. and A.H. Wright. 1947. A synoptic key to the salientian eggs of the United States. *The American Midland Naturalist* 37 (1):179-222.

Museum of Vertebrate Zoology. 2008. *Collections database* [web database]. University of California Berkeley 2008 [cited May 14, 2008]. Available from http://mvzarctos.berkeley.edu/SpecimenSearch.cfm.

Stebbins, Robert C. 2003. *A field guide to western reptiles and amphibians*. 3rd ed. New York, NY: Houghton Mifflin Company.

Storer, T.I. 1925. A synopsis of the amphibia of California. *University of California Publications in Zoology* 27 (1):1-342.

U.S. Fish and Wildlife Service. 2002. Recovery plan for the California red-legged frog (*Rana aurora draytonii*). Portland, Oregon: U.S. Fish and Wildlife Service.

———. 2005. Revised guidance of site assessments and field surveys for the California red-legged frog.

———. 2007. *California red-legged frog, Rana aurora draytonii, species account* [electronic document]. U.S. Fish and Wildlife Service, October 10, 2007 [cited May 15, 2008]. Available from http://www.fws.gov/sacramento/es/animal_spp_acct/acctherp.htm.

Western Regional Climate Center. 2008. *Historical climate information* [website] 2008 [cited May 20, 2008]. Available from http://www.wrcc.dri.edu/CLIMATEDATA.html.

Wright, A.H. and A.A. Wright. 1949. *Handbook of frogs and toads of the United States and Canada*. Third ed. Ithaca, NY: Comstock Publishing Company, Inc.

8.2 Personal Communications

Fesnock, Amy. 2008. U.S. Fish and Wildlife Service Branch Chief. Email to Ginger Bolen, North State Resources regarding red-legged frog occurrences in El Dorado County. May 14, 2008.

ATTACHMENT A

Resumes for Assessment Biologists

GINGER M. BOLEN

Wildlife Biologist/Project Manager

EDUCATION: Ph.D., Integrative Biology, 1999, University of California, Berkeley
B.S., Wildlife Science, 1991, Purdue University (with Distinction)

ADDITIONAL TRAINING AND CERTIFICATIONS:

- Certified Wildlife Biologist, The Wildlife Society
- TWS-Western Section Bat Ecology and Field Tech. Workshop, 2007
- Habitat Assessment and Modeling (USGS), 2007
- Making Effective Use of Mitigated Negative Declarations, 2006
- NEPA Overview and Refresher, 2005
- Wetlands Delineation Workshop, 2005

PERMITS HELD:

- USFWS Recovery Permit (TE798003-4). Individual authorized to independently conduct activities with the California red-legged frog.
- CDFG Scientific Collecting Permit (SC-006217).

SYNOPSIS: Dr. Bolen is a board-certified wildlife biologist who has worked in a range of environmental settings and geographic regions. Her most recent research has focused on ecological flexibility in waterfowl and the cause of the population decline of the American black duck. Dr. Bolen has also conducted extensive research in California's Central Valley on the state's only endemic species, the yellow-billed magpie, including studies on its mating strategy, nesting association with Bullock's orioles, and egg recognition abilities. Dr. Bolen has over 16 years of professional experience conducting ecological research and environmental analyses. She has conducted protocol-level surveys, construction site monitoring, and biotic assessments for numerous species of special-status wildlife in California, including the California tiger salamander, California red-legged frog, burrowing owl, bald eagle, Swainson's hawk, and San Joaquin kit fox. Dr. Bolen has experience with the regulatory requirements of the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), and she has prepared natural environment study (NES) reports, biological assessments (BAs), environmental assessments (EAs), initial studies (ISs), environmental impact statements (EISs), environmental impact reports (EIRs), and habitat conservation plans (HCPs).

RELEVANT EXPERIENCE:

Dublin Ranch — Alameda County, CA. Wildlife Biologist. Coordinated and conducted multi-year protocol-level surveys for burrowing owls, as well as construction site monitoring for this species on the Dublin Ranch project site, a project consisting of a series of residential, commercial, golf course, and retail projects on approximately 1,700 acres of the 3,300 acres within the Eastern Dublin Specific Plan Area. Dr. Bolen also worked closely with Dr. Jeff Wilkinson, a herpetological expert and holder of a 10(1)(1)(A) permit for California red-legged frogs (CRLF). Dr. Bolen assisted Dr. Wilkinson in translocating and processing over 400 CRLF. She also assisted Dr. Wilkinson in conducting surveys to detect CRLF (over 40 hours of survey time). Dr. Bolen was granted approval by the U.S. Fish and Wildlife Service under the Biological Opinion for Dublin Ranch to conduct surveys for and handle CRLF. Dr Bolen also conducted surveys for, and translocations of, the California tiger salamander.

Further, Dr. Bolen assisted Dr. Wilkinson in the translocation of over 100 foothill yellow-legged frogs for a road improvement project in Gilroy, California. Client: Marty Inderbitzen for the Lin Family

McCoy Road at Central and South Forks Dibble Creek Bridge Replacement Project—Tehama County, California. Deputy Project Manager/Wildlife Biologist. Prepared a Natural Environment Study (NES), California red-legged frog habitat assessment, and biological evaluation/essential fish habitat assessment for a bridge replacement project. I also conducted protocol-level California red-legged surveys for the site. Key biological issues associated with the project include the loss of riparian habitat associated with proposed channel modifications, potential non-natal rearing habitat for salmonids (Dibble Creek is a tributary to the Sacramento River), and habitat for the valley elderberry longhorn beetle. Client: Tehama County Department of Public Works

Swede Creek Road at Swede Creek Bridge Replacement Project—Shasta County, California. Deputy Project Manager/Wildlife Biologist. Prepared a Natural Environment Study (NES), California red-legged frog habitat assessment, and biological evaluation/essential fish habitat assessment for this bridge replacement project. I also conducted California red-legged frog protocol-level surveys for the site. Key biological issues associated with the project include the loss of riparian habitat associated with proposed channel modifications and potential presence of the California red-legged frog (federally listed as threatened). Client: Tehama County Department of Public Works

LaPorte Bridge Replacement Project—Yuba County, California. Wildlife Biologist. Prepared a California red-legged frog habitat assessment, and conducted California red-legged frog protocol-level surveys for the project site. Client: Yuba County Department of Public Works

Iron Mountain Mine Spring Creek Arm Sediment Remediation Project – Shasta County, CA. Biologist. Conducted protocol-level red-legged frog assessment and surveys on the Spring Creek Arm west of Keswick Dam. Client: CH2MHill, Redding CA.

Stillwater Business Park EIS/EIR — Redding, CA. Wildlife Biologist/Environmental Analyst. Primary author of the biological section of the EIS/EIR for a 700-acre City of Redding development project. Prepared the biological assessment for federally listed species occurring on the site as well as the California red-legged frog habitat assessment. Currently assisting in the preparation of an open space management plan. Participated in meetings with the City of Redding, U.S. Fish and Wildlife Service, Environmental Protection Agency, and the U.S. Army Corps of Engineers. Client: City of Redding

Clear Creek Wastewater Treatment Plant Expansion Project — Redding, CA. Wildlife Biologist/Environmental Analyst. Assisted in the preparation of an initial study and prepared the biological assessment and California red-legged frog habitat assessment for a wastewater treatment plant expansion project in Redding California. Key biological issues associated with the project include the presence of suitable habitat for the valley elderberry longhorn beetle (federally listed as threatened) and the presence of a nearby active bald eagle nest. Client: City of Redding

PUBLICATIONS

Crosbie, S., Koenig, W.D., Reisen, W.K., Kramer, V.L., Marcus, L., Carney, R., Pandolfino, E., Bolen, G.M., Crosbie, L.R., Crosbie, L.R., Bell, D.A., and Ernest, H.B. in press. Early Impact of West Nile Virus on the Yellow-billed Magpie. *Auk.*

Crosbie, S., Bell, D., and Bolen, G. 2006. Vegetative and thermal aspects of roost-site selection in urban Yellow-billed Magpies. *Wilson Journal of Ornithology* 118(4):532-536.

Bolen, G., E. Morton, and R. Greenberg. 2002. Mallards Replacing Black Ducks: Two Views. *In* Proceedings of a Symposium: Black Ducks and their Chesapeake Bay Habitats (M.C. Perry, editor). U.S. Geological Survey Biological Resources Division Information and Technology Report USGS/BRD/ITR 2002-0005

Bolen, G., S. Rothstein, and C. Trost. 2000. Egg recognition in Yellow-billed and Black-billed Magpies in the Absence of Interspecific Parasitism: Implications for Parasite-Host Coevolution. *Condor* 102:140-147

Bolen, G. 1999. Extra-pair Behavior in Yellow-billed Magpies (*Pica nuttalli*). Doctoral Dissertation, University of California, Berkeley. Dissertation Supervisor: Walter D. Koenig

Richardson, D., and G. Bolen. 1999. A Nesting Association between Semi-colonial Bullock's Orioles and Yellow-billed Magpies: Evidence for the Predator Protection Hypothesis. *Behavioral Ecology and Sociobiology* 46:373-380

Bolen, G. 1997. Extra-pair Copulations in Yellow-billed Magpies: Preliminary Results. *Acta Ornithologica* 32:9-13

PROFESSIONAL ASSOCIATIONS

The Wildlife Society
Society for Conservation Biology
Bat Conservation International

BRANDON AMRHEIN

Biologist/Environmental Analyst

EDUCATION: BA in Environmental Studies with a minor in Biological Sciences
California State University Sacramento.

ADDITIONAL TRAINING:

- Biology and Management of the California Red-legged frog workshop - 2008
- Certified Wetland Delineator: 2003 (Wetland Training Institute)
- Studied and worked under the supervision of an ISA Certified Arborist for approximately 3 years.

SYNOPSIS:

Mr. Amrhein has over 2 years of biological experience conducting environmental/biological services for development projects and municipal planning projects, including research, preparation of environmental documentation, and fieldwork such as biological assessments, tree surveys, wetland delineations, special status species investigations, VELB surveys, nest surveys, environmental monitoring of construction sites, and monitoring for mitigation requirements. Mr. Amrhein also conducts field research using the California Natural Diversity Database and California Wildlife Habitat Relationship System database, as well as consulting with the US Fish and Wildlife Service, US Army Corps of Engineers, California Department of Fish and Game, California Native Plant Society, local government officials, and local environmental agencies to address site-specific natural resources and possible impacts. Mr. Amrhein is also comfortable using aerial maps and operating a GPS unit to collect field information.

RELEVANT EXPERIENCE:

Biological Investigations for Environmental Impact Reports of various projects in California. Mr. Amrhein performs site reconnaissance level surveys, and writes biological evaluations to be included as part of Environmental Impact Reports for various projects throughout California. To complete these tasks he conducts research using the California Natural Diversity Database and California Wildlife Habitat Relationship System database, as well as consulting with the US Fish and Wildlife Service, US Army Corps of Engineers, California Department of Fish and Game, California Native Plant Society, local government officials, and local environmental agencies to address site-specific natural resources.

Wetland Delineation for various projects in California. Mr. Amrhein conducts wetland delineations, following the US Army Corps of Engineers guidelines. He considers hydrology, vegetation, and soil to determine if habitat meets the requirements to be considered an official wetland per the US Army Corps requirements.

Tree Surveys for various projects in California. Mr. Amrhein conducts tree surveys when projects have the potential to impact native trees, landmark trees, or other locally protected trees. Tree surveys typically include measuring (dbh) each tree, identification of tree species, overall health, tagging the trees using approved treetags, mapping the trees using a GPS unit, and measuring the drip line of each tree. Prepares reports (with figures) to summarize the results of the surveys and describe mitigation and other recommendations.

Special Status Species investigations and consultations for various projects in California. Mr. Amrhein confirms the presence/absence of special status plant and animal species and potential habitat for these species

(e.g., Swainson's hawk, Burrowing Owl, and Giant garter snake) at various project locations in California. He consults with the US Fish and Wildlife Service, California Department of Fish and Game, and US Army Corps of Engineers (when appropriate) regarding appropriate survey/reporting protocols for specific species.

Biological monitoring for various projects in California. Mr. Amrhein conducts biological monitoring for various projects. He has monitored projects for the presence of special status species including giant garter snake, Swainson's hawk, burrowing owl, Sanford's arrowhead, and others, as required by project mitigation. He has also monitored project sites to verify the health of native trees and elderberry shrubs as construction progresses. He consults with various state and local agencies to identify sensitive biological areas within a project site and directs construction crews and equipment when they work in these areas. Mr. Amrhein records (through photographs and log books) crew movements and activities within a project's impact area.

Valley Elderberry Longhorn Beetle Surveys. Mr. Amrhein has participated in field efforts to locate, measure, tag, stem count, and catalog elderberry shrubs and to determine the suitability for and presence of valley elderberry longhorn beetle. He has also prepared mitigation plans for the protection and replacement of impacted shrubs. All such work has been conducted following US Fish and Wildlife Service guidelines.

OTHER RELATED SKILLS:

- 6+ years of professional photography experience
- Snorkeling experience gained from field research in Costa Rica, specifically related to animal behavior and native cichlid fishes.

ATTACHMENT B

Habitat Assessment Data Sheets

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

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

Date of Site Assessment: 5-7-08 (mm/dd/yyyy)

Site Assessment Biologists: _____ (Last name) _____ (first name) Boles (Last name) Ginger (first name)

_____ (Last name) _____ (first name) _____ (Last name) _____ (first name)

Site Location: El Dorado Co. T10N R10E Sec. 25
(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: Pleasant Valley Rd./Patterson Drive Intersection Improvements
Brief description of proposed action:
DOT plans to make improvements to the intersection at this location.

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)

Location 1 **POND:**

Size: ~3 ACRES Maximum depth: 1'

Vegetation: emergent, overhanging, dominant species: Northern 1/3 bordered by grassland. Remainder bordered by live oak, valley oak, willow, blk. berry. Little overhanging veg.

Substrate: Soil

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

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

STREAM:

Bank full width: _____
Depth at bank full: _____
Stream gradient: _____

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: _____
Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____
_____
_____

Vegetation: emergent, overhanging, dominant species: _____
_____
_____

Substrate: _____
_____

Bank description: _____
_____
_____

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

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

CANADA GEESE

Necessary Attachments:

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

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

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

Date of Site Assessment: 5-7-08 (mm/dd/yyyy)

Site Assessment Biologists:

(Last name)	(first name)	(Last name)	(first name)
		Bolen	Ginger

Site Location: El Dorado Co. T10N R10E SEC. 25
(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: Pleasant Valley Rd./Patterson Drive Intersection Improvements
Brief description of proposed action:
DOT plans to make improvements to the intersection at this location.

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)

Location 2

POND: Patterson Lake
Size: 19 Acres Maximum depth: ~6'

Vegetation: emergent, overhanging, dominant species: Lake is surrounded by urban development - mobile home park. Vegetation on banks includes a mix of ornamentals and native (oak, willow, cottonwood, pine). Patches of cattails.
Substrate: Muck

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

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

STREAM:

Bank full width: _____
Depth at bank full: _____
Stream gradient: _____

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

Characterize non-pool habitat: run, riffle, glide, other: _____
_____
_____
Vegetation: emergent, overhanging, dominant species: _____
_____
_____
Substrate: _____
_____
Bank description: _____
_____
_____

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

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

RESERVOIR formed By damming DEADMAN Creek

Fishing Allowed on Lake. Species present unknown.

Walking path around lake at top of bank.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species 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: 5-7-08 (mm/dd/yyyy)

Site Assessment Biologists: _____ (Last name) _____ (first name) Boka (Last name) Ginger (first name)

_____ (Last name) _____ (first name) _____ (Last name) _____ (first name)

Site Location: El Dorado Co. T10N R10E Sec. 25
(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: Pleasant Valley / Patterson Drive Intersection Improvements
Brief description of proposed action:
DOT plans to make improvements to the intersection

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: _____

Location 3

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

STREAM: Unnamed Trib to Martinez Creek

Bank full width: 3'

Depth at bank full: 1'

Stream gradient: High

Are there pools (circle one)? YES (NO)

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: At time of assessment - little water remaining in feature. Likely riffle during high flows.

Vegetation: emergent, overhanging, dominant species: Dense vegetation on banks - Pine, live oak, Ash, black berry. Moderate shading from overhanging vegetation

Substrate: Cobble

Bank description: steep, well vegetated

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

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

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

Date of Site Assessment: 5-7-08 (mm/dd/yyyy)

Site Assessment Biologists: _____ (Last name) _____ (first name) Boden (Last name) Ginger (first name)

_____ (Last name) _____ (first name) _____ (Last name) _____ (first name)

Site Location: El Dorado Co. T10N R10E Sec. 25
(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: Pleasant Valley / Patterson Drive Intersection
Brief description of proposed action:
DoT plans to make improvements to the intersection

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)

LOCATION 4

POND:

Size: ~ 1 ACRE Maximum depth: NO ACCESS - unable to determine

Vegetation: emergent, overhanging, dominant species: Primarily bordered by grasses. Scattered trees include valley oak and small pines
No cattails, Rush, etc. visible

Substrate: NO ACCESS - likely soil

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

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

STREAM:

Bank full width: _____
Depth at bank full: _____
Stream gradient: _____

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

Characterize non-pool habitat: run, riffle, glide, other: _____
_____
_____
Vegetation: emergent, overhanging, dominant species: _____
_____
_____
Substrate: _____
_____
Bank description: _____
_____
_____

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

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

No Access to site

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species 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: 5-7-08 (mm/dd/yyyy)

Site Assessment Biologists: _____ (Last name) _____ (first name) Boles (Last name) Ginger (first name)

_____ (Last name) _____ (first name) _____ (Last name) _____ (first name)

Site Location: El Dorado Co. T10N R10E Sec. 25
(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: Pleasant Valley / Patterson Drive Intersection
Brief description of proposed action:
DOT plans to make improvements to the intersection.

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)

Location 5

POND:

Size: ~0.25 ACRE Maximum depth: No ACCESS - Appeared to have ~ 2" at time of Assessment

Vegetation: emergent, overhanging, dominant species: Herbaceous and woody riparian vegetation including willow, cottonwood, elderberry, Cattails.

Substrate: No Access - Likely soil

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

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

STREAM:

Bank full width: _____
Depth at bank full: _____
Stream gradient: _____

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

Characterize non-pool habitat: run, riffle, glide, other: _____
_____
_____
Vegetation: emergent, overhanging, dominant species: _____
_____
_____
Substrate: _____
_____
Bank description: _____
_____
_____

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

Other aquatic habitat characteristics, species observations, drawings, or comments:
Feature Mostly Dry at time of ASSESSMENT.
No ACCESS

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species 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: 5-7-08 (mm/dd/yyyy)

Site Assessment Biologists: _____ (Last name) _____ (first name) Boles (Last name) Ginger (first name)

_____ (Last name) _____ (first name) _____ (Last name) _____ (first name)

Site Location: El Dorado Co. T10N R10E Sec 25
(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: Pleasant Valley / Patterson Drive Intersection
Brief description of proposed action:
Intersection improvements

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)

Location 6

POND:

Size: ~1/3 ACRE Maximum depth: DRY during ASSESSMENT
Likely MAX = 3"

Vegetation: emergent, overhanging, dominant species: GRASSES dominant. Blackberry, live oak, PINE around perimeter

Substrate: Soil

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

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

STREAM:

Bank full width: _____
Depth at bank full: _____
Stream gradient: _____

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: _____
Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____
_____
_____

Vegetation: emergent, overhanging, dominant species: _____
_____
_____

Substrate: _____
_____

Bank description: _____
_____
_____

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

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 D.

California Red-legged Frog Habitat Site Assessment Data Sheet

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

Date of Site Assessment: 5-7-08 (mm/dd/yyyy)

Site Assessment Biologists: _____ (Last name) _____ (first name) Boles (Last name) Ginger (first name)

_____ (Last name) _____ (first name) _____ (Last name) _____ (first name)

Site Location: El Dorado T10N R10E Sec. 25
(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: Pleasant Valley / Patterson Drive Intersection
Brief description of proposed action:
Intersection improvements

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)

Location 7

POND: On Slate Creek

Size: ~2/3 acre Maximum depth: 2½'

Vegetation: emergent, overhanging, dominant species: Stringer of riparian around 3/4 of perimeter includes live oak, valley oak, willow, blk. berry. Cattails at edge 1/4 perimeter = grasses. Partially shaded by overhanging veg. Algal mats on surface.

Substrate: soil

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

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

STREAM:

Bank full width: _____
Depth at bank full: _____
Stream gradient: _____

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

Characterize non-pool habitat: run, riffle, glide, other: _____
_____
_____
Vegetation: emergent, overhanging, dominant species: _____
_____
_____
Substrate: _____
_____
Bank description: _____
_____
_____

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

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

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

Date of Site Assessment: 5-7-08 (mm/dd/yyyy)

Site Assessment Biologists: _____ (Last name) _____ (first name) Boles (Last name) Ginger (first name)

_____ (Last name) _____ (first name) _____ (Last name) _____ (first name)

Site Location: El Dorado Co. T10N R10E Sec. 25
(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: Pleasant Valley / Patterson Drive Intersection
Brief description of proposed action:
Intersection improvements

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)

Location 8

POND:
Size: ~6.5 Acres Maximum depth: No Access

Vegetation: emergent, overhanging, dominant species: No Access

Substrate: No Access

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

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

STREAM:

Bank full width: _____
Depth at bank full: _____
Stream gradient: _____

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: _____
Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Bank description: _____

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

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

Lake at head of Dry Creek, which flows 8 miles to Weber CK.

No Access - no photo

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species 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: 5-7-08 (mm/dd/yyyy)

Site Assessment Biologists: _____ (Last name) _____ (first name) Boles (Last name) Ginker (first name)

_____ (Last name) _____ (first name) _____ (Last name) _____ (first name)

Site Location: El Dorado Co. T10N R10E SEC. 25
(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: Pleasant Valley / Patterson Drive Intersection
Brief description of proposed action:
Intersection Improvements

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: _____

Location 9

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

STREAM: SLATE Creek

Bank full width: 2'

Depth at bank full: 1'

Stream gradient: Low

Are there pools (circle one)? YES (NO)

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: glide

Vegetation: emergent, overhanging, dominant species: very narrow stringer of riparian including willow, blk berry, valley oak, sycamore, and tree of heaven Patches of cattail. completely shaded.

Substrate: soil

Bank description: Densely vegetated, slightly incised

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

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

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

Date of Site Assessment: 5-14-08 (mm/dd/yyyy)

Site Assessment Biologists: Amrhein (Last name) Brandon (first name) _____ (Last name) _____ (first name)

_____ (Last name) _____ (first name) _____ (Last name) _____ (first name)

Site Location: 38° 41' 11.65" N 120° 50' 24.68" W West end of Becket Lane
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S). El Dorado County

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

Proposed project name: Pleasant Valley Road / Patterson Intersection Improvement
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:

Size: 120' × 250' Maximum depth: 4 feet

Vegetation: emergent, overhanging, dominant species: _____
Algal mats on water, some overhanging willows in southwest corner of pond, overall - very little cover

Substrate: muck

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

May be artificially fed

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

STREAM:

Bank full width: _____
Depth at bank full: _____
Stream gradient: _____

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

Characterize non-pool habitat: run, riffle, glide, other: _____
_____
_____

Vegetation: emergent, overhanging, dominant species: _____
_____
_____

Substrate: _____
_____

Bank description: _____
_____
_____

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

Other aquatic habitat characteristics, species observations, drawings, or comments:
Observed Great blue heron foraging
Mallards
Geese
Observed several fish jumping (some larger than 6")
Observed small fish @ ponds edges (mosquito fish)
Cement walkway wraps around western side of pond
Bull frogs observed (chirp/splash as they jumped into pond)

Necessary Attachments:

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

ATTACHMENT C

Assessment Site Photographs

Attachment C: Assessment Site Photographs

Location 1a. Looking southeast towards pond

Location 1b. Looking northwest towards project boundary

Location 2. Patterson Lake

Location 3. Unnamed tributary to Martinez Creek

Location 4. Looking northeast towards pond (in background behind trees)

Location 5. Looking west towards pond

Location 6. Looking east toward seasonal wetland

Location 7. Looking west toward pond

Location 8. No access to feature for photograph

Location 9. Looking east towards Slate Creek

Location 10. Perennial Pond