

California Red-legged Frog Habitat Site Assessments Outfall 4/SRE Pond, Silvernale Pond, and Outfall 18 Ponds Santa Susana Field Laboratory Area IV and Vicinity, Ventura County, California

The Santa Susana Field Laboratory (SSFL) in Ventura County, California, lies within the current and historic breeding range of the California red-legged frog (CRF) (USFWS 2002). In a letter dated October 5, 2009 from Chris Dellith of the U.S. Fish and Wildlife Service (USFWS) to Stephie Jennings of the U.S. Department of Energy (DOE), California red-legged frog was identified as a listed species that may occur at or near the SSFL Area IV and two adjacent undeveloped land areas. This Habitat Assessment focuses on SSFL Area IV and adjacent undeveloped lands, which are proposed to undergo a Radiological Study by EPA and is the subject of an Environmental Impact Statement (EIS) being developed to address the future remediation and decommissioning of the site by the DOE.

Of the three habitats addressed in this assessment, only Outfall 4/SRE Pond is within Area IV and would potentially be affected by the EPA survey. This report also addresses Silvernale Pond and the ponds at Outfall 18 for two reasons. First, these sites are hydrologically connected to and receive surface runoff from Area IV. Should contamination attributed to Area IV be present in sediment, the EIS may evaluate cleanup within the ponds. Secondly, these ponds, if occupied by CRF, could represent “source populations”. Because of proximity of these habitats to Area IV, CRF during a rainy night could conceivably migrate onto Area IV where they could be affected by the EPA Radiological Survey. This latter scenario is unlikely given the aridity of Area IV and the very small size and ephemeral nature of the drainages on Area IV.

As detailed below in this report and data sheets, no evidence of CRF was found. All three of the habitats investigated have some physical characteristics suitable for supporting CRF, at least seasonally, but their distance and isolation from existing CRF locations and aspects of the habitat make occupation by CRF unlikely.

The developed and formerly developed portions of Area IV and vicinity (identified as Burro Flats on USGS maps) comprise about 90 acres of the 290-acre SSFL Area IV and tend to be more or less level or gently sloping areas, with sandstone outcrops prevalent in the northern part of the site. The majority of the structures that had formerly been present on the site have been removed. The previously developed portions of the site support a patchy vegetation cover ranging from weedy non-native species to a cover dominated by native shrubs. The adjacent undeveloped lands lie to the north of SSFL and drop off steeply. They are vegetated primarily by chaparral that burned in a 2005 wildland fire (the Topanga Fire), with grass and native herb assemblages on the thin soil on the surface of steeply dipping sandstone bedrock.

Surface water at SSFL Area IV and vicinity is ephemeral except in human-made impoundments, which were constructed as water retention structures in this xeric environment. The impoundments now serve as part of the stormwater control and treatment system. Ephemeral drainages leading from the site pass through outfalls constructed to allow the runoff water to be monitored and treated as necessary to remove contaminants and meet regulatory requirements. On SSFL Area IV itself, the only site supporting marsh vegetation and having water for extended periods is a small impoundment below Outfall 4, which drains to the north. This is also known as the SRE pond. This habitat assessment focuses on the Outfall 4 site and includes two nearby larger impoundments on portions of SSFL Area III and SSFL Area II. These latter areas are Silvernale Pond and sites adjacent to Outfall 18 (R-2A pond and R-2B pond). Silvernale Pond and the sites at Outfall 18 were selected because of their proximity to Area IV, their substantial size and relative permanence, and the fact that they are hydrologically connected to the southern part of Area IV.

CRF has not been recorded during previous surveys on the SSFL (Ogden Environmental and Energy Services, 1998; MWH Americas, Inc. and AMEC Earth and Environmental, Inc., 2003/2005; MWH Global, Inc., 2009; U. S. Department of Energy, 2003). The nearest recorded CRF observations in the California Natural Diversity Database (CNDDDB) are in East Las Virgenes Creek and nearby in the mainstem of Las Virgenes Creek (CNDDDB 2010). These were the only CRF records found in a search of the 16 contiguous USGS Quadrangles surrounding the site.

As the crow flies, the CRF location in the mainstem of Las Virgenes Creek is approximately 4 miles (6.5 km) from the Outfall 4 pond in SSFL Area IV, 3.6 miles (5.9 km) from Silvernale Pond in SSFL Area III, and 3.4 miles (5.4 km) from the Outfall 18 ponds in SSFL Area II (See attached vicinity map). The CRF location in East Las Virgenes Creek is slightly farther away from these sites. Actual overland distances would be considerably longer due to topography and deviations from straight line travel.

SSFL Area IV, located at the drainage divide between Simi Valley (Arroyo Simi) on the north and Bell Canyon on the south, is separated from the mainstem and East Las Virgenes Creek locations by drainage divides and a total elevation difference of about 1,000 feet (with multiple gains and losses in elevation between the two sites). Other potential barriers between the East Las Virgenes Creek location and SSFL include steep terrain, dry falls, and suburban development.

The southern part of Area IV and vicinity drains southward into Bell Canyon and ultimately to the Los Angeles River. Drainage from the northern part of the site leads ultimately to Arroyo Simi reaching the Pacific at Mugu Lagoon. Drainage from Las Virgenes Creek drains ultimately into Malibu Lagoon.

The small wetland at Outfall 4 (SSFL Area IV) usually goes dry by June and July (per Boeing personnel) and does not hold water again until after the rainy season begins. During a site visit in early October, no sites on Area IV held water. However, Silvernale Pond (SSFL Area III) and one of the ponds associated with Outfall 18 (SSFL Area II) held water at that time. Upland habitat surrounding each site includes large areas of sandstone outcrops interspersed with chaparral recovering from a 2005 wildland fire and small areas of coast-live oak woodlands.

SSFL Area IV and the adjacent lands known as the northern undeveloped areas are proposed to undergo a radiological study described in a biological assessment submitted to USFWS (USEPA 2009). An Environmental Impact Statement (EIS) is being developed by DOE to address the future remediation and decommissioning of the site.

Listed below are the documents being submitted supporting this CRF Habitat Site Assessment Report:

Vicinity Maps

Vicinity maps showing the locations of surveyed sites on SSFL, documented locations of CRF in Las Virgenes Creek and East Las Virgenes Creek, and approximate locations of drainage divides separating individual watersheds in the vicinity (Bell Creek, Las Virgenes Creek, Medea Creek, Lower Arroyo Simi and Upper Arroyo Simi). On USGS 1:24,000 topo and October 2007 airphoto base maps.

Site Photos

SRE Pond below Outfall 4 Area--Aerial Photograph (October, 2007) of the Outfall 4 (SRE pond) vicinity showing locations of photopoints and site photographs showing habitat types and important features. The outfall and small marsh/pond are outlined. The marsh is not obvious in the air photo because the marsh was dry and most of the cattails were dead and matted due to seasonal drought conditions.

Silvernale Pond--Aerial Photograph (October, 2007) showing locations of photopoints and site photographs showing habitat types and important features.

R-2A and R-2B Ponds at Outfall 18--Aerial Photograph (October, 2007) showing locations of photopoints and site photographs showing habitat types and important features.

Data Sheets

1. California Red-legged Frog Habitat Site Assessment Data Sheet, Site Outfall 4 (note: all field notes are written on the Habitat Site Assessment Sheet).
2. Scoring Ponds and Small Streams as Breeding Habitat Sheet, adapted by Norman J. Scott and Galen B. Rathbun (April 2006), Site Outfall 4
3. California Red-legged Frog Survey Data Sheet (from night survey assessment), Site Outfall 4
4. California Red-legged Frog Habitat Site Assessment Data Sheet, Site Silvernale Pond (note: all field notes are written on the Habitat Site Assessment Sheet).
5. Scoring Ponds and Small Streams as Breeding Habitat Sheet, adapted by Norman J. Scott and Galen B. Rathbun (April 2006), Site Silvernale Pond
6. California Red-legged Frog Survey Data Sheet (from night survey assessment), Site Silvernale Pond
7. California Red-legged Frog Habitat Site Assessment Data Sheet, site Outfall 18 (note: all field notes are written on the Habitat Site Assessment Sheet).
8. Scoring Ponds and Small Streams as Breeding Habitat Sheet, adapted by Norman J. Scott and Galen B. Rathbun (April 2006), Site Outfall 18
9. California Red-legged Frog Survey Data Sheet (from night survey assessment), Site Outfall 18

References

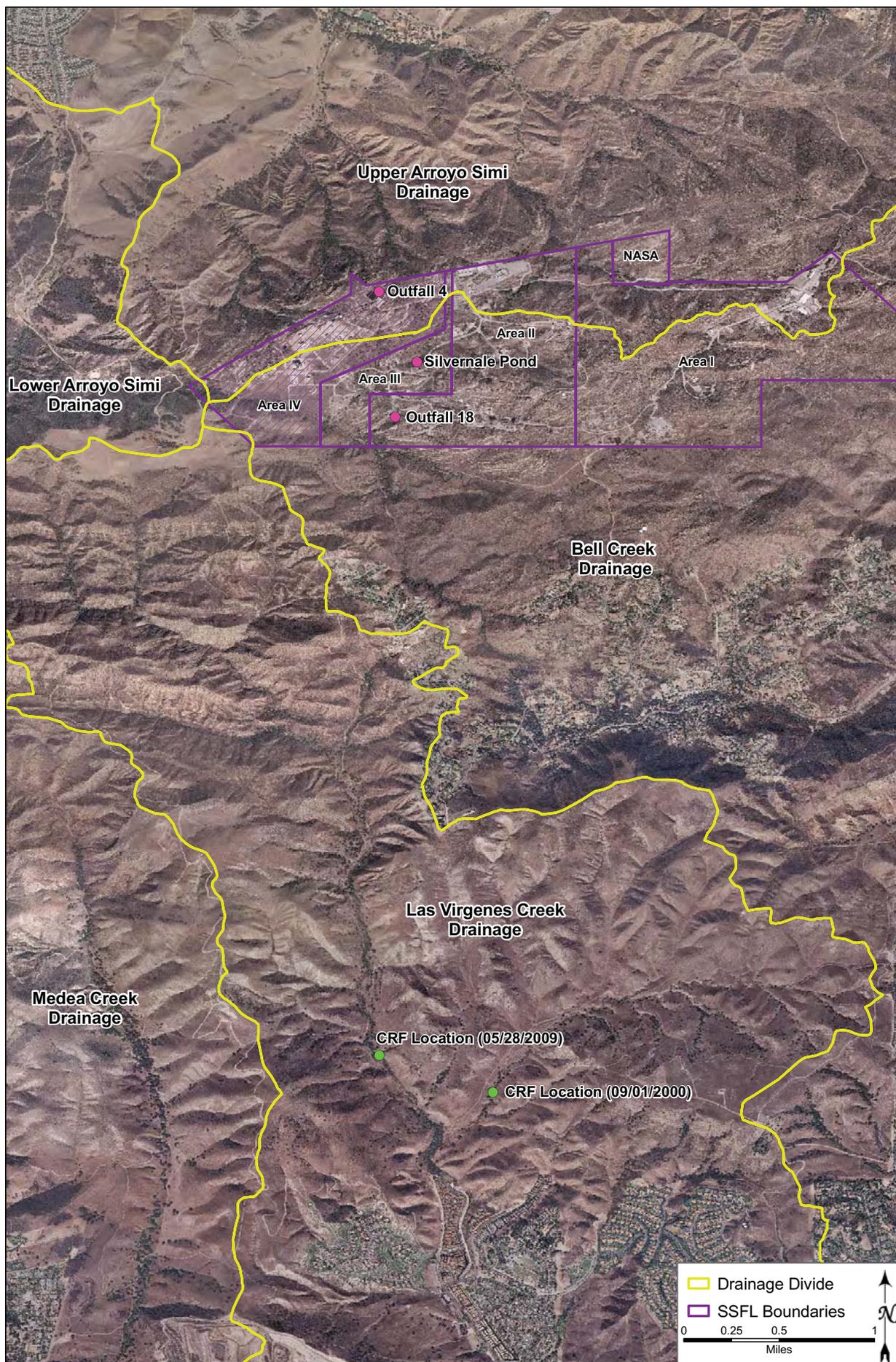
- California Natural Diversity Data Base (CNDDDB). 2010. Full Condensed Report for 16 USGS Quadrangles in the vicinity of the Calabasas Quadrangle. California Department of Fish and Game, Sacramento California
- MWH Global, Inc. 2009. Biological Report on Braunton's Milk-Vetch Habitat. Prepared for The Boeing Company, Santa Susana Field Laboratory, Ventura County, California. Prepared by MWH Global, Inc., Arcadia, California. October 2, 2009.
- MWH Americas, Inc. and AMEC Earth and Environmental, Inc. 2003/2005. Addendum to the Biological Conditions Report, Santa Susana Field Laboratory, Ventura County, California. Prepared for the Boeing Company, National Aeronautics and Space Administration, and U. S. Department of Energy. Prepared by MWH Americas, Inc., Pasadena, California, and AMEC Earth and Environmental, Inc., San Rafael, California. July 2003/September 2005.
- Ogden Environmental and Energy Services. 1998. Biological Conditions Report Santa Susana Field Laboratory, Ventura County, California. Prepared for Boeing North American Rocketdyne Propulsion and Power, and National Aeronautics and Space Administration, and U. S. Department of Energy, Energy Technology Engineering Center Division. Prepared by Ogden Environmental and Energy Services Co., Inc., San Diego, California. April 1998. Project No. 313150002.

- U. S. Department of Energy (DOE). 2003. Environmental Assessment for Cleanup and Closure of the Energy Technology Engineering Center. Final. Oakland, CA. U. S. Department of Energy, NNSA Service Center. UDOE/EA-1345. March.
- U.S. Environmental Protection Agency (USEPA) 2009. Biological Assessment for the Santa Susana Field Laboratory Area IV Radiological Study, Ventura County, CA. EPA Contract Number: EP-S7-05-05, Task Order Number: 038. San Francisco, CA. USEPA Region 9. Prepared by HydroGeologic, Inc. and Envicom Corporation.
- U.S. Fish and Wildlife Service (UFWFS). 2002. Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Portland, Oregon. viii + 173 pp.

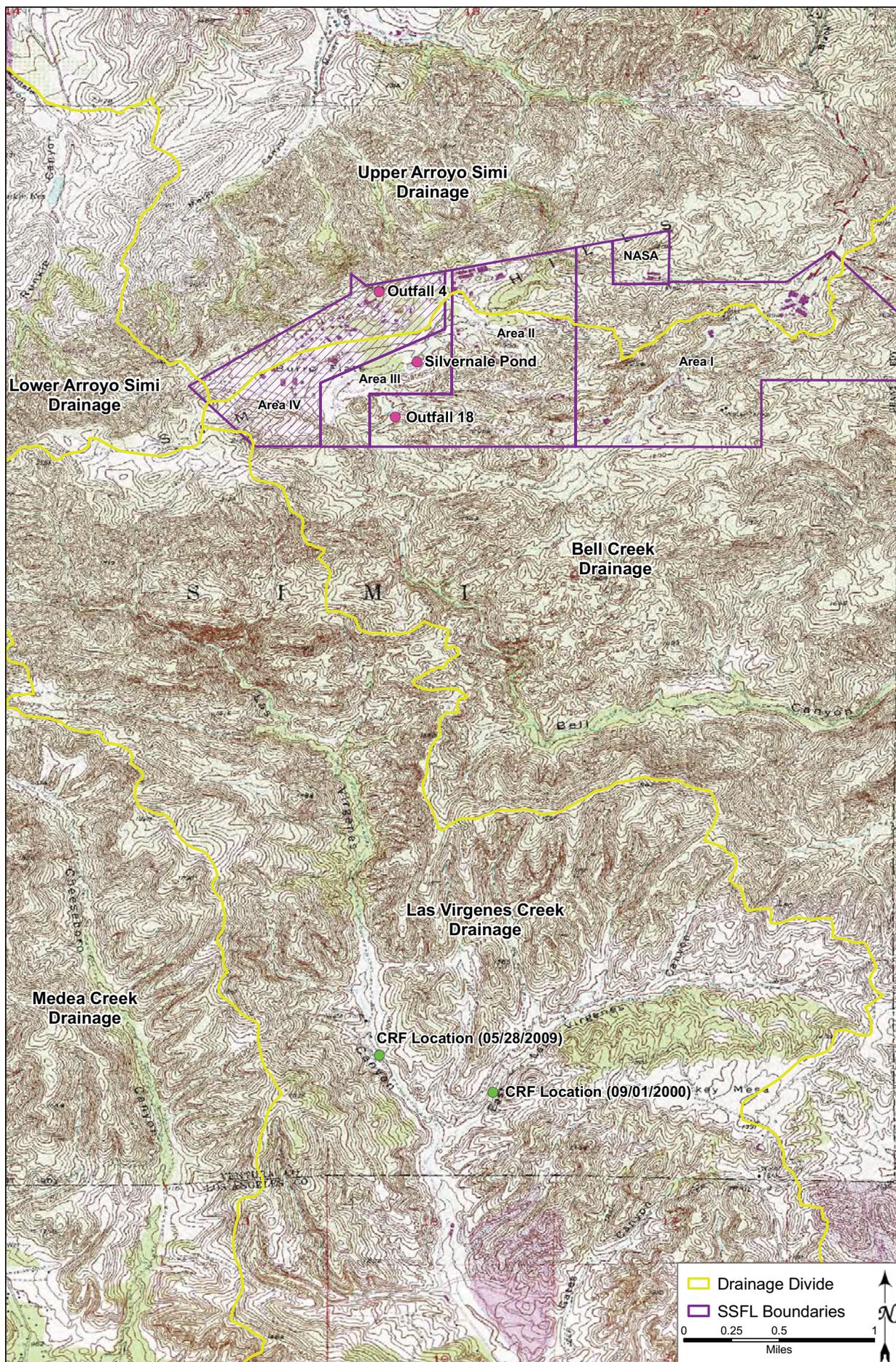
California Red-legged Frog Habitat Vicinity Maps

(Reduced versions included; 11x17 maps transmitted separately)

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Locations of California red-legged frog (CRF) survey sites on SSFL, documented locations of CRF in Las Virgenes Creek and East Las Virgenes Creek, and approximate boundaries of individual watersheds (Bell Creek, Las Virgenes Creek, Medea Creek, Lower Arroyo Simi and Upper Arroyo Simi).



Locations of California red-legged frog (CRF) survey sites on SSFL, documented locations of CRF in Las Virgenes Creek and East Las Virgenes Creek, and approximate boundaries of individual watersheds (Bell Creek, Las Virgenes Creek, Medea Creek, Lower Arroyo Simi and Upper Arroyo Simi).

Site Photos

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Outfall #4

1

2

3

0 25 50 100 150 200 Feet



SRE Pond at Outfall 4 and Vicinity

CRF Report Photo Captions

Small impounded marsh below Outfall 4 (in SSFL Area IV) known as the SRE Pond. Area of this small marsh is approximately 0.01 ha.



Photo 1. Overview of SRE pond/marsh taken October 8, 2009. Shows marsh dominated by (cattails *Typha* spp.). Adjacent mesic upland supports coyote brush (*Baccharis pilularis*).



Photo 2. Closeup of marsh taken February 25, 2010 showing water underneath dead cattails.



Photo 3. Closeup of marsh taken February 25, 2010 showing small area of open water adjacent to cattails.



Silvernale Pond



Silvernale Pond (in SSFL Area III). Area of pond and adjacent wetlands is approximately 0.9 ha. In the October 2007 airphoto, the rosette pattern over water at the southeast corner of the pond is water pumped from the pond and discharged to the air through sprinklers to increase evaporation. Water may be treated at Silvernale Pond to meet NPDES requirements and ultimately discharged through outfall 18. Water may be pumped uphill from Pond R2-A for detention and treatment at Silvernale Pond prior to discharge from the site.

Photos 1-6 were taken February 25, 2010 from the approximate midpoint of the marsh along the south side with view angles as shown in the airphoto. Water levels in the pond on February 25, 2010 are lower than shown in the October 2007 airphoto with more emergent vegetation (cattails, bulrushes, and sapling willows) evident.



Photo 1. Mid-Silvernale to east.



Photo 2. Mid-Silvernale to north.



Photo 3. Mid-Silvernale to north northwest.



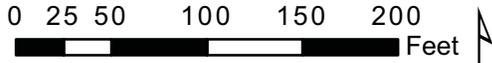
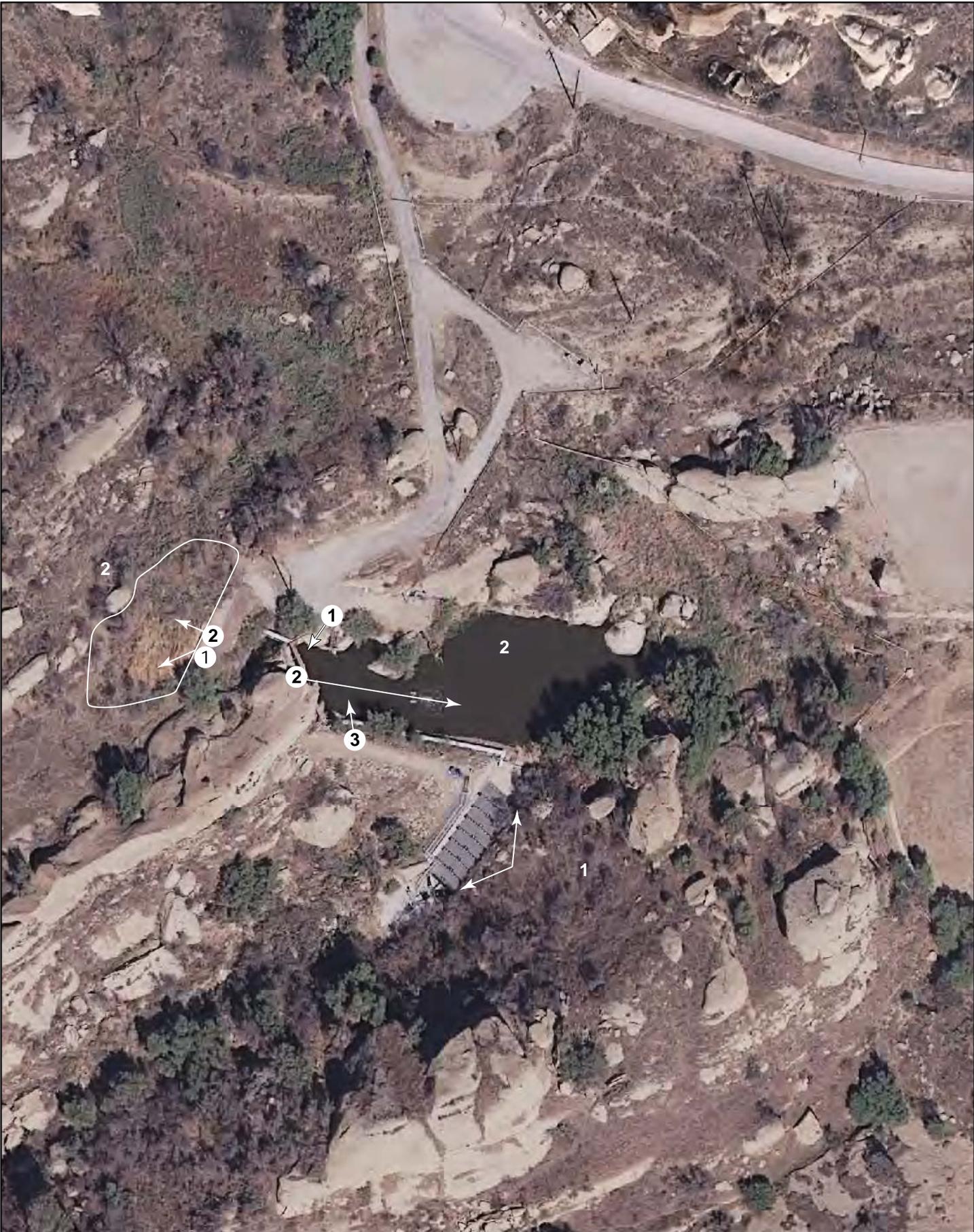
Photo 4. Mid-Silvernale to west.



Photo 5. Mid-Silvernale to southwest.



Photo 6. Silvernale with western toad (*Bufo boreas*) in water.



R2-A and R2-B Ponds at Outfall 18

Ponds R2-A and R2-B at Outfall 18. Area of R2-A is about 0.2 ha and R2-B about 0.1 ha. R2-A is a relatively steep sided impoundment, with varying water levels. Water levels in the following photos taken February 25, 2010 are lower than shown in this airphoto (taken October 2007). R2-A supports little emergent vegetation. Outfall 18 with step like filters extends southward from R2-A. R2-B is to the west and upstream from R2-A. R2-B is currently a very shallow marsh due to influx of sediment. It has extensive emergent vegetation and little open water.



R2-A Photo 1. View of west end of the impoundment showing shallow water level on February 25, 2010, maintained at this low level by pumping.



R2-A Photo 2. View eastward across pond, showing pump. October 8, 2009.



R2-A Photo 3. View northward across pond showing small area of emergent marsh. October 8, 2009.



R2-B Photo 1.



R2-B Photo 2.