



U. S. Department of the Interior
U. S. GEOLOGICAL SURVEY
BIOLOGICAL RESOURCES DISCIPLINE
WESTERN ECOLOGICAL RESEARCH CENTER



San Diego Field Station
5745 Kearny Villa Road, Suite M
San Diego, California 92123

September 28, 2005

Janet Nickerman
Botanist
U.S.D.A. Forest Service
Angeles National Forest
Forest Supervisor's Office
701 North Santa Anita Avenue
Arcadia, CA 91006

626-574-1613 office
jnickerman@fs.fed.us

Dear Janet,

The following is a data summary of the USGS surveys for the California red-legged frog (*Rana aurora*) in the Angeles National Forest for 2005. This report summary is submitted in fulfillment of the 2005 agreement between USGS and the Angeles National Forest under contract # 02-IA-1105-01-00-049 (mod. 4) for California red-legged frog surveys.

We have included tables summarizing site information and the species found at these sites along with topographical maps of each of the survey locations. Tables 1-3 summarize the specific reaches of the creeks that were surveyed and the species observed during our surveys. Figures 1-7 depict specific sections of these creeks that were surveyed as well as select photographs of habitat and California red-legged frogs encountered.

Respectfully,

Robert N. Fisher
Stacie A. Hathaway
Adam R. Backlin
Cynthia J. Hitchcock
Sara L. Compton
Liz Gallegos



Data Summary for the 2005 California Red-Legged Frog (*Rana aurora draytonii*) Surveys Conducted in the Angeles National Forest

Data Summary

Prepared for:
Angeles National Forest

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
WESTERN ECOLOGICAL RESEARCH CENTER

Data Summary for the 2005 California Red-Legged Frog (*Rana aurora draytonii*) Surveys Conducted in the Angeles National Forest

By: Cynthia J. Hitchcock¹, Adam R. Backlin², Robert N. Fisher² and Stacie A. Hathaway²

U.S. GEOLOGICAL SURVEY
WESTERN ECOLOGICAL RESEARCH CENTER

Data Summary

Prepared for:

Angeles National Forest
Janet Nickerman

¹San Diego Field Station – Thousand Oaks Office
USGS Western Ecological Research Center
401 Hillcrest Drive
Thousand Oaks, CA 91360

²San Diego Field Station – San Diego Office
USGS Western Ecological Research Center
4165 Spruance Road, Suite 200
San Diego, CA 92101

Sacramento, California
2005

U.S. DEPARTMENT OF THE INTERIOR
GALE A. NORTON, SECRETARY

U.S. GEOLOGICAL SURVEY
Patrick Leahy, Acting Director

The use of firm, trade, or brand names in this report is for identification purposes only and does not constitute endorsement by the U.S. Geological Survey.

For additional information, contact:

Center Director
U.S. Geological Survey
Western Ecological Research Center
3020 State University Drive East
Modoc Hall, Room 3006
Sacramento, CA 95819

TABLE OF CONTENTS

Table 1. Summary of Angeles National Forest site reaches surveyed for California red-legged frogs during 2005.....	1
Table 2. Summary of animals observed for each site surveyed in 2005. No non-native aquatic animals were detected.....	2
Table 3. Summary of 2005 California red-legged frog captures in San Francisquito Canyon by date and age class	3
Figure 1. 2005 California red-legged frog survey reach and captures at San Francisquito Canyon	4
Figure 2. Detail of locations of the artificial pools dug by the U.S. Forest Service	5
Figure 3. 2005 California red-legged frog survey reach at Cañada de los Alamos	6
Figure 4. Habitat pictures of San Francisquito Canyon. Top: Artificial pool 4 on 3/1/05 (left) and again on 6/15/05 (right) was the only artificial pool to contain California red-legged frogs. Pools 1, 2, 3, 6, and 7 did not withstand the high water and are now dry. Artificial pool 5 did not harbor any California red-legged frogs. Bottom: Below the remnants of the old Saint Francis Dam on 02/04/05 (left) and again on 8/30/05 (right). This area used to hold deep (<1m) still water and is now shallow (<10cm) and flowing	7
Figure 5. Representative pictures of habitat throughout the survey area in San Francisquito Canyon	8
Figure 6. Representative picture of the habitat in Cañada de los Alamos	9
Figure 7. California red-legged frog eggs, tadpoles and an adult encountered in San Francisquito Canyon, 2005	10

Recommended Citation:

Hitchcock, C. J., A. R. Backlin, R. N. Fisher and S. A. Hathaway. 2005. Data Summary for the 2005 California red-legged frog (*Rana aurora draytonii*) surveys conducted in the Angeles National Forest. U. S. Geological Survey data summary prepared for the Angeles National Forest, Arcadia, CA. 10 pp.

Table 1. Summary of Angeles National Forest site reaches surveyed for California red-legged frogs during 2005.

SITE	DATE	START LATITUDE ¹	START LONGITUDE ¹	END LATITUDE ¹	END LONGITUDE ¹
San Francisquito Canyon Dam Reach	25-Jan-2005	34.54585	118.51660	34.55152	118.50688
	25-Jan-2005	34.56745	118.47476	34.56745	118.47476
	31-Jan-2005	34.55435	118.50245	34.54572	118.51645
	1-Mar-2005	34.54585	118.51660	34.55395	118.50235
	25-May-2005	34.54634	118.51340	34.54597	118.51850
	27-May-2005	34.54634	118.51340	34.54770	118.51165
	15-Jun-2005	34.54770	118.51165	34.55325	118.50036
	5-Jul-2005	34.54550	118.51640	34.54908	118.51183
	6-Jul-2005	34.54930	118.50981	34.55726	118.49099
	7-Jul-2005	34.53234	118.52899	34.54634	118.51340
	6-Sep-2005	34.54202	118.52014	34.55033	118.50742
Cañada de los Alamos (reconnaissance site)	7-Jul-2005	34.70525	118.81621	34.70385	118.81080

¹ Coordinates recorded in WGS84 (decimal degrees).

Table 2. Summary of animals observed for each site surveyed in 2005. No non-native aquatic animals were detected.

SITE	NATIVE AQUATIC / SEMI-AQUATIC SPECIES					NON-NATIVE AQUATIC / SEMI-AQUATIC SPECIES				
	California red-legged frog (<i>Rana aurora draytonii</i>) ¹	Pacific treefrog (<i>Pseudacris regilla</i>)	western toad (<i>Bufo boreas</i>)	arroyo chub (<i>Gila orcutti</i>)	unarmored threespine stickleback (<i>Gasterosteus aculeatus williamsoni</i>) ²	mosquito-fish (<i>Gambusia affinis</i>)	green sunfish (<i>Lepomis cyanellus</i>)	koi (<i>Cyprinus carpio</i>)	goldfish (<i>Carassius auratus</i>)	red swamp crayfish (<i>Procambarus clarkii</i>)
San Francisquito Canyon Dam Reach	X	X	X	X	X					
Cañada de los Alamos (reconnaissance site)		X								

¹ Federally threatened.

² Federally endangered.

Table 3. Summary of 2005 California red-legged frog captures in San Francisquito Canyon by date and age class.

SITE	DATE	ANIMAL'S LATITUDE ¹	ANIMAL'S LONGITUDE ¹	AGE CLASS	TOTAL COUNT ²	
San Francisquito Canyon Dam Reach	25-Jan-2005	—	—	—	—	
	31-Jan-2005	34.55392	118.50240	Adult	1	
		34.54768	118.51165	Adult	1	
		34.54763	118.51172	Adult	1	
		34.54760	118.51172	Adult	1	
		34.54738	118.51203	Adult	1	
		34.54738	118.51200	Adult	1	
	1-Mar-2005	34.54743	118.51193	Adult	1	
		34.55012	118.50923	Adult	1	
		34.55010	118.50920	Adult	4	
		34.55003	118.50950	Adult	1	
	25-May-05	34.55015	118.50920	Egg Mass	1	
		34.55017	118.50918	Tadpole	1	
		34.55017	118.50917	Tadpole	1	
		34.55020	118.50923	Tadpole	1	
		34.55018	118.50925	Tadpole	1	
		34.55015	118.50917	Tadpole	1	
		34.55017	118.50915	Tadpole	1	
		34.55017	118.50918	Tadpole	1	
		34.55018	118.50920	Tadpole	1	
		34.55017	118.50917	Tadpole	1	
	27-May-05	34.55017	118.50917	Tadpole	1	
		34.54727	118.51270	Tadpole	100	
		34.54727	118.51267	Tadpole	50	
		34.54708	118.51287	Tadpole	275	
		34.54634	118.51340	Tadpole	≥1	
	5-Jul-2005	34.54634	118.51340	Tadpole	80	
		15-Jun-2005	—	—	—	—
		34.54615	118.51445	Adult	1	
		34.54723	118.51272	Adult	1	
		34.55015	118.50918	Adult	1	
		34.55018	118.50918	Adult	1	
34.55018		118.50917	Adult	1		
34.55023		118.50917	Adult	1		
34.55020		118.50918	Adult	1		
34.55015		118.50920	Adult	1		
34.55018		118.50917	Juvenile	1		
34.54658		118.51338	Tadpole	≥1		
34.54708		118.51278	Tadpole	300		
7-Jul-2005		34.54712	118.51285	Adult	1	
		34.54708	118.51280	Metamorph	7	
	34.54345	118.51962	Tadpole	≥1		
	34.54713	118.51283	Tadpole	≥1		
8-Jul-2005	34.54345	118.51957	Adult	1		
6-Sep-2005	34.54355	118.51965	Metamorph	1		
	34.54727	118.51275	Tadpole	100		

¹ Coordinates recorded in WGS84 (decimal degrees).

² Where "≥" appears, exact count was not recorded.

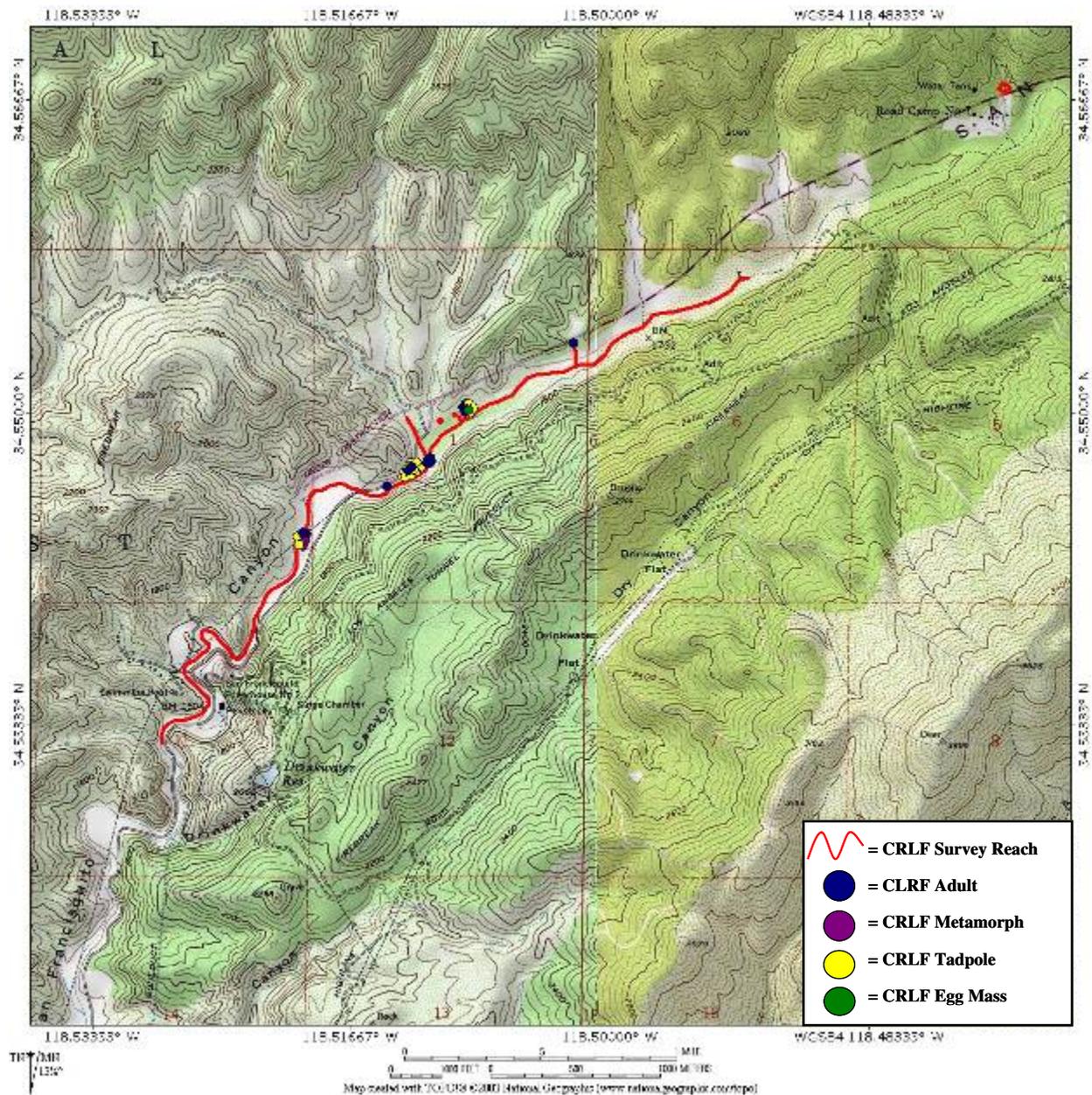


Figure 1. 2005 California red-legged frog survey reach and captures at San Francisquito Canyon. The majority of the tadpoles were discovered about 30m west of the main waterway in a side channel formed by seepage coming through the remnants of the old Saint Francis Dam (center cluster on above map). The remainder of the tadpoles were discovered in one of the artificial pools (northernmost cluster on above map) and in a spring-fed pool that held deeper water (>1m) formed by rubble from the old dam (southernmost cluster on above map).

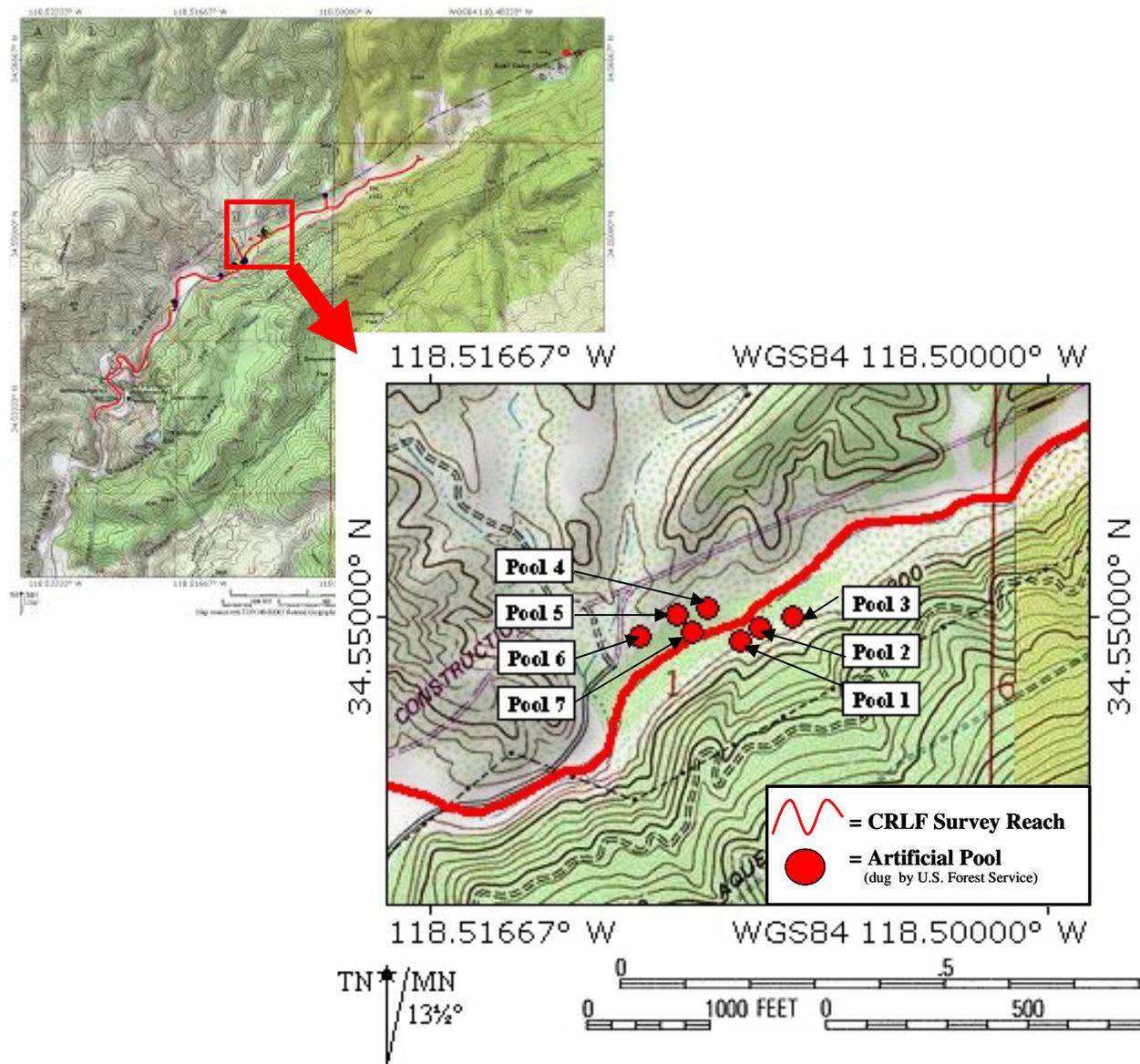


Figure 2. Detail of locations of the artificial pools dug by the U.S. Forest Service. Pools 1, 2, and 3 were dug in late October 2002. Pools 4, 5, 6, and 7 were dug in January 2005. Of these, only pools 4 and 6 remained following the heavy rains in 2005. California red-legged frogs, tadpoles and an egg mass were seen in pool 4 in 2005.

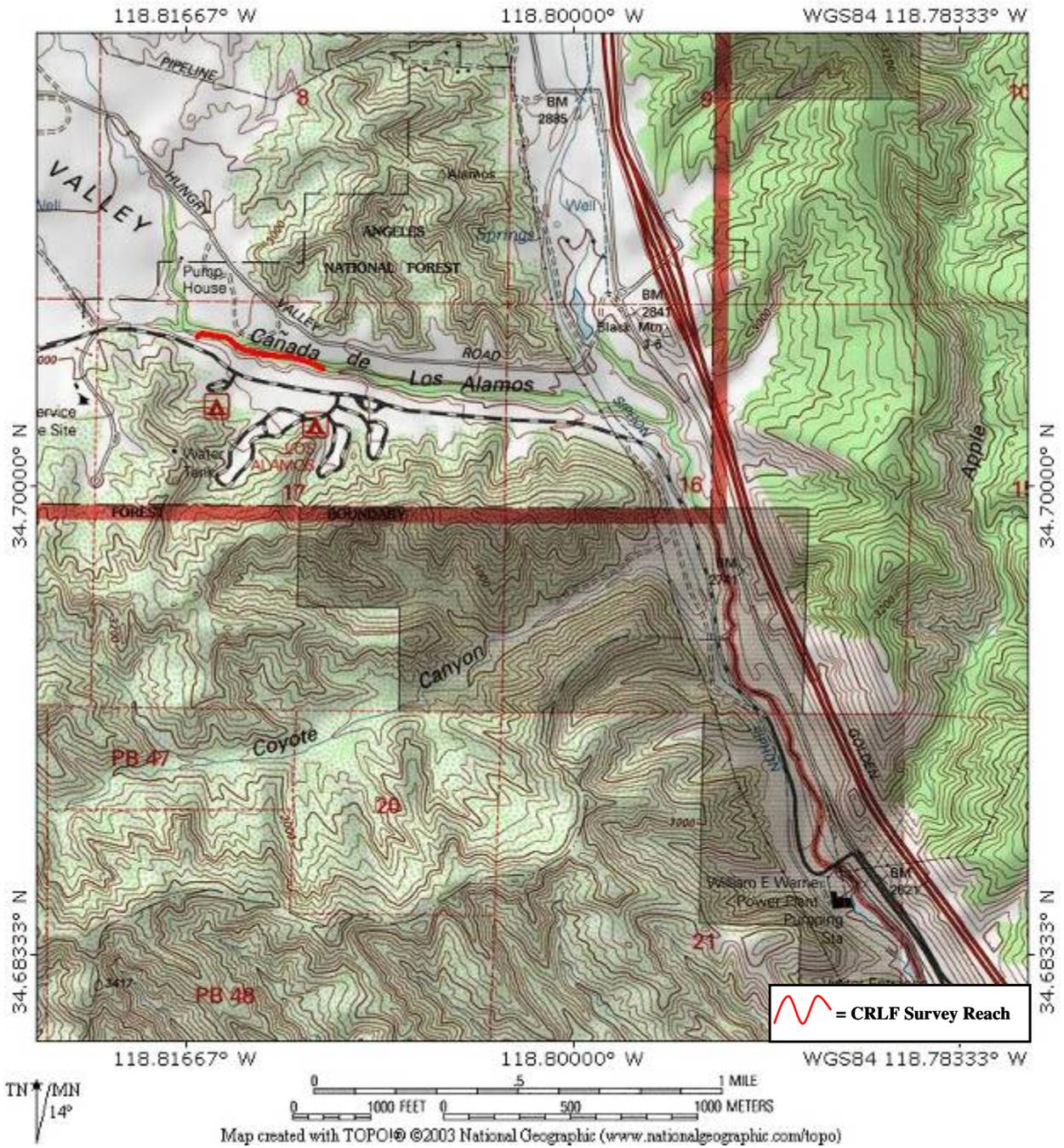


Figure 3. 2005 California red-legged frog survey reach at Cañada de los Alamos. No California red-legged frogs or suitable habitat was found.



Figure 4. Habitat pictures of San Francisquito Canyon. Top: Artificial pool 4 on 3/1/05 (left) and again on 6/15/05 (right) was the only artificial pool to contain California red-legged frogs. Pools 1, 2, 3, 6, and 7 did not withstand the high water and are now dry. Artificial pool 5 did not harbor any California red-legged frogs. Bottom: Below the remnants of the old Saint Francis Dam on 02/04/05 (left) and again on 8/30/05 (right). This area used to hold deep (<1m) still water and is now shallow (<10cm) and flowing.



Figure 5. Representative pictures of habitat throughout the survey area in San Francisquito Canyon.



Figure 6. Representative picture of the habitat in Cañada de los Alamos.



Figure 7. California red-legged frog eggs, tadpoles and an adult encountered in San Francisquito Canyon, 2005.