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BIOLOGICAL RESOURCES DISCIPLINE  
WESTERN ECOLOGICAL RESEARCH CENTER



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September 28, 2005

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Dear Steve and Kathie,

The following is a data summary of the USGS surveys for the mountain yellow-legged frog (*Rana muscosa*) in the San Bernardino National Forest for 2005. This report is submitted in fulfillment of the 2005 agreement between USGS and the San Bernardino National Forest under contract # 02-IA-1105-12-00-018 (mod. 4) for mountain yellow-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 1-4 summarize the locations of sites and species observed during our surveys. Figures 1-6 show specific sections of these creeks that were surveyed as well as select photographs of habitat and species encountered.

Respectfully,

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Stacie A. Hathaway  
Adam R. Backlin  
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# Data Summary for the 2005 Mountain Yellow-Legged Frog (*Rana muscosa*) Surveys Conducted in the San Bernardino National Forest

Data Summary

Prepared for:  
San Bernardino National Forest

# Data Summary for the 2005 Mountain Yellow-Legged Frog (*Rana muscosa*) Surveys Conducted in the San Bernardino National Forest

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## Data Summary

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U.S. DEPARTMENT OF THE INTERIOR  
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## TABLE OF CONTENTS

Table 1. Summary of San Bernardino National Forest site locations surveyed .....	1
Table 2. Summary of animals observed for each San Bernardino National Forest site surveyed in 2005 .....	2
Table 3. Summary of 2005 mountain yellow-legged frog captures by date and age class for each San Bernardino National Forest site surveyed .....	3
Table 4. Habitat assessment of San Bernardino National Forest 2005 mountain yellow-legged survey locations.....	6
Figure 1. Overview of San Bernardino National Forest 2005 mountain yellow-legged survey locations.....	7
Figure 2. San Bernardino National Forest 2005 mountain yellow-legged frog survey reach at City Creek, Mainstream and City Creek, East Fork .....	8
Figure 3. San Bernardino National Forest 2005 mountain yellow-legged frog survey reach at Dark Canyon and Fuller Mill Creek .....	9
Figure 4. San Bernardino National Forest 2005 mountain yellow-legged frog survey reach at Hall Canyon .....	10
Figure 5. San Bernardino National Forest 2005 mountain yellow-legged frog survey reach at Logan Creek, Stone Creek, and North Fork San Jacinto River.....	11
Figure 6. San Bernardino National Forest 2005 mountain yellow-legged frog survey habitat .....	12
Figure 7. Mountain yellow-legged frog (a) egg mass, (b) 2 <sup>nd</sup> year tadpole, and (c) adult.....	14

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**Table 1.** Summary of San Bernardino National Forest site reaches surveyed during 2005

SITE	SURVEY DATE	START LATITUDE <sup>1</sup>	START LONGITUDE <sup>1</sup>	END LATITUDE <sup>1</sup>	END LONGITUDE <sup>1</sup>
City Creek, Mainstream	26-Jul-2005	34.17328	117.18322	34.16447	117.18175
City Creek, East Fork	12-Jul-2005	34.17318	117.18223	34.18664	117.17710
	26-Jul-2005	34.18664	117.17710	34.19850	117.16474
	30-Aug-2005	34.18664	117.17710	34.22692	117.13727
	13-Sep-2005	34.17318	117.18223	34.18664	117.17710
Dark Canyon, Mainstream	1-Jul-2005	33.79891	116.73571	33.80265	116.73265
	27-Jul-2005	33.80265	116.73265	33.81137	116.72021
	1-Sep-2005	33.80265	116.73265	33.80935	116.72499
Dark Canyon Tributary 1	1-Sep-2005	33.79888	116.73569	33.79880	116.71121
Dark Canyon Tributary 2	1-Jul-2005	33.79956	116.73280	33.79817	116.73067
	27-Jul-2005	33.79956	116.73280	33.79737	116.72797
	1-Sep-2005	33.79956	116.73280	33.79817	116.73067
Fuller Mill Creek	30-Jun-2005	33.81475	116.73620	33.82114	116.72557
	28-Jul-2005	33.81475	116.73620	33.82114	116.72557
	1-Sep-2005	33.81475	116.73620	33.81984	116.72774
Fuller Mill Creek Tributary	28-Jul-2005	33.82114	116.72557	33.82245	116.72217
	1-Sep-2005	33.82114	116.72557	33.82278	116.71959
Hall Canyon	24-Aug-2005	33.81078	116.77481	33.81970	116.76779
Logan Creek	23-Aug-2005	33.75921	116.78249	33.75926	116.77764
	9-Aug-2005	33.76019	116.76493	33.76033	116.76224
	9-Aug-2005	33.76066	116.75957	33.76129	116.75703
	9-Aug-2005	33.76431	116.74340	33.76391	116.74080
North Fork San Jacinto River	23-Aug-2005	33.76048	116.78288	33.77318	116.77738
	31-Aug-2005	33.77535	116.77662	33.78445	116.77125
	1-Sep-2005	33.79661	116.74086	33.79853	116.73606
Stone Creek	10-Aug-2005	33.77050	116.77816	33.77249	116.76041

<sup>1</sup> Coordinates recorded in WGS84 (decimal degrees).

**Table 2.** Summary of animals observed for each San Bernardino National Forest site surveyed in 2005.

SITE	NATIVE AQUATIC / SEMI-AQUATIC SPECIES			NON-NATIVE AQUATIC / SEMI-AQUATIC SPECIES
	mountain yellow-legged frog ( <i>Rana muscosa</i> ) <sup>1</sup>	California treefrog ( <i>Pseudacris cadaverina</i> )	two-striped garter snake ( <i>Thamnophis hammondi</i> ) <sup>2</sup>	rainbow trout ( <i>Oncorhynchus mykiss</i> )
City Creek, Mainstream		X		
City Creek, East Fork	X	X	X	
Dark Canyon, Mainstream	X			
Dark Canyon Tributary 1	X			
Dark Canyon Tributary 2	X			
Fuller Mill Creek	X	X		
Fuller Mill Creek Tributary	X			
Hall Canyon				
Logan Creek		X		
North Fork San Jacinto River		X		X
Stone Creek				X

2

<sup>1</sup> Federally endangered.

<sup>2</sup> CDFG: CSC; BLM: Sensitive; FS: Sensitive.

**Table 3.** Summary of 2005 mountain yellow-legged frog captures by date and age class for each San Bernardino National Forest site surveyed.

SITE	DATE	LATITUDE <sup>1</sup>	LONGITUDE <sup>1</sup>	AGE CLASS	TOTAL COUNT
<b>City Creek, Mainstream</b>	26-Jul-2005	—	—	—	—
	12-Jul-2005	—	—	—	—
	26-Jul-2005	—	—	—	—
	30-Aug-2005	—	—	—	—
<b>City Creek, East Fork</b>	13-Sep-2005	34.17943	117.18297	Juvenile	1
		34.17998	117.18242	Juvenile	1
		34.18137	117.18190	Juvenile	1
		34.18138	117.18185	Juvenile	1
		34.18182	117.18160	Juvenile	1
		34.18193	117.18158	Juvenile	1
		34.18253	117.18078	Juvenile	1
		34.18255	117.18107	Juvenile	1
		34.18257	117.18100	Juvenile	1
		34.18452	117.17875	Juvenile	1
		34.18140	117.18185	Metamorph	1
<b>Dark Canyon, Mainstream</b>	1-Jul-2005	33.80827	116.72608	Adult	1
	27-Jul-2005	33.80363	116.73132	Adult	1
	1-Sep-2005	—	—	—	—
<b>Dark Canyon Tributary 1</b>	1-Sep-2005	33.79888	116.73569	Metamorph	1
		33.79888	116.73569	Metamorph	1
		33.79888	116.73569	Metamorph	1
		33.79888	116.73569	Metamorph	1
		33.79917	116.73480	Metamorph	1
		33.79925	116.73395	Metamorph	1
		33.79935	116.73395	Metamorph	1
		33.79953	116.73388	Metamorph	1
		33.79888	116.73569	2nd Year Tadpole	4
		33.79918	116.73470	2nd Year Tadpole	1
		33.79938	116.73393	2nd Year Tadpole	1
		33.79945	116.73392	2nd Year Tadpole	1
		33.79953	116.73390	2nd Year Tadpole	1
<b>Dark Canyon Tributary 2</b>	1-Jul-2005	33.79820	116.73033	Adult	1
		33.79825	116.73095	Adult	1
		33.79827	116.73118	Adult	1
		33.79828	116.73027	Adult	1
		33.79830	116.73078	Adult	1
		33.79835	116.73075	Adult	1
		33.79838	116.73085	Adult	1
		33.79825	116.73145	2nd Year Tadpole	50
		33.79828	116.73182	2nd Year Tadpole	1
		33.79830	116.73182	2nd Year Tadpole	1
		33.79833	116.73182	2nd Year Tadpole	10
		33.79835	116.73112	2nd Year Tadpole	20
		33.79835	116.73197	2nd Year Tadpole	1
	33.79842	116.73145	2nd Year Tadpole	10	
	33.79842	116.73145	2nd Year Tadpole	3	
	33.79848	116.73072	2nd Year Tadpole	15	
	27-Jul-2005	33.79810	116.73153	Adult	1
		33.79888	116.73569	Adult	1
		33.79888	116.73569	Adult	1
		33.79888	116.73569	Adult	1
33.79888		116.73569	Adult	1	
33.79888		116.73569	Adult	1	
33.79888		116.73569	Adult	1	

<sup>1</sup>Coordinates recorded in WGS84 (decimal degrees).



**Table 3 (continued).** Summary of 2005 mountain yellow-legged frog captures by date and age class for each San Bernardino National Forest site surveyed.

SITE	DATE	LATITUDE <sup>1</sup>	LONGITUDE <sup>1</sup>	AGE CLASS	TOTAL COUNT
Dark Canyon Tributary 2	27-Jul-2005	33.79888	116.73569	Adult	1
		33.79888	116.73569	Adult	1
		33.79888	116.73569	Metamorph	1
		33.79888	116.73569	2nd Year Tadpole	50
		33.79888	116.73569	1st Year Tadpole	20
		33.79888	116.73569	Egg Mass	1
	1-Sep-2005	33.79813	116.73203	Adult	1
		33.79817	116.73085	Adult	1
		33.79825	116.73167	Adult	1
		33.79828	116.73105	Adult	1
		33.79828	116.73160	Adult	2
		33.79835	116.73180	Adult	1
		33.79900	116.73202	Metamorph	1
		33.79910	116.73197	Metamorph	1
		33.79827	116.73163	Metamorph	30
		33.79833	116.73103	Metamorph	5
		33.79887	116.73212	Metamorph	1
		33.79892	116.73212	Metamorph	1
		33.79895	116.73210	Metamorph	1
		33.79898	116.73170	Metamorph	2
		33.79902	116.73200	Metamorph	1
		33.79902	116.73200	Metamorph	1
		33.79905	116.73190	Metamorph	27
		33.79908	116.73175	Metamorph	10
		33.79913	116.73192	Metamorph	1
		33.79917	116.73187	Metamorph	1
		33.79920	116.73187	Metamorph	1
		33.79922	116.73185	Metamorph	1
		33.79815	116.73085	2nd Year Tadpole	10
		33.79828	116.73160	2nd Year Tadpole	1
		33.79830	116.73158	2nd Year Tadpole	1
		33.79893	116.73203	2nd Year Tadpole	3
		33.79903	116.73230	2nd Year Tadpole	1
		33.79956	116.73280	2nd Year Tadpole	1
		33.79810	116.73205	1st Year Tadpole	1
		33.79817	116.73147	1st Year Tadpole	10
		33.79817	116.73202	1st Year Tadpole	1
		33.79822	116.73162	1st Year Tadpole	1
		33.79823	116.73085	1st Year Tadpole	20
		33.79825	116.73157	1st Year Tadpole	1
		33.79825	116.73167	1st Year Tadpole	1
		33.79827	116.73135	1st Year Tadpole	1
33.79827	116.73142	1st Year Tadpole	1		
33.79828	116.73143	1st Year Tadpole	1		
33.79828	116.73147	1st Year Tadpole	15		
33.79828	116.73160	1st Year Tadpole	1		
33.79830	116.73142	1st Year Tadpole	1		
33.79830	116.73158	1st Year Tadpole	1		
33.79833	116.73155	1st Year Tadpole	1		
33.79833	116.73155	1st Year Tadpole	1		
Fuller Mill Creek	30-Jun-2005	33.82228	116.72285	Adult	1
		33.82247	116.72218	Adult	1
		33.82247	116.72270	Adult	1
		33.82247	116.72277	Adult	1
		33.82248	116.72278	Adult	1
		33.82008	116.72788	Metamorph	1
		33.82022	116.72778	Metamorph	1
		33.81940	116.72905	2nd Year Tadpole	3
		33.81992	116.72726	2nd Year Tadpole	2
		33.82125	116.72510	2nd Year Tadpole	1

<sup>1</sup> Coordinates recorded in WGS84 (decimal degrees).

**Table 3 (continued).** Summary of 2005 mountain yellow-legged frog captures by date and age class for each San Bernardino National Forest site surveyed.

SITE	DATE	LATITUDE <sup>1</sup>	LONGITUDE <sup>1</sup>	AGE CLASS	TOTAL COUNT
<b>Fuller Mill Creek</b>	1-Sep-2005	33.81992	116.72726	2nd Year Tadpole	1
		33.81992	116.72726	2nd Year Tadpole	1
<b>Fuller Mill Creek Tributary</b>	28-Jul-2005	33.82247	116.72238	Adult	1
		33.82240	116.72253	Adult	1
		33.82202	116.72233	Adult	1
		33.82073	116.72177	Metamorph	1
		33.82252	116.72272	2nd Year Tadpole	1
		33.82250	116.72278	2nd Year Tadpole	1
		33.82240	116.72262	2nd Year Tadpole	5
		33.82217	116.72233	2nd Year Tadpole	1
		33.82252	116.72277	1st Year Tadpole	1
		33.82248	116.72272	1st Year Tadpole	1
		33.82248	116.72275	1st Year Tadpole	1
		33.82248	116.72280	1st Year Tadpole	1
		33.82248	116.72290	1st Year Tadpole	1
		33.82243	116.72260	1st Year Tadpole	1
		33.82238	116.72268	1st Year Tadpole	1
		33.82232	116.72242	1st Year Tadpole	1
		33.82232	116.72247	1st Year Tadpole	1
		33.82228	116.72242	1st Year Tadpole	1
		33.82217	116.72225	1st Year Tadpole	1
		33.82213	116.72238	1st Year Tadpole	1
		33.82210	116.72230	1st Year Tadpole	1
	33.82167	116.72205	1st Year Tadpole	1	
	33.82157	116.72207	1st Year Tadpole	1	
	33.82147	116.72202	1st Year Tadpole	1	
	33.82102	116.72185	1st Year Tadpole	1	
	33.82087	116.72182	1st Year Tadpole	1	
	1-Sep-2005	33.82240	116.72253	Adult	1
		33.82240	116.72253	Juvenile	1
		33.82238	116.72235	Metamorph	5
		33.82238	116.72233	Metamorph	2
		33.82240	116.72253	Metamorph	1
		33.82237	116.72232	1st Year Tadpole	30
	33.82240	116.72253	1st Year Tadpole	10	
<b>Hall Canyon</b>	24-Aug-2005	—	—	—	—
<b>Logan Creek</b>	9-Aug-2005	—	—	—	—
	23-Aug-2005	—	—	—	—
<b>North Fork San Jacinto River</b>	23-Aug-2005	—	—	—	—
	31-Aug-2005	—	—	—	—
	1-Sep-2005	—	—	—	—
<b>Stone Creek</b>	10-Aug-2005	—	—	—	—

<sup>1</sup> Coordinates recorded in WGS84 (decimal degrees).

**Table 4.** Habitat assessment of San Bernardino National Forest 2005 mountain yellow-legged survey locations.

SITE	HABITAT CRITERIA			HABITAT QUALITY <sup>1</sup>	YELLOW-LEGGED FROGS OBSERVED	HABITAT COMMENTS
	PLUNGE POOLS	AQUATIC REFUGIA	BASKING AREAS			
City Creek, Mainstream	X	X	X	High	N	Currently no canopy cover. Vegetation beginning to come back since the heavy scouring events.
City Creek, East Fork	X	X	X	High	Y	Currently no canopy cover. Vegetation beginning to come back since the heavy scouring events.
Dark Canyon	X	X	X	High	Y	
Dark Canyon Tributary 1	X	X	X	High	Y	
Dark Canyon Tributary 2	X	X	X	High	Y	
Fuller Mill Creek	X	X	X	High	Y	
Fuller Mill Creek Tributary	X	X	X	High	Y	
Hall Canyon	X	X	X	High	N	
Logan Creek	X			Marginal	N	Few plunge pools. Incised and heavily vegetated creek basin.
Logan Creek Tributary <sup>2</sup>				Poor	N	No water. Incised and heavily vegetated.
North Fork San Jacinto River	X	X	X	High	N	Numerous trout inhabit creek.
North Fork San Jacinto Tributary <sup>2</sup>				Poor	N	No water
Stone Creek	X	X	X	High	N	Numerous trout inhabit creek.
Stone Creek Tributary 1 <sup>2</sup>				Poor	N	No water
Stone Creek Tributary 2 <sup>2</sup>				Poor	N	No water
Stone Creek Tributary 3 <sup>2</sup>				Poor	N	No water

<sup>1</sup> Total number of "X's" correlates with habitat quality as follows:

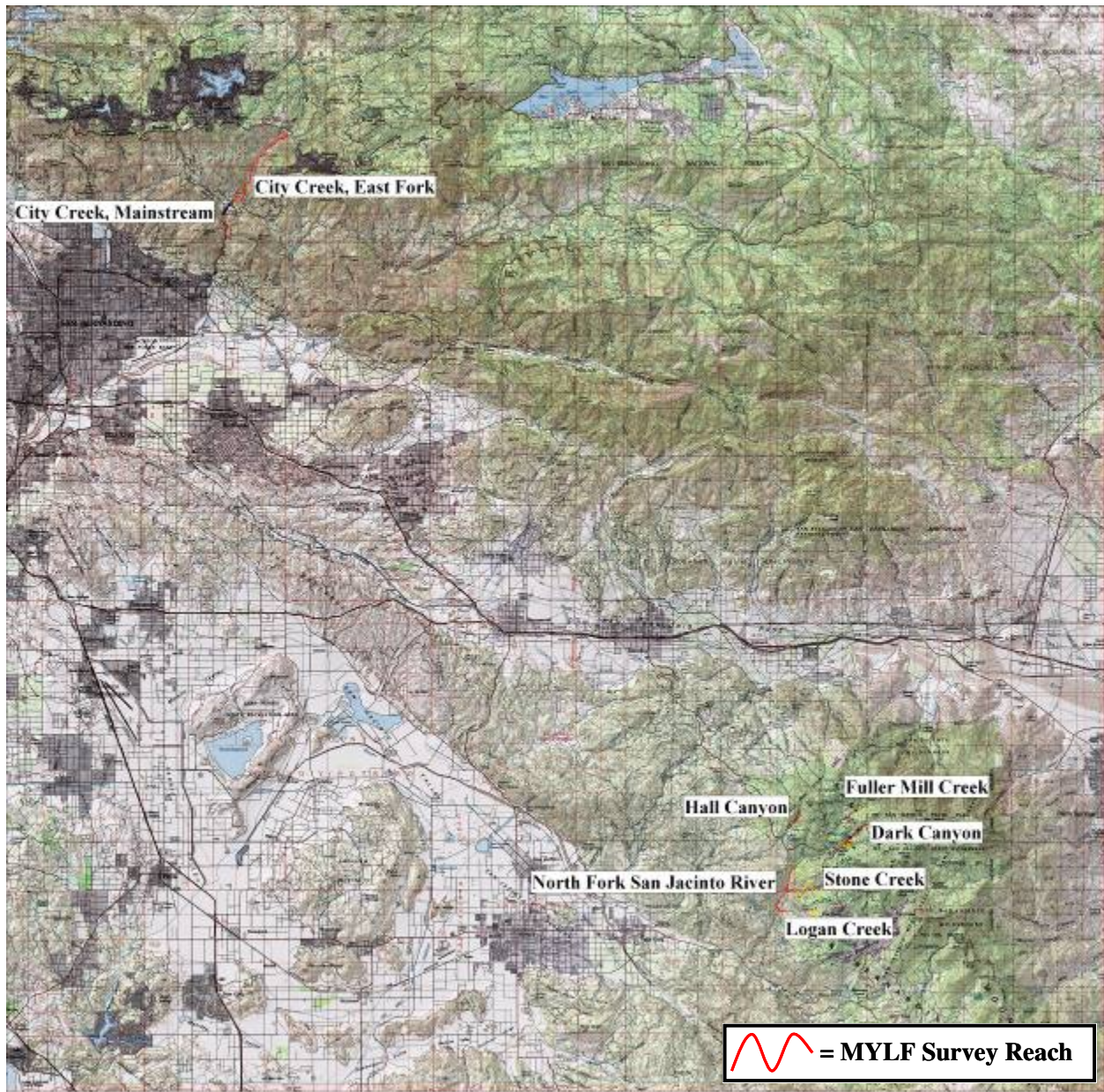
" " = poor

"X" = marginal

"XX" = good

"XXX" = high

<sup>2</sup> Reaches not surveyed due to a lack of water and riparian habitat.



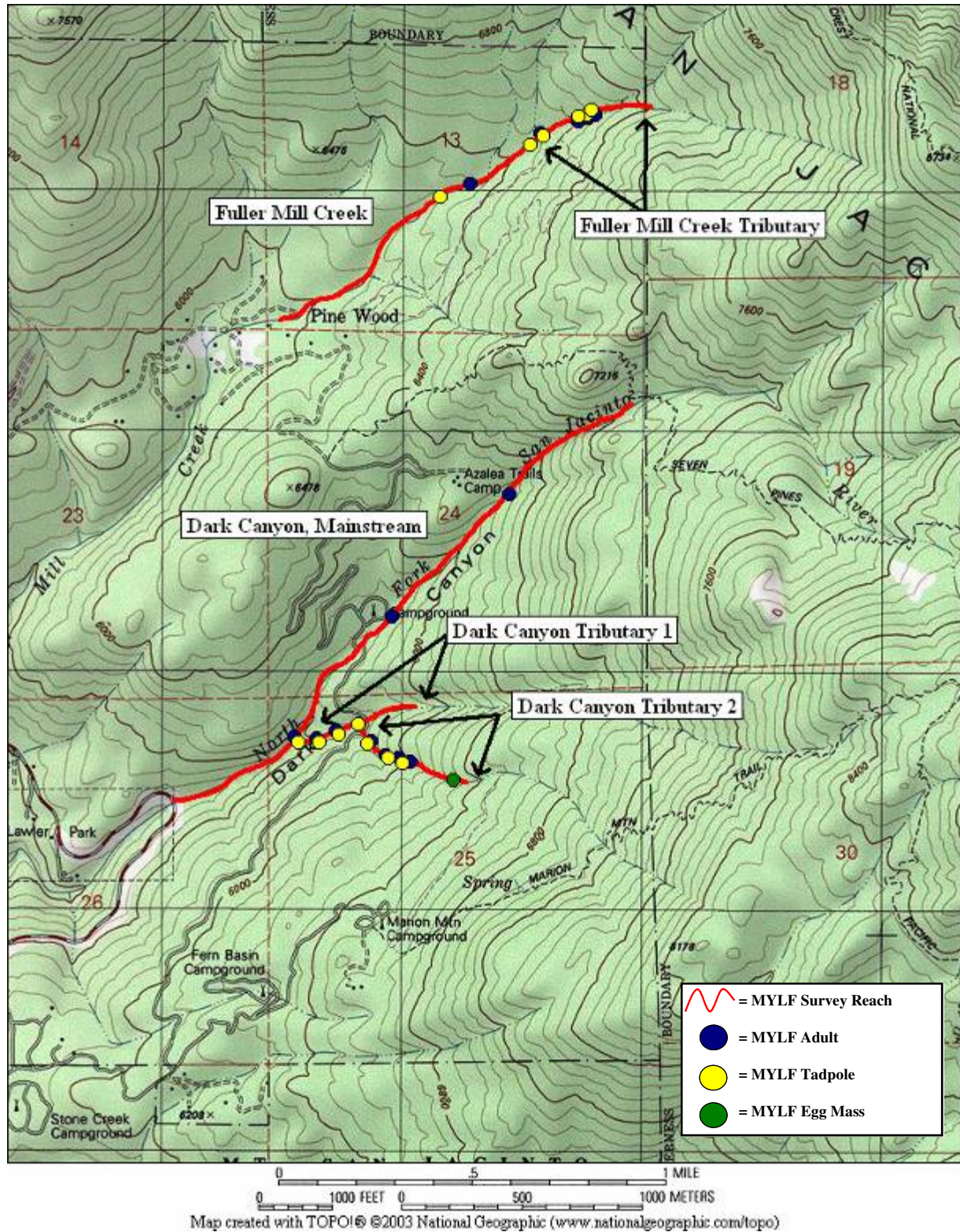
**Figure 1.** Overview of San Bernardino National Forest 2005 mountain yellow-legged survey locations.





**Figure 2.** San Bernardino National Forest 2005 mountain yellow-legged frog survey reach at City Creek, Mainstream and City Creek, East Fork.



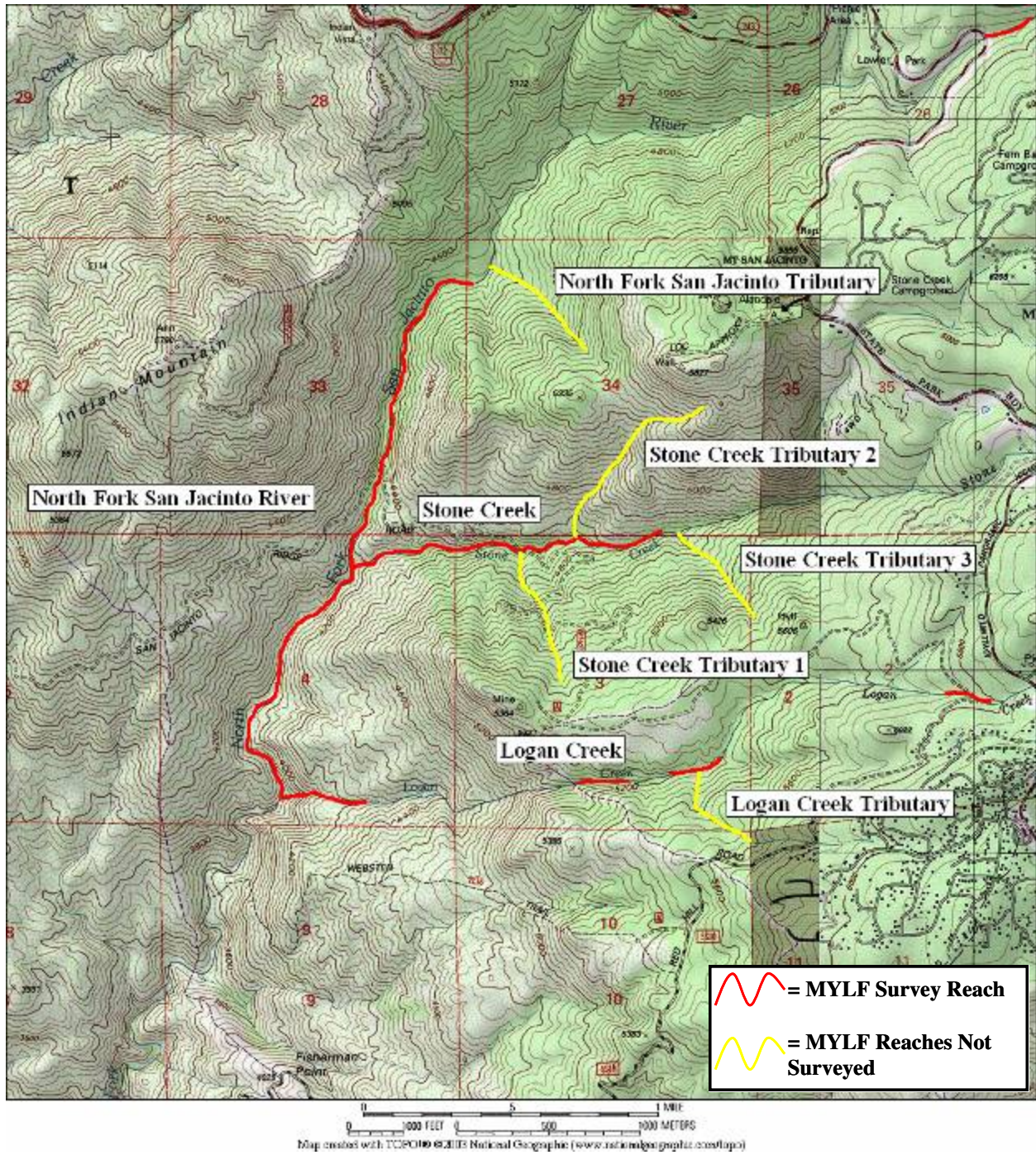


**Figure 3.** San Bernardino National Forest 2005 mountain yellow-legged frog survey reach at Dark Canyon and Fuller Mill Creek.









**Figure 5.** San Bernardino National Forest 2005 mountain yellow-legged frog survey reach at Logan Creek, Stone Creek, and North Fork San Jacinto River. No mountain yellow-legged frogs detected.





City Creek, Mainstream



Dark Canyon, Mainstream



Dark Canyon Tributary 1



Dark Canyon Tributary 2



East Fork City Creek



Fuller Mill Creek

**Figure 6.** San Bernardino National Forest 2005 mountain yellow-legged frog survey habitat.





Fuller Mill Creek Tributary



Indian Creek



Logan Creek

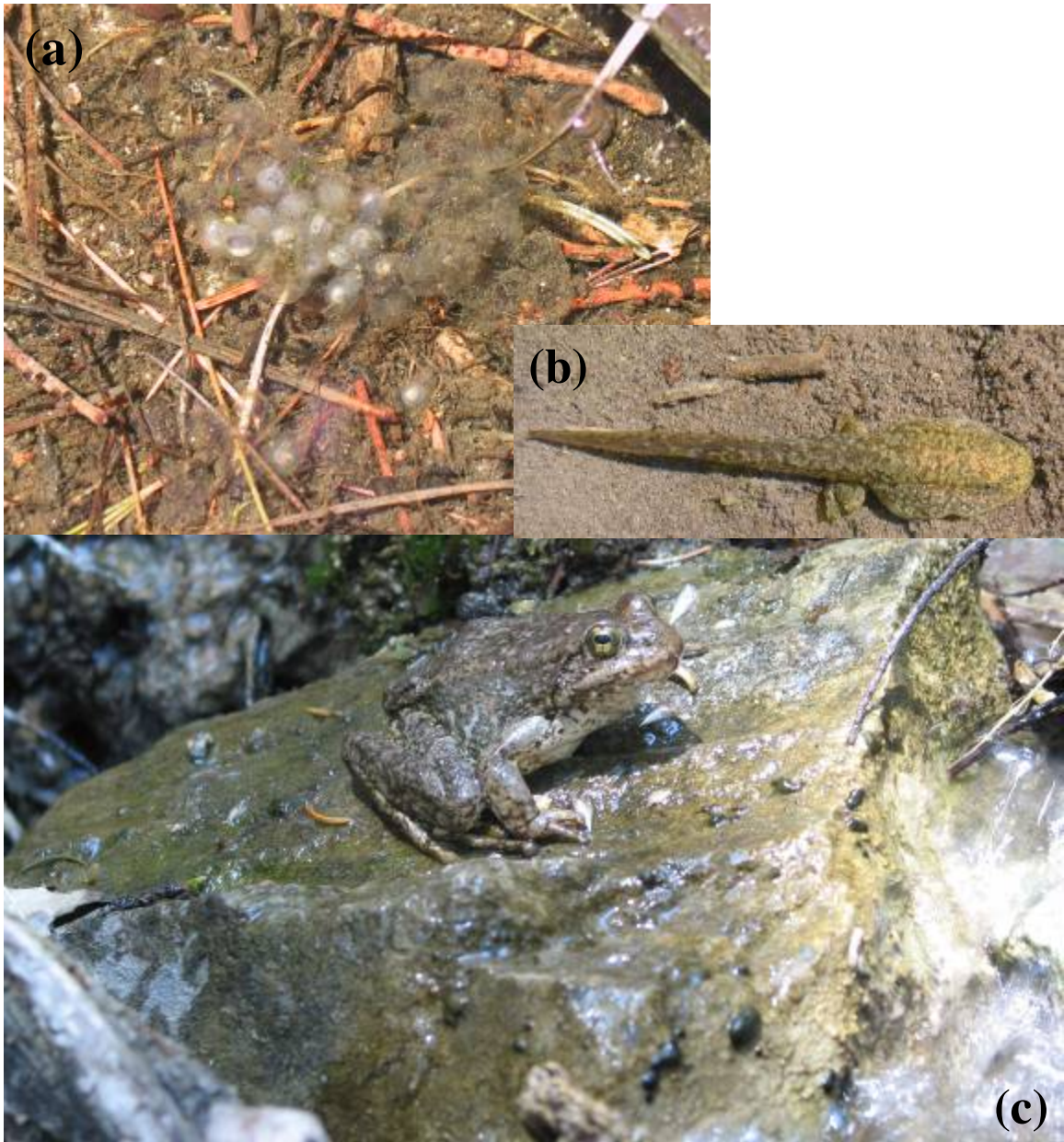


North Fork San Jacinto River



Stone Creek

**Figure 6 (continued).** San Bernardino National Forest 2005 mountain yellow-legged frog survey habitat.



**Figure 7.** Mountain yellow-legged frog (a) egg mass, (b) 2<sup>nd</sup> year tadpole, and (c) adult.