

Interim Report to New Mexico Department of Game and Fish
Share with Wildlife Program:

Investigation of the current distribution of the Northern Leopard Frog
in New Mexico, 2009.



Contract #: 09 516 0000 00039

June 15, 2009

Submitted by:

Bruce L. Christman
736 Cardenas SE
Albuquerque, New Mexico 87108

TABLE OF CONTENTS

Introduction	2
Methods	3
Results	4
Discussion	5
Literature Cited	6
Appendix 1	7
Appendix 2	11
Appendix 3	13

INTRODUCTION

The range of the *Rana pipiens* ranges from southern Quebec west to extreme southern Mackenzie District of Canada, and south to Pennsylvania and Kentucky in the East with isolated records in Maryland and West Virginia. It occurs west to the Pacific states and south to Nevada, Arizona, New Mexico, and throughout the Rocky Mountain States (Degenhardt et al. 1996 and Stebbins 2003). *Rana pipiens* is known to occur from near sea level to ca. 3050 m (Stebbins 2003). *Rana pipiens* is the nominal species of the *Rana pipiens* complex of which there are currently approximately 24 described species and 7 undescribed species (Hills and Wilcox 2004) in North and Central America. *Rana pipiens* is one of five native leopard frog species in New Mexico.

Rana pipiens is listed as a Species of Greatest Conservation Need (SGCN) in New Mexico (NMDGF 2006). Aside from NMDGF listing *Rana pipiens* as a SGCN it currently has no protection, except from commercial collection. NatureServe codes from the New Mexico Comprehensive Wildlife Conservation Strategy (CWCS) for *Rana pipiens* are; imperiled for the state and vulnerable nationally. Recently the Center for Biological Diversity and others have petitioned the U.S. Fish and Wildlife Service to list the western populations of *Rana pipiens* under the Endangered Species Act recognizing its vulnerable status in the southwest (2006, Petition to list Western United States DPS of the Northern Leopard Frog).

Declines have been reported throughout the range of *Rana pipiens*, but mostly in the west (Alberta and British Columbia, Canada, and Montana, Idaho, Washington, Oregon, California, Nevada (Stebbins 2003, Lannoo 2005), parts of Utah (Lannoo 2005) and Colorado (Corn and Fogelman 1984, and Hammerson 1999), Arizona (AZGF), and New Mexico (NMDGF, C. W. Painter and R. D. Jennings *unpub. data*) in the U.S. In New Mexico declines have been reported from the Lower Rio Grande (below Caballo Reservoir), in the Jemez Mountains (*pers. obs.* Cummer et al. 2002), and in the Chuska Mountains (Painter and Jennings *unpubl. data*). Reasons for declines have varied as our understanding of the scope of worldwide declines has increased. While pollution and habitat loss are obvious problems with solutions, amphibian pathogens such as the chytrid fungus, *Batrachochytrium dendrobatidis* (*Bd.*) are more wide spread and problematic within amphibian communities.

Bullfrogs (*Rana catesbeiana*) are a non-native invasive species in New Mexico and have been implicated in the decline of native ranid frogs and other riparian obligate herpetofauna in the west (Hammerson 1982, Hayes and Jennings 1986, Schwalbe and Rosen 1988). Bullfrogs may impact other frog species through intense predation, predatory or competitive larval interactions, and the transmission of parasites or pathogens (Hammerson 1999). However, native frogs have declined in the absence of bullfrogs (Corn and Fogleman 1984, BLC *pers. obs.*), which confounds the question of why native frog species are declining. Bullfrogs in New Mexico nevertheless are an exotic species in the state and considered undesirable.

METHODS

Amphibians were surveyed in aquatic habitats following U.S. Fish and Wildlife Service survey protocols (2002) developed from Arizona Game and Fish Department guidelines (Blomquist et al. 2000). Surveys involved walking the perimeter of stock tank and stream habitats watching for jumping frogs (plop counts), listening for calls, and dip-netting under banks and in vegetation for adult and larval amphibians. Binoculars were used to observe frogs at a distance. Total dissolved solids (TDS), pH, and temperature data were collected at aquatic habitats surveyed. Temperature data were collected using a Miller Weber quick reading cloacal thermometer (appropriate for air, water, or body temperature measurements), TDS and pH data were measured using Hanna pH Tester and TDS Tester portable instruments.

Chytrid Fungus Investigations

Chytrid fungus testing for *Batrachochytrium dendrobatidis* within and among leopard frog populations was conducted using genetic PCR techniques by Pisces Molecular, Boulder, Colorado. This technique involved collection of skin tissue swabs from the ventral skin surface of the body and thighs of frogs, using sterile wooden cotton swabs. The end of the wooden swab was then cut off and placed into a vial with 70% ethanol and labeled with date, locality, and species for later reference. Each frog for which a skin scrape was collected, was weighed, measured, and sexed. Each frog was handled separately using latex gloves and clean bags in an attempt to prevent contamination between samples. Samples were then mailed to Pisces Molecular for analysis.

Collections

Adult amphibian and reptile specimens collected were preserved in 10% formalin, while larval amphibian specimens collected were preserved in 5% formalin. All amphibian and reptile specimens collected were deposited at the Museum of Southwest Biology (MSB) at the University of New Mexico, Albuquerque. Scientific and common names of amphibians and reptiles in this report follow Crother (2000). Both scientific and common names are used the first time a taxon is mentioned in the text; thereafter, only scientific names are used.

Specific locality data of sites and collections were derived from U. S. Geological Survey (USGS) 7.5 min quadrangle maps and the use of a Garmin 12 Global Positioning System (GPS) instrument recording coordinates in Universe Transverse Mercator (UTM) and North American 1983 (NAD83) datum.

Permits

Investigations and collections were conducted under the appropriate state (N.M. Department of Game and Fish Scientific Collecting Permit 2969).

RESULTS

In an effort to identify historic localities of Northern Leopard Frogs (*Rana pipiens*) the Museum of Southwestern Biology at the University of New Mexico in Albuquerque was contacted to request museum records pertaining to *Rana pipiens* (Appendix 1.) Dr. Randy D. Jennings at Western New Mexico University was also contacted to see what further data he had regarding this species, as he and Charlie Painter had begun work on this species ten years past. From Dr. Jennings a spread sheet of historic records was received of various museums across the country which held collections of *Rana pipiens* from New Mexico. (Appendix 2). I also contacted the Navajo Nation and requested a survey permit (pending), and the Jicarilla Apache Nation; permission granted (will survey week 22-26 June). A permit was also obtained from NM State Parks to survey for *Rana pipiens*.

During initial research it seems that several areas stand out where *Rana pipiens* likely remain extant; San Juan River below Navajo Dam, Chama area, Mora area north to Vermejo Park Ranch, and downstream of Cochiti Reservoir on the Rio Grande. This last area is governed by a patchwork of tribal entities and may be difficult to obtain permission to access.

From these records I began to visit sites in the hope of finding *Rana pipiens*. I conducted 16 surveys and found *Rana pipiens* during three of those surveys (Appendix 3). The three surveys where *Rana pipiens* were observed represent two localities; the Santa Fe River downstream of La Cienega (Santa Fe Co.) one on BLM property and one on Forest Service lands, and Morphy Lake State Park (Mora Co.). Both of these sites also have American Bullfrogs (*Rana catesbeiana*) and as such may put the leopard frog populations in jeopardy. Other species which were encountered include; Chorus Frog (*Pseudacris maculata*), Canyon Treefrog (*Hyla arenicolor*), and Woodhouse's Toad (*Bufo woodhousii*). All anurans that could be captured were swabbed for chytrid fungus testing (20 to date). Surveys have thus far been conducted along the Jemez River (Canon-Los Conchas), Santa Fe River (Canada de Santa Fe), and three state parks (Blue Water, Morphy Lake, and Storrie Lake).



Figure 1. *Rana pipiens* Santa Fe River, Santa Fe County.

DISCUSSION

The limited work to date leaves little to discuss except that non-native predators such as bullfrogs and crayfish pose a serious threat to the continued persistence of native frog species within aquatic habitats in New Mexico and throughout the southwest.

Literature Cited

Cummer, M. R., B. L. Christman, and M. A. Wright. 2002. Investigations of the status and distribution of amphibians and reptiles on the Valles Caldera National Preserve, Sandoval County, New Mexico.

Degenhardt, W. G., C.W. Painter, and A. H. Price. 1996. Amphibians and Reptiles of New Mexico. Univ. New Mexico Press, Albuquerque. 431 pp.

Lannoo, M. 2005. Amphibian Declines The Conservation Status of United States Species. Univ. California Press, Berkeley. 1094 pp.

New Mexico Department of Game and Fish. 2006. Comprehensive Wildlife Conservation Strategy for New Mexico.

Stebbins, R. C., 2003. A Field Guide to Western Reptiles and Amphibians. 3rd. Edition. Houghton Mifflin, Boston, New York.

USFWS. 2003. Chiricahua Leopard frog survey protocol adapted from Arizona Game and Fish Dept. (Blomquist, Field, and Sredl 2002).

Appendix 1. Museum of Southwest Biology records of *Rana pipiens* in NM

Museum No.	Date Collected	Locality Name	County	State	Elev.	Loc Latitude	Loc Longitude	Loc Y Accu	Alt. coord. UTM	Alt. coord. PLSS	Alt. coord. other
793-809	22-Sep-38	Isleta Indian Reservation, Ponds approximately 2 miles South North Boundary	Bernalillo	NM		34.95346	-106.733	1280.185			
940	13-Oct-38	Conservancy Ditch between Albuquerque and Alameda	Bernalillo	NM		0	0				
41821	9-Jun-39	Rio Grande just North of Valencia county line	Bernalillo	NM		34.94857	-106.681		T8N R3E		
945	26-Mar-46	3 miles North Albuquerque, West of Rio Grande	Bernalillo	NM		35.13161	-106.695	20798.09			
832-840	30-Jun-49	Isleta, East of Rio Grande	Bernalillo	NM		34.90739	-106.689				
922-23	21-Oct-49	Rio Grande, Isleta Rail Road Bridge	Bernalillo	NM		34.92983	-106.682	30			
898	5-Nov-49	Drain, 1.25 miles North West Alameda, West of Rio Grande	Bernalillo	NM		35.19945	-106.634	4698.189			
810	18-Nov-49	East Riverside Drain, North of Alameda	Bernalillo	NM		35.09934	-106.689				
894	19-Nov-49	Alameda Drain near Sandoval County border	Bernalillo	NM		35.15878	-106.631				
221	27-Sep-50	Isleta Slough	Bernalillo	NM		0	0				
3819	26-Sep-59	Artificial Lake, Albuquerque	Bernalillo	NM		0	0				
5395	3-Apr-61	Isleta Sod Pits, 8 miles South Albuquerque	Bernalillo	NM		34.96856	-106.649	22005.07			
5201	18-Apr-61	Albuquerque, Ernie Pyle Beach	Bernalillo	NM		0	0				
5202	18-Apr-61	Conservancy Ditch, West of US 66 Bridge, Albuquerque	Bernalillo	NM		35.08775	-106.683	10			
7622	2-Nov-62	No Data	Bernalillo	NM		0	0				
10879	12-Mar-63	Albuquerque, Tingley Beach	Bernalillo	NM		35.08757	-106.675	603.4875			
11256	5-May-63	Sandia Mountains, Juan Tabo Picnic Area	Bernalillo	NM		35.2196	-106.484	300			
13033	4-Apr-65	irrigation ditch, 5 miles South Corrales	Bernalillo	NM		35.16541	-106.605	6417.182			
12454	14-Apr-65	1.5 miles North Alameda Bridge, Corrales	Bernalillo	NM		35.21942	-106.643	412.0925			
12457-58	21-Apr-65	0.2 miles South US 66, Tingley Park, Albuquerque	Bernalillo	NM		35.07845	-106.657				
12193	23-Apr-65	0.5 miles North of Isleta, 100 yards East of Rio Grande	Bernalillo	NM		34.91474	-106.683	164.4135			
12336-37	25-Apr-65	3 miles South of Isleta	Bernalillo	NM		34.86387	-106.688	724.185			
12270	12-May-65	Isleta Swamp	Bernalillo	NM		0	0				
12882	12-May-65	Isleta area, US Highway 85	Bernalillo	NM		34.90739	-106.689				
12194	14-May-65	Isleta Indian Reservation	Bernalillo	NM		34.95346	-106.733	1280.185			
12813	16-May-65	Albuquerque, Tingley Park Pond	Bernalillo	NM		35.08759	-106.675	453.82			
15339-42	12-Apr-66	Isleta Marsh	Bernalillo	NM		0	0				
16524-25	7-Mar-67	Isleta Pueblo, swamp, 9 miles South Junction Rio Bravo and NM Highway 47	Bernalillo	NM		34.90007	-106.682	2202.555			
17099	12-Mar-67	Isleta Swamp, 10 miles South Albuquerque, by road,	Bernalillo	NM		0	0				
16717-22	19-Mar-67	North of Albuquerque City Limits, Ditch at intersection Rio Grande and Chavez Road	Bernalillo	NM		35.15653	-106.659	30			
17097	6-Apr-67	swamp, near NM Highway 47, 9 miles South NM Highway 47 and Rio Bravo Blvd	Bernalillo	NM		34.90107	-106.681	2202.555			
16487-88	18-Apr-67	Albuquerque, Pond East of Rio Bravo Bridge	Bernalillo	NM		35.02879	-106.648	1126.51			
21917-21	11-Mar-68	Irrigation Ditch, Rio Grande Blvd, approximately 0.5 miles North of Chavez Road	Bernalillo	NM		35.16248	-106.653	301.395			
18124	17-Mar-68	Isleta Marsh	Bernalillo	NM		0	0				
18125	29-Mar-68	2 miles North Isleta Bridge	Bernalillo	NM		0	0				
18126	29-Mar-68	East of Atchison Topeka Railroad Tracks, 1 mile North Isleta Pueblo	Bernalillo	NM		34.92243	-106.687	271.395			
18127	24-May-68	2.2 miles North northeast Alameda	Bernalillo	NM		35.21652	-106.604	4678.839			
19079	2-Apr-69	2 miles South and 1 mile West of Isleta Pueblo	Bernalillo	NM		34.8785	-106.698	754.185			
19075	14-Apr-69	Isleta Marsh, 3 miles South of Isleta	Bernalillo	NM		34.86387	-106.688	724.185			
19074	15-Apr-69	3 miles South of Isleta	Bernalillo	NM		34.86387	-106.688	724.185			
19076-78	18-Apr-69	3 miles South of Isleta, on US Highway 85	Bernalillo	NM		34.87759	-106.72	754.185			
19935	22-Apr-69	Albuquerque, Rio Grande Floodplain, end of Mountain Road North West	Bernalillo	NM		35.09965	-106.687	30			
19073	24-Apr-69	Isleta Swamp, NM Highway 47	Bernalillo	NM		0	0				
23569	10-Apr-71	2 miles North along Corrales Drain from Corrales Road	Bernalillo	NM		35.21931	-106.608	512.79			
34844-48	2-May-71	ABQ, 2 blocks N of Montano Road on Rio Grande Boulevard, on W side of Road (Grigeros Ditch)	Bernalillo	NM		35.14569	-106.666	78.2805			
23484-85	11-May-71	NM Highway 194, 2 Road miles S W of Junction of NM Highway 46, ABQ North Valley	Bernalillo	NM		35.18446	-106.604	512.79			
34849-51	12-May-71	ABQ, 2 blocks N of Montano Road on Rio Grande Boulevard, on W side of Road (Grigeros Ditch)	Bernalillo	NM		35.14569	-106.666	78.2805			
43980	12-May-71	Approximately 3 miles N Candelaria road, Rio Grande Boulevard	Bernalillo	NM		35.16903	-106.675	1508.37			
37701	11-Sep-82	4.2 kilometers S, 2.7 kilometers West of center of Isleta, on US 85, S end of marsh	Bernalillo	NM		34.86912	-106.718	1065			
52883	12-Aug-89	US Highway 85, approximately 0.5 miles North of Valencia County line Isleta Marsh	Bernalillo	NM		34.8771	-106.72	301.395			
884-88	3-Sep-48	Largo Canyon	Catron	NM		34.14447	-108.514		725 R16W 9		
878-83	20-Aug-49	Horse Springs Pond, Old Horse Springs	Catron	NM		33.92444	-108.227				
10571-75	30-Aug-56	Mangas Ranger Station	Catron	NM		0	0				
1638	31-Aug-56	Patterson Spring and Lake	Catron	NM		33.88018	-108.301				
1643	31-Aug-56	Patterson Spring and Lake	Catron	NM		33.88018	-108.301				
1646-47	31-Aug-56	Patterson Spring and Lake	Catron	NM		33.88018	-108.301				

Appendix 1. Museum of Southwest Biology records of *Rana pipiens* in NM

Museum No.	Date Collected	Locality Name	County	State	Elev.	Loc Latitude	Loc Longitude	Loc X	Loc Y	Alt. coord. UTM	Alt. coord. PLSS	Alt. coord. other
3820	13-Jun-59	2 miles East and 2 miles North Aragon	Catron	NM	33.91139	-108.505	512.79					
943	12-May-46	Rio San Jose, near McCarty's	Cibola	NM	35.06294	-107.669						
944	11-May-47	Anzac	Cibola	NM	35.09531	-107.757	1138	T10N	R09W 14			
871-72	10-Apr-48	Suwanee, Spring Run into Rio San Jose	Cibola	NM	34.94184	-107.132	15					
889-90	24-Jul-48	Rio San Jose, approximately 11 miles East Grants	Cibola	NM	35.06451	-107.738	7281.846					
895-96	24-Jul-48	Rio San Jose, Laguna	Cibola	NM	35.03756	-107.336				T9S	R5W 2	
1689-94	30-Aug-48	Acoma Reservation, 4 miles South Casa Blanca PO	Cibola	NM	34.98773	-107.47	980.58					
26113	4-Apr-72	Gottlieb Ranch, 7.5 miles East and 7 miles South of Grants	Cibola	NM	35.04896	-107.716	8156.728					
26114	4-Apr-72	Marsh near Anzac, water from Horace Spring, 8 miles E and 5 miles S of Grants	Cibola	NM	35.06451	-107.719	482.8032					
26115	4-Apr-72	Gottlieb Ranch, stream fed by Horace Spring, 7 miles E and 7 miles S of Grants	Cibola	NM	35.04896	-107.716	8156.728					
54897	18-Sep-92	Mount Taylor, Water Canyon	Cibola	NM	2695	35.22592	-107.559	200				
60773	19-May-97	Pueblo of Laguna, 4.5 miles North Escinal, White Springs	Cibola	NM	2329	35.18358	-107.464			T11N	R6W 15 SW 1/4 NW 1/4	
891	10-Aug-39	North Inlet of Eagle Nest Lake	Coffax	NM	36.5419	-105.26	150					
957-58	12-Aug-39	Cimarron River at Springer	Coffax	NM	36.3613	-104.599	30					
41810	24-Aug-39	Taylor Springs, Junction of Canadian and Cimarron Rivers	Coffax	NM	36.32493	-104.499	30					
931	7-Sep-54	Vermejo Park, Bernal Lake	Coffax	NM	36.91433	-105.079	7143.43	T31N	R17E 8			
927-28	9-Sep-54	Vermejo River, Old Stage House	Coffax	NM	0	0	0					
935	10-Sep-55	Tributary to Black Lake	Coffax	NM	36.28029	-105.246				T21N	R6E 28	
5353-55	19-Jul-61	Crater Lake, Philmont Scout Ranch	Coffax	NM	36.40597	-105.049						
5356-57	7-Aug-61	Crater Lake, Philmont Scout Ranch	Coffax	NM	36.40597	-105.049						
23842-45	7-Aug-61	Crater Lake, Philmont Scout Ranch	Coffax	NM	36.40597	-105.049						
5349-52	21-Aug-61	Philmont Scout Ranch, Lower Bonito Cow Camp	Coffax	NM	36.38904	-105.06						
23846-47	21-Aug-61	Philmont Scout Ranch, Lower Bonito Cow Camp	Coffax	NM	2755	36.38904	-105.06					
9282-90	24-Aug-61	Merrick Lake, 7 miles North West Vermejo Park, Headquarters	Coffax	NM	36.92208	-105.119						
23848	23-Jun-62	Philmont Scout Ranch, North West side of Cimarron Reservoir	Coffax	NM	36.56736	-105.045						
23849	26-Jul-62	Philmont Scout Ranch, Harlan Camp	Coffax	NM	36.5157	-105.01						
19929	21-Aug-67	25 1/2 miles North and 10 miles West Cimarron near Castle Rock	Coffax	NM	36.88091	-105.096	2443.95					
25711	21-Aug-67	About 25.5 miles North and 10 miles West of Cimarron, near Castle Rock	Coffax	NM	36.88068	-105.096	2443.95					
18681-82	13-Jul-68	WS Ranch, Merrick Lake 8.5 miles East and 2.5 miles North Costilla Lake	Coffax	NM	36.92208	-105.119						
38557	3-Jun-80	Approximately 20 miles North of Cimarron, lower most Salyers Canyon	Coffax	NM	2110	36.77681	-104.851					
38554	4-Jun-80	Approximately 20 miles North of Cimarron, near windmill in Salyers Canyon	Coffax	NM	2206	36.77681	-104.851					
38554	16-Jun-80	pond beside Vermejo River, approximately 1 mile upstream from Horse Ranch Camp	Coffax	NM	2118	36.79094	-104.869	241.395				
38749	3-Jun-82	Approximately 20 miles North of Cimarron, lower most Salyers Canyon	Coffax	NM	2110	36.77681	-104.851					
44258-60	7-Sep-85	Philmont Scout Ranch, Crater Lake	Coffax	NM	36.40597	-105.049						
44324-26	7-Sep-85	La Maquina Creek, Highway 21, approximately 13 miles South Cimarron	Coffax	NM	36.34431	-104.91						
44330-35	7-Sep-85	Philmont Scout Ranch, Crater Lake	Coffax	NM	36.40597	-105.049						
44256-57	8-Sep-85	5 miles West Miami, just East of Miami Lake	Coffax	NM	36.35027	-104.883	1206.975					
44346-50	8-Sep-85	unnamed creek, 6.75 miles West, 0.75 miles South Miami	Coffax	NM	36.33657	-104.914				T24N	R19E	
44351-59	8-Sep-85	ponds west of Miami Lake, approximately 5.5 miles West Miami	Coffax	NM	36.35027	-104.892	1327.673					
44377	8-Sep-85	ponds west of Miami Lake, approximately 5.5 miles West Miami	Coffax	NM	36.35027	-104.892	1327.673					
45069	8-Sep-85	ditch just East of Miami Lake, 5 miles West Miami	Coffax	NM	36.35027	-104.884	1206.975					
60951	23-Jul-97	Carson National Forest, Valle Vidal Unit	Coffax	NM	0	0	0					
38750	Campbell JM	Approximately 20 miles North of Cimarron, lower most Salyers Canyon	Coffax	NM	2110	36.77681	-104.851					
919-921	1-Sep-48	Zuni River, 1mi below Zuni Pueblo	McKinley	NM	35.06447	-108.862	4803.78					
847	2-Sep-48	Rio Pescado, Pescado Dam	McKinley	NM	35.10683	-108.562	50					
11891	8-Jun-64	McGaffey Lake area	McKinley	NM	35.37848	-108.516	225.4501					
13653-56	9-Jun-64	1 mile East McGaffey Lake	McKinley	NM	2591	35.379	-108.498	466.8451				
23694	1-Jun-70	McGaffey Lake	McKinley	NM	35.37848	-108.516	225.4501					
40569	24-Jun-75	Zuni Indian Reservation, Nutria Canyon	McKinley	NM	35.29957	-108.53	1138	T12N	R16W 4			
934	3-Oct-44	Coyote Creek 3.6 miles above (North) Guadalupita	Mora	NM	0	0	0					
18668	16-Jun-68	Wolf Creek, 3.6 miles North and 3 miles East Watrous	Mora	NM	35.83417	-104.928	724.185					
22197-98	26-Jul-70	Rd to Morphy Lake?	Mora	NM	35.93991	-105.395	62314.93					
41813	26-Jul-70	Mora	Mora	NM	35.97432	-105.33						
23380-83	22-May-71	NM Highway 38, 0.2 miles South West of Mora	Mora	NM	35.97267	-105.329	1000					
44263-65	6-Sep-85	Sapello River, NM Highway 161 bridge	Mora	NM	35.79548	-104.981	30					

Appendix 1. Museum of Southwest Biology records of *Rana pipiens* in NM

Museum No.	Date Collected	Locality Name	County	State	Elev.	LocLatitude	LocLongitude	LocYAccu	Alt. coord. UTM	Alt. coord. PLSS	Alt. coord. other
44286-88	6-Sep-85	Mora River, Golondrinas	Mora	NM		35.88959	-105.187				
44290-92	6-Sep-85	Sapello River, NM Highway 161, 2 Kilometers South West Watrous	Mora	NM		0	0				
44294-313	6-Sep-85	Sapello River, Interstate 25, 2 Kilometers South West Watrous	Mora	NM		35.78281	-104.99	30			
44342-45	6-Sep-85	Sapello River, Interstate 25, 2 Kilometers South West Watrous	Mora	NM		35.78281	-104.99	30			
49307	17-Oct-86	Mora River, Watrous, Old Highway 85 bridge	Mora	NM		35.79072	-104.982				
959-960	8-Jun-49	El Rito Creek, 2 miles below Cenijillon Camp	Rio Arriba	NM		0	0				
825-831	9-Jun-49	El Rito Creek, 5 miles above mouth	Rio Arriba	NM		36.24909	-106.18	1236.975			
950	10-Jun-49	Tusas Creek, 1 mile above Petaca	Rio Arriba	NM		36.51904	-106.011	271.395			
2111-14	24-Jun-54	Emboer L.	Rio Arriba	NM		0	0				
929	2-Sep-54	Rio Armargo, approximately 3 miles East Lumberton	Rio Arriba	NM		36.931	-106.883		T31N R16 1		
930	2-Sep-54	Rio Armargo, approximately 3 miles East Lumberton	Rio Arriba	NM		36.931	-106.883		T31N R16 1		
20950	28-Jun-69	Tusas Creek, 2.7 miles North East of La Madera, 9 yds up creek in water	Rio Arriba	NM		36.39623	-106.007	681.7665			
24383	22-Jul-70	7 miles North of Espanola via US 84	Rio Arriba	NM		36.07884	-106.128	6538.881			
24406	22-Jul-70	4.8 miles North of Cebolla via US 84	Rio Arriba	NM		36.60027	-106.522	1158.696			
22193-96	26-Jul-70	3.5 miles East Tierra Amerilla	Rio Arriba	NM		36.70122	-106.487	844.8825			
24416	27-Jul-70	3 miles North of Ojo Caliente via NM 111	Rio Arriba	NM		36.34048	-106.033	724.185			
42704	6-Aug-84	9 miles East Cebolla	Rio Arriba	NM		36.54037	-106.325		T27N R06E 32		
48396	5-Sep-86	Chama River, 2 kilometers upstream from Abiqui,	Rio Arriba	NM		36.20528	-106.339		T23N R06E		
48397-98	5-Sep-86	El Rito Creek, El Rito, pond, NM Highway 96	Rio Arriba	NM		36.35057	-106.186		T25N R7E 34		
50731	30-Sep-86	Rio Grande, bridge crossing in Espanola	Rio Arriba	NM		0	0				
57109	28-Sep-88	Navajo River, bridge crossing, approximately 2 Kilometers North West of Dulce	Rio Arriba	NM		36.95401	-107.059	30			
56781	22-Jul-93	Carson National Forest, Lower Canjillon Lakes	Rio Arriba	NM		36.54958	-106.342		T28S R06E 30		
66638-39	29-Aug-95	Rio Grande Drainage, Rio Chama, 0.5 mi upstream US Hwy 84 bridge(See Note)	Rio Arriba	NM		36.20408	-106.331	200			
73486	14-Jun-03	Trout Lakes, end of FS-125 road	Rio Arriba	NM		36.60704	-106.382	GPS			
73486	11-Jul-06	Upper Trout Lakes	Rio Arriba	NM		36.60705	-106.379	GPS, conveE 376696 N 4051966 213			
73490	11-Jul-06	Lower Trout Lakes	Rio Arriba	NM		36.60844	-106.381	GPS, conveE 376497 N 4052123 213			
66637	Platanita SP, Lei	Rio Grande Drainage, Rio Chama, 4.0 mi upstream Abiquitu on County road 162	Rio Arriba	NM		36.22244	-106.329				
223	10-Sep-55	1.5 miles West Farmington	San Juan	NM		36.72745	-108.246	10757.4			
2296-98	10-Sep-55	1.5 miles West Farmington	San Juan	NM		36.72745	-108.246	10757.4			
2807	20-Aug-58	Los Pinos River	San Juan	NM		36.83091	-107.614	570	T30N R7W 7 NW 1/4		
2793-2801	15-Jul-59	Chuska Mountains, Washington Pass	San Juan	NM		36.09024	-108.861	30			
2806	16-Aug-60	4 miles North and 1 miles East Waterflow	San Juan	NM		36.81829	-108.466	1236.975			
3150	3-Aug-61	Approximately 6 miles East and 6 miles South Four Corners	San Juan	NM		36.91599	-108.932	5913.48			
85474-85	29-Aug-67	Whiskey Lake	San Juan	NM		0	0				
24157	20-Jul-69	1.3 road miles West of Shiprock (town) via NM 504	San Juan	NM		36.77489	-108.719	343.8135			
40609	3-Aug-77	Chuska Mountains, 18.3 miles West Newcomb, Doo ahaat Tili mill Creek, Wheatfield Creek	San Juan	NM	2530	36.27425	-109.033	7913.188			
40610-12	29-Aug-77	Kirtland, Schmitts North East field, drain ditch	San Juan	NM		36.73429	-108.36	4625.346			
54982	6-Aug-87	San Juan River, approximately 2 Kilometers downstream of the Hogback diversion	San Juan	NM		36.74041	-108.561	330			
50693	8-Aug-87	San Juan River, 2 miles below Shiprock	San Juan	NM		36.79254	-108.717	6861.292			
57774	29-Jul-88	San Juan River, 4 miles downstream of Shiprock	San Juan	NM		36.80617	-108.729	7344.082			
44322-23	5-Sep-85	Storrie Lake near Las Vegas, Marshes below Dam	San Miguel	NM		35.66683	-105.25		T17N R16E		
44322-23	5-Sep-85	Storrie Lake near Las Vegas, Marshes below Dam	San Miguel	NM		35.66865	-105.258	50			
44261-2	6-Sep-85	Sapello, Sapello River	San Miguel	NM		35.77019	-105.253				
44279	6-Sep-85	Sapello, Sapello River	San Miguel	NM		35.77019	-105.253				
44321	6-Sep-85	Sapello, Sapello River	San Miguel	NM		35.77019	-105.253				
63016	2-Sep-01	Pecos River, approximately 0.7 air miles North West of South San Ysidro	San Miguel	NM		35.45285	-105.59		T14N R13E 8 SW 1/4		
893	10-Jun-43	Senorita Canyon, approximately 11 miles South East Cuba	Sandoval	NM		0	0				
41826	5-May-46	3.5 miles above Jemez Springs, along Jemez River	Sandoval	NM		35.81957	-106.665		T18N R03E 6		
41819	19-May-46	2 miles below Battleship Rock on Jemez River	Sandoval	NM		35.81234	-106.67		T18N R03E 7		
937	8-Jun-46	Jemez River, just approximately mouth of Guadalupe Creek	Sandoval	NM		35.67106	-106.744	30			
2201-2220	8-Jun-46	Jemez River, 3 miles above Jemez Springs	Sandoval	NM		35.80721	-106.677	3989.716			
41320	8-Jun-46	Jemez River, 3 miles above Jemez Springs	Sandoval	NM		35.80721	-106.677	3989.716			
901-916	15-Mar-47	Small ponds adjacent to Jemez River, 3.5 miles above Jemez Springs	Sandoval	NM		35.81284	-106.669	874.8825			
936	25-Oct-47	Rio Grande, 0.25 miles below Angostura Diversion Dam	Sandoval	NM		35.38074	-106.502	90.34875			
41817	7-Jul-48	La Cueva, Jemez River	Sandoval	NM		35.87784	-106.642	1138	T19N R3E 17		
41825	10-Jul-48	Jemez River above Jemez falls	Sandoval	NM		35.814	-106.605		T18N R3E 6		

Appendix 1. Museum of Southwest Biology records of *Rana pipiens* in NM

Museum No.	Date Collected	Locality Name	County	State	Elev.	Loc Latitude	Loc Longitude	Loc Y Accu	Alt. coord. UTM	Alt. coord. PLSS	Alt. coord. other
953	16-Oct-48	Jemez River, 2 miles above mouth of Guadalupe Creek	Sandoval	NM	35.69592	-106.734	512.79				
942	23-Oct-48	Jemez River, 2 miles above mouth of Guadalupe Creek	Sandoval	NM	35.69592	-106.734	512.79				
41820	13-Nov-48	3 miles above Jemez Springs near Jemez River	Sandoval	NM	35.80666	-106.679		T18N R02E 12			
932	8-Jun-49	Jemez River, 1 mile above mouth Guadalupe Creek	Sandoval	NM	35.68359	-106.741	271.395				
8985	24-Jul-49	Jemez River, 1 mile above mouth Guadalupe Creek	Sandoval	NM	35.68359	-106.741	271.395				
1695-99	18-Oct-50	Riverside Drain, 3 miles North Alameda	Sandoval	NM	0	0	0				
933	3-May-52	Bernalillo, Riverside Drain	Sandoval	NM	35.30183	-106.572					
2294-5	10-May-52	Jemez River, near San Ysidro	Sandoval	NM	35.56349	-106.77	2126.231				
41822	11-Jun-56	Jemez River, 3 miles North of Guadalupe Creek	Sandoval	NM	35.70862	-106.726		T17N R2E 10, 15			
990	15-Jun-56	Rio San Antonio, 0.5 mi above La Cueva	Sandoval	NM	35.86933	-106.642	120.6975				
41823	30-Jun-59	Cochiti Pueblo, Rio Grande, 1 mile below Cochiti Pueblo	Sandoval	NM	35.58804	-106.353		T16N R06E			
5312	20-May-61	1 mile North Confluences of Jemez and Guadalupe Rivers	Sandoval	NM	35.68557	-106.744	271.395				
6801	5-Aug-62	Jemez Mountains, South Camp Zia	Sandoval	NM	2322	36.05653	-106.904				
11076	4-Apr-63	Corrales	Sandoval	NM	35.23794	-106.607	5210.207				
11475	21-Apr-63	Jemez Springs	Sandoval	NM	35.76876	-106.692	3265.531				
12134	16-May-64	9 miles North of Jemez Pueblo	Sandoval	NM	35.74458	-106.729	4647.001				
14644	22-May-66	1 mile East Del Norte Canyon, North of Route 4, Jemez Mountains	Sandoval	NM	35.77648	-106.448	241.395				
16845-49	27-Mar-67	Rio Grande, 3.6 miles South NM Highway 44	Sandoval	NM	35.28656	-106.595	899.022				
16400	16-Apr-67	East Fork Jemez River, 0.6 miles North East Highway 4	Sandoval	NM	0	0	0				
16904	7-May-67	Reservoir, 2.5 miles North Ponderosa	Sandoval	NM	35.69642	-106.668	5302.46				
16905	7-May-67	Reservoir, 2.5 miles North Ponderosa	Sandoval	NM	35.69642	-106.668	5302.46				
16978	15-May-67	Jemez River, 0.25 miles North La Cueva	Sandoval	NM	0	0	0				
16979	15-May-67	Jemez River, 0.25 miles North La Cueva	Sandoval	NM	0	0	0				
17215	20-May-67	San Ysidro, East Fork Jemez River	Sandoval	NM	35.56349	-106.77	2126.231				
17216	1-Jun-67	8 miles South southwest Jemez Springs, Jemez River	Sandoval	NM	35.66078	-106.744	3649.663				
17997-18000	14-Jun-67	Jemez Mountains, near Las Conchas Campground	Sandoval	NM	35.81487	-106.525					
18001-04	23-Jun-67	East Fork Jemez River	Sandoval	NM	35.82395	-106.586	570	T18N R3E 2 NE 1/4			
19065-69	29-Mar-69	12 miles North (Via US Highway 85) of Bernalillo	Sandoval	NM	35.41547	-106.594	313.8135				
19937-40	2-May-69	Upper Corrales Riverside Drain, approximately 1.3 miles West Sandia Pueblo	Sandoval	NM	35.57975	-106.756	3489.338				
19931-34	17-May-69	Ditch 100' East of Jemez River, 2 1/3 miles South and 1.75 miles West of Jemez Pueblo	Sandoval	NM	35.56295	-106.768		T15N R2E 1			
41818	17-May-69	San Ysidro, Jemez River	Sandoval	NM	35.33552	-106.526	4563.993				
19081	20-May-69	3 miles North of Bernalillo on US Highway 85	Sandoval	NM	35.34	-106.52		T13N R04E			
41824	20-May-69	3 miles North of Bernalillo on old Highway 85	Sandoval	NM	35.33966	-106.523	512.79				
24606-08	28-May-69	2 road miles North of junction of US 85 and NM 44 via US 85	Sandoval	NM	35.56349	-106.77	2126.231				
24090	10-Jul-69	San Ysidro Village on NM Highway 4	Sandoval	NM	35.49875	-106.73	8417.943				
24337	19-Jul-70	0.8 road miles Southwest of Zia Pueblo on entrance road	Sandoval	NM	35.50689	-106.734	8531.067				
24344-46	19-Jul-70	0.8 miles West of Zia Pueblo on entrance road	Sandoval	NM	36.01828	-106.961	1876.975				
24358	19-Jul-70	0.3 miles South of Cuba via NM 44	Sandoval	NM	35.36161	-106.506	947.301				
23468	15-May-71	3.8 road miles via US 85 North of junction of US 85 and US 44	Sandoval	NM	35.37802	-106.485	1357.673				
23512-3	15-May-71	Road from Bernalillo to Algodones, 5.5 Road miles North of Junction with NM Highway 44	Sandoval	NM	35.36161	-106.506	947.301				
23906	15-May-71	3.8 road miles Northeast of US 85 - NM 44 intersection, alongside US 85	Sandoval	NM	35.82908	-106.49	9444.405				
23266	16-May-71	North side of Highway 4, 39 miles WNW, of Junction 44 and Highway 4 on Highway 4	Sandoval	NM	35.88348	-106.724		T22S R01E 12 NE 1/4			
26077-8	16-Apr-72	Jemez Mountains, Fenton Lake	Sandoval	NM	32.41349	-106.788					
31055	6-Apr-74		Sandoval	NM	1584	35.55731	-106.352	520.1372			
37750	22-Jul-81	1.1/2 kilometers South, 1 1/4 kilometers West of center of Pena Blanca	Sandoval	NM	1588	35.55734	-106.349	5483.872			
37749	23-Jul-81	1.1/2 kilometers South, 1 kilometer West of center of Pena Blanca, on Rancho de Pena Blanca	Sandoval	NM	35.98527	-106.983	754.185				
47298	5-Jun-82	NM Highway 44, 3 Road miles South of Junction 44/NM Highway 126, Cuba,	Sandoval	NM	35.97852	-106.982		T20N R01W 7			
41732-37	23-Aug-84	3.5 miles South Cuba NM 44 Lagunitas	Sandoval	NM	35.58572	-106.299	15				
49572-74	18-Aug-87	1 mile North, 2 miles East Pena Blanca, Santa Fe River, Cochiti Springs Wetlands, Rio Grande, 1 mile downstream of Cochiti Dam	Sandoval	NM	35.61361	-106.332		T16N R6E 17			
50480-82	24-Jun-88	Rio Grande, old channel just below Cochiti Dam	Sandoval	NM	35.61683	-106.318	50				
50681	18-Jul-88	East side of channel just below Cochiti Dam	Sandoval	NM	35.61427	-106.327	200				
50686	19-Jul-88	East side of Channel, 1 Kilometer downstream of Cochiti Dam	Sandoval	NM	35.58781	-106.303	405				
50687	19-Jul-88	Santa Fe River, 2.5 Kilometers upstream of NM Highway 22 bridge crossing	Sandoval	NM	35.6003	-106.339	45				
50682-85	20-Jul-88	Santa Fe River, 100 m upstream of confluence with Rio Grande	Sandoval	NM	35.58708	-106.334	150.6975				
56160	3-Aug-93	Pena Blanca Riverside Drain, approximately 0.5 miles downstream of Santa Fe River, Cochiti Pueblo	Sandoval	NM	32.39217	105.5216					
72279	24-Jul-94	Rio Grande 1.8 mi upstream of Angostura Diversion Dam. (San Felipe Pueblo NM Quadrangle)	Sandoval	NM							

Appendix 1. Museum of Southwest Biology records of *Rana pipiens* in NM

Museum No.	Date Collected	Locality Name	County	State	Elev.	Loc Latitude	Loc Longitude	Loc Y Accu	Alt. coord. UTM	Alt. coord. PLSS	Alt. coord. other
62912-3	19-Jul-00	Rio Grande, south of Cochiti Reservoir	Sandoval	NM	35.57918	-106.357	75.			377048E 3938123N Z13	
63015	9-Sep-01	Rio Grande, West of Pena Blanca	Sandoval	NM	1574	35.55821	-106.359	75.		376808E 3935800N Z13	
951-52	7-Aug-43	Rio Grande, San Idefonso	Santa Fe	NM	35.89209	-106.118	3885.085				
873-77	1-Nov-47	La Cienega, Cienega Creek, approximately 2 miles above	Santa Fe	NM	35.58545	-106.096		T16N R8E 28			
40570-72	17-Sep-75	Approximately 10 miles SW of Santa Fe, at site of Bonanza (ghost town), Bonanza (Alamo?) Creek	Santa Fe	NM	35.53722	-106.12		T15N R08E 8 & 9			
938	18-Aug-48	near Socorro	Socorro	NM	34.05852	-106.891	6191.298				
14600	16-Apr-66	Junction US Highway 60 and US Highway 85, Bernardo	Socorro	NM	34.42	-106.837	30.				
16928	22-Apr-67	East Rio Grande, 0.25 miles South of US Highway 60, ditch	Socorro	NM	0	0					
16975-77	22-Apr-67	US Highway 60, Rio Grande	Socorro	NM	34.4176	-106.8	30.				
17042	22-Apr-67	1 mile East Bernardo, on Rio Grande	Socorro	NM	34.41905	-106.816	241.395				
19080	10-May-69	Rio Grande Bridge, US Highway 60 East of Bernardo	Socorro	NM	34.41759	-106.8	30.				
19936	10-May-69	Irrigation Ditch, East of Rio Grande on US Highway 60	Socorro	NM	34.41791	-106.794	30.				
25934	28-Apr-73	Bosque del Apache Wildlife Refuge, 1 miles East and 0.25 miles North of refuge Headquarters	Socorro	NM	33.80962	-106.875	381.7438.				
40270-73	13-Jul-77	Bosque del Apache National Wildlife Refuge	Socorro	NM	33.80573	-106.892	50.				
33763	22-Apr-78	3/4 miles East of San Acacia, Cor base line, principle meridian	Socorro	NM	34.25546	-106.884		TO1S R01E			
36854	27-Jun-78	Bosque del Apache National Wildlife Refuge - from Bosque, pond 15	Socorro	NM	33.80573	-106.892	50.				
57369	27-Jun-78	Bosque del Apache National Wildlife Refuge, competition exp. 1, pond 11	Socorro	NM	33.80573	-106.892	50.				
57370	27-Jun-78	Bosque del Apache National Wildlife Refuge, competition exp. 1, pond 27	Socorro	NM	33.80573	-106.892	50.				
61043.1	27-Jun-78	Bosque del Apache National Wildlife Refuge, Bosque Competition Experiment 1 Pond 2	Socorro	NM	33.80573	-106.892	50.				
61045.1	27-Jun-78	Bosque del Apache National Wildlife Refuge, Bosque Competition Experiment 1 Pond 2	Socorro	NM	33.80573	-106.892	50.				
61047.1	27-Jun-78	Bosque del Apache National Wildlife Refuge, Bosque Competition Experiment 1 Pond 2	Socorro	NM	33.80573	-106.892	50.				
57374-77	28-Jun-78	Bosque del Apache National Wildlife Refuge, competition exp. 3, pond 32	Socorro	NM	33.80573	-106.892	50.				
57380	28-Jun-78	Bosque del Apache National Wildlife Refuge, competition exp. 3, pond 33	Socorro	NM	33.80573	-106.892	50.				
61048.1	28-Jun-78	Bosque del Apache National Wildlife Refuge, Bosque Competition Experiment 1 Pond 2	Socorro	NM	33.80573	-106.892	50.				
34644-50	7-Aug-78	5 miles South San Marcial Gaging Station	Socorro	NM	33.61516	-106.991	1236.975				
34630-43	8-Aug-78	Bosque del Apache National Wildlife Refuge, Conveyance Channel at refuge Southern Boundary	Socorro	NM	33.8002	-106.867		TO7S R01W 2			
43925	2-Aug-79	Bosque del Apache National Wildlife Refuge, West old US 85	Socorro	NM	33.86295	-106.878		TO5S R01E 19			
58200	8-Jun-92	Ca. 6.8 miles downstream of US Hwy 60 bridge at Bernardo, Rio Grande SW of La Joya at Arroyo Los Alamos	Socorro	NM	0	0					
5311	12-May-61	1 mile North Ranchos de Taos	Taos	NM	36.37326	-105.609	3448.276				
13578	20-Aug-65	Junction of Rio Grande and Rio Hondo	Taos	NM	36.53489	-105.709	30.				
24414	27-Jul-70	14 miles North of Velarde via US 64	Taos	NM	0	0					
71702	15-Jun-04	Beaver Lake	Taos	NM	36.93458	-105.272					
954	15-Aug-39	Dry Cimarron river, approximately 5 miles above valley	Union	NM	0	0					
899	16-Aug-39	Unnamed Trib to Dry Cimarron River, North of Mases	Union	NM	0	0					
10992-3	30-Mar-63	Junction of Isleta Bridge Road and NM Highway 47	Valencia	NM	34.90633	-106.681	30.				
11513	5-May-63	Bluewater Canyon, Bluewater State Park	Valencia	NM	34.71045	-107.523					
12135	12-May-64	Isleta Pueblo, Junction of NM Highway 47 and Isleta Bridge	Valencia	NM	0	0					
12649-51	28-Mar-65	West Riverside Drain, 1 mile South Isleta Indian Reservation	Valencia	NM	34.90906	-106.687					
12453	3-Apr-65	0.6 miles West Highway 47, North of Peralta	Valencia	NM	0	0					
12767	26-Apr-65	3-4 miles South Isleta, NM 47	Valencia	NM	34.85688	-106.69	804.65				
15452	24-Apr-66	2.5 miles South of Los Lunas on Highway 85	Valencia	NM	34.77214	-106.744	7087.795				
18131-2	30-Mar-68	2.5 miles South Isleta Pueblo, Highway 85	Valencia	NM	0	0					
18130	20-May-68	Isleta Marsh, West side of Highway 85	Valencia	NM	0	0					
54964-5	25-Nov-89	Los Lunas, below wooden bridge 0.2 miles North of NM Highway 49 crossing of Peralta Canal	Valencia	NM	34.80544	-106.706		T7N R2E			

Appendix 3. 2009 Rana pipiens surveys.

Date	Locality	County	Species	life stage	Bd. swabs	Habitat type	Date last obs.	Easting	Northing	Zone	Datum	predators	native fish
May-5-2009	Jemez River, Jemez Recreation Area	Sandoval	none			riverine		343178	3951506	13	Nad 27	crayfish	Gila pandora, Rhinichthys catarractae
May-5-2009	Marsh, adj. to Jemez River	Sandoval	none			wetland		342753	3950573	13	Nad 27	none	none
May-5-2009	Jemez River above Guadalupe Creek	Sandoval	none			riverine	1961	342269	3948430	13	Nad 27	rainbow trout	Gila pandora
May-6-2009	E. Fork Jemez River, above Battleship Rock	Sandoval	Hyla arenicolor	adult, egg	7	riverine	1946	351602	3965984	13	Nad 27	rainbow trout	Rhinichthys catarractae
May-7-2009	E. Fork Jemez River above Jemez Falls	Sandoval	none			riverine	1948	354913	3964410	13	Nad 27	Brown Trout	Rhinichthys catarractae
May-7-2009	E. Fork Jemez River, Los Conchas camp	Sandoval	none			riverine	1967	361906	3964062	13	Nad 27	trout	Rhinichthys catarractae
May-9-2009	Bluewater Canyon, below dam	Cibola	none			riverine	1963	762759	3909045	12	Nad 27	crayfish	Campostoma anomalum, Pimephales promelas
May-10-2009	Bluewater Canyon, below dam	Cibola	none			riverine	1963	763595	3909749	12	Nad 27	crayfish	Pimephales promelas
May-10-2009	Bluewater Creek, above Bluewater Lake	Cibola	none			riverine		761536	3903837	12	Nad 27	crayfish	Pimephales promelas
May-10-2009	unnamed stock tank, FS rd 178, Cibola N.F.	Cibola	none			stock tank		760786	3897483	12	Nad 27	none	none
May-10-2009	unnamed stock tank, E. of PO Flat, FS rd 480	Cibola	Pseudacris maculata	ad., tad, egg	4	stock tank		762259	3894688	12	Nad 27	none	none
May-14-2009	Alamo Creek, at I-25	Santa Fe	Rana catesbeiana	tad		riverine, wetland	1975	397080	3933460	13	Nad 27	bullfrogs	none
May-14-2009	Santa Fe River, Canada de Santa Fe	Santa Fe	R. pipiens, R. catesbeiana	tad	3	riverine		389108	3934124	13	Nad 27	bullfrogs	Pimephales promelas
June-2-2009	Storrie Lake, State Park	San Miguel	tunk.	tads		Reservoir	1985	478356	3945330	13	Nad 27	bullfrogs, crayfish	?
June-2-2009	Morphy Lake State Park	Mora	R. pipiens, R. catesbeiana	tad	2	Reservoir		463940	3977310	13	Nad 27	bullfrogs, crayfish	Pimephales promelas
June-3-2009	Santa Fe River, Canada de Santa Fe	Santa Fe	R. pipiens, R. catesbeiana, B. woodhouseii	tad	4	riverine		396749	3937578	13	Nad 27	bullfrogs	Pimephales promelas