
**Ecological Sciences, Inc., "Results of Focused Arroyo Toad Surveys, NRMP
Soledad/Riverpark Area, Santa Clarita, California" (August 29, 2004; 2004C)**



Original in Matt Carpenter's
Office

2004
Toad

August 29, 2004

Ms. Susan Tebo
Impact Sciences
803 Camarillo Springs Road
Suite A-1
Camarillo, California 93012

SUBJECT: Results of Focused Arroyo Toad Surveys, NRMP Soledad / Riverpark Area, Santa Clarita, California

Dear Ms. Tebo:

This letter report summarizes methodology and findings of focused protocol surveys conducted for the federally listed endangered arroyo toad (*Bufo californicus*-herein AT or arroyo toad) conducted by Ecological Sciences, Inc. The surveys were conducted to determine the presence/absence of the AT within the subject study area. All surveys followed federal U.S. Fish and Wildlife Service (Service) protocol (2001). This represents the second consecutive year of protocol surveys in the site vicinity.

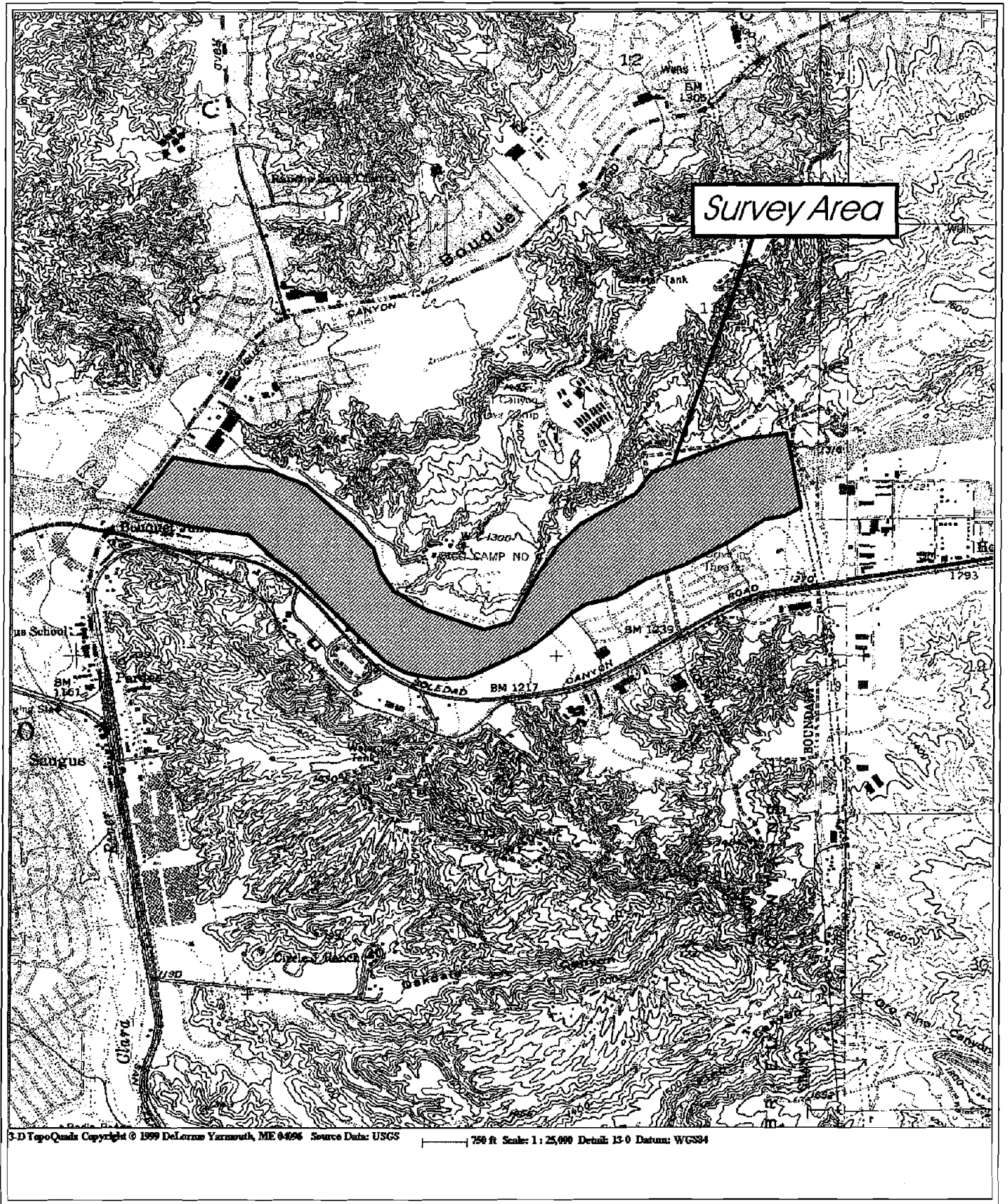
Introduction

Surveys were conducted in potentially suitable habitat in a portion of the Santa Clara River ($\pm 12,000$ feet in length-herein Soledad/Riverpark Site). The survey area is generally located north of Soledad Canyon Road, east of Bouquet Canyon Road, and west of the Southern California Edison (SCE) overhead transmission lines, Santa Clarita, County of Los Angeles, California. Regional and site vicinity survey location maps are included as *Plate 1* and *Plate 2*, respectively. The survey area is located on the Newhall, California U.S. Geological Survey (USGS) 7.5-minute quadrangle map.

General Arroyo Toad (AT) Ecology

The AT was listed as an endangered species by the Service on December 16, 1994, and is also considered a California species of special concern. A federal Recovery Plan was prepared in 1999 and critical habitat was initially defined in February 2001. This species is restricted to the coastal slopes of southern California and northern Baja California, Mexico, except for one small, isolated population in the Mojave River. The AT averages 5 to 8 cm in length, and has a greenish-gray or tan coloration. It is restricted to rivers with shallow, gravelly pools adjacent to sandy terraces. Eggs are deposited in shallow pools with sand or pea gravel substrate overlain with flocculent silt. These pools have minimal current and little or no emergent vegetation. Juveniles and adults forage for insects on sandy terraces with nearly complete coverage of cottonwoods, oaks, and willows (USFWS 1994).

Many areas that may have historically contained suitable breeding habitat for AT have been degraded by dam and flood control construction, off-road recreation, urbanization, mining, and introduced predators (USFWS 1999). This species is currently found in relatively small, isolated populations. Most remaining populations of arroyo toad occur on privately owned lands. Less than 50 percent of the known extant populations of arroyo toad occur on the Los Padres, San Bernardino, and Cleveland National Forests (USFWS 1994).



AT Critical Habitat (CH)

The currently proposed CH for AT (Federal Register, April 28, 2004) includes portions of the Santa Clara River, Castaic Creek, San Francisquito Creek, and adjacent uplands (collectively referred to as Unit 6). Within Unit 6, Subunit 6a predominantly occurs within the Angeles National Forest, including Castaic Creek from Bear Canyon downstream to Castaic Lake, and Fish Creek from Cienaga Spring to the confluence with Castaic Creek. Subunit 6b includes Castaic Creek from the downstream edge of The Old Road right-of-way (adjacent to Interstate 5) down to the confluence with the Santa Clara River, the Santa Clara River from the confluence with Bouquet Creek down to the confluence with Castaic Creek, and San Francisquito Creek from Drinkwater Canyon downstream to the confluence with the Santa Clara River. Subunit 6c includes the upper Santa Clara River from Arrastre Canyon downstream to the confluence with Bee Canyon Creek (Federal Register, Proposed Rule, Vol. 69, No. 82, April 28, 2004). Based on review of this CH proposal, the subject survey area is not located within proposed CH for AT.

Primary Constituent Elements (PCE)

Criteria used by the Service to select critical habitat includes evaluation of an area to determine the presence of 'primary constituent elements,' as defined at 50 CFG 424.12(b) (USFWS 2001a). These elements include physical and biological features that are essential to the conservation of the species, and that may require special management and protection (USFWS 2001a).

Primary constituent elements (PCE) for the arroyo toad include aquatic breeding habitats and non-breeding upland habitats. These elements include: **(1) A hydrologic regime** that supplies sufficient flowing water of suitable quality and sufficient quantity to sustain eggs, tadpoles, metamorphosing juveniles, and adult breeding toads; **(2) Low-gradient stream segments** (typically less than 4 percent) with sandy or fine gravel substrates which support the formation of shallow pools and sparsely vegetated sand and gravel bars for breeding and rearing of tadpoles and juveniles; **(3) A natural flooding regime** or one sufficiently corresponding to a natural regime that will periodically scour riparian vegetation, rework stream channels and terraces, and redistribute sands and sediments, such that adequate numbers and sizes of breeding pools and sufficient terrace habitats with appropriate vegetation are maintained; **(4) Upland habitats** (particularly alluvial streamside terraces and adjacent valley bottomlands that include areas of loose soil and dependable subsurface moisture where toads can burrow underground and avoid desiccation) of sufficient width and quality to provide foraging and living areas for subadult and adult arroyo toads; **(5) Few or no nonnative species** that prey upon or compete with arroyo toads, or degrade their habitat; **(6) No man-made barriers** that completely or substantially impede migration to over-wintering sites, dispersal between populations, or recolonization of areas that contain suitable habitat; and **(7) Limited human-related disturbance**.

Methodology

Pursuant to federal survey protocol, six (6) surveys were conducted within the subject study area, with at least seven (7) days between each survey. AT surveys were conducted both during daylight hours and at night between one hour after dusk and midnight. Each day and nighttime AT survey was conducted within the same 24-hour period. One or two biologists systematically surveyed the survey area at a time. Scott Cameron and Ron Francis conducted the survey effort. Mr. Cameron has extensive experience conducting AT surveys, and has observed and documented hundreds of AT tadpoles, juveniles, and adults since 1994. Surveys were conducted between late March and June, with at least one survey conducted per month during April, May, and June per federal protocol. Daytime surveys included an assessment of AT habitat suitability as well as searches for sign of AT presence (e.g., eggs, larvae, or juveniles), and for the purpose of identifying the most likely calling sites for any adult males potentially present in the area.

All nighttime surveys were conducted when air temperatures were at least 55 degrees Fahrenheit. Periods of full moon phases were generally avoided. Surveys were conducted each night from about 8:30 p.m. to approximately 12:00 a.m. Weather conditions were generally calm and clear throughout the



survey effort with just a few days of relatively overcast conditions. The site was surveyed by walking slowly and carefully along the Santa Clara River banks or within the River itself when necessary. Periodic stops were taken to listen for calling toads at 15-minute intervals or as appropriate depending upon individual site conditions. Surveys were conducted as quietly as possible to maximize the potential to hear calling AT. Handheld flashlights and headlamps were used to visually locate AT within potential breeding pools and along stream banks. In addition to documenting arroyo toad data, all aquatic herpetofauna observed during both day and night surveys were recorded. Surveys were initiated on March 30 and completed on June 27, 2004 as follows: Survey One (March 30); Survey Two (April 8); Survey Three (April 20); Survey Four (May 9); Survey Five (May 29); and Survey Six (June 27).

Periodic site visits were performed by Scott Cameron, Dave Crawford, and Ron Francis in an off-site area known to be occupied by arroyo toad to evaluate seasonal status. The visits were initially conducted to determine if and when adult males were calling, and later to determine larval stages of development. The "baseline" area surveyed included a portion of Castaic Creek located approximately one mile north of the Castaic reservoir on U.S. Forest Service land. The known occupied site visits and communication with other biologists also provided regular updates as to current AT survey results and seasonal disposition of other AT populations in the region. During the initial visit, AT was directly observed and heard vocalizing. No tadpoles were recorded in the upper reaches of the baseline area in mid-April, but an extensive search was not conducted throughout the watershed. Two subsequent visits in late April and late May did not detect the presence of adults or tadpoles, and the upper reaches of the area previously visited no longer had surface flow, and only a few, stagnant, shallow pools remained.

Existing Study Area Conditions

Within the River channel, the survey area supports a mosaic of riparian and terrace habitats, sandbars, and various densities of riparian scrub/woodland that are consistent with some AT primary constituent elements (PCE 2-4). However, no hydrological regime (PCE 1) was present within the survey area since surveys were initiated in late March 2004, as no natural water flows are present. The only standing water observed consisted of a small amount of urban runoff from a concrete-lined channel that formed a single small pool (less than a few feet in diameter) that entered the River near the Los Angeles Aqueduct crossing, and only extended about 30-50 feet along the southern bank area before going subsurface. The runoff flows in the concrete channel are very shallow and slow, and do not form pools suitable for breeding AT. The single pool contained no aquatic vertebrate fauna during the time of the survey effort. The water dries prior to reaching the primary low flow channel.

The width of the River channel ranges from approximately 500 feet to over 1,600 feet. The channel appears to be of sufficient low gradient to support shallow low-flow channels with suitable substrate, and it periodically does so following major storm events. There are some suitable upland terrace habitats between the banks of the River to support foraging and over-wintering AT. The majority of the adjacent uplands are currently undeveloped (e.g., no hardscapes), consisting of farmland, grasslands, and scrub communities. However, steep foothill slopes characterize much of the northern River bank. Though there are some accessible upper terraces adjacent to the River, some are exposed to regular farming and vehicle disturbance. Most of the survey area supports sandbars, terraces, and mature riparian edge habitat between its banks. Arroyo willow (*Salix lasiolepis*), mule fat (*Baccharis salicifolia*), tamarisk (*Tamarix* sp.), and cottonwood (*Populus fremonti*) are present within the River. Portions of the southern bank of the River support an often-dense coverage of the aforementioned species. Upland species present in the River included alluvial scrub species such as scalebroom (*Lepidospartum squamatum*), sagebrush (*Artemisia tridentata*), California buckwheat (*Eriogonum fasciculatum*), California broom (*Lotus scoparius*), prickly pear cactus (*Opuntia littoralis*), and various understory species such as cudweed (*Gnaphalium* sp.), brome grasses (*Bromus* spp.), and black mustard (*Brassica/Hirschfeldia* spp.).

Survey Results

No direct observations or vocalizations of AT, AT egg masses, or other sign of AT were recorded within the Soledad/Riverpark survey area. In addition, no suitable AT breeding habitat is currently present in the survey area due to the absence of a hydrological regime (PCE 1), a habitat component required for the existence and survival of the arroyo toad. The nearly complete absence of any standing or flowing water during the breeding season and distance from the site to suitable breeding habitat currently eliminates the study area from consideration as potential breeding habitat required for the survival of the species. Another detrimental habitat factor frequently detected was the use of off road vehicles (ORV) within the drainage (PCE 7). ORV/vehicle tracks were observed on many sandbars and low flow channels present within the channel bottom. Additionally, no AT were recorded in this portion of the River during focused surveys conducted in 2003 (Ecological Sciences 2003). The nearest recent AT observation known to Ecological Sciences is located ± 2.5 -miles west (downstream) of the subject study area near the confluence of the River and San Francisquito Creek in 2003. No other sensitive or special-status aquatic species were recorded during the survey effort.

ϕ

If you have any questions regarding results presented in this report, please don't hesitate to call us at the letterhead address.

Sincerely,

Ecological Sciences, Inc.



Scott D. Cameron
Principal Biologist



References

Ecological Sciences, Inc. 2003. Results of Focused Arroyo Toad Surveys, Soledad Site, Santa Clarita, California. August 23.

Impact Sciences, Inc. 2001. Results of Focused Surveys for Arroyo Toad and Special-Status Aquatic Reptiles and Amphibians within the Natural River Management Plan Area Valencia, California. September 19.

U.S. Fish and Wildlife Service, 1994. *Determination of Endangered Status for the Arroyo Southwestern Toad; Final Rule*. 50 CFR Part 17, RIN 1018-AB97.

U.S. Fish and Wildlife Service. 1999. *Arroyo Southwestern Toad (Bufo microscaphus californicus) Recovery Plan*. U.S. Fish and Wildlife Service, Portland, Oregon. vi + 119 pp.

U.S. Fish and Wildlife Service. 2004. *Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for the Arroyo Toad (Bufo californicus); Proposed Rule*. 50 CFR Part 17, RIN 1018-AT42.

U.S. Fish and Wildlife Service. 2001. *Survey Protocol for the Arroyo Toad*, Ventura Fish and Wildlife Office. March 30.

U.S. Fish and Wildlife Service. 2001a. 50 CFR Part 17, *Final Designation of Critical Habitat for the Arroyo Toad; Final Rule*.