Ecological Sciences, Inc., "Results of Focused Arroyo Toad Surveys, Portions of Santa Clara River/South Fork, Santa Clarita, California" (August 21, 2004; 2004B)

2004

ECOLOGICAL SCIENCES, inc.

August 21, 2004

Mr. Mark Subbotin, Senior Vice President
Newhall Ranch Company
23823 Valencia Boulevard
Valencia, CA 91355

SUBJECT: ***Results of Focused Arroyo Toad Surveys, Portions of Santa Clara River/South Fork, Santa Clarita, California***

Dear Mr. Subbotin:

This letter report summarizes methodology and findings of focused protocol surveys 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 conducted within most of the subject survey area.

Introduction

Surveys were conducted within potentially suitable AT habitat in the Santa Clara River from the confluence of Castaic Creek, upstream to the Bouquet Canyon Road Bridge. The survey area also included a small part of the South Fork Santa Clara River from the confluence with the Santa Clara River to the Valencia Boulevard Bridge. Regional and site vicinity survey location maps are included as ***Plate 1*** and ***Plates 2a-2b***, respectively. For the purposes of this report, survey areas were separated into two sections as follows: (1) **Santa Clara River** from Interstate 5 to the Bouquet Canyon Road Bridge, inclusive of South Fork Santa Clara River, and (2) **Castaic Junction** from confluence of Castaic Creek upstream to Interstate 5 Bridge. The survey area is located on the Val Verde and Newhall, California U.S. Geological Survey (USGS) 7.5-minute quadrangle maps.

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

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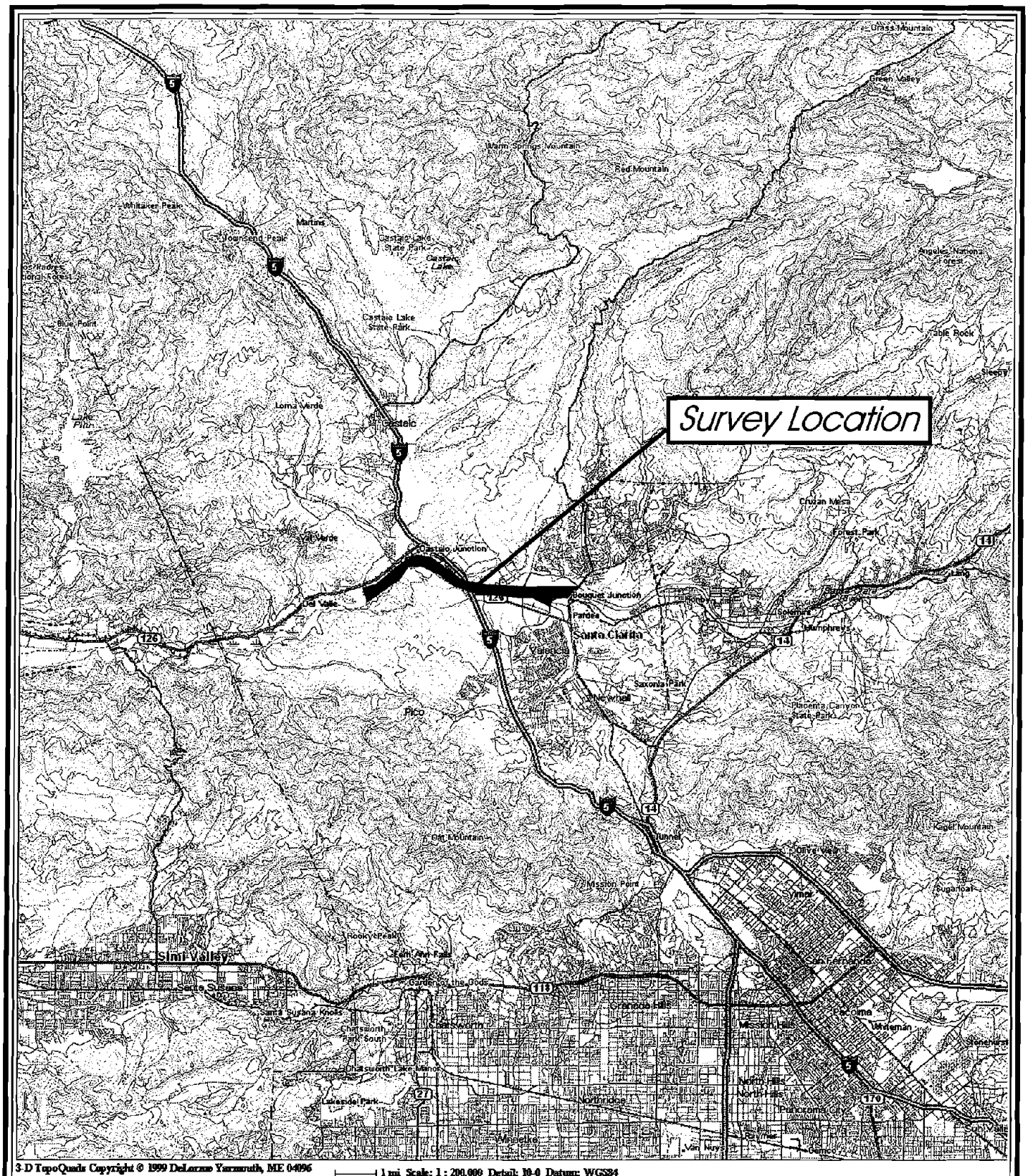

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plate 1

Regional Site Location

Santa Clara River/South Fork

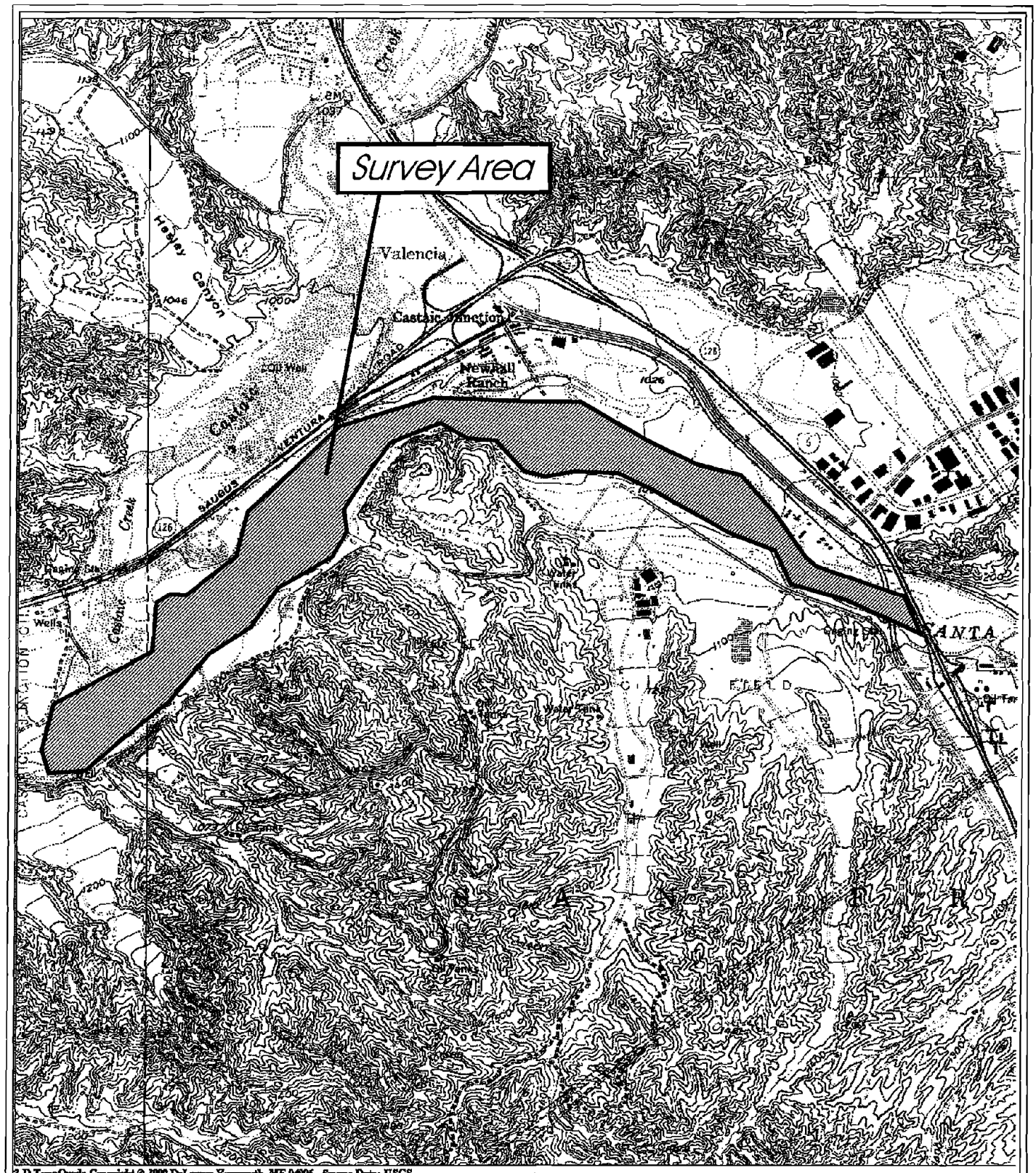

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plate 2a

Site Vicinity

Santa Clara River

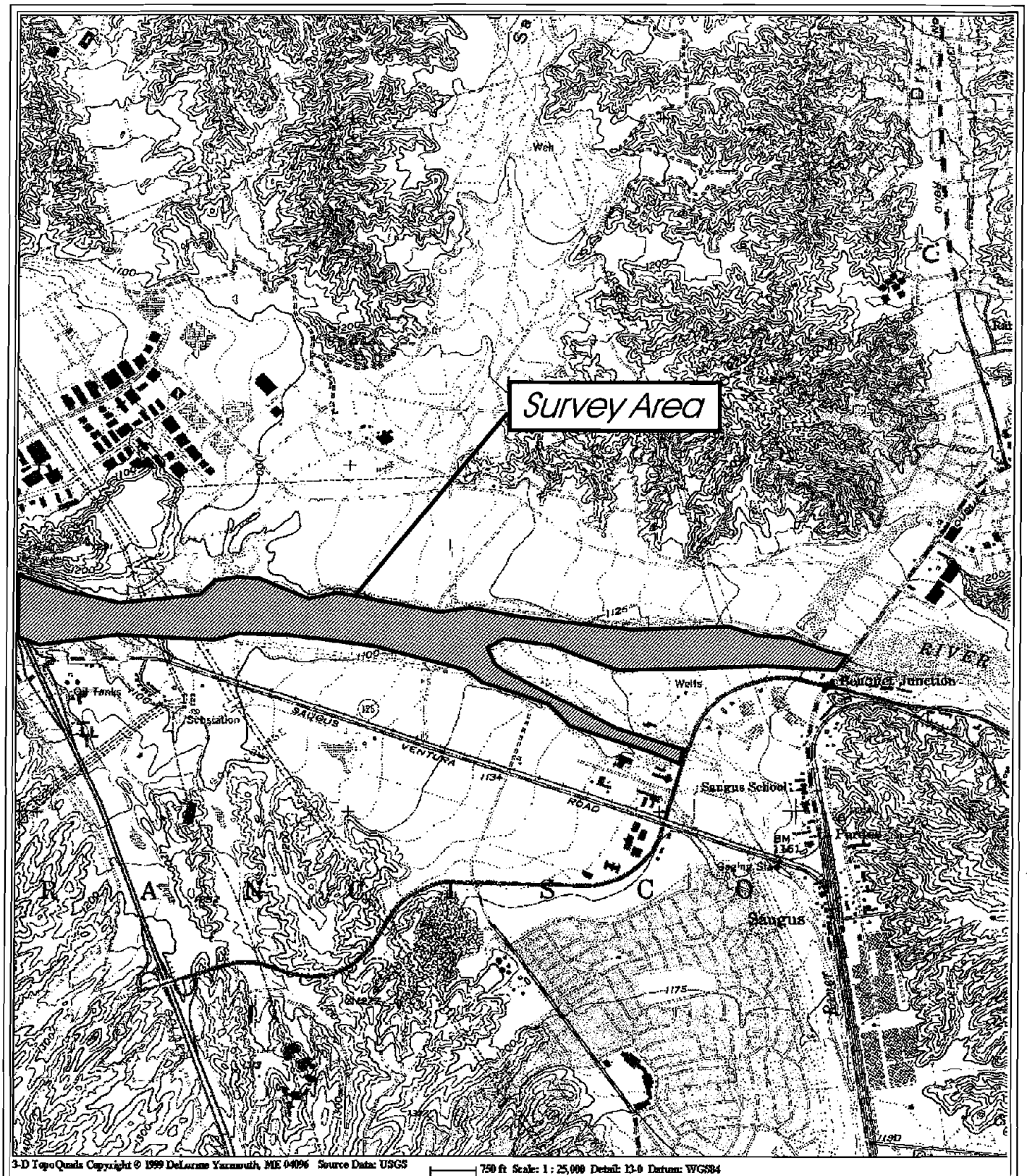

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plate 2b

Site Vicinity

Santa Clara River/South Fork

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 6b (subject study area) 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 (Federal Register, Proposed Rule, Vol. 69, No. 82, April 28, 2004).

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. Surveys were conducted between late March and June, with at least one survey conducted per month during April, May, and June per protocol. Daytime surveys included an assessment of arroyo toad 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. Extreme caution was taken to avoid inadvertent disturbances to AT potentially presence within adjacent stream areas.

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 stream banks or within the stream itself when necessary. As with the daytime surveys, every precaution was taken not to disturb or create silt deposits within potential breeding pools,

and care was taken not to disturb or injure potentially occurring AT adults, juveniles, tadpoles, or egg masses. 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 28 for Castaic Junction (CJ) and completed on June 25, 2004 as follows: CJ Survey One (March 28); CJ Survey Two (April 6); CJ Survey Three (April 18); CJ Survey Four (May 6); CJ Survey Five (May 27); and CJ Survey Six (June 25). Surveys were initiated on March 29 for Santa Clara River/South Fork (SCR) and completed on June 26, 2004 as follows: SCR Survey One (March 29); SCR Survey Two (April 7); SCR Survey Three (April 19); SCR Survey Four (May 7); SCR Survey Five (May 28); and SCR Survey Six (June 26).

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 area surveyed included a portion of Castaic Creek that is located approximately one mile north of the Castaic reservoir on U.S. Forest Service land. During the initial visit, arroyo toads were directly observed and heard vocalizing. No tadpoles were recorded in the upper reaches in mid-April, but an extensive search was not conducted. 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

Santa Clara River (Interstate 5 upstream to Bouquet Canyon Road Bridge)

This reach supports a mosaic of riparian and terrace habitats, barren sandbars, and various densities of riparian scrub and woodland that are consistent with AT primary constituent elements (PCE 1-4), and AT have been recorded within a small portion of this reach as recently as 2003. Water typically flowed within one to several small active channels primarily from the upstream outfall of the Los Angeles County Sanitation District's Plant (No. 26), and a secondary, lesser amount from runoff flowing from the concrete-lined Bouquet Canyon Creek outfall. No flows are present east (upstream) of Bouquet Canyon Road Bridge. Braided, open low-flow channels indicative of a sufficiently low gradient to support shallow pools, sandbars, and sparsely vegetated terraces generally characterize the survey area within this portion of the River. Relatively narrow channel(s) approximately 2-feet to ±20-feet wide that varied in depth from a few inches to ±12-inches deep exemplified the active flow portions of the survey area. Some daily fluctuations of volume and velocity produced a few low-flow side channels that were generally ephemeral in nature. The River portion near the Interstate 5 Bridge occurs more often as a single narrower channel along the southern River bank with flow rates that often exceeded those conducive to breeding AT. The water below the Interstate 5 Bridge was diverted into underground culverts due to ongoing bridge construction activities. The stream bottom throughout the reach is characterized as sandy to gravelly with little accumulated silt. There are sufficient upland terrace habitats in some portions of the survey area to support AT. Terraces consist of sandy to gravelly soils with varying densities of vegetation. The stream channel width ranges from approximately 200 feet to over 750 feet between banks. ORV use was also prevalent in the River.

The active water channel(s) supported an often dense coverage of arroyo willow (*Salix lasiolepis*), narrow-leaved willow (*Salix exigua*), mule fat (*Baccharis salicifolia*), cattail (*Typha latifolia*), Tamarisk (*Tamarix* sp.), cottonwood (*Populus fremonti*), elderberry (*Sambucus mexicana*), tree tobacco (*Nicotiana* glauca), mustard (*Brassica* spp.), giant reed (*Arundo donax*), western ragweed (*Ambrosia psilostachya*), filaree (*Erodium cicutarium),* and rabbits-foot grass (*Polypogon montspeliensis*). Upland species present in the dry portions of the River included alluvial scrub species such as scalebroom (*Lepidospartum squamatum*), arrow weed (*Pulchea sericea*), goldenbush (*Ericameria* sp.), sagebrush (*Artemisia tridentata*), California buckwheat (*Eriogonum fasciculatum*), California broom (*Lotus scoparius*), cholla

(*Opuntia* sp.), prickly pear (*Opuntia littoralis*), and various understory species such as brome grasses (*Bromus* spp.), cudweed (*Gnaphalium* sp.), eriastrum (*Eriastrum sapphirinum*), mustard, and puncture vine (*Tribulus terrestris*).

South Fork Santa Clara River (Confluence with Santa Clara River to Valencia Boulevard Bridge)

The South Fork Santa Clara River between its confluence with the Santa Clara River and Valencia Boulevard Bridge support PCE 2-4, with the exception of PCE-1. Soils, sandbars, and some terrace habitats suitable for over-wintering are present, though no suitable breeding habitat is currently available due to the absence of water. The survey area supported many of the above-mentioned species present in the Santa Clara River absent many of the alluvial scrub species and those that require a more permanent water source (e.g., cattails). A concrete riprap drop structure downstream of the Valencia Boulevard Bridge is a significant barrier to upstream toad movement on the South Fork. There is very little upland terrace habitat (PCE-4) remaining adjacent to the South Fork. The vast majority of area immediately adjacent to the banks supports commercial development. The few areas not developed are most accurately described as disturbed, vacant lots. Most of these areas do not support suitable soils or any vegetation and the few small patches that do are heavily disturbed through weed abatement, pedestrian, and vehicle traffic. Nighttime illumination near the survey area was prevalent due to the baseball field overhead lights.

Castaic Junction (Confluence of SCR and Castaic Creek upstream to Interstate 5 Bridge)

The Castaic Junction survey area supports a diverse mosaic of riparian and wetland habitats within the River channel, including open water, barren sandbars, and various densities of riparian woodland consistent with PCE 1-4. This reach supports multiple small channels that range from shallow open and braided to relatively deep and under dense vegetative cover. Several sand bars and sandy/gravelly terraces are present between the stream banks. The channel ranges in width from ±400 feet to over 1,200 feet. Perennial flow is present from the Los Angeles County Sanitation Districts' Water Reclamation Plant in the reach (No. 32), as well as from the upstream plant (No. 26).

There is a sufficient water flow to sustain the life cycle of AT within the River channel as evidenced by the presence of larvae, juveniles, and adults of the western toad (*Bufo boreas*) and Pacific chorus frog (*Pseudacris regilla*). Additionally, this portion of the River is of sufficiently low gradient and support patches of sandy and fine gravel substrates. A few shallow pools are present, and although some sand/gravel bars were recorded, many were relatively densely vegetated at the time of the survey. The reach is also subject to a natural flooding regime that would 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. There are some sufficient upland terrace habitats between the banks of the River to support AT.

Most of the upper terraces and foothill slopes (beyond the stream banks) are highly disturbed from existing development and human activity. The north side of the River supports areas of active agriculture, industrial development, and a campground/trailer park. Many of these areas would likely be considered inaccessible to AT due to the height and near vertical angle of portions of the north bank. Those areas that would otherwise be accessible for AT, such as the campground, are likely too disturbed to provide suitable upland refuge for toads as pedestrian and ORV traffic is prevalent in these terrace areas. The majority of the southern River bank is high and steep in this survey area. Much of the eastern half of the survey zone outside of the channel banks has existing development and paved areas associated with the Magic Mountain amusement park. The western half of the southern River bank is not developed, and supports primarily scrub and patches of grassland habitats, with some access areas.

Survey Results/Conclusion

Based on results of the focused AT survey effort, a majority of the River located within the subject survey area contains relatively high quality habitat for AT between the riverbanks. The River exhibits a considerable diversity of sandbars, terraces, and riparian woodlands combined with shallow low-flow

pools that have suitable substrate for the various life stages (e.g., breeding, foraging, and/or over-wintering habitat) of AT. Each of the PCE was determined to be present throughout the survey area (except as noted below in the South Fork survey area). However, no direct observations or vocalizations of AT were recorded in 2004. In addition, no egg masses or other sign of AT were recorded within the subject survey area. Common amphibian species recorded during the focused AT surveys included adults, juveniles, and tadpoles of the western toad and Pacific chorus frog where lower velocity flows were present. Sensitive aquatic species recorded included southwestern pond turtle (*Clemmys marmorata*) and two-striped garter snake (*Thamnophis hammondii*). These species were observed near the confluence of Castaic Creek and the Santa Clara River.

No suitable AT breeding habitat is currently present within the South Fork Santa Clara River survey area due to the absence of a hydrological regime (PCE 1), a habitat component required for the existence and survival of the AT. Detrimental factors that were frequently detected throughout all of the survey areas were the use of ORVs (PCE 7), as ORV tracks were observed on many sandbars, terraces and historic low flow channels. In addition, PCE 5-6 would be considered as limited in portions of the survey area. The nearest recent AT observation (2003) within the survey area known to Ecological Sciences is located in the Santa Clara River near the confluence of San Francisquito Creek.

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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

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