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**Impact Sciences, Inc., "Annual Status Report for Unarmored Threespine  
Stickleback within the Natural River Management Plan Area, Valencia,  
California" (October 1, 2003; 2003C)**

Original in Matt Carpenter's  
Office

cc. Glenn Duncan  
& Liberty  
2003  
2003 I.S. Fish-B.

**Annual Status Report for  
Unarmored Threespine Stickleback Within the  
Natural River Management Plan Area  
Valencia, California**

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**Annual Status Report on Unarmored Threespine Stickleback  
Within the Natural River Management Plan Area  
Valencia, California**

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The following presents the findings of focused protocol surveys that were conducted in September 2003 to evaluate the current status of the federally- and state-listed Endangered unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) (herein UTS) in portions of the Santa Clara River in Los Angeles County that are incorporated within the Natural River Management Plan (NRMP) area.

## **INTRODUCTION**

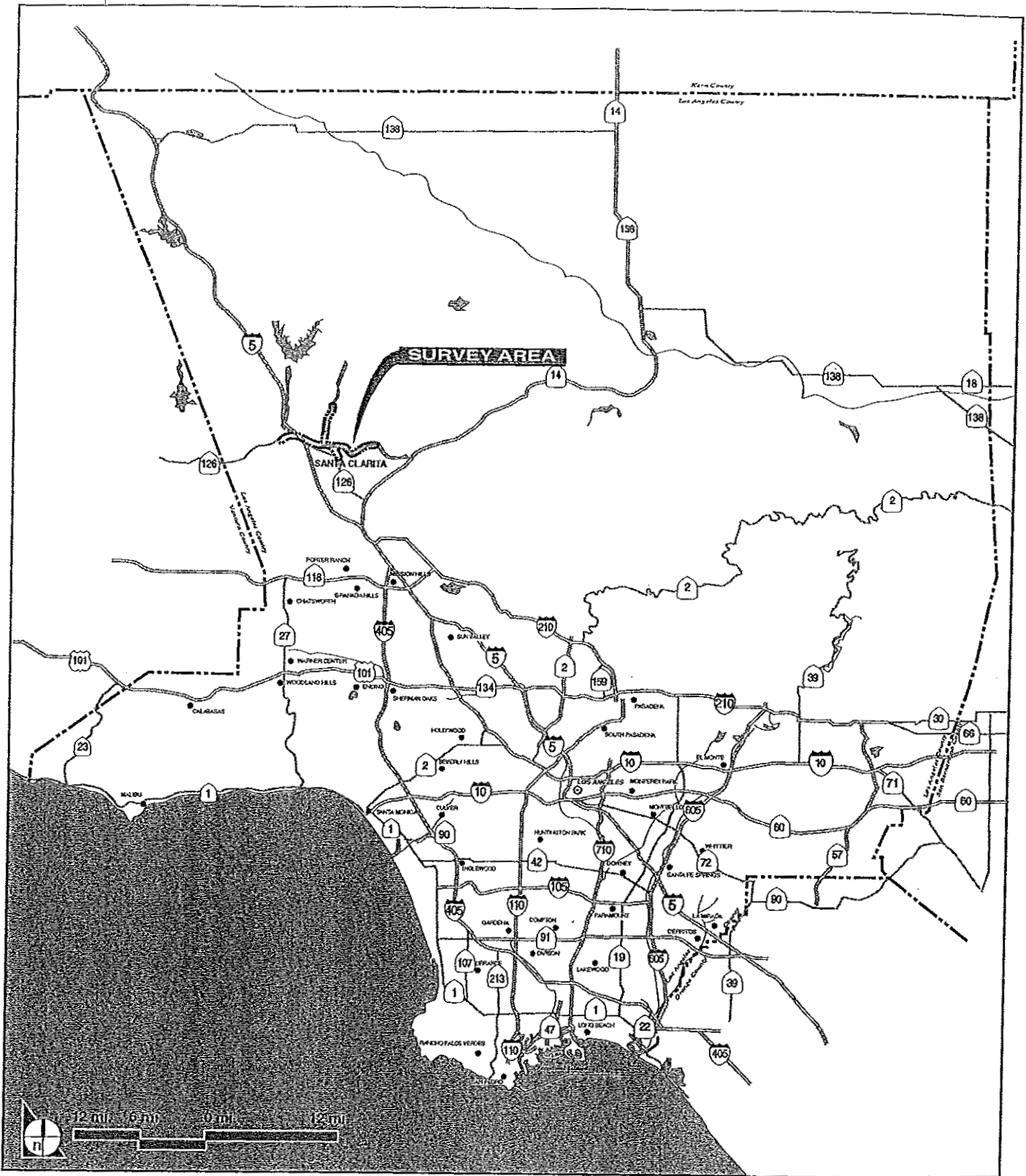
The survey area is located in northwestern Los Angeles County (Figure 1), within the Newhall, California US Geological Survey (USGS) 7.5-Minute Quadrangle Map. The survey reach includes portions of the Santa Clara River from near its confluence with Castaic Creek, east (upstream) approximately 7.2 miles. The survey reach also included tributary drainages including San Francisquito Creek, the South Fork Santa Clara River, and Bouquet Canyon Creek.

In spring 2002, a detailed focused survey was completed that determined the presence of UTS and other special-status fish species in the NRMP area, as well as identified specific areas within the survey reach that are important for breeding and protection of juvenile fish (Impact Sciences 2003). Pursuant to conditions set forth in the NRMP EIR/EIS, an annual letter report describing the current status of UTS shall be submitted to DFG that describes "...the results of sample surveys of selected habitat areas where the unarmored three-spine stickleback occurs in the Santa Clara River designed to monitor the general population status and habitat conditions for this species."

## **METHODOLOGY**

### **Survey Scope and Methods**

As discussed, the purpose of the survey effort was to monitor the general population status and habitat conditions of UTS within the Natural River Management Plan area, relative to recent and historic data. Therefore, sample sites were selected based on those areas identified in the 2002 report as supporting high quality habitat and/or breeding adults and juvenile UTS.



**NEWHALL RANCH**  
 SPECIFIC PLAN

Prepared For: Newhall Ranch Company

Figure 1  
 REGIONAL LOCATION

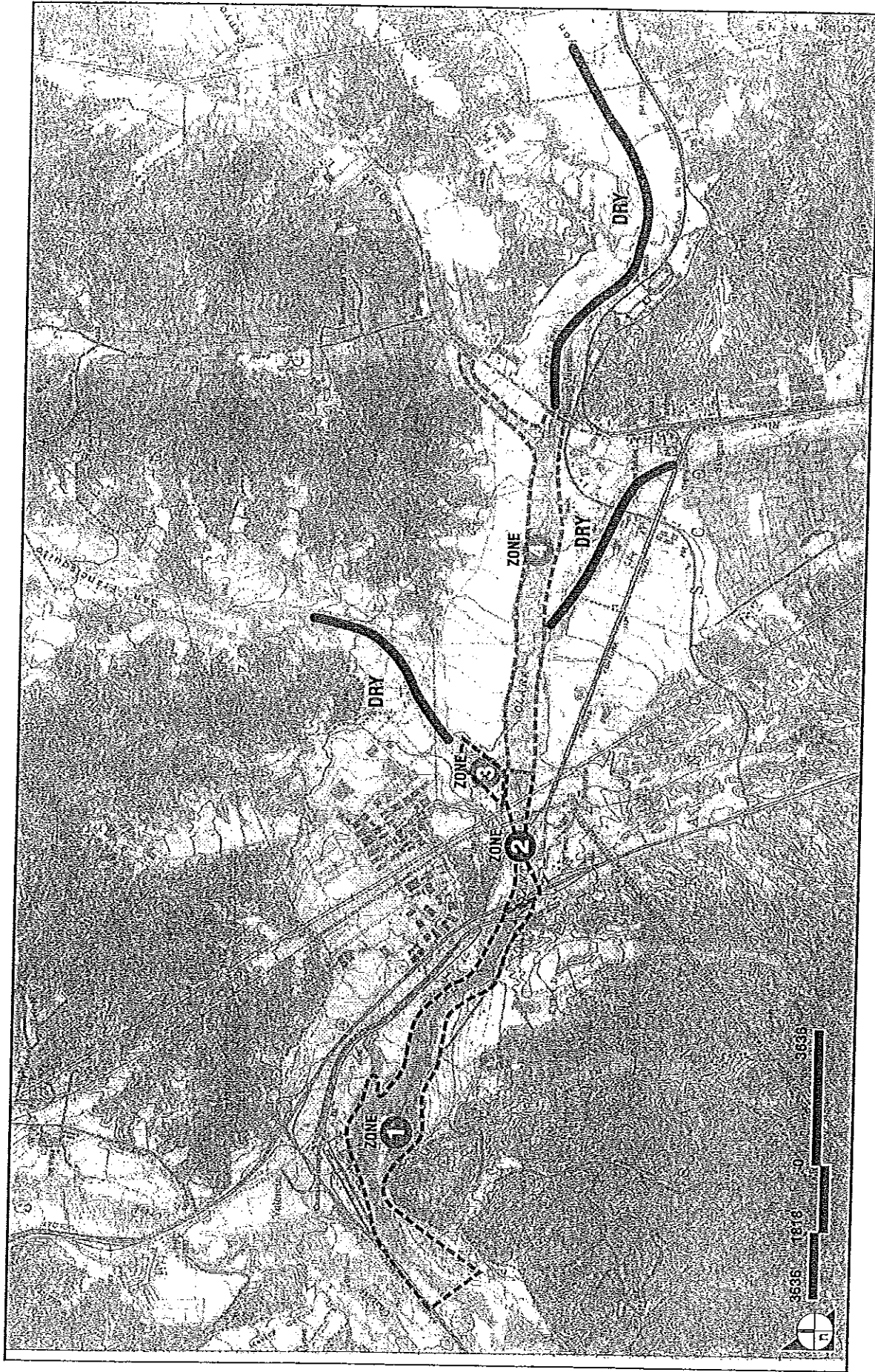
As previously discussed, it is generally accepted by USFWS and UTS experts that sticklebacks occurring east (upstream) of San Martinez Grande Canyon, near the Los Angeles/Ventura County boundary, are the endangered unarmored subspecies. As such, UTS identification at sampling sites was limited to direct observation of plate counts. All fish collected during the survey effort were released immediately following identification. No UTS or other special-status fish species were lost during the survey effort.

Impact Sciences conducted five surveys for UTS in the NRMP area between September 16 and 25, 2002. Surveys were conducted by Mr. Dave Crawford under the authority of his individual USFWS Section 10(a)(1)(A) Endangered Species Recovery permits with assistance from project biologist Andrew Forde.

Sampling methods included visual observation, a 12x5-foot 1/8-inch mesh seine and a small hand net. Sampling locations are illustrated by zone in Figure 2. Zone 1 - Castaic Junction, and Zone 3 - San Francisquito Creek, included areas identified in previous studies as important breeding and nursery areas for UTS. Zone 2 was included as it is the portion of river that links the two important areas together. Additional sampling was conducted in Zone 4 to determine if distribution of UTS had significantly shifted, and the remaining areas of the NRMP area were dry at the time of survey, but were walked to determine if there were isolated pools supporting UTS. Within the Zones that supported surface water, the number of sampling locations varied between 15 and 30 depending upon habitat conditions encountered. In addition to fish sampling, the survey effort included a visual analysis of habitat within the survey zones for comparison with last year's data.

## SURVEY RESULTS

At the time of the sampling effort, it was determined that UTS were utilizing habitats in Zones 1 and 2, with Zone 1 supporting the greatest concentration of UTS. The majority of UTS observed were adults with only a few juveniles recorded. The fish sampled in Zone 2 were predominantly arroyo chub (*Gila orcutti*), though several (approximately 65) UTS were present. Two individual Santa Ana sucker (*Catostomus santaanae*) were also recorded. Habitat conditions in both of these zones were similar to those recorded in 2002 with the exception of the Interstate 5 bridge area where construction has been progressing. Within this area, most of the riparian vegetation has been removed. Additionally, fish passage blockade nets were in place and being monitored by fisheries biologists at the upstream and downstream limits of construction. As such, no sampling was conducted in the construction zone as part of this study. However, discussions with the monitoring biologists revealed that numerous UTS and arroyo chubs had been removed from the exclusion area.



**NEWHALL RANCH™**  
 SPECIFIC PLAN

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Figure 2

**SURVEY ZONES**

Interestingly, though Zone 3 has been identified in several past studies as being an important breeding and nursery area for UTS, none was observed in 2003. The only fish species identified in Zone 3 was arroyo chub. There was no apparent change in habitat conditions from the 2002 surveys except that there was considerably less total surface water within the San Francisquito Creek confluence area - San Francisquito Creek upstream approximately one half mile from the Santa Clara River - during this most recent survey. In 2002 there were numerous braids in the streams and 'swampy' areas supporting pools with juveniles and breeding adults. During this survey effort, nearly all the surface water in the zone was confined to a single narrow channel.

Fish sampled in Zone 4 were limited to mosquitofish (*Gambusia affinis*). This data also varies considerably from 2002 when several arroyo chub and scattered UTS were recorded. There were no noticeable differences in habitat conditions in this reach with the exception of Bouquet Canyon Creek. During the 2002 survey there were no surface flows. During the 2003 surveys, surface flows were present between the Santa Clara River and Bouquet Canyon Road.

As documented in 2002, several portions of the survey reach were dry at the time of the surveys. Each of these areas was walked to determine if there were isolated pools potentially supporting fish. There were no such pools discovered in any of the indicated dry stretches of streambed.

All sticklebacks captured and recorded had one or less lateral plates. A few of the locations in Zone 1 yielded 25 or more individuals. The plate counts from this and previous studies in this area, and electrophoresis data previously recorded from these areas, suggest all of the UTS recorded in this survey reach were also of the endangered subspecies.

Additional fish species recorded in this survey include sailfin molly (*Poecilia latipinna*) and goldfish (*Carassius auratus*). All of these individuals were all recorded in the pool created by runoff outfall on the southern portion of the Santa Clara River at Bouquet Canyon Road. Neither of these species are considered native to the Santa Clara River watershed.

## DISCUSSION

Nearly all of the Santa Clara River within the Natural River Management Plan area, east (upstream) of the Castaic Creek confluence is considered by regulatory agencies and fisheries biologists to be of relatively high quality for UTS as this species has been identified throughout this reach and because



most or all of the primary constituent elements for UTS habitat are present. Results of the surveys reported herein confirm the presence of UTS in the western portion of the survey reach.

As discussed the habitat evaluation was conducted concurrently with the presence/absence surveys within the survey reach with the goal of identifying any significant differences from previous data. Because these surveys were conducted in September this year, versus spring and summer samplings last year, it is reasonable to assume there would be differences in surface flows within the study reach. Such differences in surface flows, and likely water temperatures, are expected to result in a shift in population location for most fish species present in the watershed. Additionally, UTS are known to breed throughout most of the year when conditions are suitable. However, their peak breeding season is in spring. This was evident in the 2002 data.

Although few juvenile or breeding adults were observed during this study, the data does not provide conclusive results as to any particular cause other than some conditions are different. As there were no marked changes in riparian vegetation quantity, diversity, or health, the noted fluctuations in population dynamics within the survey reach are more likely attributed to either water quantities and conditions, or normal seasonal changes. Data collected from future annual surveys will assist in determining if this is the case.

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