

MEMORANDUM

October 1, 2018

To:
Nandini Moran
Los Angeles County Flood Control District
Flood Maintenance Division

From:
Marc Blain

Subject: Unarmored Threespine Stickleback Pre-Clearing Presence/Absence Survey Results for
27 Los Angeles County Department of Public Works Soft-Bottom Channels

INTRODUCTION

In accordance with Special Conditions of the U.S. Army Corps of Engineers Nationwide Permit (SPL-2013-00723-BLR), and the California Department of Fish and Wildlife Streambed Alteration Agreement (SAA-1600-1999-0016-R5), visual surveys for unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) (UTS) were conducted in 2018 in drainages identified as supporting potentially suitable habitat. Pre-clearing presence/absence and focused protocol surveys for Threatened and Endangered species are conducted on a regular basis at selected soft-bottom channel (SBC) reaches maintained by the Los Angeles County Department of Public Works (LACDPW). The list of reaches for which surveys are recommended is updated periodically during annual biological monitoring and periodic habitat assessments.

Pre-clearing presence/absence surveys for UTS have been conducted within LACDPW SBC channels annually since 2005. Prior to 2014, when UTS became a State Fully Protected species, focused surveys were conducting using the seining (netting) method; survey results were conclusive with the species either present or absent. After 2014, surveys have been conducted using the visual method because handling of the UTS is no longer permitted; three survey results are possible: (1) species present; (2) species absent; or (3) species possibly present (inconclusive). In cases where potentially suitable habitat is not 100% visible, UTS is considered possibly present and monitoring is required during clearing activities. This memo describes the methods and results of pre-construction visual surveys for UTS conducted in 27 SBC reaches within the Santa Clara River watershed in 2018.

SPECIES BACKGROUND

UTS is a small fish requiring shallow, slow, marginal stream flows with abundant aquatic vegetation for cover. They can be found throughout a given stream of suitable habitat, but tend to mill in areas of slow flow or standing water, such as within eddies behind obstructions or in edgewater where vegetation slows the stream flow. Under optimal conditions, several hundred UTS can exist within approximately 30 feet of a stream. While strong storm flows can severely reduce localized populations due to washing downstream, as the stream stabilizes in the spring, UTS can quickly recover by recolonizing and reproducing. UTS use backwater habitats in the Santa Clara River as refugia during storm events.

Two features of UTS habitat appear to be essential for the survival of fry and juveniles; (1) slow flowing, clear water for the proper development of the eggs; any form of pollution or small amounts of turbidity interfere with normal development and (2) aquatic vegetation along the edge of the shoreline to supply cover and microscopic food organisms for the fry (Ono et al. 1983). While UTS rely upon a wide variety of foods, they prefer insects and some snails in their diet.

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The USFWS has not designated Critical Habitat for the UTS, however, the UTS Recovery Plan (USFWS 1985), defines critical habitat for federally listed species generally as: (1) the specific areas within the geographic area occupied by a species, at the time it is listed in accordance with the Endangered Species Act of 1973 as amended, on which are found those physical or biological features (a) essential to the conservation of the species and (b) that may require special management considerations or protection and (2) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species (45 Federal Register 76012-76015). “Conservation” means the use of all methods and procedures that are necessary to bring an Endangered or a Threatened species to the point at which listing under the Act is no longer necessary (USFWS 1998).

Three Essential Habitat zones within the Santa Clara River watershed are described under the Unarmored Threespine Stickleback Revised Recovery Plan (USFWS 1985):

1. **Del Valle Zone.** An area of land and water with the following components : Santa Clara River beginning at its confluence with San Martinez Grande Canyon, at a point 0.9 of a mile southwest of Del Valle settlement, and extending upstream approximately 5.6 miles to the Interstate Highway 5 Bridge.
2. **San Francisquito Creek Zone.** An area of land and water with the following components: San Francisquito Canyon watercourse beginning at a point where the Angeles National Forest boundary intersects the San Francisquito Canyon watercourse, approximately 2.5 miles southwest of San Francisquito Powerhouse No. 2, and extending upstream in San Francisquito Canyon approximately 8.4 miles to San Francisquito Powerhouse No. 1, near its junction with Clearwater Canyon.
3. **Soledad Canyon Zone.** An area of land and water in Los Angeles County, with the following components: Santa Clara River beginning at a point 1.4 miles upstream in Soledad Canyon from the community of Lang, at the downstream end of the area called River’s End Park extending upstream approximately 8.5 miles to its confluence with Arrastre Canyon, at a point located about 0.6 mile southwest of Los Angeles County Rehabilitation Camp, upstream in Arrastre Canyon approximately 0.8 mile.

METHODS

Pre-clearing visual surveys for UTS were conducted by a fisheries biologist that holds a Section 10(a)(1)(A) permit (Scientific Permit) for this species at the following 27 SBC reaches:

- Santa Clara River: Reaches 47, 51, 54, 55, 56, 58, 60, 61, 63, 64, 66, 71, 82, 109, and 120
- Bouquet Canyon Creek: Reaches 67, 69, 70, and 103
- South Fork Santa Clara River: Reaches 79 and 80, at the confluence of the Santa Clara and South Fork Santa Clara Rivers
- Castaic Creek: Reaches 86, 87, 97, and 104
- San Francisquito Creek: Reaches 105 and 121

Surveys were conducted on August 27 and 29, 2018 during appropriate weather conditions for good visibility. No seining or handling of the UTS was conducted during the surveys. Each reach was visited to assess the suitability of habitat present. If potentially suitable habitat was present, the water was scanned

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visually by the fisheries biologist to determine whether UTS was present or absent. In cases where potentially suitable habitat was not 100% visible, UTS was considered possibly present.

RESULTS

Table 1 shows results of the 2018 pre-clearing visual surveys, in comparison to previous survey results. UTS was determined to be absent from 26 of the 27 reaches during the 2018 surveys; it was considered possibly present in Reach 67.

During the surveys, only one aquatic species was observed; the non-native green sunfish (*Lepomis cyanellus*) was observed at Reach 105.

**TABLE 1
 SUMMARY OF 2018 RESULTS OF PRE-CLEARING UNARMORED
 THREESPINE STICKLEBACK SURVEYS FOR THE
 LOS ANGELES COUNTY SOFT-BOTTOM CHANNELS**

Reach Number	Reach Name/Tributary	Survey Date	2018 Unarmored Threespine Stickleback Results	Prior Presence (Year) ^a
Santa Clara River (SCR)				
47	SCR (PD 1733 Unit 1)	8/27/2018	Absent	–
51	Mint Canyon Main Channel Outlet (PD 1984) at SCR Main Channel	8/27/2018	Absent	–
54	SCR Non-main Channel (PD 832)	8/27/2018	Absent	–
55	SCR Channel (PDs 910, 832, 1758, and 1562 Unit 2)	8/27/2018	Absent	–
56	SCR (PD 1562 Unit 2)	8/27/2018	Absent	–
58	SCR (PD 374)	8/27/2018	Absent	–
60	SCR (PD 1339 and 374)	8/27/2018	Absent	–
61	SCR (PD 659)	8/27/2018	Absent	–
63	Oak Avenue Rd Drainage (CDR 523.081)	8/27/2018	Absent	–
64	Soledad Canyon Rd Drainage (CDR 523.071 D Outlet)	8/27/2018	Absent	2015 ^b
66	SCR (PD 1358)	8/27/2018	Absent	–
67	Bouquet Canyon Upper (PDs 1201, 802, 700B and 625)	8/29/2018	May Occur	2005, 2006, 2007, 2008, 2015 ^b , 2016 ^b , and 2017 ^b
69	Bouquet Canyon Middle (PDs 722, 773, 1365, 1065 and 45)	8/29/2018	Absent	2005, 2006, 2007, 2008, 2012, 2015 ^b , 2016 ^b , and 2017 ^b
70	Bouquet Canyon Lower (PDs 544 and 345)	8/29/2018	Absent	–
71	SCR Main Channel (PD 1946)	8/27/2018	Absent	–

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Reach Number	Reach Name/Tributary	Survey Date	2018 Unarmored Threespine Stickleback Results	Prior Presence (Year)^a
79	South Fork SCR Valencia Blvd Bridge Stabilizer	8/29/2018	Absent	–
80	South Fork SCR (PDs 1947 and 1946)	8/29/2018	Absent	–
82	SCR Main Channel (PD 2278)	8/29/2018	Absent	–
86	Violin Canyon Main Channel Outlet	8/27/2018	Absent	–
87	Castaic Old Road Drain (CDR 525.021D) Outlet	8/27/2018	Absent	–
97	Castaic Creek (PD 1982)	8/27/2018	Absent	–
103	Bouquet Canyon Channel (PD 2225)	8/27/2018	Absent	2005, 2006, 2007, 2008, 2015 ^b , and 2016 ^b
104	Castaic Creek (PD 2441 Unit 2)	8/27/2018	Absent	–
105	San Francisquito Channel (PD 2456)	8/27/2018	Absent	2015 ^b , 2016 ^b
109	SCR south bank west of McBean Pkwy (MTD 1510)	8/29/2018	Absent	2009, 2010, 2011, and 2015 ^b
120	Jake's Way (PD 2496)	8/27/2018 and 8/29/2018	Absent	–
121	San Francisquito Creek (PD 2271)	8/27/2018	Absent	–
^a Sources: BonTerra; 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2016, and 2017. Note: no survey report or memorandum was generated for the 2015 presence/absence surveys, however, a Pre-Clearing Status Update table was created and shared with LACDPW and information in it was used for this table. ^b Species may occur				

CONCLUSION

As a result of these surveys, and in accordance with Special Conditions of the U.S. Army Corps of Engineers Nationwide Permit and the California Department of Fish and Wildlife Streambed Alteration Agreement, biological monitoring shall be conducted during all maintenance activities in the 2018-2019 maintenance season occurring in Reach 67.

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