

Steelhead/rainbow trout resources of Santa Barbara County

Santa Maria River

The Santa Maria River is formed by the junction of the Cuyama and Siquoc rivers approximately 25 miles east of the mouth. Its watershed consists of about 1,790 square miles. Operations of Twitchell Reservoir on the Cuyama River substantially affect the hydrology of the Santa Maria River. Currently, water releases are made based primarily on water supply considerations and do not include “fish flows.”

A 1945 DFG report noted a “spawning run of steelhead” in the Santa Maria River. The report indicates that the run was supplemented with rescued juvenile *O. mykiss* from the Santa Ynez system (DFG 1945).

A 1975 study of southern California streams notes, “The Santa Maria and Cuyama rivers, for the most part, are intermittent. The Santa Maria River is dry at Highway 1, Bonita School Road and Suey Crossing” (Swift 1975).

A 2003 NMFS report notes that *O. mykiss* is present in the Santa Maria drainage. A 2002 personal communication is cited (NMFS 2003). A 2005 report on the steelhead population of the Sisquoc River watershed recommends revising the manual that governs releases for Twitchell Dam to “...include provision of passage of adult steelhead from the ocean through the mainstem of the Santa Maria River...and provision of passage of juvenile steelhead (smolts) from lower Sisquoc River to the ocean” (Stoecker 2005, p. 31).

Suey

Suey Creek consists of about 9.5 stream miles and is tributary to the Santa Maria River. It flows south, entering the Santa Maria in the northeast portion of the city of Santa Maria.

A 1975 survey of southern California streams describes Suey Creek as “dry” (Swift 1975). As part of a study of the Sisquoc River system, a consulting biologist assembled historical information related to steelhead observations in Suey Creek. According to the study report, local residents caught *O. mykiss* in the creek prior to the construction of Twitchell Reservoir (Stoecker 2003).

Cuyama River

The Cuyama River consists of about 106 stream miles and is tributary to the San Maria River. Twitchell Dam, located at about stream mile 7.7, was constructed in late 1950s.

A 1975 study of southern California streams notes, “The Santa Maria and Cuyama rivers, for the most part, are intermittent... Most of the upper Cayuma also is dry...” (Swift 1975).

Alamo

Alamo Creek consists of about six stream miles and is tributary to the Cuyama River. The three mile portion of the creek upstream from the mouth was inundated by Twitchell Reservoir.

Field notes on Alamo Creek from DFG staff from 1947 state, "...native trout are up in the stream" (DFG 1947). An Alamo Creek reach immediately upstream from the reservoir was sampled monthly between November 1969 and June 1970. The resulting paper notes that rainbow trout were observed "rarely" (Greenfield and Deckert 1973). Staff from DFG and USFS surveyed Alamo Creek in 1975 and did not observe *O. mykiss*. The survey report states, "The headwater area of Alamo Creek flows intermittently, ...[with] no flow with several spring fed pools during late summer and fall" (DFG 1975a).

Kelly Canyon

Kelly Canyon Creek consists of about six stream miles and is tributary to the Cuyama River. It flows north, entering the Cuyama about 38 miles upstream from Twitchell Dam.

Staff from DFG surveyed Kelly Canyon Creek, probably in the 1930s and did not observe *O. mykiss*. The survey report states, "There are only a few holes near the head of this stream which carry water during the summer" (DFG ca 1934a).

Santa Barbara Canyon

Santa Barbara Canyon Creek consists of about 15 stream miles and is tributary to the Cuyama River. It flows north, entering the Cuyama northwest of the community of Ventucopa.

Staff from USFS surveyed Santa Barbara Canyon Creek in 1980 and did not observe *O. mykiss*. The survey report noted that most of the canyon was dry with only a few pools and no fish (USFS 1980a). However, a USFS document, apparently also from 1980, indicates that a fishery for "RBT" exists in Santa Barbara Canyon Creek, and that stocking had not occurred (Unknown 1980).

Alamo Canyon

Alamo Canyon Creek consists of about 4.5 stream miles and is tributary to Santa Barbara Canyon Creek. The creek enters Santa Barbara Canyon from the west upstream from Cox Flat.

Staff from USFS surveyed Alamo Canyon Creek in 1980 and did not observe *O. mykiss*. The survey report states, "The habitat conditions of this creek are not suitable for fish because of the low-flow, heavy minerals and high water temperatures" (USFS 1980b).

Tinta

Tinta Creek is tributary to the Cuyama River. It flows southeast, entering the Cuyama west of the entrance to Castle Canyon.

No fisheries information was collected for Tinta Creek. However, *O. mykiss* was observed in a tributary as described below.

Rancho Nuevo

Rancho Nuevo Creek consists of about ten stream miles and is tributary to Tinta Creek. It flows east, entering Tinta Creek at about stream mile 0.5.

No fisheries information was collected for Rancho Nuevo Creek. However, *O. mykiss* was observed in a tributary as described below.

Deal Canyon

Deal Canyon Creek consists of about 4.7 stream miles and is tributary to Rancho Nuevo Creek. It flows north, entering Rancho Nuevo Creek near Deal Junction Campsite.

Staff from USFS surveyed Deal Canyon Creek in 1980 and observed *O. mykiss*. The survey report states, "The fishery in this creek is poor because of low water flow and poor habitat" (USFS 1980c).

Reyes

Reyes Creek consists of about six stream miles and is tributary to the Cuyama River. It flows northwest through Camp Scheideck before entering the Cuyama.

Regarding Reyes Creek DFG staff in a 1949 letter states, "A fairly good wild fish population is present" (DFG 1949a). The creek was said to offer about seven miles of trout habitat. This figure apparently refers to the mainstem as well as Reyes Creek tributaries.

As part of a study of freshwater fishes and habitat, Reyes Creek was surveyed in 1975 and *O. mykiss* between 1.6 and 8.9 inches in length was observed. The resulting report states, "Numerous pools result from small, man-made dams" (Swift 1975, p. 59). Reyes Creek was surveyed in 1979 and *O. mykiss* was observed. The survey report indicates that more than three miles of "trout fishery" existed in the creek (Moore 1980).

Alamo

Alamo Creek consists of about six stream miles and is tributary to the Cuyama River. It flows west, entering the Cuyama south of the entrances to Sulphur Spring and Dry canyons.

No fisheries information was collected for Alamo Creek. However, *O. mykiss* was observed in a tributary as described below.

Beartrap

Beartrap Creek consists of about six stream miles and tributary to Alamo Creek. It flows northwest, entering Alamo Creek northeast of Camp Scheideck.

Beartrap Creek was surveyed in 1979 and multiple *O. mykiss* year classes were observed. The survey report states, “Overall trout habitat: fair to good (in places containing numerous pools)” (DFG 1979).

Sisquoc River

The Sisquoc River consists of about 45 stream miles and is tributary to the Santa Maria River. It flows east and joins the Cuyama River east of the city of Santa Maria.

Surveyors from DFG and USFS sampled the Sisquoc River in 1959. The survey report noted good natural propagation of resident *O. mykiss* in the stream (DFG 1959).

Staff from DFG surveyed two sections of the upper Sisquoc River in 1995 and in 1996. In the studies, multiple *O. mykiss* age classes were observed in both sections (DFG 1996a; DFG 1996b). Staff from USFS also observed multiple year classes in the Sisquoc in 1999 (USFS 1999).

A steelhead trout population survey of the Sisquoc watershed was conducted in 2005 and included characterizing the *O. mykiss* population and density. A 20-inch steelhead was observed in the lower Sisquoc River, though the section had the lowest steelhead density in the watershed (Stoecker 2005). Relatively high densities of YOY *O. mykiss* in the upper Sisquoc River were found to be “...indicative of the importance of higher gradient habitat in the upper reaches of watersheds for spawning and rearing” (Stoecker 2005, p. 14). Multiple *O. mykiss* year classes and individuals to 15 inches were observed in upper Sisquoc River.

Tepusquet

Tepusquet Creek consists of about nine stream miles and is tributary to the Sisquoc River. It flows south, entering the Sisquoc River east of the town of Sisquoc.

As part of a study of the Sisquoc River system, a consulting biologist assembled historical information related to steelhead observations in Tepusquet Creek. According to the study report, local residents and DFG staff have observed *O. mykiss* in the creek, and reproduction is believed to occur (Stoecker 2003).

La Brea

La Brea Creek consists of about five stream miles and is tributary to the Sisquoc River. It is formed at the confluence of the North Fork and the South Fork, from where it flows southwest to the Sisquoc River.

Anecdotal accounts indicate the use of La Brea Creek by steelhead in the early 1900s (Stoecker 2003). According to a DFG stream survey report, probably from the 1940s, “Originally the stream was a natural spawning ground of steelhead. In later years it was stocked with rainbow and steelhead [and] was a famous fishing stream” (DFG ca 1934b).

A USFS trip report from 1999 noted impacts from heavy grazing on La Brea Creek tributaries. *Oncorhynchus mykiss* was not observed during the visit (Slaughter 1999).

North Fork La Brea

North Fork La Brea Creek consists of about 12 stream miles and is tributary to La Brea Creek. It flows southwest to the confluence with South Fork La Brea Creek, which forms La Brea Creek.

Anecdotal accounts indicate the use of North Fork La Brea Creek by steelhead in the early 1900s (Stoecker 2003).

Staff from USFS surveys were performed in 1999, when *O. mykiss* was not observed. The creek was surveyed in 2001 and *O. mykiss* was not observed (USFS 2001).

Horse Canyon

Horse Canyon Creek consists of more than nine stream miles and is tributary to the Sisquoc River. It flows southeast, entering the Sisquoc approximately 1.5 miles downstream from the Manzana Campsite.

No fisheries information was found for Horse Canyon Creek. However, a dam on the creek was removed in 2007 in hopes of providing access for trout and other fish.

Manzana

Manzana Creek consists of about 15 stream miles and is tributary to the Sisquoc River. It flows northwest, entering the Sisquoc River at the Manzana Campsite.

In a 1944 report Manzana Creek was said to be perennial in the five miles downstream from the headwaters and the two miles upstream from the mouth (DFG 1944a). Staff from DFG surveyed Manzana Creek, probably in the 1940s, and observed “steelhead” and “rainbow” (DFG ca 1934c). Natural production was deemed “limited” because only a small portion of the creek in the lower and upper sections had water during the summer months (DFG ca 1934c).

As part of a study of freshwater fishes and habitat, Manzana Creek was surveyed in 1975 and trout were observed (Swift 1975). Staff from USFS surveyed Manzana Creek in 1980 and observed multiple *O. mykiss* year classes. The survey report states, “The lack of pools and intermittent flow of water have contributed to the poor conditions of Middle Manzana Creek and the noticeable absence of rainbow trout” (USFS 1980d).

In the 2005 steelhead trout population survey of the Sisquoc River watershed, multiple *O. mykiss* year classes were observed in Manzana Creek (Stoecker 2005). Individuals to 19 inches also were noted. According to the survey report, “This section is both an important spawning and rearing area as well as a refuge for larger steelhead” (Stoecker 2005, p. 25). Staff from the USFS observed adult *O. mykiss* likely to be anadromous in Manzana Creek in 2005 (Stoecker 2005).

Davy Brown (Fir Canyon)

Davy Brown Creek consists of about four stream miles and is tributary to Manzana Creek. It flows north through Fir Canyon.

In a 1944 report Davy Brown Creek was said to be perennial in the one mile upstream from the mouth (DFG 1944a). A survey report, probably from the 1940s, notes “rainbow” and “steelhead” in the creek (DFG ca 1934d). Staff from DFG surveyed Davy Brown Creek in 1950 and observed juvenile *O. mykiss* with “fair” natural propagation (DFG 1950a).

Staff from USFS surveyed Davy Brown Creek in 1980 and observed multiple *O. mykiss* year classes. The survey report notes adverse effects of livestock on the riparian vegetation and bank stability (USFS 1980e). In a 1993 memo staff from USFS indicate that *O. mykiss* in Davy Brown Creek are “...most likely escapes from upstream put-and-take” (Peckham 1993).

In the 2005 steelhead trout population survey of the Sisquoc River watershed, multiple *O. mykiss* year classes were observed in Davy Brown Creek (Stoecker 2005). Individuals to 11 inches were noted. Staff from the USFS observed adult *O. mykiss* likely to be anadromous in Davy Brown Creek in 2005 (Stoecker 2005).

Munch Canyon

Munch Canyon Creek consists of about 2.5 stream miles and is tributary to Davy Brown Creek. It enters Davy Brown Creek near the Davy Brown campsite.

A 1980 USFS report notes the presence of *O. mykiss* in Munch Canyon Creek. It also indicates that past stocking occurred in the creek (Unknown 1980).

Observations made by M. Stoecker between 1994 and 2005 indicate that a reproducing *O. mykiss* population occurs in Munch Canyon Creek (Stoecker 2005). Staff from the USFS observed adult *O. mykiss* likely to be anadromous in Munch Canyon Creek in 2005 (Stoecker 2005).

Sunset Valley

Sunset Valley Creek consists of about three stream miles and is tributary to Munch Canyon Creek. A natural falls appears to be the upstream limit of *O. mykiss* distribution in the creek.

In a 1944 report Sunset Valley Creek was said to be perennial between the mouth and a natural falls 0.75 miles upstream (DFG 1944a). Staff from DFG surveyed Sunset Valley Creek, probably in the 1940s, and observed “steelhead” and “rainbow” with “limited and fair” natural propagation (DFG ca 1934e).

Fish Creek

Fish Creek consists of about three stream miles and is tributary to Manzana Creek. It flows northeast, entering Manzana Creek at Fish Creek campsite.

Staff from the USFS observed adult *O. mykiss* likely to be anadromous in Fish Creek in the 1950s and 1960s during wet years (Stoecker 2005). A 1980 USFS report notes the presence of *O. mykiss* in Fish Creek (Unknown 1980).

Consulting biologists observed *O. mykiss* in Fish Creek in 2002. A subsequent report states, “Good spawning and rearing habitat occur on Fish Creek and its East Fork... [*O. mykiss*] natural reproduction is likely occurring” (Stoecker 2003).

Abel Canyon

Abel Canyon Creek consists of about 6.5 stream miles and is tributary to the Sisquoc River. It flows south from headwaters on Peak Mountain.

A USFS biologist reports observing a small rainbow trout population in Abel Canyon Creek over the course of several years preceding 2002 (Stoecker 2003). Consulting biologists observed multiple *O. mykiss* year classes in Abel Canyon Creek in 2002. A subsequent report notes “fair to good spawning and rearing habitat” (Stoecker 2003).

South Fork Sisquoc River

The South Fork Sisquoc River consists of about three stream miles and is tributary to the Sisquoc River. It flows north, entering the Sisquoc River at the South Fork Campsite.

In a 1944 report South Fork Sisquoc River was said to be perennial (DFG 1944a). Staff from DFG surveyed South Fork Sisquoc River in 1959 and observed multiple *O. mykiss* year classes (DFG 1944a).

Staff from USFS surveyed South Fork Sisquoc River in 1980 and observed multiple *O. mykiss* year classes with individuals to 18 inches. The survey report notes, “This fork of the Sisquoc supports a good RB trout fishery and provides water...” (USFS 1980f).

In the 2005 steelhead trout population survey of the Sisquoc River watershed, multiple *O. mykiss* year classes were observed in South Fork Sisquoc River (Stoecker 2005). Individuals to 12 inches were noted. According to the survey report, “The South Fork Sisquoc River contained the highest overall steelhead density of any sections surveyed within the Sisquoc River watershed, a density almost three times higher than the next highest section surveyed (Davy Brown Creek) (Stoecker 2005, p. 22).

White Ledge Canyon

White Ledge Canyon Creek consists of about 3.5 stream miles and is tributary to South Fork Sisquoc River. It flows east, entering the South Fork Sisquoc at Lonnie Davis campsite. An unnamed tributary flows east, entering White Ledge Creek at White Ledge campsite.

Staff from USFS surveyed an unnamed tributary to White Ledge Canyon Creek in 1980 and observed multiple *O. mykiss* year classes, including individuals to 20 inches length (USFS 1980g). The survey report states, “This creek is an important water source...and supports a fair trout fishery... The trout were fat and healthy in appearance” (USFS 1980g).

Rattlesnake Canyon

Rattlesnake Canyon Creek consists of about three stream miles and is tributary to the Sisquoc River. It flows north, entering the Sisquoc River downstream of the Cottonwood Campsite. A falls is located approximately 1,000 feet upstream of the mouth.

Staff from USFS surveyed Rattlesnake Canyon Creek in 1983. The creek was called “very impressive” and multiple *O. mykiss* year classes were noted (Stoecker 2003). The survey likely covered only the most downstream 0.2 miles of the creek.

In the 2005 steelhead trout population survey of the Sisquoc River watershed, multiple *O. mykiss* year classes were observed in Rattlesnake Creek (Stoecker 2005). Individuals to seven inches were noted. According to the survey report, “...it is likely that this tributary is not highly used for spawning and rearing” (Stoecker 2005).

Big Pine Canyon

Big Pine Canyon Creek consists of about 2.5 stream miles and is tributary to the Sisquoc River. It flows northwest, entering the Sisquoc upstream from Heath campsite.

A 1980 USFS report indicates that *O. mykiss* was not found during surveys of Big Pine Canyon Creek in 1979. The report states, “...good fishing historically did exist” (Moore 1980). A 1983 USFS report indicates the presence of an “excellent” rainbow trout population in the creek (Stoecker 2003).

A recent report concerning restoration opportunities in the Sisquoc River system includes a photo of an *O. mykiss* individual taken in 1998 in the vicinity of the Big Pine Creek confluence with the Sisquoc River (Stoecker 2003).

San Antonio

San Antonio Creek consists of about 32 stream miles. It flows west, entering the Pacific Ocean north of Purisima Point.

Several streams of Vandenberg Air Force Base were studied in 1999 and 2000. The resulting report notes that San Antonio Creek “...is large enough to support steelhead” (Swift 2000a, p. 1). The report recommended surveys of tributaries for habitat resources, analysis of fish passage at Barka Slough, and channel improvements including modification of the El Rancho Road and Lompoc-Casmalia Road crossing. A total passage barrier was noted about 100 feet downstream of the Highway 1 crossing, at approximately stream mile 9.0.

San Antonio Creek was surveyed in 2002 as part of a steelhead distribution study. *Oncorhynchus mykiss* was determined to be “absent” from the drainage (NMFS 2003).

Santa Ynez River

The mainstem Santa Ynez River consists of about 90 stream miles and drains a watershed of about 900 square miles. Its headwaters are in the San Rafael Mountains and it flows west to enter the Pacific Ocean west of the city of Lompoc.

Bradbury Dam, which forms Lake Cachuma, was completed in 1953 and is located at about stream mile 49. As part of the operations of Bradbury Dam, a water supply line delivers water to Hilton Creek, which then returns to mainstem Santa Ynez River. The Hilton Creek Watering System was constructed to provide habitat for steelhead/rainbow trout within Hilton Creek.

Gibraltar Dam, constructed in 1920, is located at about stream mile 72. Juncal Dam, which forms Jameson Lake, was constructed in 1933 and is located at about stream mile 87. The reservoir stores water to be carried through the Santa Ynez Range via the Doulton Tunnel.

A 1944 memorandum relays a fisheries professional's estimate that the Santa Ynez steelhead run "at least equaled the steelhead runs at Benbow Dam" (*i.e.*, approximately 13,000 to 14,500 individuals) (Unknown 1944). The memo states, "He said that some sea-run steelhead spawn in practically every tributary of the Santa Ynez from the mouth to Gibralter Dam, but that heaviest spawning takes place above Buellton. [The fisheries professional Carl] Tegen stated that during the 1943-44 season hundreds of Steelhead spawned in practically every tributary of this area" (Unknown 1944). A 1950 DFG memo states, "The Santa Ynez River is the only steelhead stream of major importance in Southern California" (DFG 1950b).

A 1975 DFG memo describes the impact of Bradbury Dam construction by saying, "About 11 miles of good spawning area remained below the dam. However, due to lack of water releases for fishery maintenance that area is also lost for fish production" (DFG 1975b).

A 1999 fish management plan identified "priority habitats" downstream of Bradbury Dam including lower Hilton Creek, El Jaro Creek, and portions of the lower mainstem Santa Ynez River (SYRTAC 1999). The plan provided for flows releases into Hilton Creek and the Santa Ynez River for improvement of steelhead habitat.

In a 1937 report on Gibraltar Reservoir, the Santa Ynez River upstream of the reservoir was said to dry early in the season at least in some years (Curtis 1937). However, a 1944 report relays reports of spawning in mainstem Santa Ynez River upstream from the reservoir (DFG 1944b). According to the 1944 report, between 39,500 and 1,036,980 juvenile steelhead were rescued from the drying bed of the main Santa Ynez River in the years between 1939 and 1944 (DFG 1944b).

Staff from USFS prepared a draft study regarding steelhead habitat in the Santa Ynez watershed in 1997. Regarding the lower mainstem Santa Ynez River, the draft report states, "Only the uppermost section from Bradbury Dam to Solvang (14 miles) is thought to be currently capable of supporting spawning and rearing steelhead" (USFS 1997). The study report notes, however, "high observed fry densities" in the mainstem Santa Ynez (Juncal Canyon Creek) upstream from Jameson Lake.

According to a NMFS biological opinion, "Steelhead appear to persist in the mainstem from 0-10 miles downstream of Bradbury Dam over the summers of some of the years observed..." (NMFS 2000a, p. 21). The opinion also notes occasional downstream observations between 1995 and 1998.

The mainstem Santa Ynez River between Gibralter and Bradbury dams was sampled in 2003 as part of a study of the genetic structure of southern California *O. mykiss*. As only 12 individuals were collected, the resulting paper did not discuss the genetics of the population. Staff from the Cachuma Conservation Release Board note that the section of the Santa Ynez between Gilbralter and Bradbury dams continues to be heavily stocked with rainbow trout for a put and take fishery (Robinson pers. comm.).

According to the Regional Quality Control Board, water quality in the river downstream from Cachuma Lake is impaired by sedimentation from agriculture, urban runoff, and resource extraction (CCRB 2006). At least two steelhead adults were captured on mainstem Santa Ynez River in February and March 2008. The individuals measured about 24 and 27 inches in length. Additional migrants were captured in Santa Ynez tributaries in 2008 as described below.

San Miguelito

San Miguelito Creek consists of about 9.5 stream miles and is tributary to the Santa Ynez River. It flows north, entering the Santa Ynez north of the city of Lompoc. A concrete channel and debris basin have been constructed on lower San Miguelito Creek that are considered to act as a total barrier to steelhead in-migration (Robinson pers. comm.).

A researcher located a newspaper account from 1875 that indicated the presence of trout in San Miguelito Creek. The fish were noted to be as long as 15 inches (Swift 2000b).

As part of a fish management plan for the Santa Ynez River, surveys were conducted in stream reaches downstream of Bradbury Dam between 1995 and 1998. According to the management plan, San Miguelito Creek has “good” spawning and “fair to good” rearing habitat upstream from passage barriers (SYRTAC 1999).

Trapping was conducted on San Miguelito Creek between 1997 and 1999. One *O. mykiss* juvenile was sampled in 1997 and one in 1999 (Unknown 1999). “Numerous” observations of redds and *O. mykiss* to about eight inches in length have been made between 1997 and 2001 in San Miguelito Creek (Robinson pers. comm.).

Salsipuedes

Salsipuedes Creek consists of about ten stream miles and is tributary to the Santa Ynez River. It flows north, entering the Santa Ynez east of Lompoc.

Staff from DFG surveyed Salsipuedes Creek in 1953 and did not observe *O. mykiss*. The survey report states, “It is evident no natural reproduction of RT occurs” (DFG 1953a). Summer water temperature was proposed as the factor limiting production.

As part of a study of freshwater fishes and habitat, Salsipuedes Creek was surveyed in 1975 and *O. mykiss* was observed. The resulting report notes perennial flow in the creek (Swift 1975, p. 34).

In a 1986 memo DFG staff states, “I believe there still exists a small run of SH in the Salsipuedes-El Jaro Creek. I base this on my observations of many fingerling ‘Rainbow Trout’ (RT) in the creek during some years” (Sasaki 1986).

Staff from USFS prepared a draft study regarding steelhead habitat in the Santa Ynez watershed in 1997. Regarding habitat resources downstream from Bradbury Dam the draft report states, “Of the tributaries to the lower Santa Ynez, Salsipuedes Creek currently has the highest potential for steelhead spawning and rearing” (USFS 1997).

As part of a fish management plan for the Santa Ynez River, surveys were conducted in stream reaches downstream of Bradbury Dam between 1995 and 1998. According to the management plan, “Spawning habitat in Salsipuedes and El Jaro Creeks is moderate, due to the presence of fine sediments and sand in the stream, with some areas of good habitat” (SYRTAC 1999). The plan notes that upper Salsipuedes Creek has “good” rearing habitat when flow is present (SYRTAC 1999). Staff at the Cachuma Conservation Release Board notes, “Flow is always present in upper Salsipuedes Creek” (Robinson pers. comm.).

Trapping has been conducted on Salsipuedes Creek since 1999. In 1999, adult steelhead in-migrants and kelts, and *O. mykiss* juveniles, were sampled (Unknown 1999). Also, smolt production has been observed consistently during Salsipuedes Creek trapping conducted between 1999 and 2008 (Robinson pers. comm.).

Salsipuedes Creek was sampled in 2003 as part of a study of *O. mykiss* genetic structure in southern California. A resulting 2006 paper states, “The genetic similarity of [above- and below-dam] populations indicates that there has not been substantial divergence of trout populations breeding in streams above dam reservoirs...” (Girman and Garza 2006, p. 16). Salsipuedes Creek was found to contain *O. mykiss* in 2004 during a study of migration barriers in the Santa Ynez River system (Stoecker 2004).

At least five steelhead believed to be anadromous were captured in Salsipuedes Creek in February and March 2008. Individuals ranged between about 20 and 28 inches in length.

El Jaro

El Jaro Creek consists of about 13 stream miles and is tributary to Salsipuedes Creek. It flows northwest, entering Salsipuedes Creek south of the city of Lompoc.

As part of a study of freshwater fishes and habitat, El Jaro Creek was surveyed in 1975 and *O. mykiss* between 1.2 and 7.3 inches in length were observed. The resulting report notes perennial flow and states, “The banks are trampled by livestock” (Swift 1975, p. 34).

A 1993 survey report noted severe sedimentation in El Jaro Creek (DFG 1993a). As part of a fish management plan for the Santa Ynez River, surveys were conducted in stream reaches downstream of Bradbury Dam between 1995 and 1998. According to the management plan, “Spawning habitat in Salsipuedes and El Jaro Creeks is moderate, due to the presence of fine sediments and sand in the stream, with some areas of good habitat” (SYRTAC 1999). The creek also was surveyed in 1999, and multiple *O. mykiss* year classes were observed (Unknown 1999).

Los Amoles

Los Amoles Creek is an intermittent stream about 3.5 miles in length. It runs north from the confluence of headwater forks to enter El Jaro Creek at about stream mile four.

During surveys in 2006 and 2008, redds believed to be made by *O. mykiss* were observed in Los Amoles Creek. Based on the size of the redds, the life history form (*i.e.*, resident or anadromous) of the spawning individuals was indeterminate (Robinson pers. comm.).

Ytias

Ytias Creek is an intermittent stream about 4.2 miles in length. It runs southwest from the confluence of headwater forks to enter El Jaro Creek at about stream mile 5.2.

A snorkel survey of Ytias Creek in September 2002 yielded observations of 89 “steelhead/rainbow trout” representing multiple age classes and individuals to about nine inches in length. A July 2006 snorkel survey produced observations of 162 *O. mykiss* again representing multiple age classes, with individuals to 12 inches in length (Robinson pers. comm.).

Zaca

Zaca Creek consists of about 16 stream miles and is tributary to the Santa Ynez River. It flows south, entering the Santa Ynez River near Buellton.

Field notes from 1947 to 1949 indicate reports of *O. mykiss* fingerlings in Zaca Creek. However, DFG staff states, “Zaca Creek is of no value to fish life and is intermittent in nature” (DFG 1949b).

Consultants visited Zaca Creek in 1991 as part of a study of mitigation or enhancement sites. The creek was said to be one of several that “...are in areas extensively developed for agriculture and cattle or equestrian ranching, contain extensive alluvial fill, and do not support surface waters” (Payne 1991).

Nojoqui

Nojoqui Creek consists of about eight stream miles and is tributary to the Santa Ynez River. It flows north, entering the Santa Ynez south of the town of Buellton.

Consultants visited Nojoqui Creek in 1991 as part of a study of mitigation or enhancement sites. The creek was said to exhibit “serious limitations” on aquatic habitat from intensive land uses practices (Payne 1991). Nojoqui Creek was surveyed in 1995 and *O. mykiss* was not observed (Unknown 1995). However, *O. mykiss* was trapped migrating into the creek in 1997 (Stoecker 2004). According to the 1999 management plan for the Santa Ynez, “While Nojoqui Creek appears to have some good habitat elements, the lack of fish suggests otherwise” (SYRTAC 1999).

According to staff at the Cachuma Conservation Release Board, groundwater pumping may be limiting to aquatic habitat in Nojoqui Creek. Excessive pumping may cause “a significant portion” of the stream to dry (Robinson pers. comm.).

Alisal

Alisal Creek consists of about 7.5 stream miles and is tributary to the Santa Ynez River. It flows northwest, entering the Santa Ynez south of the town of Solvang. The dam forming Alisal Lake is located at about stream mile 3.5.

A 1944 report includes Alisal Creek in a list of “Streams known to be utilized for spawning by sea-run Steelhead” (DFG 1944b). According to the 1944 report, 26,000 juvenile steelhead were rescued from the drying bed of Alisal Creek in 1941 (DFG 1944b). A 1944 memo relays a report that “...one day two boys speared 17 and 18 adult Steelhead in Alisal Creek...” (Unknown 1944).

A 1994 consultant firm’s report on fish resources of the Santa Ynez River watershed notes “some potential spawning habitat depending on flows in the creek” in lower Alisal Creek (Entrix 1994). The report states, “Upstream in Alisal Creek habitat quality is poor as a result of livestock grazing” (Entrix 1994).

As part of a fish management plan for the Santa Ynez River, surveys were conducted in stream reaches downstream of Bradbury Dam between 1995 and 1998. According to the management plan, juvenile *O. mykiss* were not observed in Alisal Creek, but adults were “present but in low numbers” downstream from Alisal Lake (SYRTAC 1999). The management plan notes that upper Alisal Creek has “good” spawning and “fair to good” rearing habitat upstream from passage barriers (SYRTAC 1999). According to staff at the Cachuma Conservation Release Board, this statement better characterizes habitat conditions in upper Alisal Creek over time than the 1994 statement cited above (Robinson pers. comm.).

Alamo Pintado

Alamo Pintado Creek consists of about 18.5 stream miles and is tributary to the Santa Ynez River. It flows south, entering the Santa Ynez southeast of the town of Solvang.

Consultants visited Alamo Pintado Creek below Birabent Canyon in 1991 as part of a study of mitigation or enhancement sites. The creek reach was said to be one of several local waterways that “...are in areas extensively developed for agriculture and cattle or equestrian ranching, contain extensive alluvial fill, and do not support surface waters” (Payne 1991).

Staff from USFS visited Alamo Pintado Creek in Birabent Canyon in 1993 and observed multiple *O. mykiss* year classes. The resulting memo states, “Probably some reproduction going on in lower sections (below Forest) – no evidence upstream, though my feeling was that it should” (Peckham 1993). Staff from the Cachuma Conservation Release Board indicates, “...a large section of the creek is perennial particularly the section from the town of Solvang and upstream to Highway 150” (Robinson pers. comm.).

Quiota

Quiota Creek consists of about 6.5 stream miles and is tributary to the Santa Ynez River. It flows northwest, entering the Santa Ynez southeast of the town of Solvang.

A consulting firm inspection of Quiota Creek noted highly degraded habitat, largely caused by grazing. The resulting report states, “Under the existing conditions, successful spawning and rearing of steelhead/rainbow trout could not occur in this portion of the tributary” (Entrix 1994).

Quiota Creek was surveyed in 1995 and two *O. mykiss* individuals were observed, one of which was 16 inches in length and was constructing a redd (Unknown 1995). Monitoring since 1995 has produced regular observations of juvenile *O. mykiss* over-summering and numerous “small” redds (Robinson pers. comm.).

The 1999 management plan for the lower Santa Ynez River watershed notes that “good” spawning and rearing habitat exists in mid-to-upper Quiota Creek (SYRTAC 1999). Staff from NMFS observed *O. mykiss* in Quiota Creek in 2001 (NMFS 2002).

Quiota tributary

This unnamed creek consists of about 1.6 stream miles and is tributary to Quiota Creek. It flows north, entering Quiota Creek at about stream mile 3.5.

A stream habitat distribution table for southern California steelhead was prepared in 2006. This table and a 1995 consultants' report on steelhead in the Santa Ynez system note successful reproduction and a "healthy" resident population in the unnamed tributary of Quiota Creek (Entrix 1995; NMFS 2000b).

Zanja de Cota (Santa Cota)

Zanja de Cota Creek consists of about four stream miles and is tributary to the Santa Ynez River. It flows southwest, entering the Santa Ynez south of the town of Santa Ynez. A small reservoir is located on Zanja de Cota about 0.25 miles upstream from its mouth. This facility and a catchment basin are total passage barriers (Robinson pers. comm.).

Staff from DFG surveyed Santa Cota Creek, probably in the 1930s, and observed *O. mykiss*. The survey report states, "...this stream is ideal as a holding stream for trout while waiting for the fall rains... Annually there is a good run of steelhead into this creek" (DFG ca 1934f).

San Lucas

San Lucas Creek consists of about five stream miles and is tributary to the Santa Ynez River. It flows north, entering the Santa Ynez about 2.3 miles downstream from Bradbury Dam.

Consulting biologists visited San Lucas Creek in 1991 as part of a habitat mapping project. A memo describing the results of the visit states, "Of the streams examined, San Lucas Creek was one of the few which retained discharge to the lowest point in the watershed and drained predominantly through undisturbed chaparral rather than impacted meadows" (Payne 1991).

Hilton

Hilton Canyon Creek consists of about 4.2 stream miles and is tributary to the Santa Ynez River. It flows north, entering the Santa Ynez immediately downstream from Bradbury Dam. Water is introduced to Hilton Creek as part of the operations of Bradbury Dam. The Hilton Creek Watering System includes two release locations, located approximately 1,300 feet and 3,200 feet upstream from the mouth (Robinson pers. comm.).

Consulting biologists visited Hilton Creek in 1991 as part of a habitat mapping project. A memo describing the results of the visit states, "Hilton Canyon Creek was dry and appeared to be too small to contain much potential for fisheries development" (Payne 1991).

Migrant trapping was performed in Hilton Creek in 1994 and 1999. During this period, between zero and 52 adult steelhead were observed annually (NMFS 2000a).

A fish rescue program was conducted in Hilton Creek in 1998. During three days of rescue activities, *O. mykiss* YOY were relocated to habitat with less likelihood of drying. A small number of adults were captured, including one individual 19 inches in length (Engblom 1998). The 1999 management plan for the lower Santa Ynez River watershed notes that "good" spawning habitat exists in Hilton Creek, and that the lower portion of the creek has "good" rearing habitat when flow is present (SYRTAC 1999).

Hilton Creek was sampled in 2003 as part of a study of *O. mykiss* genetic structure in southern California. Analysis of samples from this event and other samples taken in previous years resulted in a 2006 paper that states, “The genetic similarity of [above-and below-dam] populations indicates that there has not been substantial divergence of trout populations breeding in streams above dam reservoirs...” (Girman and Garza 2006, p. 16).

In sampling from 2005 and 2008, between 1,300 and 2,700 *O. mykiss* (mostly YOY) have been counted in Hilton Creek (Robinson pers. comm.). At least seven steelhead believed to be anadromous were captured in Hilton Creek in 2008. Individuals ranged in size between about 22 and 27 inches in length. Additionally, at least four *O. mykiss* believed to be “resident” and ranging in size between about 17 and 19 inches in length were captured in 2008.

Cachuma

Cachuma Creek consists of about 15 stream miles draining a watershed of about 20 square miles. The lower 1.75 miles of Cachuma Creek was inundated by Lake Cachuma.

A letter from a long-time Ventura County resident discusses steelhead resources of the Santa Ynez watershed. It states, “During the winters of average rainfall, you couldn’t imagine how many big steelhead would migrate back to...the upper-most reaches of [Cachuma Creek]...” (Unknown 1970).

A 1944 report states includes Cachuma Creek in a list of “Streams known to be utilized for spawning by sea-run Steelhead” (DFG 1944b). Field notes from 1948 confirm this premise and state, “There is permanent water reported in the upper part” (DFG 1950c).

Staff from DFG surveyed Cachuma Creek in 1954 and observed *O. mykiss*, including individuals to 16 inches in length. The survey report notes that natural propagation was expected to occur only in years with above average rainfall (DFG 1954a). The survey report adds, “The stream, according to local residents, does support a few small trout in its headwaters...” (DFG 1954a).

In a 1956 letter DFG staff states, “Annually, heavy spawning runs migrate upstream” (DFG 1950d). The runs mentioned in the letter originated from an adfluvial population in Lake Cachuma.

After a 1993 visit to Cachuma Creek USFS staff stated, “...very unlikely that self-sustaining population has existed in [the Creek] for some time – usual reasons (naturally unstable geology, mining, recreation, long history of grazing and fire protection, water uses up and downstream)” (Peckham 1993).

In 2004, a study of migration barriers was conducted for the Santa Ynez River system. Cachuma Creek was found to contain *O. mykiss* (Stoecker 2004).

Lion Canyon

Lion Canyon Creek consists of about 2.3 stream miles and is tributary to Cachuma Creek. It flows southwest, entering Cachuma Creek at about stream mile 9.3.

After a 1993 visit to Lion Canyon Creek USFS staff stated, “...very unlikely that self-sustaining population has existed in [Lion Canyon Creek] for some time – usual reasons (naturally unstable geology, mining, recreation, long history of grazing and fire protection, water uses up and downstream)” (Peckham 1993).

In 2003, surveys were performed as part of a study of migration barriers in the Santa Ynez River system. Lion Canyon Creek was found to contain *O. mykiss* (Stoecker 2004).

Tequepis Canyon

Tequipis Canyon Creek consists of about four stream miles and is tributary to the Santa Ynez River. The historical confluence was inundated by Lake Cachuma.

A 1944 report states includes Tequepis Canyon Creek in a list of “Streams known to be utilized for spawning by sea-run Steelhead” (DFG 1944b). According to the 1944 report, 3,660 juvenile steelhead were rescued from the drying bed of Tequepis Canyon Creek in 1941 (DFG 1944b).

A 1956 DFG memo indicated that the reservoir *O. mykiss* population used Tequepis Canyon Creek for spawning (DFG 1950d). Staff from DFG constructed a barrier dam on Tequepis Creek in 1956. A memo states the dam was, “For the purposed of stopping the spawning run of rainbow trout from out of Lake Cachuma to the headwaters of this stream” (DFG 1956).

According to a 2004 migration barrier study for the Santa Ynez watershed, Tequepis Canyon Creek is a “known rainbow trout, and former steelhead, spawning and rearing tributary” (Stoecker 2004).

Santa Cruz

Santa Cruz Creek consists of about 15 stream miles and is tributary to the Santa Ynez River. The lower 1.8 miles of the creek were inundated by Lake Cachuma. The creek is formed by the confluence of the West and East forks about 1.5 miles upstream from the Black Canyon Creek confluence.

A letter from a long-time Ventura County resident discusses steelhead resources of the Santa Ynez watershed. It states, “During the winters of average rainfall, you couldn’t imagine how many big steelhead would migrate back to...the upper-most reaches of [Santa Cruz Creek]...” (Unknown 1970).

A 1944 report states includes Santa Cruz Creek in a list of “Streams known to be utilized for spawning by sea-run Steelhead” (DFG 1944b). According to the 1944 report, 10,000 juvenile steelhead were rescued from the drying bed of Santa Cruz Creek in 1940 (DFG 1944b).

Staff from DFG surveyed Santa Cruz Creek in 1954 and observed multiple *O. mykiss* year classes, including individuals to 16 inches in length. The survey report states, “...it is obvious that the Santa Cruz can play an extremely important part in the overall Cachuma management plan” (DFG 1954b). A 1956 DFG memo indicated that a reservoir *O. mykiss* population used Santa Cruz Creek for spawning (DFG 1950d). The memo also indicates the presence of naturally reproducing resident rainbow trout in the headwaters of the creek.

After a 1993 visit to Santa Cruz Creek USFS staff stated, “Section represents some of the best med-low gradient small stream RBT habitat I have seen” (Peckham 1993). Multiple *O. mykiss* year classes were observed. A subsequent memo states, “Stocking does occur, though this population appears to be self-sustaining and wild” (Peckham 1993).

In 2004, a study of migration barriers was conducted for the Santa Ynez River system. Santa Cruz Creek was found to contain multiple *O. mykiss* year classes (Stoecker 2004). The resulting report noted that Santa Cruz Creek had, “Arguably the highest quality salmonid habitat observed in the entire watershed” (Stoecker 2004).

Santa Cruz Creek was sampled in 2003-2004 as part of a study of *O. mykiss* genetic structure in southern California. A resulting 2006 paper states, “The genetic similarity of [above- and below-dam] populations indicates that there has not been substantial divergence of trout populations breeding in streams above dam reservoirs...” (Girman and Garza 2006, p. 16).

Peachtree Canyon

Peachtree Canyon Creek consists of about 5.5 stream miles and is tributary to Santa Cruz Creek. It flows south, entering Santa Cruz Creek at about stream mile seven.

Field notes from DFG staff state, “Steelhead cannot gain access to Peachtree Creek due to falls on the upper Santa Cruz Creek” (DFG 1948a). However, the notes indicated that stocked trout were present in constructed pools in the creek.

A 1993 sampling effort found *O. mykiss* juveniles in Peachtree Canyon Creek (USFS 1993). A subsequent memo notes that the fish may be of hatchery origin, but that “...the population appears to be self-sustaining and wild” (Peckham 1993).

Santa Cruz tributary (Little Pine Spring)

An unnamed creek consists of about three stream miles and is tributary to Santa Cruz Creek. It flows northwest, entering Santa Cruz Creek downstream from the Santa Cruz campsite.

In 2004, a study of migration barriers was conducted for the Santa Ynez River system. Little Pine Spring Creek was found to contain multiple *O. mykiss* year classes (Stoecker 2004). The resulting report states, “Excellent salmonid habitat was observed throughout this small perennial tributary” (Stoecker 2004).

Black Canyon

Black Canyon Creek consists of about 3.7 stream miles and is tributary to Santa Cruz Creek. It flows southeast, entering Santa Cruz Creek downstream from the West Fork confluence.

Staff from USFS surveyed Black Canyon Creek in 1980 and did not observe *O. mykiss*. The survey found “poor habitat conditions” but the biologists speculated that the creek could support spawning in high water months (Edwards ca 1980).

West Fork Santa Cruz

West Fork Santa Cruz Creek consists of about 5.7 stream miles and is tributary to Santa Cruz Creek. It flows southeast to the confluence with the East Fork.

Staff from USFS surveyed West Fork Santa Cruz Creek in 1980 and observed *O. mykiss*. In the survey report, abundance was characterized as “few” and reproduction was deemed “fair” (USFS 1980h).

Cachuma Conservation Release Board staff sampled West Fork Santa Cruz Creek in 2003-2004 and noted multiple *O. mykiss* year classes and “good” habitat (Robinson pers. comm.). In 2004, a study of migration barriers was conducted for the Santa Ynez River system. West Fork Santa Cruz Creek was found to contain multiple *O. mykiss* year classes, including individuals to 13 inches in length (Stoecker 2004). The resulting report noted there was, “...high quality spawning and rearing habitat” in the creek (Stoecker 2004).

Coche

Coche Creek consists of about 4.4 stream miles and is tributary to West Fork Santa Cruz Creek. It flows southwest, entering West Fork Santa Cruz Creek at about stream mile two.

Staff from DFG surveyed Coche Creek in 1964 and observed multiple *O. mykiss* year classes. The survey report states, “Coche Creek appears to have a sufficient quantity and quality of water to maintain a limited trout population year around...” (DFG 1964).

Staff from USFS surveyed Coche Creek in 1980 and observed multiple *O. mykiss* year classes, with the largest individuals to 10 inches in length. The survey report states, “...small pools provide habitat for a moderate trout fishery estimated to be at optimum productivity at present” (USFS 1980i).

Cachuma Conservation Release Board staff visited Coche Creek in 2004, noting multiple *O. mykiss* year classes and “some of the best habitat in the entire Santa Cruz Creek basin” (Robinson pers. comm.). In 2004, a study of migration barriers was conducted for the Santa Ynez River system. Coche Creek was found to contain multiple *O. mykiss* year classes (Stoecker 2004). The resulting report deemed Coche Creek to have “excellent” habitat.

East Fork Santa Cruz

East Fork Santa Cruz Creek consists of about 7.3 stream miles and is tributary to Santa Cruz Creek. It flows southwest to its confluence with North Fork Santa Cruz Creek.

Staff from USFS surveyed East Fork Santa Cruz Creek in 1980 and observed multiple *O. mykiss* year classes, including individuals to 15 inches in length. The survey report notes the biologist’s opinion that the creek provides “...some of [Santa Barbara County’s] best rainbow trout habitat” (USFS 1980j).

Sampling was performed November 2004 in East Fork Santa Cruz Creek. Biologists observed multiple *O. mykiss* year classes (Robinson pers. comm.).

Grapevine

Grapevine Creek consists of about four stream miles and is tributary to East Fork Santa Cruz Creek. It flows south, entering East Fork Santa Cruz Creek at about stream mile 2.5.

Staff from USFS surveyed Grapevine Creek in 1980 and observed multiple *O. mykiss* year classes, with individuals to 12 inches in length. The survey report states, “Grapevine Creek is an important watershed that contains cool, clear water...and supports a surprisingly large fishery” (USFS 1980k).

Staff from USFS prepared a draft study regarding steelhead habitat in the Santa Ynez watershed in 1997. Regarding Grapevine Creek, the draft report states, “Trout are found throughout in relatively high densities but small sizes” (USFS 1997).

Staff from the Cachuma Conservation Release Board visited Grapevine Creek in 2004 and noted multiple *O. mykiss* year classes in the lowermost portion of the creek. “Small trout” also were observed in a short wetted reach in the upper portion of the drainage (Robinson pers. comm.).

Kelly

Kelly Creek consists of about 4.1 stream miles and is tributary to the Santa Ynez River. It flows northwest, entering the Santa Ynez about two miles upstream from the eastern extent of Lake Cachuma.

A DFG stream survey report, probably from the 1930s, indicates that Kelly Creek was used by spawning steelhead (DFG ca 1934g).

Bear

Bear Creek consists of about three stream miles and is tributary to Kelly Creek. It flows north, entering Kelly Creek about 0.3 stream miles from its mouth.

A 1956 memo includes Bear Creek as a “miscellaneous” tributary. The memo notes about these creeks, “Only occasionally have upstream RT migrants been reported in these waters” (DFG 1950d).

In 2004, a study of migration barriers was conducted for the Santa Ynez River system. Bear Creek was found to contain *O. mykiss* (Stoecker 2004). The resulting report noted, “Observed good spawning and rearing habitat, pools, and perennial flow” (Stoecker 2004).

Paradise Canyon

Paradise Canyon Creek consists of about 2.5 stream miles and is tributary to the Santa Ynez River. It flows north, entering the Santa Ynez at Paradise campground.

Staff from USFS prepared a draft study regarding steelhead habitat in the Santa Ynez watershed in 1997. The study states, “Paradise [Canyon Creek is] generally too small and quick to dry to support a significant number of spawning or rearing steelhead” (USFS 1997).

Oso Canyon

Oso Canyon Creek consists of about 4.7 stream miles and is tributary to the Santa Ynez River. It flows southwest, entering the Santa Ynez at Lower Oso campsite.

Staff from USFS prepared a draft study regarding steelhead habitat in the Santa Ynez watershed in 1997. The study states, “Oso [Canyon Creek is] generally too small and quick to dry to support a significant number of spawning or rearing steelhead” (USFS 1997).

Arroyo Burro

Arroyo Burro consists of about 2.6 stream miles and is tributary to the Santa Ynez River. It flows north, entering the Santa Ynez east of the entrance to Oso Canyon.

In a 1995 letter, a researcher described the results of a study of historical steelhead distribution in streams of the Santa Ynez watershed. The letter indicates the existence of “historical spawning/ nursery area habitat” for steelhead and for “native [resident trout” in Arroyo Burro (Henke 1995). As part of a 2002 study, *O. mykiss* observations were summarized for the southern Santa Barbara County area. Several anecdotal accounts of *O. mykiss* occurring historically in the watershed are provided (Stoecker *et al.* 2002). A 2005 NMFS technical memorandum indicates that *O. mykiss* occurred historically in the Arroyo Burro drainage, but does not cite specific observations (Boughton *et al.* 2005).

Devils Canyon

Devils Canyon Creek consists of about 2.7 stream miles and is tributary to the Santa Ynez River. It flows northwest, entering the Santa Ynez immediately downstream from Gibraltar Dam. According to a 1997 draft USFS report, “All fish passage is blocked at a falls a mile upstream from the diversion” (USFS 1997).

A 1994 USFS letter discusses the impact of the Santa Barbara Water Tunnel diversion on Devils Canyon Creek. The letter states, “A comprehensive review of the river ecosystem indicates that Devils Canyon Creek is the only spring-fed and largely perennial tributary to the Santa Ynez between Gibraltar Dam and Lake Cachuma. Devils Canyon presents the only good spawning and rearing tributary for resident trout within this section of the Santa Ynez” (USFS 1994a). Staff from USFS surveyed Devil’s Canyon Creek in 1995 and observed *O. mykiss*, including an individual 15 inches in length. A biologist familiar with the system speculated that this fish may have been a spawner from Lake Cachuma (Stoecker 2004).

Devil's Canyon Creek was sampled in 2003 as part of a study of the genetic structure of southern California *O. mykiss*. As only three individuals were collected, the resulting paper did not discuss the genetics of the population.

Gidney

Gidney Creek consists of about 4.2 stream miles and is tributary to the Santa Ynez River. It flows northwest, entering Gibraltar Reservoir.

In a 1937 report on Gibraltar Reservoir, the Gidney Creek spawning run was characterized as “conspicuous” (Curtis 1937). The report notes juveniles from two to five inches in length in this creek.

According to a 1980 USFS report, “The major spawning stream for rainbow trout in Gibraltar Lake is Gidney Creek” (USFS 1980l).

Staff from USFS prepared a draft study regarding steelhead habitat in the Santa Ynez watershed in 1997. The study states, “Trout are only found within the lower reach” (USFS 1997).

As part of a genetics study, Santa Ynez tributaries were sampled between 2000 and 2001. *Oncorhynchus mykiss* was collected from Gidney Creek (Greenwald 2001).

Camuesa

Camuesa Creek consists of about 6.3 steam miles and is tributary to the Santa Ynez River. It flows southeast, entering Gibraltar Reservoir.

In a 1937 report on Gibraltar Reservoir, Camuesa Creek was said to dry early in the season at least in some years (Curtis 1937). Interviews, presumably with individuals having expertise in the Gibraltar Reservoir fishery, indicated that *O. mykiss* spawning did not occur in this creek.

Staff from USFS prepared a draft study regarding steelhead habitat in the Santa Ynez watershed in 1997. The study states, “Camuesa Creek only has seasonal and isolated pockets of intermittent flow, not enough to support a year-round fishery and limited access and qualities for spawning habitat” (USFS 1997).

As part of a genetics study, Santa Ynez tributaries were sampled between 2000 and 2001. *Oncorhynchus mykiss* was collected from Camuesa Creek (Greenwald 2001).

Mono

Mono Creek consists of about 22 stream miles and is tributary to the Santa Ynez River. It flows south, entering Gibraltar Reservoir at the reservoir’s eastern extent. A dam was constructed in 1935 on lower Mono Creek to control silt input to Gibraltar Reservoir.

In a 1937 report on Gibraltar Reservoir, Mono Creek was said to dry early in the season at least in some years (Curtis 1937). However, a 1944 report relays accounts of spawning in Mono Creek downstream from the debris dam (DFG 1944b).

Staff from USFS surveyed Mono Creek in 1980 and observed multiple *O. mykiss* year classes, including individuals to 14 inches in length. The survey report notes that the fishery is “limited in many areas by poor summer holding water” (USFS 1980m). However, successful reproduction was noted in wet years.

Staff from USFS prepared a draft study regarding steelhead habitat in the Santa Ynez watershed in 1997. The study states, “Mono Creek holds a good but lesser number of trout than Indian Creek... Most of the reaches are intermittent but retain year-round isolated pools” (USFS 1997).

Indian

Indian Creek consists of about 14.3 stream miles and is tributary to Mono Creek. It flows south, entering Mono Creek upstream from the debris dam.

A 1944 report conveyed information from DFG staff that “...Indian Creek trout survived the summers in The Narrows, a canyon below Loma Pelona...[where] there was more than a mile of good-sized pools with running water” (DFG 1944b). The report states, “Prior to construction of Gibraltar Dam, sea-run Steelhead spawned in a number of streams above the dam site, including Indian and Alamar creeks” (DFG 1944b).

Staff from USFS surveyed Indian Creek in 1980 and observed multiple *O. mykiss* year classes, including individuals to 14 inches in length. The creek was deemed to have “medium” productivity in the survey report (USFS 1980n).

Staff from USFS prepared a draft study regarding steelhead habitat in the Santa Ynez watershed in 1997. The study states, “Trout abundance is moderate to moderately high particularly within the canyon reaches” (USFS 1997).

During the 2003 migration barrier study, biologists observed multiple *O. mykiss* year classes in Indian Creek (Stoecker 2004). The resulting report noted the presence of “excellent, deep-pool habitat” (Stoecker 2004). Indian Creek was sampled in 2003 as part of a study of the genetic structure of southern California *O. mykiss*. As only two individuals were collected, the resulting paper did not discuss the genetics of the population.

Buckhorn

Buckhorn Creek consists of about 5.3 stream miles and is tributary to Indian Creek. It flows southeast, entering Indian Creek at about stream mile 5.2.

Staff from USFS surveyed Buckhorn Creek in 1980 and observed multiple *O. mykiss* year classes and individuals to 12 inches in length. The survey report states, “Buckhorn Creek has a fair trout fishery which is surviving at a high productivity rate for the amount of water and food available” (USFS 1980o).

During the 2003 migration barrier study, biologists observed multiple *O. mykiss* year classes in Buckhorn Creek (Stoecker 2004). The resulting report noted the presence of “excellent perennial pool habitat” (Stoecker 2004).

Alamar Canyon

Alamar Canyon Creek consists of about nine stream miles and is tributary to Mono Creek. It flows south, entering Mono Creek upstream from The Narrows.

An undated DFG stream survey was conducted soon after a widespread 1933 fire. The mud and gravel debris flow following the fire eliminated all rearing and spawning habitat. No fish were found. The report states, “Originally the Alamar was stocked by natural spawning of steelhead (this was before the building of Gibraltar Dam). Later some of the fish from the lake also ascended this stream” (DFG ca 1934h).

A DFG report from 1944 states, “Prior to construction of Gibraltar Dam, sea-run Steelhead spawned in a number of streams above the dam site, including Indian and Alamar creeks” (DFG 1944b).

Blue Canyon

Blue Canyon Creek consists of about six stream miles and is tributary to the Santa Ynez River. It flows northwest, entering the Santa Ynez about two miles upstream from the eastern extent of Gibraltar Reservoir.

In a 1996 survey, *O. mykiss* fry and adult spawners to 16-18 inches were observed. Spawning habitat was deemed “excellent” in the section of the creek called “middle lower” to “middle” (Unknown 1996).

Staff from USFS prepared a draft study regarding steelhead habitat in the Santa Ynez watershed in 1997. The study states, “Only the upper most section...[supports] year-round flows, pools of any significance, and adult trout. Phenomenal numbers of fry are observed in the mid to lower reaches, however, and large size spawning trout have been seen utilizing the area” (USFS 1997).

During the 2003 migration barrier study, biologists observed multiple *O. mykiss* year classes in Blue Canyon Creek (Stoecker 2004). The resulting report noted the presence of “high quality habitat and perennial stream flow” (Stoecker 2004).

Escondido Canyon

Escondido Canyon Creek consists of about two stream miles and is tributary to Blue Canyon Creek. It flows north, entering Blue Canyon Creek upstream from the Upper Blue Canyon campsite.

Staff from USFS visited Escondido Canyon Creek in 1994 and observed spawning trout 12 to 16 inches in length (USFS 1994b). The creek was said to contribute the majority of the flow in Blue Canyon Creek below the confluence.

During the 2003 migration barrier study, biologists observed *O. mykiss* in Escondido Canyon Creek. The resulting report noted the presence of “high quality habitat and perennial flow” (Stoecker 2004).

Aqua Caliente Canyon

Aqua Caliente Canyon Creek consists of about seven stream miles and is tributary to the Santa Ynez River. It flows south, entering the Santa Ynez at the Middle Santa Ynez campground. A dam was constructed in 1937 on lower Aqua Caliente Canyon Creek to control silt input to Gibraltar Reservoir.

Staff from USFS prepared a draft study regarding steelhead habitat in the Santa Ynez watershed in 1997. The study states, "... water temperatures are too warm from the hot springs to support trout" (USFS 1997).

Santa Ynez tributaries were sampled as part of a genetics study in 2000 and 2001. *Oncorhynchus mykiss* was collected from Aqua Caliente Creek (Campton 2005).

Fox (Pipeline)

Fox Creek consists of about 1.5 stream miles and is tributary to the Santa Ynez River. It flows north, entering the Santa Ynez upstream from Juncal campground and a pumping station. According to a draft 1997 USFS report, "A diversion dam prevents fish movement about a half a mile upstream. A large waterfall is situated a short distance beyond the diversion" (USFS 1997).

Staff from USFS surveyed Fox Creek in 1980 and observed multiple *O. mykiss* year classes. The survey report notes adverse impacts from road crossings and water diversions.

Staff from USFS visited Fox Creek again in 1994 and observed fry and spawning trout to 20 inches in length (USFS 1994c). The resulting report also noted likely adverse impacts on trout from a water diversion on the creek. A 1997 draft USFS study places Fox Creek in a group of about six creeks in the Santa Ynez watershed that exhibit the highest juvenile trout densities (USFS 1997).

During the 2003 migration barrier study, biologists observed *O. mykiss* in Fox Creek downstream from the diversion dam. The resulting report noted areas with "excellent habitat" (Stoecker 2004).

Alder

Alder Creek consists of about three stream miles and is tributary to the Santa Ynez River. It flows northwest, entering the Santa Ynez downstream from Juncal Dam. A draft 1997 USFS report notes the presence of a 20 foot waterfall marking the limit of upstream access for fish.

Staff from USFS prepared a draft study regarding steelhead habitat in the Santa Ynez watershed in 1997. The study states, "... fry have been observed in the lower reach. A short section below and immediately above the remaining man-made barrier supports year-round adult trout" (USFS 1997). The report also notes, "The highest densities of juvenile trout [in the Santa Ynez watershed] are found within seasonal intermittent reaches such as...Alder Creek" (USFS 1997).

Alder Creek was sampled in 2000 for purposes of gathering tissue samples. "Many trout were observed in the lower section of Alder Creek. Drying habitat with hundreds of y.o.y. was observed near the confluence with the Santa Ynez River (Robinson

(pers. comm.). During the 2003 migration barrier study, biologists observed multiple *O. mykiss* year classes in Alder Creek. The resulting report noted the presence of “excellent habitat” (Stoecker 2004).

Franklin

Franklin Creek consists of about one stream mile and is tributary to Alder Creek. It flows northeast, entering Alder Creek at the Alder Creek Campsite.

As part of a genetics study, sampling was performed in Franklin Creek in 1994. The *O. mykiss* individuals collected from the creek were determined to be predominantly of “indigenous stock” (USFS 1996).

North Fork Juncal

North Fork Juncal Creek consists of about 4.5 stream miles. It enters Jameson Lake from the north directly, as the historical confluence with the south fork is inundated by the reservoir. The Santa Ynez River upstream from Jameson Lake may be referred to as Juncal Canyon Creek.

Staff from USFS surveyed Juncal Creek in 1994 and observed *O. mykiss* in low density. The survey report states, “The Rainbow trout present on the upper Juncal/Santa Ynez may have migrated from Jameson Lake during high winter and spring flows...” (USFS 1994d).

Staff from USFS prepared a draft study regarding steelhead habitat in the Santa Ynez watershed in 1997. The study states, “Spawning runs of good sized fish are observed into [North Fork Juncal Creek]” (USFS 1997). North Fork Juncal Creek was sampled in 2000 for purposes of gathering tissue samples. “Multiple size classes of trout” were observed, and spawning was observed in May when discharge was about 5 cfs (Robinson pers. comm.).

During the 2003 migration barrier study, biologists observed *O. mykiss* in North Fork Juncal Creek. The resulting report states, “Excellent salmonid habitat conditions occur [downstream from a bedrock waterfall]” (Stoecker 2004). North Fork Juncal Creek was sampled in 2003 as part of a study of *O. mykiss* genetic structure in southern California. A resulting 2006 paper states, “The genetic similarity of [above- and below-dam] populations indicates that there has not been substantial divergence of trout populations breeding in streams above dam reservoirs...” (Girman and Garza 2006, p. 16).

Santa Ynez River tributary (Steelhead)

An unnamed tributary to the Santa Ynez River consists of about one stream mile. It enters the Santa Ynez from the north at Upper Santa Ynez campsite.

During the 2003 migration barrier study, biologists observed *O. mykiss* in a headwater tributary to the Santa Ynez they named Steelhead Creek. The resulting report noted the presence of “high quality habitat and perennial stream flow” (Stoecker 2004).

Cañada Honda

Cañada Honda Creek consists of about four stream miles. It enters the Pacific Ocean north of Point Pedernales.

Staff from DFG visited Cañada Honda in 1948 and did not observe fish in the creek (DFG 1948b). Staff from NMFS surveyed Cañada Honda in 2002. The resulting report indicates that *O. mykiss* is “absent” from the creek (NMFS 2003).

Jalama

Jalama Creek consists of about nine stream miles. It enters the Pacific Ocean at Jalama Beach Park.

A 1974 letter to the RWQCB discusses steelhead in Jalama Creek. The letter states, “A recent interview with the proprietor of the Jamala Store, revealed that the last known steelhead run was in 1969...” (Gantt 1974). A fisheries consultant observed *O. mykiss* in Jalama Creek in 1970, and several specimens were preserved at the Natural History Museum of Los Angeles County (Stoecker *et al.* 2002).

An assessment of southern California steelhead recovery opportunities includes documentation of *O. mykiss* observations throughout the 1970s and 1980s, including individuals to 26 inches in length (Stoecker *et al.* 2002). Observers include DFG staff, the Jalama County Park ranger, several anglers and long-time residents, and others.

During a survey of Jalama Creek in 1994, a 14 inch steelhead was observed (Bustillos 1994). Several streams of Vandenberg Air Force Base were studied in 1999 and 2000. The resulting report states, “Conditions of the small portion of the stream found on Vandenberg AFB were mostly good to excellent for steelhead” (Swift 2000a, p. 40). The report recommended improving the condition of the lagoon for nursery purposes.

Staff from NMFS surveyed Jalama Creek in 2002. The resulting report indicates that steelhead is “absent” from the creek, but notes the presence of “above barrier” *O. mykiss* (NMFS 2003).

Cañada del Cojo

Cañada del Cojo Creek consists of about 2.6 stream miles. It enters the Pacific Ocean east of the town of Drake.

Streams of the Hollister Ranch, including Cañada del Cojo Creek, were surveyed in 1994 in part to determine possible use by steelhead. A long-time resident was interviewed and stated that the creek had perennial flow and good canopy, and would be most likely to offer habitat of the Hollister Ranch streams (DFG 1994d).

Cañada de Santa Anita (Santa Anita)

Cañada de Santa Anita Creek consists of about 3.4 stream miles. It enters the Pacific Ocean west of the town of Drake.

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites Ken Sasaki as confirming the presence of *O. mykiss* in Cañada de Santa Anita Creek in the 1970s. An observation from 2001 was made to the report author anonymously (Stoecker *et al.* 2002).

Cañada del Sacate

Cañada del Sacate consists of about 2.6 stream miles. It flows south, entering the Pacific Ocean about 3.7 miles west of the community of Port Orford.

A study of the range of steelhead published in 2005 includes discussion of Cañada del Sacate. The basin is shown as having historical steelhead presence although the basis for the determination is not provided (NMFS 2005).

Cañada de la Gaviota (Gaviota)

Cañada de la Gaviota Creek consists of about six stream miles. It enters the Pacific Ocean at Gaviota Beach State Park.

Staff from DFG surveyed Gaviota Creek, probably in the mid 1930s. The survey report notes, “A few steelheads enter stream in winter” (DFG ca 1934i). The surveyor deemed the creek to have low importance as a trout fishery.

In a 1986 memo DFG staff states, “SH adults probably use this creek almost every year considering the reports of observations, but I would anticipate the numbers in the runs to be very low” (Sasaki 1986).

Cañada de la Gaviota Creek was surveyed in 1992, 1993 and 1995 and multiple *O. mykiss* year classes were observed, including individuals to about eight inches in length. A 1993 survey report notes likely impacts on the creek from poor grazing practices in the watershed of an upstream tributary, Cañada de las Cruces Creek (DFG 1993b). A memo describing the 1993 survey notes successful reproduction of steelhead and possibly resident “wild trout” (DFG 1994a). It states, “The scarcity of viable spawning and rearing streams for the declining southern steelhead trout suggests that Gaviota Creek should be provided with full protection from livestock grazing and further human development throughout its watershed (DFG 1994a).

As part of a 2002 study, *O. mykiss* observations were summarized for the southern Santa Barbara County area. The report cites numerous *O. mykiss* observations in Gaviota Creek between 1997 and 2001, including YOY and individuals to about 22 inches in length (Stoecker *et al.* 2002).

Cañada de San Onofre (San Onofre)

Cañada de San Onofre Creek consists of about 2.5 stream miles. It enters the Pacific Ocean east of the town of Gaviota.

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites J. Hollister as confirming the presence of *O. mykiss* in Cañada de San Onofre in the 1970s and 80s (Stoecker *et al.* 2002). The report also cites Brian Trautwein as having observed *O. mykiss* in San Onofre Creek until 1991.

As part of a steelhead presence/absence study in 2002, NFMS staff surveyed Cañada de San Onofre Creek. Steelhead was deemed “absent” from the drainage.

Arroyo Hondo

Arroyo Hondo consists of about 2.2 stream miles. It enters the Pacific Ocean east of the town of Lento. Arroyo Hondo passes through a culvert under Highway 101 before entering the Pacific Ocean. In the summer of 2007, a series of concrete baffles was installed to improve fish passage.

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites J. Hollister as confirming the presence of *O. mykiss* in Arroyo Hondo beginning in the 1960s (Stoecker *et al.* 2002).

Arroyo Hondo was surveyed in 1994 and *O. mykiss* was observed. Sampling notes indicate that high juvenile trout density existed and the fish were in good condition (Unknown 1994).

Surveys in 2001 produced observations of *O. mykiss* in Arroyo Hondo including multiple year classes and an individual estimated to be about 24 inches in length (Stoecker *et al.* 2002). Cachuma Conservation Release Board staff surveyed Arroyo Hondo three times each year between 2006 and 2008. Multiple *O. mykiss* year classes were observed in the lagoon and in the reach between the estuary and about stream mile two (Robinson pers. comm.).

Arroyo Quemado

Arroyo Quemado consists of about 3.1 stream miles. It enters the Pacific Ocean about 5.7 miles west of El Capitan Beach State Park.

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites Arve Sjovold as confirming the presence of *O. mykiss* in Arroyo Quemado in the 1960s and 70s (Stoecker *et al.* 2002). Additional observations are noted from the early and mid 1980s.

Arroyo Quemado was surveyed in 1995. No fish were observed (Cardenas 1995). A culvert located near the mouth of Arroyo Quemado is a total passage barrier to steelhead (Stoecker *et al.* 2002).

Field notes, probably from the early 2000s, indicate the presence of *O. mykiss* in Arroyo Quemado Creek downstream from a large culvert. Individual four to eight inches in length were observed (Unknown ca 2000).

Tajigudas

Tajigudas Creek consists of about 4.4 stream miles. It enters the Pacific Ocean about 4.5 miles west of El Capitan Beach State Park.

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites Arve Sjovold as confirming the presence of *O. mykiss* in the Tajigudas Creek lagoon in 1959 (Stoecker *et al.* 2002).

Staff from DFG inspected Tajiguas Creek in 1985 and did not observe *O. mykiss*. The resulting memo notes that rainbow trout “may be expected to be present” in the headwater sections of the creek (DFG 1982).

According to a study of streams of the Conception Coast, a culvert located near the mouth of Tijiguas Creek is a total passage barrier to steelhead (CCP 2002). A study of the range of southern California steelhead published in 2005 indicates that an *O. mykiss* population is present upstream from an impassable barrier. The observation source was reviewed as part of this study but did not appear to have evidence for the determination (Stoecker *et al.* 2002).

Cañada del Refugio (Refugio)

Cañada del Refugio Creek consists of about 5.5 stream miles. It enters the Pacific Ocean at Refugio Beach State Park.

Staff from DFG surveyed Cañada del Refugio Creek, probably in 1934, and observed *O. mykiss*. The survey report notes that natural propagation does not occur in the creek, and attributes the lack of spawning habitat to siltation resulting from poor agricultural practices. The survey report states, “Steelhead annually make the run up the stream...” (DFG ca 1934j). In field notes from 1947 DFG staff states, “In wet years a few steelhead enter the stream... The stream is exceedingly small” (DFG 1953b).

A 1971 DFG memo noted that construction of a creek crossing at the state park likely created a passage barrier for in-migrating steelhead (DFG 1971). As part of a 2002 study, *O. mykiss* observations were summarized for the southern Santa Barbara County area. The report cites Brian Trautwein as observing a 12-13 inch *O. mykiss* individual in 1990 in the upper Refugio Creek watershed (Stoecker *et al.* 2002).

Staff from NMFS surveyed Cañada del Refugio Creek in 2002. The species was determined to be “absent” from the drainage (NMFS 2003).

Cañada del Venadito

Cañada del Venadito Creek consists of about 3.5 stream miles. It enters the Pacific Ocean west of the town of Capitan. According to a report on steelhead distribution in Southern California, a long cement culvert near the mouth of Cañada del Venadito Creek is a complete barrier to spawning (NMFS 2003).

A study of the range of southern California steelhead notes that the species historically occurred in the Cañada del Venadito basin (NMFS 2003). The basis for the determination is not provided.

Cañada del Corral

Cañada del Corral Creek consists of about 4.9 stream miles. It enters the Pacific Ocean near the town of Capitan.

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites several local residents as confirming the presence of *O. mykiss* in Cañada del Corral Creek from the 1930s to 1980s (Stoecker *et al.* 2002).

Cañada del Corral Creek was surveyed in 1995. No fish were observed (Cardenas 1995). According to a report on steelhead distribution in Southern California, a cement culvert near the mouth of Cañada del Corral Creek is a complete barrier to spawning (NMFS 2003).

Cañada del Capitan (Capitan)

Cañada del Capitan Creek consists of about 4.9 stream miles. It enters the Pacific Ocean at El Capitan Beach State Park. The culvert under Highway 101 is considered impassable to steelhead (Stoecker *et al.* 2002).

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites Tom Williams Jr. as confirming the presence of *O. mykiss* in Cañada del Capitan Creek in the 1930s and 40s (Stoecker *et al.* 2002).

Staff from NMFS surveyed Cañada del Capitan Creek in 2002. The species was determined to be “absent” from the drainage (NMFS 2003).

Gato Canyon

Gato Canyon Creek consists of about 5.1 stream miles. It enters the Pacific Ocean about two miles northwest of the town of Naples.

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites Steve Rowe as confirming the presence of *O. mykiss* in Gato Canyon Creek in the 1970s (Stoecker *et al.* 2002).

Dos Pueblos Canyon

Dos Pueblos Canyon Creek consists of about 6.4 stream miles. It enters the Pacific Ocean west of the town of Naples.

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites Phil Beguhl as confirming the presence of *O. mykiss* in Dos Pueblos Canyon Creek in 1969 (Stoecker *et al.* 2002).

Numerous “resident” *O. mykiss* were observed in Dos Pueblos Canyon Creek in the early 1990s downstream from the Highway 1 bridge. An individual approximately 15-16 inches in length also was observed (Trautwein pers. comm.). A DFG memo from 1994 records the presence of steelhead and rainbow trout in Dos Pueblos Canyon Creek. The density was noted as “1” on a five point scale with five indicating “many” individuals (DFG 1994b).

As part of a 2002 study, *O. mykiss* observations were summarized for the southern Santa Barbara County area. The report cites numerous several *O. mykiss* in 2001 and 2002, including individuals between two and about 13 inches in length (Stoecker *et al.* 2002). According to a report on steelhead distribution in Southern California, channelization in the lower portion of Dos Pueblos Canyon Creek create a complete barrier to spawning steelhead (NMFS 2003).

Eagle Canyon

Eagle Canyon Creek consists of about 3.1 stream miles. It enters the Pacific Ocean about 1.7 miles east of the town of Naples.

As part of a 2002 study, *O. mykiss* observations were summarized for the southern Santa Barbara County area. The report cites a 1984 environmental report as documenting “a small number of steelhead” entering local streams including sightings in Eagle Canyon Creek (Stoecker *et al.* 2002). A study of the range of southern California steelhead notes that the species historically occurred in the Eagle Canyon Creek basin (NMFS 2003). The basis for the determination is not provided.

Tecolote Canyon

Tecolote Canyon Creek consists of about 6.5 stream miles. It enters the Pacific Ocean west of the town of Isla Vista.

As part of a steelhead restoration project in the 1970s, a UCSB student researched steelhead in Tecolote Canyon Creek. A local resident provided photographs of juvenile steelhead taken near the mouth of the creek in 1931 and 1937 (Gantt 1973).

A 1974 letter to the RWQCB discusses steelhead in Tecolote Canyon Creek. The letter states, “Tecolote Creek...was stocked with steelhead smolt in April of 1973. Some two year old steelhead returned in March of 1974 to spawn. Offspring from these fish are presently abundant in the stream. Thousands of young trout were observed in May of this year. The suitability of Tecolote Creek for trout is evidenced by the facts that offspring are present and that a year round trout fishery has been reestablished” (Gantt 1974).

According to a report on steelhead distribution in Southern California, a long culvert and concrete apron near the mouth of Tecolote Canyon Creek create a complete barrier to spawning steelhead (NMFS 2003).

Bell Canyon

Bell Canyon Creek consists of about one stream mile. The creek is formed by the confluence of Winchester Canyon and Ellwood Canyon creeks. It enters the Pacific Ocean west of the town of Ellwood. According to a report on steelhead distribution in Southern California, a long culvert near the mouth of Bell Canyon Creek creates a complete barrier to spawning steelhead (NMFS 2003).

As part of a 2002 study, *O. mykiss* observations were summarized for the southern Santa Barbara County area. The report cites a 1984 environmental report as documenting “a small number of steelhead” entering local streams including sightings in Ellwood Creek (Stoecker *et al.* 2002). A study of the range of southern California steelhead notes that the species historically occurred in the Bell Canyon Creek basin (NMFS 2003). The basis for the determination is not provided.

Tecolotito (Glen Annie Canyon)

Flows in Tecolotito Creek originate in Glen Annie Canyon and are tributary to the Goleta Slough complex south of the city of Goleta. Upstream from approximately the Highway 101 crossing, the creek is referred to as Glen Annie Creek. The dam forming Glen Annie Reservoir is located about three miles upstream from this crossing.

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites Dougal House as observing *O. mykiss* in Glen Annie Creek in 1970 (Stoecker *et al.* 2002).

San Jose

San Jose Creek consists of about ten stream miles. It flows south, entering the Pacific Ocean via the Goleta Slough complex south of the city of Goleta.

Field notes from 1948 indicated DFG staff's opinion that San Jose Creek had "a total of 6 to 7 miles of good trout stream" (DFG 1949c). The author noted *O. mykiss* in the creek, although the origin (*i.e.*, native or stocked) was not provided.

A DFG memo from 1994 records the presence of rainbow trout in upper San Jose Creek. The density was noted as "4" on a five point scale with five indicating "many" individuals (DFG 1994b).

As part of a 2002 study, *O. mykiss* observations were summarized for the southern Santa Barbara County area. The report cites numerous *O. mykiss* observations from the 1980s to 2003 in San Jose Creek, including multiple year classes and individuals to about 14 inches in length (Stoecker *et al.* 2002).

San Pedro

San Pedro Creek consists of about 4.7 stream miles and is tributary to San Jose Creek. It enters San Jose Creek immediately upstream from the Goleta Slough complex mouth at Goleta Beach Park.

According to 1996 letter from staff of the Santa Barbara Urban Creeks Council, juvenile steelhead were observed near the base of natural falls in San Pedro Creek in 1992 (Trautwein 1996). The letter noted that adult steelhead were observed in the creek in 1985 and in 1995 (Trautwein 1996). A steelhead was observed in San Pedro Creek in March 2008 that was estimated to be about 26 inches in length (Capelli pers. comm.).

Atascadero

Atascadero Creek consists of about 6.3 stream miles. It flows southwest, entering the Pacific Ocean south of the city of Goleta.

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites Phil Beguhl as confirming the presence of *O. mykiss* in Atascadero Creek in 1969 or 1970 (Stoecker *et al.* 2002). In the late 1980s, a resident *O. mykiss* approximately seven inches in length was observed near Holister Avenue (Trautwein pers. comm.).

Maria Ygnacio

Maria Ygnacio Creek consists of about 6.8 stream miles. It flows south, entering Atascadero Creek about 1.3 miles upstream from Atascadero Creek's mouth.

A 1974 letter to the RWQCB discusses steelhead in Santa Barbara County streams. The letter includes Maria Ygnacio Creek in a list of streams “having historical runs of anadromous trout” (Gantt 1974). The basis for this determination is not provided in the letter.

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites Phil Beguhl as confirming the presence of *O. mykiss* in Maria Ygnacio Creek from 1954–1967 (Stoecker *et al.* 2002).

A grade stabilization structure at the railroad crossing is a passage barrier downstream from habitat resources in the watershed. In 2000, a 27-inch steelhead was observed downstream from the structure (SBCDPW 2001). Conceptual designs have been prepared to modify the barrier.

San Antonio

San Antonio Creek consists of about 6.2 stream miles and is tributary to Maria Ygnacio Creek. It flows southwest, entering Maria Ygnacio Creek east of the town of Goleta.

A 1974 letter to the RWQCB discusses steelhead in Santa Barbara County streams. The letter includes San Antonio Creek in a list of streams “having historical runs of anadromous trout” (Gantt 1974). The basis for this determination is not provided in the letter.

An 18 inch steelhead was seen downstream from a (debris basin) passage barrier in the late 1970s or early 1980s (Trautwein pers. comm.). Also, a “handful” of *O. mykiss* individuals between about four and seven inches in length were observed in San Antonio Creek in 1984.

Arroyo Burro

Arroyo Burro consists of about four stream miles. It flows south, entering the Pacific Ocean at Arroyo Burro Beach Park.

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites Santa Barbara Public Works personnel as confirming the presence of *O. mykiss* in Arroyo Burro in the early 1980s (Stoecker *et al.* 2002).

According to a report on steelhead distribution in Southern California, a grade control structure near the mouth of Arroyo Burro creates a complete barrier to spawning steelhead (NMFS 2003).

Mission

Mission Creek consists of about 7.8 stream miles. It flows south, entering the Pacific Ocean at the Santa Barbara Harbor. The lower portion of Mission Creek is concrete-lined and is considered impassable to spawning steelhead.

A 1986 study of Rattlesnake Creek reports that a steelhead was caught in lower Mission Creek in the late 1950s and states, “It seems probable that steelhead did historically run up most local streams, including Mission and Rattlesnake Creeks, before dams were built by Spanish Colonists” (UCSB 1986),

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites Brian Combs and Charles Woodhouse as confirming the presence of *O. mykiss* in Mission Creek in 1984.

A small number of *O. mykiss* individuals have been observed in lower Mission Creek in recent years, including 2000, 2003, 2005, 2006, and 2008 (Fusaro pers. comm.; Capelli pers. comm.). Based on their large size (*i.e.*, over 20 inches in length), the fish are considered anadromous adult steelhead. Designs have been developed to improve fish passage in the lower portion of Mission Creek. A one mile reach of the stream that was previously channelized would be modified to create a “natural streambed” (Trautwein 2006).

According to staff at the Cachuma Conservation Release Board, Mission Creek has multiple *O. mykiss* year classes persisting in its headwaters (Robinson pers. comm.). However, a record of observation of this population could not be located. About 30 smolts were observed in the Mission Creek lagoon in 2007 (Keller pers. comm.).

Rattlesnake Canyon

Rattlesnake Canyon Creek consists of about 3.4 stream miles and is tributary to Mission Creek. It flows southwest, entering Mission Creek less than a mile upstream from the Santa Barbara Mission.

A 1986 study of the biology of Rattlesnake Canyon Creek states, “Local residents maintain that Rattlesnake Creek has historically contained a native rainbow trout population” (UCSB 1986, p. 148). Sampling was conducted in 1982, 1983, and 1984 as part of this study and *O. mykiss* were found in all three years. The report indicates that the creek was stocked with rainbow trout in 1975 and 1984 (UCSB 1986).

Rattlesnake Canyon Creek was surveyed in 1994 as part of a survey of Mission Creek and its tributaries. Surveyors observed *O. mykiss* in the creek with one individual measuring over 12 inches in length (Carrillo 1994).

Montecito

Montecito Creek consists of about 3.5 stream miles and is formed by the confluence of Cold Spring Canyon and Hot Springs Canyon creeks. It flows south, entering the Pacific Ocean south of the town of Montecito.

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites Brian Trautwein as confirming the presence of *O. mykiss* in Montecito Creek in the 1980s (Stoecker *et al.* 2002).

The Conception Coast project includes observations of *O. mykiss* juveniles and individuals to about 11 inches in length in Montecito Creek between 1997 and 2002 (Stoecker *et al.* 2002).

Oak

Oak Creek consists of about 2.7 stream miles. It flows south, entering the Pacific Ocean near the town of Montecito.

Staff from NMFS surveyed Oak Creek in 2002 as part of a study of steelhead distribution in southern California. The creek was found to be dry, indicating “absence” of steelhead from the system (NMFS 2003).

San Ysidro

San Ysidro Creek consists of about 3.5 stream miles. It flows south through Montecito, entering the Pacific Ocean west of Fernald Point.

As part of a 2002 study, *O. mykiss* observations were summarized for the southern Santa Barbara County area. The report cites surveys in 2001 that produced observations of *O. mykiss* YOY and individuals to 13 inches in length in San Ysidro Creek. The report also cites Karl Treiber as observing “several” juvenile *O. mykiss* in 2002 (Stoecker *et al.* 2002).

Romero

Romero Creek consists of about 4.6 stream miles. It flows southwest, entering the Pacific Ocean at Fernald Point.

A 1974 letter to the RWQCB discusses steelhead in Santa Barbara County streams. The letter includes Romero Creek in a list of streams “having historical runs of anadromous trout” (Gantt 1974). The basis for this determination is not provided in the letter.

An 11 inch *O. mykiss* individual was observed in the Romero Creek lagoon in 2001 (Stoecker *et al.* 2002). In 2006, *O. mykiss* was observed by NMFS staff in Romero Creek, although a record of this observation could not be obtained.

Arroyo Paredon

Arroyo Paredon consists of about 5.3 stream miles. It flows south, entering the Pacific Ocean at the town of Serena.

As part of a 2002 study, *O. mykiss* observations were summarized for the southern Santa Barbara County area. The report cites Karl Treiberg as observing “rainbow trout averaging 4-6 inches” downstream from the Highway 192 bridge in 2000 (Stoecker *et al.* 2002).

Santa Monica

Santa Monica Creek flows south about five miles from headwaters in Santa Monica Canyon. It enters the Pacific Ocean at Sandyland Cove via the Carpinteria Salt Marsh complex.

As part of a 2002 study, *O. mykiss* observations were summarized for the southern Santa Barbara County area. The report cites Irving Treloar as having caught rainbow trout in Santa Monica Creek, likely in the 1930s or 1940s (Stoecker *et al.* 2002).

Franklin

Franklin Creek flows south about three miles, entering the Pacific Ocean at Sandyland Cove via the Carpinteria Salt Marsh complex. The lowermost portion is noted as being conveyed in a ditch on USGS maps.

As part of a 2002 study, *O. mykiss* observations were summarized for the southern Santa Barbara County area. The report cites Irving Treloar as having caught rainbow trout in Franklin Creek, likely in the 1930s or 1940s (Stoecker *et al.* 2002).

Carpinteria

Carpinteria Creek consists of about 6.5 stream miles. It flows southwest, entering the Pacific Ocean at the city of Carpinteria.

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites George Bliss as confirming the presence of *O. mykiss* in Carpinteria Creek in 1942 (Stoecker *et al.* 2002).

A 1974 letter to the RWQCB discusses steelhead in Santa Barbara County streams. The letter includes Carpinteria Creek in a list of streams “having historical runs of anadromous trout” (Gantt 1974). The basis for this determination is not provided in the letter.

Carpinteria Creek was surveyed in 1994 and 1995. Multiple *O. mykiss* year classes were observed, including individuals to about 12 inches in length (Cardenas 1995). The rainbow trout density in upper Carpinteria Creek was noted as “3” on a five point scale with five indicating “many” individuals (DFG 1994b).

Carpinteria Creek was surveyed in 2004 as part of a steelhead habitat and population study. Multiple *O. mykiss* year classes were observed and the study report notes 3.4 miles of “high quality steelhead habitat” in upper Carpinteria Creek (ECI 2004). The study estimated that the Carpinteria Creek rainbow trout population consisted of “perhaps 2,000 to 5,000” (ECI 2004). Two steelhead measuring about 26 inches were observed in lower Carpinteria Creek in March 2008, along with seven or eight *O. mykiss* ranging in size between about three and six inches (Capelli pers. comm.). The observer noted an at-grade stream crossing that likely prevented upstream migration at lower flows.

Gobernador

Gobernador Creek consists of about 3.2 stream miles and is tributary to Carpinteria Creek. It flows west, entering Carpinteria Creek at about stream mile 2.2.

A 1974 letter to the RWQCB discusses steelhead in Santa Barbara County streams. The letter includes Gobernador Creek in a list of streams “having historical runs of anadromous trout” (Gantt 1974). The basis for this determination is not provided in the letter.

Gobernador Creek was surveyed in 1992. One *O. mykiss* year class was observed (Unknown 1993).

Gobernador Creek was surveyed in 2004 as part of a steelhead habitat and population study. Multiple *O. mykiss* year classes were observed and the study report notes “excellent habitat conditions” and 2.3 miles of “high quality steelhead habitat” (ECI 2004).

Eldorado

Eldorado Creek consists of about 3.5 stream miles. Its confluence with Steer Creek is the headwaters of Gobernador Creek.

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites Arve Sjovold as confirming the presence of *O. mykiss* in Eldorado Creek in 1959.

Eldorado Creek was surveyed in 2004 as part of a steelhead habitat and population study. Multiple *O. mykiss* year classes were observed and the study report notes “excellent habitat conditions” and 1.9 miles of “high quality steelhead habitat” (ECI 2004).

Steer

Steer Creek consists of about 3.5 stream miles. Its confluence with Eldorado Creek is the headwaters of Gobernador Creek.

A review of historical information was performed as part of the Conception Coast project in 2002. That report cites Arve Sjovold as confirming the presence of *O. mykiss* in Steer Creek in 1959.

Staff from DFG surveyed Steer Creek in 1994 and observed multiple *O. mykiss* year classes. The survey report notes a “dense” population and states, “Age estimates difficult due to the emaciated condition of the trout” (DFG 1994c).

Steer Creek was surveyed in 2004 as part of a steelhead habitat and population study. Multiple *O. mykiss* year classes were observed and the study report notes 1.5 miles of “high quality steelhead habitat” (ECI 2004).

Sutton Canyon

Sutton Canyon Creek consists of about 2.9 stream miles and is tributary to Carpinteria Creek. It flows southeast, entering Carpinteria Creek west of Snowball Mountain.

Sutton Canyon Creek was surveyed in 2004 as part of a steelhead habitat and population study. Multiple *O. mykiss* year classes were observed [confirm] and the study report notes 2.0 miles of “high quality steelhead habitat” (ECI 2004).

References

- Bustillos, G.A., 1994. Jalama Creek - A Preliminary Overview, March 10.
- Campton, D.E. and G.M. Greenwald, 2005. Genetic Influence of Hatchery-Origin Fish to Natural Populations of Rainbow Trout.
- Cardenas, M., Wild Trout. 1995. Southern California Steelhead Stream Surveys.
- Carrillo, J., Santa Barbara Salmon Enhancement Association. 1994. Request to Close Fishing on Mission Creek and Its Tributaries.
- [CCRB] Central Coast Regional Board. 2006. Proposed 2006 CWA Section 303(d) List of Water Quality Limited Segments.
- Curtis, B., California Trout. 1937. A Biological Survey of Gibraltar Reservoir.
- [DFG] Department of Fish and Game. 1944a. Preliminary Report on the Fisheries of the Santa Maria R. System, Santa Barbara, San Luis Obispo, and Ventura Counties. Report by Leo Shapovalov
- [DFG] Department of Fish and Game. 1944b. Preliminary Report on the Fisheries of the Santa Ynez R. System, Santa Barbara. Report by Leo Shapovalov.
- [DFG] Department of Fish and Game. 1945. Report on Relation to Maintenance of Fish Resources of Proposed Dams and Diversions in Santa Barbara County. Report by Leo Shapovalov.
- [DFG] Department of Fish and Game. 1947. Field Notes, Alamo Creek, May 8. Report by Willis A. Evans
- [DFG] Department of Fish and Game. 1948a. Field Notes, Peachtree Canyon Creek, June 17, 18. Report by Willis A. Evans
- [DFG] Department of Fish and Game. 1948b. Stream Proposed for Beaver Planting. Report by Willis A. Evans
- [DFG] Department of Fish and Game. 1949a. Reyes Creek, Ventura County. Report by Willis A. Evans
- [DFG] Department of Fish and Game. 1949b. Field Notes, Zaca Creek. Report by Philip A. Douglas and Willis A. Evans
- [DFG] Department of Fish and Game. 1949c. Field Notes, San Jose Creek. Report by Philip A. Douglas and Willis A. Evans
- [DFG] Department of Fish and Game. 1950a. Davy Brown Creek Stream Survey, April 7. Report by Philip A. Douglas and R. Paris
- [DFG] Department of Fish and Game. 1950b. Santa Ynez River, Santa Barbara County. Report by Willis A. Evans
- [DFG] Department of Fish and Game. 1950c. Field Notes, Cachuma Creek. Report by Willis A. Evans and R.A.P.
- [DFG] Department of Fish and Game. 1950d. Cachuma Reservoir - Tributary Stream Closures and Screening. Report by Philip A. Douglas
- [DFG] Department of Fish and Game. 1953a. Salsipuedes Creek Stream Survey, February 3 and 4. Report by George W. McCammon
- [DFG] Department of Fish and Game. 1953b. Santa Barbara County, Refugio Creek. Report by Philip A. Douglas and Willis A. Evans
- [DFG] Department of Fish and Game. 1954a. Cachuma Creek Stream Survey, March 23. Report by E.J. Cramer
- [DFG] Department of Fish and Game. 1954b. Santa Cruz Creek Stream Survey, March 4. Report by Paul E. Giguere
- [DFG] Department of Fish and Game. 1956. Tequepis Creek Fish Barrier. Report by Byron H. Unruh
- [DFG] Department of Fish and Game. 1959. Survey of Sisquoc River. Report by Philip A. Douglas and William M. Richardson
- [DFG] Department of Fish and Game. 1964. Stream Survey. Report by James A. St. Amant
- [DFG] Department of Fish and Game. 1971. Possible Stream Blockage for Sea Run Steelhead. Report by Robert L. Rufenacht
- [DFG] Department of Fish and Game. 1975a. Alamo Creek, San Luis Obispo County. Report by William M. Snider
- [DFG] Department of Fish and Game. 1975b. An Assessment of Federal Water Projects Adversely Affecting California's Salmon and Steelhead Resources.

- [DFG] Department of Fish and Game. 1979. Field Notes, Beartrap Creek, July 30 to August 1.
- [DFG] Department of Fish and Game. 1982. Brief Inspection Survey. Report by Shoken Sasaki
- [DFG] Department of Fish and Game. 1993a. El Jaro Creek Stream Survey Report. Report by Scott Engblom, Glenn F. Sibbald, Robert Wickwire, and Vincent Whitman.
- [DFG] Department of Fish and Game. 1993b. Documentation of Fin Tissue Sampling from Young of the Year Steelhead Trout. Report by Gale Bustillos.
- [DFG] Department of Fish and Game. 1994a. Steelhead Surveys in Six Southern California Coastal Streams. Report by Scott Engblom, Glenn F. Sibbald, and Vincent Whitman
- [DFG] Department of Fish and Game. 1994b. Rincon Creek Surveys. Report by Dennis McEwan.
- [DFG] Department of Fish and Game. 1994c. Steer Creek Stream Survey, August 26.
- [DFG] Department of Fish and Game. 1994d. Hollister Ranch Creek Surveys. Report by Gale Bustillos.
- [DFG] Department of Fish and Game. 1996a. Upper Sisquoc River Survey. Report by Maurice Cardenas.
- [DFG] Department of Fish and Game. 1996b. DFG Sisquoc River Survey, 6/96. Report by Maurice Cardenas.
- [DFG] Department of Fish and Game. ca 1934a. Kelly Canyon Creek Stream Survey. Report by H.C. Jackson
- [DFG] Department of Fish and Game. ca 1934b. La Brea Creek Stream Survey. Report by H.C. Jackson
- [DFG] Department of Fish and Game. ca 1934c. Manzana Creek Stream Survey. Report by Paul Case
- [DFG] Department of Fish and Game. ca 1934d. Davy Brown Creek Stream Survey. Report by A.E. Davis and H.C. Jackson
- [DFG] Department of Fish and Game. ca 1934e. Sunset Valley Creek Stream Survey. Report by A.E. Davis and H.C. Jackson
- [DFG] Department of Fish and Game. ca 1934f. Zanja de Cota Creek Stream Survey. Report by H.C. Jackson
- [DFG] Department of Fish and Game. ca 1934g. Santa Ynez River Stream Survey. Report by H.C. Jackson
- [DFG] Department of Fish and Game. ca 1934h. Alamar Canyon Creek Stream Survey. Report by H.C. Jackson
- [DFG] Department of Fish and Game. ca 1934i. Canada de la Gaviota (Gaviota Creek) Stream Survey. Report by H.C. Jackson
- [DFG] Department of Fish and Game. ca 1934j. Canada del Rufugio Creek Stream Survey. Report by H.C. Jackson
- [ECI] Ecology Consultants, Inc. 2004. Steelhead Habitat and Population Study Carpinteria Creek Watershed.
- Edwards, D. and K. Stater, ca 1980. Black Canyon Creek Stream Survey, August.
- Engblom, S., 1998. Summary of Fish Rescue Program.
- Entrix, Inc. 1994. Cachuma Contract Renewal Fish Resources Technical Report.
- Entrix, Inc. 1995. Historical Steelhead Run in the Santa Ynez River.
- Gantt, P.R., 1973. Photos from report, "The Reestablishment of a Steelhead and Resident Trout Fishery in Tecolote Creek" October 1973.
- Gantt, P.R., 1974. Inclusion of Santa Barbara Coastal Streams into the Central Coastal Water Quality Control Plan.
- Girman, D. and J.C. Garza, 2006. Population Structure and Ancestry of *O. mykiss* Populations in South-Central California Based on Genetic Analysis of Microsatellite Data, Final Report for California Department of Fish and Game Project No. P0350021 and Pacific States Marine Fisheries Contract No. AWIP-S-1.
- Greenfield, D.W. and G.D. Deckert. 1973. Introgressive hybridization between *Gila orcutti* and *Hesperoleucus symmetricus* (Pisces: Cyprinidae) in the Cuyama River basin, California: II. Ecological aspects. Copeia, Vol. 1973, No. 3. (Aug. 28, 1973), pp. 417-427.
- Greenwald, G.M., E.J. Kretschmer, J.L. Nielsen, J.B. Olsen, J.K. Wenburg, T.C. Wiacek, and C.E. Zimmerman, 2001. Population Genetic Structure of Santa Ynez Rainbow Trout - 2001 Based on Microsatellite and mtDNA Analyses.
- Henke, E., 1995. Comments to the U.S. Department of the Interior, Bureau of Reclamation, on the Draft 'Environmental Impact Statement/Report' for 'Cachuma Project' Renewal Located in Santa Barbara.
- Moore, M.R., 1980. Stream Survey: Ojai Ranger District.

- [NMFS] NMFS. 2000a. Biological Opinion for the U.S. Bureau of Reclamation's Operation and Maintenance of Bradbury Dam.
- [NMFS] National Marine Fisheries Service. 2000b. Current Stream Habitat Distribution Table.
- [NMFS] National Marine Fisheries Service. 2002. Record of Steelhead Sightings. Report by Christina Dueber
- [NMFS] National Marine Fisheries Service. 2003. New Data on Steelhead Distribution in Southern and South-Central California. Report by David A. Boughton and Heidi Fish
- [NMFS] National Marine Fisheries Service. 2005. Contraction of the Southern Range Limit for Anadromous *Oncorhynchus mykiss*. Report by David A. Boughton, Joel Casagrande, Julie Casagrande, H. Fish, J. Goin, K. Pipal, Matt Stoecker, and F. Watson
- Payne, T., 1991. Santa Ynez River Habitat Mapping and Tributary Mitigation Site Survey.
- Peckham, B., 1993. Marre Fire Fish Monitoring.
- Sasaki, S., 1986. Report on Steelhead.
- [SBCDPW] Santa Barbara County Department of Public Works. 2001. Maria Ygnacio Creek Fish Passage Design at Railroad Crossing.
- Slaughter, C., 1999. Trip Report Site Effectiveness Monitoring, December 9.
- Stoecker, M.W. *et al.* 2002. Steelhead Assessment and Recovery Opportunities in Southern Santa Barbara County.
- Stoecker, J. and M. Stoecker, Community Environmental Council. 2003. Steelhead Migration Barrier Assessment and Recovery Opportunities for the Sisquoc River.
- Stoecker, M.W., Stoecker Ecological Consulting. 2004. Steelhead Migration Barrier Inventory and Recovery Opportunities for the Santa Ynez River.
- Stoecker, M.W., Stoecker Ecological. 2005. Sisquoc River Steelhead Trout Population Survey, Fall.
- Swift, C.C., Natural History Museum of Los Angeles County. 1975. Survey of the freshwater fishes and their habitats in the coastal drainages of southern California, California. 364 pp.
- Swift, C.C., 2000a. Final Steelhead Habitat Evaluation Report for Shuman Canyon, San Antonio, Honda Canyon, Canada de Jolloru, and Jalama Creeks Vandenberg Air Force Base.
- Swift, C.C., 2000b. Trapping Results.
- [SYRTAC] Santa Ynez River Technical Advisory Committee. 1999. Lower Santa Ynez River Fish Management Plan, Volume I, Management Plan.
- Trautwein, B.G., Santa Barbara Urban Creeks Council. 1996. Documentation of Southern Steelhead in San Pedro Creek.
- Trautwein, B.G., 2006. Mission Creek Fish Passage Feasibility Analysis & Conceptual Design.
- Unknown. 1944. Memorandum on Santa Ynez River Conditions.
- Unknown. 1970. Deterioration of Salmon and Steelhead Populations.
- Unknown. 1980. Summary of Stream Surveys.
- Unknown. 1993. Data Collected.
- Unknown. 1994. Santa Ynez Mountain Steelhead Trout Surveys/Coastal Slope.
- Unknown. 1995. Excerpt from 1995 Compilation Report.
- Unknown. 1996. Red Survey on Blue Canyon Creek.
- Unknown. 1999. Project Biologist Report.
- Unknown. ca 2000. Arroyo Quemado Creek field notes.
- [UCSB] University of California, Santa Barbara. 1986. The Biology of Chaparral Streams in Southern California. Report by Scott D. Cooper, Tom L. Dudley, and Nina Hemphill
- [USFS] United States Forest Service. 1980a. Santa Barbara Canyon Creek Stream Survey, August 26. Report by Don Edwards and Kelly Stater

- [USFS] United States Forest Service. 1980b. Alamo Canyon Creek Stream Survey, August 26. Report by Kelly Stater
- [USFS] United States Forest Service. 1980c. Deal Canyon Creek Stream Survey, August 27. Report by Kelly Stater
- [USFS] United States Forest Service. 1980d. Manzana Creek Stream Survey, October 26, 27. Report by Celeste Anacker and Kelly Stater
- [USFS] United States Forest Service. 1980e. Davy Brown Creek Stream Survey, October 25. Report by Kelly Stater
- [USFS] United States Forest Service. 1980f. South Fork Sisquoc River Stream Survey, September 17. Report by Don Edwards, Bill Philsinger, and Kelly Stater
- [USFS] United States Forest Service. 1980g. White Ledge Canyon Creek Stream Survey, September 17. Report by Kelly Stater
- [USFS] United States Forest Service. 1980h. West Fork Santa Cruz Stream Survey, August 1, 2, 3. Report by Cheree Edwards and Don Edwards
- [USFS] United States Forest Service. 1980i. Coche Creek Stream Survey, August 7. Report by Don Edwards and Kelly Stater
- [USFS] United States Forest Service. 1980j. East Fork Santa Cruz Stream Survey, August 7, 8, 11. Report by Cheree Edwards and Kelly Stater
- [USFS] United States Forest Service. 1980k. Grapevine Creek Stream Survey, August 7. Report by Don Edwards and Kelly Stater
- [USFS] United States Forest Service. 1980l. Gibraltar Lake Survey, June 26. Report by Don Edwards and Kelly Stater
- [USFS] United States Forest Service. 1980m. Mono Creek Stream Survey, August 18. Report by Don Edwards and Kelly Stater
- [USFS] United States Forest Service. 1980n. Indian Creek Stream Survey, July 17, 18. Report by Maeton Freel, Dawn Lipton, and Stater Kelly
- [USFS] United States Forest Service. 1980o. Buckhorn Creek Stream Survey, July 7, 8. Report by Don Edwards and Kelly Stater
- [USFS] United States Forest Service. 1993. Fish Sheet, October 20.
- [USFS] United States Forest Service. 1994a. Diversion on Devil's Canyon Creek. Report by Maeton Freel
- [USFS] United States Forest Service. 1994b. Data on Escondido Canyon Creek.
- [USFS] United States Forest Service. 1994c. Fox Creek Stream Survey, September.
- [USFS] United States Forest Service. 1994d. Santa Ynez River Stream Survey, August.
- [USFS] United States Forest Service. 1996. Mitochondrial DNA and Nuclear Microsatellite Diversity in Hatchery and Wild *Oncorhynchus mykiss* from Freshwater Habitats in Southern California. Report by Jennifer L. Nielsen, Cindy M. Carpanzano, Monique C. Fountain, and Christine A. Gan
- [USFS] United States Forest Service. 1997. Santa Ynez Steelhead Restoration Feasibility Study. Report by Sara L. Chubb
- [USFS] United States Forest Service. 1999. Impact Assessment and Numbers of *Oncorhynchus mykiss* in streams of the Los Padres National Forest. Report by Nick Kautzman and J. C. Uyehara
- [USFS] United States Forest Service. 2001. North Fork La Brea Creek Snorkeling Survey, September 11. Report by David Freed and Tom Murphrey

Personal communications

- Fusaro, Craig. California Trout. Conversation in July 2006.
- Keller, Ed. University of California Santa Barbara. Email in October 2008.
- Robinson, Tim. Cachuma Conservation and Release Board. Emails during summer and fall 2008.
- Stoecker, Matt. Stoecker Ecological. Various conversations and emails in 2006 and 2007.
- Trautwein, Brian. Telephone conversation in November 2007.

Table 5. Distribution status of *O. mykiss* in coastal streams of Santa Barbara County, California¹

Watershed	Stream/Tributary	Historical Presence	Current Presence	Evidence of Decline	Anadromy	Current Population Status
Santa Maria River	Santa Maria River	DF	DF	Y	Y	1
Santa Maria River	Suey	PB	UN		UN	0
Santa Maria River	Cuyama River	DF	UN	Y	UN	0
Santa Maria River	Alamo	DF	UN	Y	N	0
Santa Maria River	Kelly Canyon	UN	UN		N	0
Santa Maria River	Santa Barbara Canyon	PS	UN		N	0
Santa Maria River	Alamo Canyon	UN	UN		N	0
Santa Maria River	Tinta	UN	UN		N	0
Santa Maria River	Rancho Nuevo	UN	UN		N	0
Santa Maria River	Deal Canyon	DF	UN		N	0
Santa Maria River	Reyes	DF	UN		N	0
Santa Maria River	Alamo	UN	UN		N	0
Santa Maria River	Beartrap	DF	UN		N	0
Santa Maria River	Sisquoc River	DF	DF	Y	Y	3
Santa Maria River	Tepusquet	DF	DF	Y	Y	2
Santa Maria River	La Brea	DF	UN	Y	UN	0
Santa Maria River	North Fork La Brea	DF	UN		UN	0
Santa Maria River	Horse Canyon	UN	UN		UN	0
Santa Maria River	Manzana	DF	DF		Y	3
Santa Maria River	Davy Brown (Fir Canyon)	DF	DF	Y	Y	3
Santa Maria River	Munch Canyon	DF	DF		Y	3
Santa Maria River	Sunset Valley	DF	UN		UN	0
Santa Maria River	Fish	DF	DF		Y	2
Santa Maria River	Abel Canyon	DF	DF		Y	3
Santa Maria River	South Fork					
Santa Maria River	Sisquoc River	DF	DF		Y	3
Santa Maria River	White Ledge Canyon	DF	UN		UN	0
Santa Maria River	Rattlesnake Canyon	DF	DF		Y	3
Santa Maria River	Big Pine Canyon	DF	PB		UN	0
San Antonio	San Antonio	UN	PA		UN	0
Santa Ynez River	Santa Ynez River	DF	DF	Y	Y	3

¹Please see Methods section for an explanation of titles and values used in this table.

Table 5. Distribution status of *O. mykiss* in coastal streams of Santa Barbara County, California¹

Watershed	Stream/Tributary	Historical Presence	Current Presence	Evidence of Decline	Anadromy	Current Population Status
Santa Ynez River	San Miguelito	DF	DF	Y	N	2
Santa Ynez River	Salsipuedes	DF	DF	Y	Y	3
Santa Ynez River	El Jaro	DF	DF	Y	Y	3
Santa Ynez River	Los Amoles	PB	PB	UN	0	
Santa Ynez River	Ytias	DF	DF	Y	Y	3
Santa Ynez River	Zaca	DF	UN	Y	UN	0
Santa Ynez River	Nojoqui	DF	DF	Y	Y	1
Santa Ynez River	Alisal	DF	DF	Y	Y	1
Santa Ynez River	Alamo Pintado	DF	DF	Y	Y	3
Santa Ynez River	Quinta	DF	DF	Y	Y	3
Santa Ynez River	Quinta tributary	DF	DF	Y	Y	3
Santa Ynez River	Zanja de Cota (Santa Cota)	DF	UN	UN	0	
Santa Ynez River	San Lucas	UN	UN	UN	0	
Santa Ynez River	Hilton	DF	DF	Y	Y	3
Santa Ynez River	Cachuma	DF	DF	Y	N	1
Santa Ynez River	Lion Canyon	DF	DF	Y	N	1
Santa Ynez River	Tequepis Canyon	DF	DF	Y	N	3
Santa Ynez River	Santa Cruz	DF	DF	Y	N	3
Santa Ynez River	Peachtree Canyon	UN	UN	N	0	
Santa Ynez River	Santa Cruz tributary (Little Pine Spring)	DF	DF	Y	N	3
Santa Ynez River	Black Canyon	UN	UN	N	0	
Santa Ynez River	West Fork Santa Cruz	DF	DF	Y	N	3
Santa Ynez River	Coché	DF	DF	Y	N	3
Santa Ynez River	East Fork Santa Cruz	DF	DF	Y	N	3
Santa Ynez River	Grapevine	DF	DF	Y	N	3
Santa Ynez River	Kelly	DF	UN	Y	N	0
Santa Ynez River	Bear	DF	DF	Y	N	2
Santa Ynez River	Paradise Canyon	UN	UN	N	0	
Santa Ynez River	Oso Canyon	UN	UN	N	0	

¹Please see Methods section for an explanation of titles and values used in this table.

Table 5. Distribution status of *O. mykiss* in coastal streams of Santa Barbara County, California¹

Watershed	Stream/Tributary	Historical Presence	Current Presence	Evidence of Decline	Anadromy	Current Population Status
Santa Ynez River	Arroyo Burro	PS	UN		N	0
Santa Ynez River	Devils Canyon	DF	DF	Y	N	3
Santa Ynez River	Gidney	DF	DF	Y	N	2
Santa Ynez River	Camuesa	DF	DF	Y	N	1
Santa Ynez River	Mono	DF	DF	Y	N	2
Santa Ynez River	Indian	DF	DF	Y	N	3
Santa Ynez River	Buckhorn	DF	DF	Y	N	3
Santa Ynez River	Alamar Canyon	DF	UN	Y	N	0
Santa Ynez River	Blue Canyon	DF	DF	Y	N	3
Santa Ynez River	Escondido Canyon	DF	DF	Y	N	2
Santa Ynez River	Aguia Caliente Canyon	DF	DF	Y	N	1
Santa Ynez River	Fox (Pipeline)	DF	DF	Y	N	3
Santa Ynez River	Alder	DF	DF	Y	N	3
Santa Ynez River	Franklin	DF	DF	Y	N	1
Santa Ynez River	North Fork Juncal	DF	DF	Y	N	3
Santa Ynez River	Satna Ynez River tributary (Steelhead)	DF	DF	Y	N	1
Cañada Honda	Cañada Honda	UN	PA	UN	UN	0
Jalama	Jalama	DF	PA	UN	UN	0
Cañada del Cojo	Cañada del Cojo	UN	UN	UN	UN	0
Cañada de Santa Anita	Cañada de Santa Anita	DF	UN	UN	UN	0
Cañada del Sacate	Cañada del Sacate	UN	UN	UN	UN	0
Cañada de la Gaviota (Gaviota)	Cañada de la Gaviota (Gaviota)	DF	DF	Y	Y	3
Cañada de la Gaviota (Gaviota)	Las Canovas	DF	DF	UN	UN	1
Cañada de San Onofre	Cañada de San Onofre	DF	PA	UN	UN	0
Arroyo Hondo	Arroyo Hondo	DF	DF	Y	Y	3
Arroyo Quemado	Arroyo Quemado	DF	DF	UN	UN	2
Tajigwas	Tajigwas	DF	UN	Y	N	0

¹Please see Methods section for an explanation of titles and values used in this table.

Table 5. Distribution status of *O. mykiss* in coastal streams of Santa Barbara County, California¹

Watershed	Stream/Tributary	Historical Presence	Current Presence	Evidence of Decline	Anadromy	Current Population Status
Cañada del Refugio (Refugio)	Cañada del Refugio (Refugio)	DF	PA	Y	N	0
Cañada del Venadito	Cañada del Venadito	UN	UN		N	0
Cañada del Corral	Cañada del Corral	DF	UN	Y	N	0
Cañada del Capitan	Cañada del Capitan	DF	PA	Y	N	0
Gato Canyon	Gato Canyon	DF	UN		UN	0
Dos Pueblos Canyon	Dos Pueblos Canyon	DF	DF	Y	N	3
Eagle Canyon	Eagle Canyon	UN	UN		UN	0
Tecolote Canyon	Tecolote Canyon	DF	DF	Y	N	0
Bell Canyon	Bell Canyon	PS	PA		N	0
Goleta Sough complex	Tecolotito (Glen Annie Canyon)	DF	UN		UN	0
Goleta Sough complex	San Jose	DF	DF		UN	3
Goleta Sough complex	San Pedro	DF	DF		Y	2
Goleta Sough complex	Atascadero	DF	DF		Y	2
Goleta Sough complex	Maria Ygnacio	DF	DF	Y	Y	2
Goleta Sough complex	San Antonio	DF	UN		UN	0
Arroyo Burro	Arroyo Burro	DF	UN		N	0
Mission	Mission	DF	DF	Y	Y	3
Mission	Rattlesnake Canyon	DF	DF	Y	UN	3
Montecito	Montecito	DF	DF		Y	3
Oak	Oak	UN	PA		UN	0
San Ysidro	San Ysidro	DF	DF		Y	2
Romero	Romero	DF	DF		UN	1
Arroyo Paredon	Arroyo Paredon	DF	DF		UN	1
Carpinteria Salt Marsh complex	Santa Monica	PB	PA		UN	0
Carpinteria Salt Marsh complex	Franklin	PB	PA		UN	0
Carpinteria	Carpinteria	DF	DF		Y	3
Carpinteria	Gobernador	DF	DF		Y	3

¹Please see Methods section for an explanation of titles and values used in this table.

Table 5. Distribution status of *O. mykiss* in coastal streams of Santa Barbara County, California¹

Watershed	Stream/Tributary	Historical Presence	Current Presence	Evidence of Decline	Anadromy	Current Population Status
Carpinteria	Eldorado	DF	DF		Y	3
Carpinteria	Steer	DF	DF		Y	3
Carpinteria	Sutton Canyon	DF	DF		Y	3

¹Please see Methods section for an explanation of titles and values used in this table.

