

**DEPARTMENT OF COMMERCE****National Oceanic and Atmospheric Administration****50 CFR Part 224**

[Docket No. 001025296-0296-01; I.D. 072600A]

RIN 0648-AO05

**Endangered and Threatened Species: Proposed Range Extension for Endangered Steelhead in Southern California**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Proposed rule; request for comments.

**SUMMARY:** In August 1997, NMFS listed the Southern California steelhead Evolutionarily Significant Unit (ESU) as an endangered species and defined its southern limit as Malibu Creek in Los Angeles County, California, based on the best information available at that time. In February 2000, NMFS designated critical habitat for this ESU that includes all accessible and occupied waterways, including the adjacent riparian zone, below longstanding impassable natural barriers within the range of the ESU.

There is now new information indicating that steelhead or their progeny now occur in at least two coastal river basins south of Malibu Creek, and have successfully spawned in one of these basins (San Mateo Creek). Based on this new information, NMFS is now issuing a proposed rule under the Endangered Species Act (ESA) to extend the current range of this endangered ESU to San Mateo Creek in northern San Diego County, California.

Within the redefined Southern California steelhead ESU, only naturally spawned populations of steelhead, and their progeny, which reside below naturally occurring and man-made impassable barriers (e.g., impassable waterfalls and dams) are proposed for listing. At this time, NMFS is proposing to list only the anadromous life forms of *Onchorynchus mykiss* (*O. mykiss*) in those river basins south of Malibu Creek.

**DATES:** Comments must be received by February 20, 2001. Requests for public hearings must be received by February 2, 2001.

**ADDRESSES:** Comments on this proposed rule and requests for public hearings or reference materials should be sent to the Assistant Regional Administrator,

Protected Resources Division, NMFS, Southwest Region, 501 West Ocean Blvd., Suite 4200, Long Beach, CA 90802-4213.

**FOR FURTHER INFORMATION CONTACT:** Craig Wingert, 562-980-4021, or Chris Mobley, 301-713-1401.

**SUPPLEMENTARY INFORMATION:****Previous Federal ESA Actions Related to the Southern California Steelhead ESU**

In 1994, NMFS received a petition from the Oregon Natural Resources Council and 15 co-petitioners to list west coast steelhead populations under the ESA. In response to this petition, NMFS conducted a status review of west coast steelhead (Busby *et al.*, 1996). Based on the results of this status review and other information which constituted the best scientific and commercial data available, NMFS published a proposed listing determination on August 9, 1996, that identified 15 ESUs of steelhead distributed throughout the states of Washington, Oregon, Idaho, and California, including the Southern California ESU (61 FR 41541). Ten of the ESUs were proposed for listing as threatened or endangered species in that document, including the Southern California steelhead ESU which was proposed for listing as an endangered species. On August 18, 1997, NMFS published a final rule listing five steelhead ESUs as threatened or endangered under the ESA (62 FR 43937). The Southern California steelhead ESU was listed as an endangered species in that final rule.

On February 5, 1999, NMFS published a proposed critical habitat designation for nineteen ESUs of threatened and endangered salmon and steelhead distributed throughout Washington, Oregon, Idaho, and California (64 FR 5740), including the endangered Southern California steelhead ESU. A final rule designating critical habitat for these 19 ESUs, including the Southern California steelhead ESU, was published on February 16, 2000 (65 FR 7764).

**New Information Concerning Steelhead Distribution and Habitat Use South of Malibu Creek in Southern California**

In the proposed listing determination for the Southern California steelhead ESU (61 FR 41541), NMFS indicated that the current range of the ESU extended to the southernmost extent of the species range which was thought to be Malibu Creek in Los Angeles County based on the best available information. Many comments were received

regarding this issue during the public comment period, with most indicating that the southern boundary of the ESU should be extended further south to either the southern extent of the species historical range, the Mexican border, or some other location. NMFS reviewed the available references to steelhead occurring historically and more recently in streams south of Malibu Creek and concluded in its final listing determination that there was insufficient information to revise the southern boundary of this ESU even though some information indicated that steelhead might occasionally occur as far south as the Santa Margarita River in San Diego County (62 FR 43937).

The San Mateo Creek watershed arises in the Cleveland National Forest and flows in a southwesterly direction to the Pacific Ocean just south of San Clemente in northern San Diego County. It is located approximately 100 miles (161.3 kilometers (km)) south of Malibu Creek which NMFS identified in 1997 as the southern extent of the species range and, therefore, the southern boundary of the Southern California steelhead ESU. Much of the lower reach of San Mateo Creek flows through the Camp Pendleton Marine Corps Base. Approximately 6-7 miles (9.7-11.3 km) are accessible to steelhead in the mainstem and tributaries. According to information in Titus *et al.* (in press), Woelfel (1991), and the California Department of Fish and Game (DFG) (DFG, 2000), San Mateo Creek was an important steelhead-producing stream prior to 1950 and evidently supported a local sport fishery of both juveniles and adults. More recently, however, Nehlsen *et al.* (1991) classified the San Mateo Creek steelhead population as extinct.

In February 1999, an angler reported catching and releasing a juvenile steelhead/rainbow trout (*O. mykiss*) in the lower reach of San Mateo Creek. Based on this report, DFG initiated a field investigation to confirm the presence of *O. mykiss* in the San Mateo Creek watershed. The results of this investigation are presented in a February 2000 report prepared by DFG entitled: "Steelhead Rainbow Trout in San Mateo Creek, San Diego County, California" (DFG, 2000), and are summarized here.

Between March 3 and September 3, 1999, a total of 78 juvenile *O. mykiss* were observed by DFG and other personnel in the San Mateo Creek watershed, with the majority of these observations occurring in the mainstem near its confluence with Devil Canyon. DFG did not employ depletion or mark-recapture methods in its surveys; thus, population size could not be estimated.

In conjunction with the field investigation, DFG also collected biological information and samples for subsequent analysis, including fin clip tissue samples from two fish for mitochondrial DNA analysis, one otolith sample for micro chemical analysis of its primordium to determine the marine versus freshwater residency of the maternal parent, and scale samples and length measurements to estimate age and growth.

Analysis of the scale samples and associated length data indicated that the juvenile *O. mykiss* observed in 1999 were age 2+ fish that constituted a relatively homogenous population in terms of size (164-245 millimeters (mm) total length). Based on the age of these fish, DFG concluded that they were progeny of adults that spawned in 1997. Micro chemical analysis of strontium/calcium (Sr/Ca) ratios in the single otolith sample obtained from a fish that was sacrificed produced a Sr/Ca profile characteristic of a fish having an anadromous maternal parent (i.e. a steelhead parent). Given the homogenous nature of the observed juvenile population in terms of age and length, DFG concluded that the juvenile *O. mykiss* observed in 1999 were the progeny of at least one maternal parent that was anadromous and that spawned somewhere in the San Mateo Creek watershed in 1997. Finally, genetic analysis of tissue samples from two fish demonstrated that both carried the mtDNA haplotype (MYS5) which is found most commonly in southern California steelhead (Nielson, 1994 and 1996; Nielson *et al.*, 1994a and 1994b). Since this haplotype is primarily found in southern California steelhead populations and it has not been found in any hatchery populations of steelhead or domestic trout in California, the juvenile *O. mykiss* population found in San Mateo Creek in 1999 appears to have close genetic affinities with native southern California steelhead, and is not the result of domestic trout planting.

In late May 2000, DFG conducted a follow up survey for steelhead in the upper portion of San Mateo Creek just above the gauging station on Camp Pendleton, including the lower reach of the tributary Devils Canyon Creek. This survey was conducted in conjunction with biologists from NMFS and the U.S. Fish and Wildlife Service (FWS). The limited survey effort observed three adult (approximately 8-12 inches or 200-300 mm in total length) *O. mykiss* in the mainstem pools and approximately 15-20 juveniles (60-65 mm in total length) in Devils Canyon Creek. DFG biologists speculate that the

larger size class of *O. mykiss* may be holdover fish from the steelhead population found in 1999, whereas the smaller juveniles may be the progeny of these holdover fish.

Based on this new information, NMFS believes that reconsideration of the geographic range and critical habitat for the Southern California steelhead ESU is warranted.

#### **Southern California Steelhead ESU Revision**

To qualify for listing as a threatened or endangered species, identified populations of steelhead must be considered a "species" under the ESA. The ESA defines "species" to include "any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature." NMFS published a policy (56 FR 58612, November 20, 1991) describing how the agency would apply the ESA definition of "species" to anadromous salmonid species. This policy provides that a salmonid population will be considered distinct, and hence a species under the ESA, if it represents an ESU of the biological species. A population must satisfy two criteria to be considered an ESU: (1) It must be reproductively isolated from other conspecific population units; and (2) it must represent an important component in the evolutionary legacy of the biological species. The first criterion, reproductive isolation, need not be absolute, but must be strong enough to permit evolutionarily important differences to accrue in different population units. The second criterion is met if the population contributes substantially to the ecological/genetic diversity of the species as a whole. Guidance on the application of this policy is contained in Waples (1991). The genetic, ecological, and life history characteristics that NMFS assessed to identify the number and geographic extent of steelhead ESUs on the west coast in accordance with this policy, including the Southern California steelhead ESU, are discussed in detail in Busby *et al.* (1996) and in the August 9, 1996, proposed listing determination for west coast steelhead (61 FR 41541).

The Southern California steelhead ESU, as currently defined, is described in previous **Federal Register** documents (61 FR 41541 and 62 FR 43937) based on data collected and analyzed by NMFS and summarized in the 1996 west coast steelhead status review (Busby *et al.*, 1996) and a subsequent status review update (NMFS, 1997). As described in the August 18, 1997, final

listing determination (62 FR 43937), the Southern California ESU consists of all naturally spawned populations of steelhead (*O. mykiss*), and their progeny, which occupy rivers and streams from the Santa Maria River in San Luis Obispo County, California (inclusive) to the southern extent of the species' range which was identified as Malibu Creek in Los Angeles County, California (inclusive).

In the 1996 proposed listing determination for the Southern California steelhead ESU (61 FR 41541), NMFS concluded that the current range of the ESU extended to the southernmost extent of the species range which was thought to be Malibu Creek in Los Angeles County. However, NMFS also acknowledged that there were reports of steelhead in some coastal streams as far south as the Santa Margarita River in San Diego County (Hubbs, 1946; Barnhart, 1986; Higgins, 1991; McEwan and Jackson, 1996; and Titus *et al.*, in press), and, therefore, indicated that the distribution and abundance of steelhead south of Malibu Creek were unresolved issues regarding this ESU. NMFS received many comments regarding this issue during the public comment period, with most indicating that the southern boundary of the ESU should be extended further south to either the historical range of the species, the U.S.- Mexico border, or some other location. NMFS reviewed the available references to steelhead occurring historically and more recently in streams south of Malibu Creek and concluded in the 1997 final listing determination for this ESU that there was insufficient information to revise the southern boundary of this ESU south of Malibu Creek even though some limited anecdotal information suggested steelhead may occasionally occur as far south as the Santa Margarita River (62 FR 43937).

The recent information compiled by DFG (DFG, 2000) is limited, but still suggests that adult steelhead entered San Mateo Creek and successfully spawned in 1997. The juvenile progeny of those spawning adults were observed by DFG during its field investigations in the spring and summer of 1999. More recent information from May 2000 suggests that steelhead still occupy portions of San Mateo Creek and may have successfully spawned again since 1997. The limited genetic information suggests that the juvenile steelhead found in 1999 have close genetic affinities to native southern California steelhead and are not the result of domestic trout planting. Since there is no evidence of a resident trout population or recent evidence of

steelhead presence in San Mateo Creek (DFG, 2000; Titus *et al.*, in press; Lang *et al.*, 1998), it is likely that the adult steelhead which successfully spawned in 1997 were strays from another watershed elsewhere in the Southern California steelhead ESU. Based on a review of this new information, NMFS now proposes that the San Mateo Creek steelhead population be considered part of the Southern California steelhead ESU.

The Malibu Creek and San Mateo Creek watersheds are separated by approximately 100 miles (161.3 km). Therefore, inclusion of the San Mateo Creek steelhead population in the Southern California ESU raises the question of whether or not steelhead occur or are present in any other watersheds located between Malibu Creek and San Mateo Creek. Based on information reported by Titus *et al.* (in press), steelhead were historically reported in several watersheds between Malibu Creek and San Mateo Creek (i.e., Los Angeles River, San Gabriel River, Santa Ana River, and San Juan Creek), but are now extinct as a result of major habitat modification or habitat blockage associated with flood control, urban development, and other factors. Given the existing habitat conditions in these highly modified river systems, NMFS does not believe they are currently suitable for steelhead utilization, and, therefore, are highly unlikely to support steelhead absent major restoration efforts.

Information regarding the current presence of steelhead in other streams between Malibu Creek and San Mateo Creek is lacking with the exception of a recent observation of fish in Topanga Creek which is approximately 4 miles (6.5 km) south of Malibu Creek. Titus *et al.*, (in press) indicated that *O. mykiss* were observed in Topanga Creek in 1979 and in the early 1990s. In April 2000, an adult *O. mykiss* was reported in Topanga Creek. A NMFS' biologist conducted a site visit and confirmed the presence and identification of two *O. mykiss* ranging from 14-20 inches (359-573 mm) in total length. Both fish were observed in a relatively deep pool (4 ft (1.2 meters (m)) deep) located about 1 mile (1.7 km) upstream of the confluence with the ocean. Based on the existing habitat conditions and the size of the fish, it is unlikely that they spent their entire life cycle in Topanga Creek. Since there is no evidence of any stocking of rainbow trout in Topanga Creek, it is most likely that these fish originated from some other stream within the ESU. The nearest streams known to support steelhead are Malibu Creek and Arroyo Sequit, both of which

are located only a few miles north of Topanga Creek.

Although steelhead historically occurred further south than San Mateo Creek, there is no evidence that they do so any longer and are considered extinct throughout San Diego County by Titus *et al.*, (in press). As with most streams south of Malibu Creek, significant habitat modification has occurred due to urbanization and other factors which have blocked steelhead access to historical spawning and rearing habitat and degraded the remaining habitat. Although there is no information documenting the presence of steelhead south of San Mateo Creek, suitable habitat for steelhead is thought to exist in San Onofre Creek which is located on Camp Pendleton just south of San Mateo Creek (Lang *et al.*, 1998)

#### **Status of Southern California Steelhead ESU**

The Southern California steelhead ESU was listed as an endangered species under the ESA in 1997 (62 FR 43937). The biological status of this ESU was described in the final rule based on the results of NMFS' west coast steelhead status review (Busby *et al.*, 1996) and in an updated status review (NMFS, 1997), which concluded that this ESU was at a high risk of extinction.

Historically, steelhead naturally occurred south into Baja California. Titus *et al.*, (in press), as cited in the final listing determination, concluded that all steelhead populations south of Malibu Creek in Los Angeles County were extinct based on the available information. Estimates of pre-1960s abundance for several rivers in this ESU (i.e. Santa Ynez, Ventura, Santa Clara, Malibu Creek) suggest that individual steelhead populations numbered in the thousands of individuals. Published abundance estimates for the Ventura and Santa Clara Rivers, for example, ranged from 4,000-6,000 and 7,000-9,000 fish, respectively. At the time of NMFS' final listing determination, the total run size for several streams in the ESU (e.g., Santa Ynez, Ventura River, Santa Clara River, Malibu Creek) was estimated to number fewer than 200 individuals each (Titus *et al.*, in press). Recent information regarding steelhead abundance for the Santa Ynez, Ventura, and Santa Clara Rivers suggests that the abundance estimates made at the time of the final listing determination were probably high.

NMFS' primary concerns about this steelhead ESU at the time of its listing in 1997, were the widespread and dramatic declines in abundance relative to historical levels and the major reduction in the species range. Given

the extremely low abundance estimates and the associated risk associated with demographic and genetic variability in small populations, the long-term persistence of sustainability of this ESU in the future was a critical concern. In addition, NMFS was concerned that the restricted spatial distribution of the remaining populations placed the ESU as a whole at risk because of reduced opportunities for re-colonization of streams suffering local population extinctions. NMFS concluded that the principal factors responsible for the decline of steelhead populations within this ESU were water diversions and extraction, habitat blockages and degradation, agricultural activities, and urbanization. Little new information regarding the abundance of steelhead in this ESU has been collected since NMFS' final listing determination in 1997, with the exception of limited data collected as a result of monitoring efforts in the Santa Ynez and Santa Clara Rivers. These data are not comprehensive enough to estimate population sizes, but they do indicate that these steelhead populations continue to be very small.

As discussed earlier in this document, NMFS has concluded that the San Mateo Creek steelhead population should be considered part of the Southern California ESU based on the available information. Based on the information compiled by DFG, the steelhead population found in San Mateo Creek during 1999 appears to be very small and was likely produced by a limited number of adults that strayed into the watershed and spawned in 1997. Given the small number of steelhead found in San Mateo Creek, the apparent extirpation of steelhead from virtually all other streams between Malibu Creek and San Mateo Creek with the exception of Topanga Creek, and the extremely low abundance estimates for all other populations within the ESU, NMFS concludes that the proposed redefined Southern California steelhead ESU continues to be at a high risk of extinction.

#### **Summary of Factors Affecting the Species**

Section 4(a)(1) of the ESA and NMFS' implementing regulations (50 CFR part 424) set forth procedures for listing species. The Secretary of Commerce (Secretary) must determine, through the regulatory process, if a species is endangered or threatened based upon any one or a combination of the following factors: (1) The present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial,

recreational, scientific, or education purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; or (5) other natural or human-made factors affecting its continued existence.

In conjunction with its proposed listing determination for west coast steelhead ESUs in 1996, NMFS prepared a report summarizing the factors leading to the decline of west coast steelhead, including the Southern California steelhead ESU. This report was entitled: "Factors for Decline: A supplement to the notice of determination for west coast steelhead" (NMFS, 1996). This report concluded that all of the factors identified in section 4(a)(1) of the ESA have played a role in the decline of west coast steelhead ESUs. The report specifically identified destruction and modification of habitat, overutilization for recreational purposes, and natural and human-made factors as being the primary causes for the decline of steelhead on the west coast.

NMFS (1996) identified several specific factors that contributed to the decline of steelhead populations in the ESU as it was defined in the proposed and final listing determinations, including: habitat blockages, water diversion and extraction, urbanization, agriculture, and recreational harvest. McEwan and Jackson, 1996; and Titus *et al.* (in press) also cited extensive loss of habitat due to water development, impassible dams, and dewatering of portions of rivers as the principal reasons for the decline of steelhead in this ESU. Habitat problems resulting from water development include inadequate flows, flow fluctuations, blockages (partial and full), and entrainment (McEwan and Jackson, 1996). These factors for decline are discussed in more detail in NMFS (1996), McEwan and Jackson (1996), and in NMFS' 1997 final listing determination (62 FR 43937). Although NMFS has been working to address impacts to the Southern California steelhead ESU through sections 7 and 10 of the ESA since it was listed in 1997, these same factors continue to adversely affect the small steelhead populations which persist in the watersheds ranging from the Santa Maria River southward to Malibu Creek. Because NMFS has concluded that the Southern California steelhead ESU range should be extended to San Mateo Creek, the following discussion focuses only on those factors affecting steelhead within the geographic range extending from Malibu Creek southward to San Mateo Creek (inclusive).

### 1. *The Present or Threatened Destruction, Modification, or Curtailment of Steelhead Habitat or Range*

With the exception of the recent steelhead observations in San Mateo Creek and Topanga Creek, steelhead populations south of Malibu Creek are thought to be extirpated due to habitat destruction or blockages associated with urbanization and flood control (Titus *et al.*, in press), although extensive monitoring has not been conducted to assess their presence. For example, steelhead access and use of the Los Angeles River is currently precluded by the presence of flood control structures throughout much of its lower reach such as the concrete lining of the river channel and the dam at the Sepulveda Flood Control Basin. The lower reaches of the San Gabriel River are highly urbanized with the channel modified for flood control, and the river is impounded further upstream. The Santa Ana River is similarly modified for flood control and flows largely consist of effluent from water treatment plants except in the rainy season. Because of these limited flows and restricted releases from Prado Dam, fish habitat is limited in the lower Santa Ana River. San Juan Creek, a much smaller stream in southern Orange County, is also channelized for flood control in its lower reach (approximately 2-3 miles (3.2-4.8 km)) and other potential barriers to upstream movement also exist.

San Mateo Creek was once an important production area for steelhead in San Diego County (Nehlsen *et al.*, 1991; DFG, 2000). As summarized in Titus *et al.*, (in press), steelhead appear to have been most abundant in the San Mateo Creek watershed prior to 1950. After 1950, there are many fewer observations of steelhead and none after the early 1980s until juveniles were found there in 1999. For example, Woelfel (1991) found no juvenile steelhead or rainbow trout in San Mateo Creek during surveys in 1987-88. Similarly, Lang *et al.*, (1998) failed to observe or capture any steelhead during surveys in 1995, 1996, and 1997. The steelhead population in San Mateo Creek was probably reduced by natural episodes of sediment input from within the watershed. However, increased groundwater extraction in the lower creek area since the mid-1940s is also thought to be responsible, both directly and indirectly, for the inability of steelhead to use the system as they historically did (DFG, 2000; Titus *et al.*, in press; Lang *et al.*, 1998). Riparian vegetation has been lost, stream channel width has increased, and surficial flow

has been reduced or eliminated during most of the year. Accordingly, the migration corridor for immigrating adult and emigrating juvenile steelhead has become very unreliable. Human-caused fires farther upstream have also resulted in large sediment input that has filled pools and contributed sediment to the lagoon at the river mouth, both of which are important rearing habitat for juvenile steelhead. Despite less than optimal conditions in the lower river which are not always conducive to adult or juvenile passage, Lang *et al.*, (1998) and DFG (2000) have identified upstream spawning and rearing habitat which can be used by steelhead when sufficient flows allow adult passage.

### 2. *Overutilization for Commercial, Recreational, Scientific, or Education Purposes*

NMFS' review of factors affecting west coast steelhead concluded that harvest was a factor contributing to the decline of the Southern California steelhead ESU (NMFS, 1996). According to McEwan and Jackson (1996), steelhead in most streams in Santa Barbara, Ventura, and Los Angeles Counties were until the early 1990s subject to the most liberal angling regulations anywhere in the State of California. Most streams in southern California were regulated by the general regulations of the Southern Sport Fishing District (which includes Santa Barbara, Ventura, Los Angeles, Orange, and San Diego counties) which allowed fishing year-round with a five-fish daily bag limit. The only streams with special protective regulations were the Ventura River and Malibu Creek.

Because steelhead populations in southern California had declined to such critically low population levels by the early 1990s, the California Fish and Game Commission adopted more restrictive angling regulations for some streams (Santa Ynez River, Ventura River, Santa Clara River, and Gaviota Creek) in 1994. These more stringent regulations included: (1) a reduction in the fishing season from year round to the Saturday before Memorial Day through December 31; (2) a zero bag limit; and (3) a requirement that anglers use artificial lures with barbless hooks. In 1996, these same regulations were adopted by the Commission for the anadromous reaches of all coastal streams in southern California. Within the coastal area extending south of Malibu Creek to San Mateo Creek, these same regulations are now in effect for the following streams: Topanga Creek, San Juan Creek, and San Mateo Creek. Given the extremely low numbers of juvenile steelhead that were found in

San Mateo Creek, and the possible sporadic occurrence of small numbers of steelhead in other streams (e.g., Topanga Creek), recreational angling may continue to be a risk to steelhead in at least some portions of the redefined Southern California steelhead ESU.

### 3. Disease or Predation

Introductions of non-native species and habitat modifications have resulted in increased predator populations in numerous west coast river systems, thereby increasing the level of predation experienced by steelhead and other salmonids (NMFS, 1996). Exotic fish species that are potential predators of steelhead are known to occur in San Mateo Creek and other watersheds (San Onofre Creek, Santa Margarita River) on Camp Pendleton (Lang *et al.*, 1998). According to Lang *et al.*, (1998) brown bullhead dominated the fish assemblage in San Mateo Creek, with both adults and juveniles observed in perennial pools. Other species observed in the San Mateo Creek watershed included, mosquito fish, adult and juvenile green sunfish, bluegill and largemouth bass. One Channel catfish, which is a known predator of steelhead, was found dead in the upper San Mateo Creek in a portion of the Cleveland National Forest (Lang *et al.*, 1998). Brown trout have been stocked in San Mateo Creek (last time in the mid 1980s), but they were not observed during the most recent surveys (Lang *et al.*, 1998).

Mosquito fish were introduced for mosquito abatement and are found in most Camp Pendleton waters. This species has taken over the niche of the native three-spined stickleback which is often an important prey item for salmonids; thus it could possibly serve as a prey item for steelhead in San Mateo Creek. Green sunfish dominated the San Mateo Creek lagoon in the late 1980s and early 1990's according to Swift (1994) and were the only fish found in perennial pools in the upper watershed and Devil Canyon in the late 1980's, suggesting that they may have displaced residual steelhead during the drought period (Woelfel, 1991). In other California streams (i.e., Malibu Creek and Carmel River) green sunfish were found to prey on juvenile trout (Swift, 1975; Greenwood, 1988; cited in Woelfel, 1991), and in San Clemente Reservoir on the Carmel River, green sunfish outcompeted trout for benthic food (Greenwood, 1988).

The control of exotic fish species in the San Mateo Creek watershed, both on Camp Pendleton and in Cleveland National Forest, is considered critical to restoring steelhead to that watershed (DFG, 2000; Lang *et al.*, 1998). Lang *et*

*al.*, (1998) recommend implementation of measures to contain exotic fish species in small lakes and ponds where recreational fishing occurs, in conjunction with efforts to control in-river propagation of exotics using Rotenone, electro-shocking, seining, or other means in perennial pools during summer low flows.

### 4. Inadequacy of Existing Regulatory Mechanisms

Virtually all of the San Mateo Creek watershed is located on Federal land managed by the Cleveland National Forest or the Camp Pendleton Marine Corps Base. San Mateo Creek originates in the Cleveland National Forest and flows in a southwesterly direction through Camp Pendleton to the Pacific Ocean just south of San Clemente, California. Within the San Mateo Creek watershed, the majority of spawning and rearing habitat is upstream from Camp Pendleton within the Cleveland National Forest. That portion of San Mateo Creek on Camp Pendleton is primarily migratory habitat for steelhead.

That portion of the San Mateo Creek watershed that is located on Cleveland National Forest land has not been greatly altered by human activity over the past 50 years (Woelfel, 1991). Forest lands in the watershed have remained natural and undeveloped over this period although there are a few private property in-holdings which have had limited development. Woelfel (1991) reviewed water use on these private in-holdings and concluded that stream flows in the watershed were not significantly altered. According to Woelfel (1991), one of the main activities of the Cleveland National Forest has been the protection of vegetation and water resources in its various watersheds through the prevention of forest fires. In part, this effort was intended to protect and manage forest vegetation so that water resources were retained and water quality remained high. In the San Mateo Creek watershed this effort was not especially successful because of the rugged and isolated conditions.

The lower portion of San Mateo Creek watershed which flows through Camp Pendleton has been impacted by base activities (Woelfel, 1991). Groundwater extraction to support base military training operations and on-base agriculture has led to stream channel dewatering or reduced channel flows, loss of riparian vegetation, and increased erosion. Military training operations, including accidental fires caused by live ammunition use, have likely contributed to erosion problems

in the watershed. The cumulative effect of groundwater extraction, reduction or loss of riparian vegetation, stream channel morphology changes, and accelerated erosion is that steelhead migration opportunities are impacted. Based on the available information, it is unlikely that existing land and water management programs on Camp Pendleton provide sufficient protection for steelhead or its habitat in the San Mateo Creek watershed.

### 5. Other Natural or Human-Made Factors Affecting Continued Existence of Steelhead

Natural climatic conditions have exacerbated the problems associated with degraded and altered riverine and estuarine habitats. Persistent drought conditions have reduced already limited spawning, rearing and migration habitat. Climatic conditions appear to have resulted in decreased ocean productivity which, during more productive periods, may help offset degraded freshwater habitat conditions (NMFS, 1996).

### Efforts Being Made to Protect Southern California Steelhead ESU

Section 4(b)(1)(A) of the ESA requires the Secretary of Commerce to make listing determinations solely on the basis of the best scientific and commercial data available after conducting a review of the status of the species, including factors affecting the species, and after taking into account efforts being made to protect the species. Therefore, in making its listing determinations, NMFS first assesses the status of the species and identifies factors that have led to the decline of the species. NMFS then assesses conservation measures to determine if they ameliorate risks to the species.

As part of its west coast steelhead status review, NMFS reviewed an array of protective efforts for west coast steelhead and other salmonids, including the Southern California steelhead ESU, ranging in scope from regional strategies to local watershed initiatives. NMFS has summarized some of the major efforts in a document entitled "Steelhead Conservation Efforts: A Supplement to the Notice of Determination for West Coast Steelhead under the Endangered Species Act" (NMFS, 1996c).

In the coastal area extending from Malibu Creek southward to San Mateo Creek, no steelhead-specific conservation efforts are currently in place, although there have been recent assessments of habitat distribution and restoration potential in the Camp Pendleton area (Lang *et al.*, 1998; and

DFG, 2000). Recently, however, the California voters passed a State-wide proposition which provides \$800,000 for the restoration of San Mateo Creek and San Onofre Creek, both of which are located on Camp Pendleton, to support native fish species including the unarmored three-spined stickleback, arroyo chub, and steelhead. This restoration program is expected to focus on addressing control of exotic plants, control of exotic fish species which compete with and/or prey upon steelhead and other native species, restoration of streambed pools, channels and stream banks, and the reintroduction of native plants and possibly native fish species. A wide range of agencies and private organizations, including the Cleveland National Forest, Camp Pendleton Marine Corps Base, FWS, DFG, Trout Unlimited, San Diego Trout, and the Coastal Conservancy, are expected to participate in development of this program. NMFS strongly encourages this effort and intends to participate in its development and implementation.

In addition to this State funding directed at San Mateo Creek restoration, the U.S. Congress appropriated \$9.0 million in Fiscal Year 2000 for Pacific Coastal Salmon Recovery in California. A Memorandum of Understanding has been signed between NMFS and the State of California that will govern the expenditure of these funds, some of which may be directed at habitat restoration and other related issues within the range of the Southern California steelhead ESU.

### Proposed Determination

Section 3 of the ESA defines the term "endangered species" as "any species which is in danger of extinction throughout all or a significant portion of its range." The term "threatened species" is defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." In its previous status reviews for west coast salmon and steelhead, NMFS has identified a number of factors that should be considered in evaluating the level of risk faced by an ESU, including: (1) absolute numbers of fish and their spatial and temporal distribution; (2) current abundance in relation to historical abundance and current carrying capacity of the habitat; (3) trends in abundance; (4) natural and human-influenced factors that cause variability in survival and abundance; (5) possible threats to genetic integrity (e.g., from strays or outplants from hatchery programs); and (6) recent

events (e.g., a drought or changes in harvest management) that have predictable short-term consequences for abundance of the ESU. Section 4(b)(1) of the ESA requires that the listing determination be based solely on the best scientific and commercial data available, after conducting a review of the status of the species and after taking into account those efforts, if any, being made to protect such species.

As a result of its 1996 coast-wide status review of steelhead, NMFS concluded that the Southern California steelhead ESU constituted a "species" under the ESA (NMFS, 1996). Based on the information available at that time, NMFS concluded that the current range of this ESU extended from the Santa Maria River (inclusive) to, and including, Malibu Creek (61 FR 41541; 62 FR 43937). The recent information compiled by DFG (DFG, 2000) indicates that adult steelhead, which were most likely strays from elsewhere in the Southern California steelhead ESU, successfully spawned in San Mateo Creek during 1997 and subsequently reared through at least 1998 and 1999. In addition, steelhead have recently been observed in Topanga Creek which is located just a few miles south of Malibu Creek. Based on a consideration of this new information, including the existence of documented spawning and rearing habitat in the San Mateo Creek watershed (Lang *et al.*, 1998; DFG, 2000), NMFS now proposes to redefine the Southern California steelhead ESU to include any populations of steelhead (or their progeny) that occur in watersheds southward of Malibu Creek to, and including, San Mateo Creek.

Based on the best scientific information available in 1996, NMFS concluded that the Southern California steelhead ESU, as it was defined at that time (i.e., Santa Maria River to and including Malibu Creek), was in danger of extinction (NMFS, 1996; 61 FR 41541). This conclusion was based on the fact that steelhead had already been extirpated from much of its historic range in southern California, the extremely low abundance of extant steelhead populations, and the continued threats to the species from widespread habitat degradation and loss, water diversions and extraction, and other factors. As discussed previously in this document, there is no new information indicating that steelhead populations occurring in watersheds ranging from the Santa Maria River to Malibu Creek have increased in abundance since NMFS' final listing determination in 1997. In addition, steelhead are almost completely extirpated from coastal

watersheds south of Malibu Creek, with the exception of their recent observations in San Mateo Creek and Topanga Creek, and occur in only very low abundance in those streams. Based on a consideration of this new information regarding steelhead presence south of Malibu Creek, NMFS concludes that the redefined Southern California steelhead ESU continues to be at a high risk of extinction.

Based on a review of the currently available information regarding the status of steelhead populations in the proposed redefined Southern California steelhead ESU (Santa Maria River to and including San Mateo Creek), as well as a consideration of the various factors affecting this steelhead ESU, NMFS proposes that the redefined ESU continues to warrant listing as an endangered species under the ESA. Only anadromous life forms (i.e., steelhead and their progeny) of *O. mykiss* within the range of this proposed redefined ESU will be part of the listed population.

As discussed previously in this document, the currently available information indicates that steelhead or their progeny have only been found in two watersheds, Topanga Creek and San Mateo Creek, located south of Malibu Creek. Based on the currently available information, NMFS believes that steelhead have been extirpated from virtually all other streams and rivers between Malibu Creek and San Mateo Creek, including the Los Angeles River, San Gabriel River, Santa Ana River, and San Juan Creek, because viable habitat is extremely limited or no longer exists. For these reasons, NMFS does not expect that steelhead will occur in these watersheds in the future absent major restoration efforts. Nevertheless, if steelhead or their progeny are found to occur in any stream or river between Malibu Creek and San Mateo Creek, NMFS will consider those fish to be part of the listed ESU, and, therefore, protected under the ESA. Because steelhead in this ESU may potentially stray to streams south of San Mateo Creek, NMFS will also consider steelhead or their progeny that occur south of San Mateo Creek to be part of the listed ESU unless there is evidence to indicate they are resident forms or derived from hatchery rainbow trout populations. NMFS will inform the public of the presence of southern California steelhead south of the proposed redefined ESU's range via a **Federal Register** document.

### Prohibitions and Protective Measures

Section 9 of the ESA prohibits certain activities that directly or indirectly

affect endangered species. These prohibitions apply to all individuals, organizations, and agencies subject to U.S. jurisdiction. Section 9 prohibitions apply automatically to endangered species such as the redefined Southern California steelhead ESU.

Sections 7(a)(2) and 7(a)(4) of the ESA require Federal agencies to consult with NMFS to ensure that activities they authorize, fund, or conduct are not likely to jeopardize the continued existence of a listed species or a species proposed for listing, or adversely modify critical habitat or proposed critical habitat. Federal agencies and actions that may be affected by the revision of the Southern California steelhead ESU and its critical habitat designation are the U.S. Forest Service (USFS) and their management and regulatory activities in Cleveland National Forest, the U.S. Marine Corps and its operation and management of Camp Pendleton Marine Corps Base, and the Corps of Engineers (COE) and its issuance of permits under the Clean Water Act.

Sections 10(a)(1)(A) and 10(a)(1)(B) of the ESA provide NMFS with authority to grant exceptions to the ESA's "take" prohibitions. Section 10(a)(1)(A) scientific research and enhancement permits may be issued to entities (Federal and non-Federal) for scientific purposes or to enhance the propagation or survival of a listed species. NMFS has issued section 10(a)(1)(A) research/enhancement permits for listed salmonids, including steelhead in the Southern California ESU, to conduct activities such as trapping and tagging and other research and monitoring activities.

Section 10(a)(1)(B) incidental take permits may be issued to non-Federal entities conducting activities which may incidentally take listed species so long as the taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. The types of activities potentially requiring a section 10(a)(1)(B) incidental take permit include the operation and release of artificially propagated fish by state or privately operated and funded hatcheries, state regulated angling, academic research not receiving Federal authorization or funding, road building, grazing, and diverting water onto private lands.

#### **NMFS Policies on Endangered and Threatened Fish and Wildlife**

On July 1, 1994, NMFS and FWS published a policy in the **Federal Register** (59 FR 34272) indicating that the agencies would, to the maximum extent practicable at the time a species

is listed, identify those activities that will not be considered likely to result in violations of section 9, as well as activities that will be considered likely to result in violations. NMFS believes that, based on the best available information, the following actions will not result in a violation of section 9 with regard to steelhead in the redefined Southern California ESU:

1. Possession of steelhead which are acquired lawfully by permit issued by NMFS pursuant to section 10 of the ESA, or by the terms of an incidental take statement pursuant to section 7 of the ESA.

2. Federally funded or approved projects that involve activities such as military operations, agriculture, grazing, mining, road construction, discharge of fill material, stream channelization or diversion for which section 7 consultation has been completed, and when activities are conducted in accordance with any terms and conditions provided by NMFS in an incidental take statement accompanying a biological opinion.

Activities that NMFS believes could potentially harm steelhead in the redefined Southern California steelhead ESU, and, therefore, may violate the section 9 take prohibitions of the ESA include, but are not limited to:

1. Land-use activities that adversely affect steelhead habitat (e.g., agriculture, water extraction, recreational activities, road construction in riparian areas and areas susceptible to mass wasting and surface erosion).

2. Destruction/alteration of steelhead habitat, such as removal of woody debris or riparian shade canopy, dredging, discharge of fill material, draining, ditching, diverting, blocking, or altering stream channels or surface or ground water flow.

3. Discharges or dumping of toxic chemicals or other pollutants (e.g., sewage, oil, gasoline) into waters or riparian areas supporting steelhead.

4. Violation of discharge permits.

5. Pesticide applications.

6. Collecting or handling of steelhead. Permits to conduct these activities are available for purposes of scientific research or to enhance the propagation or survival of the species.

7. Introduction of non-native species likely to prey on steelhead or displace them from their habitat.

These lists are not exhaustive. They are intended to provide some examples of the types of activities that might or might not be considered by NMFS as constituting a prohibited take of steelhead in the Southern California steelhead ESU. Questions regarding whether specific activities may

constitute a violation of the section 9 take prohibitions, and general inquiries regarding prohibitions and permits, should be directed to NMFS (see **ADDRESSES**).

#### **Critical Habitat**

Section 4(a)(3)(A) of the ESA requires that, to the maximum extent prudent and determinable, NMFS designate critical habitat concurrently with a determination that a species is endangered or threatened. While NMFS has completed its initial analysis and proposes that the San Mateo Creek population of steelhead be part of the Southern California steelhead ESU, and that the range of the ESU should, therefore, be extended from Malibu Creek to San Mateo Creek, the agency has not performed the full analysis necessary for determining whether the existing critical habitat designation for this ESU should be modified to include areas south of Malibu Creek. Prior to making any determination regarding the modification of the existing critical habitat designation, NMFS intends to complete an analysis of the additional habitat, if any, which is necessary for the conservation and recovery of this ESU. NMFS expects that a recovery team will be established in the near future to develop recovery goals for this ESU, and intends to rely on the team's analysis and recommendations in making any determination to modify the existing critical habitat. In conjunction with these efforts, NMFS also intends to work with Federal land managers (Camp Pendleton Marine Corps Base and Cleveland National Forest) to review and evaluate their existing land management and habitat protection programs to determine the extent to which they protect steelhead and its habitat in the San Mateo Creek watershed. It is NMFS intent to complete its analysis and make a determination about whether or not any habitat south of Malibu Creek should be incorporated into the existing critical habitat designation within the next year.

#### **Public Comments Solicited**

NMFS has exercised its best professional judgement in developing this proposal to redefine the Southern California steelhead ESU. To ensure that the final action resulting from this proposal will be as accurate and effective as possible, NMFS is soliciting comments and suggestions from the public, other governmental agencies, the scientific community, industry, and any other interested parties regarding the proposal. NMFS is interested in any relevant information concerning: (1) biological or other relevant data



concerning any threats to steelhead or its habitat in this redefined ESU; (2) the range, distribution, and population size of steelhead in this redefined ESU or in areas outside its southern boundary, including habitat utilization; (3) current or planned activities in the redefined ESU and their possible impact on steelhead or its habitat; and (4) efforts being made to protect steelhead or its habitat in this redefined ESU. Written comments on the proposal should be sent to NMFS (see **ADDRESSES** and **DATES**).

**Public Hearings**

NMFS has not scheduled any public hearings on this proposal. However, Joint Commerce-Interior ESA implementing regulations state that the Secretary "shall promptly hold at least one public hearing if any person so requests within 45 days of publication of a proposed regulation to list ... or to designate or revise critical habitat." (see 50 CFR 424.16(c)(3)). Requests for public hearings must be received by February 2, 2001.

**References**

A complete list of all cited references is available upon request (see **ADDRESSES**).

**Classification**

*National Environmental Policy Act*

The 1982 amendments to the ESA, in section 4(b)(1)(A), restrict the information that may be considered when assessing species for listing. Based on this limitation of criteria for a listing decision and the opinion in *Pacific Legal Foundation v. Andrus*, 675 F. 2d 825 (6th Cir. 1981), NMFS has

concluded that ESA listing actions are not subject to the environmental assessment requirements of the National Environmental Policy Act (NEPA). See NOAA Administrative Order 216-6.

**Executive Order 12866 and Regulatory Flexibility Act**

As noted in the Conference Report on the 1982 amendments to the ESA, economic impacts cannot be considered when assessing the status of species. Therefore, the economic analysis requirements of the Regulatory Flexibility Act are not applicable to the listing process. In addition this proposed rule is exempt from review under Executive Order 12866.

**Paperwork Reduction Act**

This rule does not contain a collection-of-information requirement for purposes of the Paperwork Reduction Act.

**Executive Order 13132 - Federalism**

In keeping with the intent of the Administration and Congress to provide continuing and meaningful dialogue on issues of mutual State and Federal interest, NMFS has conferred with state and local government agencies in the course of assessing the status of this ESU, and considered, among other things, state and local conservation measures. State and local governments have expressed support for both the conservation of this ESU and for those activities which affect it. NMFS staff have had discussions with various government agency representatives regarding the status of this ESU and have sought working relationships with them in order to promote restoration and conservation of this and other

ESUs. As the process continues, NMFS intends to continue engaging in informal and formal contacts with affected State, regional, or local entities, giving careful consideration to all written and oral comments received on the proposed action. NMFS intends to consult, as needed, with appropriate elected officials in the promulgation of a final rule.

**List of Subjects in 50 CFR Part 224**

Administrative practices, and procedure, Endangered and threatened species, Exports, Imports, Reporting and record keeping requirements, Transportation.

Dated: 11, 2000.

**William T. Hogarth,**

*Deputy Assistant Administrator, National Marine Fisheries Service.*

For the reasons set forth in the preamble, 50 CFR part 224 is proposed to be amended as follows:

**PART 224 -- ENDANGERED MARINE AND ANADROMOUS SPECIES**

1. The authority citation for part 224 continues to read as follows:

**Authority:** 16 U.S.C. 1531-1543; and 16 U.S.C. 1361 *et seq.*

2. In § 224.101, paragraph (a) is revised to read as follows:

**§ 224.101 Enumeration of endangered marine and anadromous species.**

(a) *Marine and anadromous fish.* The following table lists the common and scientific names of endangered species, the locations where they are listed, and the citations for the listings and critical habitat designations.

**COMMON AND SCIENTIFIC NAMES**

Species <sup>1</sup>		Where listed	When listed	Critical habitat
Common name	Scientific name			
Shortnose sturgeon	<i>Acipenser brevirostrum</i>	U.S.A., northwestern Atlantic, in river systems from the Saint John River in New Brunswick, Canada, to the St. Johns River, Florida.	32 FR 4001, Mar. 11, 1967.	NA
Southern California steelhead	<i>Oncorhynchus mykiss</i>	U.S.A., CA, including all naturally spawned populations of steelhead (and their progeny) in streams from the Santa Maria River, San Luis Obispo County, California (inclusive) to San Mateo Creek, San Diego County, California (inclusive).	62 FR 43937, Aug. 18, 1997.	64 FR 5740, Feb. 5, 1999
Upper Columbia River steelhead	<i>Oncorhynchus mykiss</i>	U.S.A., WA, including the Wells Hatchery stock and all naturally spawned populations of steelhead (and their progeny) in streams in the Columbia River Basin upstream from the Yakima River, Washington, to the U.S.-Canada Border.	62 FR 43937, Aug. 18, 1997.	64 FR 5740, Feb. 5, 1999
Snake River sockeye salmon	<i>Oncorhynchus nerka</i>	U.S.A., ID, Snake River .....	56 FR 58619, Nov. 20, 1991.	58 FR 68543, Dec. 28, 1993



COMMON AND SCIENTIFIC NAMES—Continued

Species <sup>1</sup>		Where listed	When listed	Critical habitat
Common name	Scientific name			
Upper Columbia River spring-run chinook salmon	<i>Oncorhynchus tshawytscha</i>	U.S.A., WA, including all naturally spawned populations of chinook salmon in Columbia River tributaries upstream of the Rock Island Dam and downstream of Chief Joseph Dam in Washington (excluding the Okanogan River), the Columbia River from a straight line connecting the west end of the Clatsop jetty (south jetty, Oregon side) and the west end of the Peacock jetty (north jetty, Washington side) upstream to Chief Joseph Dam in Washington, and the Chiwawa River (spring run), Methow River (spring run), Twisp River (spring run), Chewuch River (spring run), White River (spring run), and Nason Creek (spring run) hatchery stocks (and their progeny).	64 FR 14308, Mar. 24, 1999.	65 FR 7764, Feb. 16, 2000
Sacramento River winter-run chinook salmon	<i>Oncorhynchus tshawytscha</i>	U.S.A., CA, Sacramento River .....	59 FR 13836, Mar. 23, 1994.	58 FR 33212, Jun. 16, 1993
Salmon, Atlantic	<i>Salmo Salar</i>	U.S.A., ME Gulf of Maine Atlantic Salmon Distinct Population Segment, which includes all naturally reproducing wild populations and those river-specific hatchery populations of Atlantic salmon having historical, river-specific characteristics found north of and including tributaries of the lower Kennebec River to, but not including, the mouth of the St. Croix River at the U.S.-Canada border. To date, the Services have determined that these populations are found in the Dennys, East Machias, Machias, Pleasant, Narraguagus, Sheepscot, and Ducktrap Rivers and in Cove Brook, Maine..	.....	NA
Totoaba	<i>Cynoscion macdonaldi</i>	Mexico, Gulf of CA .....	44 FR 29480, May 21, 1979.	NA

<sup>1</sup>Species includes taxonomic species, subspecies, distinct population segments (or DPSs, as defined in 61 FR 4722, February 7, 1996), and evolutionarily significant units (or ESUs, as defined in 56 FR 58612, November 20, 1991)

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