Dated: March 26, 2012.

David L. Miller,

Associate Administrator, Federal Insurance and Mitigation Administration, Department of Homeland Security, Federal Emergency Management Agency.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 224

[Docket No. 100323162–2182–03]

RIN 0648–XV30

Endangered and Threatened Species; Range Extension for Endangered Central California Coast Coho Salmon

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

ACTION: Final rule.

SUMMARY: We, the National Marine Fisheries Service (NMFS), are issuing a final rule under the Endangered Species Act (ESA) of 1973, as amended, that redefines the geographic range of the endangered Central California Coast (CCC) coho salmon (*Oncorhynchus kisutch*) Evolutionarily Significant Unit (ESU) to include all naturally spawned populations of coho salmon that occur in Soquel and Aptos creeks. Information supporting this boundary change includes recent observations of coho salmon in Soquel Creek, genetic analysis of these fish indicating they are derived from other nearby populations in the ESU, and the presence of freshwater habitat conditions and watershed processes in Soquel and Aptos Creeks that are similar to those found in closely adjacent watersheds that support coho salmon populations that are part of the ESU. We have also reassessed the status of this ESU throughout its redefined range and conclude that it continues to be endangered.

DATES: Effective June 1, 2012.

ADDRESSES: Assistant Regional Administrator, Protected Resources Division, Attn: Craig Wingert, Southwest Region, National Marine Fisheries Service, 501 W. Ocean Blvd., Suite 5200, Long Beach, CA, 90802–4213.

FOR FURTHER INFORMATION CONTACT: Craig Wingert, NMFS, Southwest Region, (562) 980–4021; or Dwayne Meadows, NMFS, Office of Protected Resources, (301) 427–8403.

SUPPLEMENTARY INFORMATION:

Background

The Central California Coast (CCC) coho salmon Evolutionarily Significant Unit (ESU) was listed as a threatened species on October 31, 1996 (61 FR 56138) and subsequently reclassified as an endangered species on June 28, 2005 (70 FR 37160). At the time it was reclassified as endangered in 2005, the ESU was defined to include all naturally spawning populations of coho salmon found in coastal watersheds from Punta Gorda in northern California southward to and including the San Lorenzo River in central California, as well as four artificially propagated stocks of coho salmon. For more information on the status, biology, and habitat of this coho salmon ESU, see ''Endangered and Threatened Species: Final Listing Determinations for 16 ESUs of West Coast Salmonids and Final 4(d) Protective Regulations for Threatened Salmonid ESUs; Final Rule'' (70 FR 37160; June 28, 2005) and ''Final Rule Endangered and Threatened Species; Threatened Status for Central California Coast Coho Salmon Evolutionarily Significant Unit (ESU)'' (61 FR 56138; October 31, 1996).

The geographic boundaries of west coast coho salmon ESUs ranging from British Columbia to central California were originally delineated as part of a west coast status review for the species (Weitkamp *et al.,* 1995). In defining ESU boundaries for west coast coho salmon, NMFS considered a wide range of information including genetic and life history information for natural and hatchery populations, and environmental and habitat information for those watersheds that supported coho salmon either historically or at the time of the review. Based on a consideration of the best available information at that time, Weitkamp *et al.* (1995) concluded that the southern boundary of the CCC coho salmon ESU was the San Lorenzo River in Santa Cruz County, California. Weitkamp *et al.* (1995) also recognized that coho salmon could also occur in watersheds south of the San Lorenzo River and, therefore, concluded that any fish found spawning south of the San Lorenzo River that were not the result of non-native stock transfers from outside the ESU should be considered part of the ESU.

In 2003, NMFS received a petition to delist those populations of the CCC coho salmon ESU that spawn in coastal streams south of the entrance to San Francisco Bay. The petition was eventually accepted by NMFS (75 FR 16745; April 2, 2010), which triggered a formal status review focused on determining whether the populations south of the entrance to San Francisco Bay were part of the ESU, what the appropriate southern boundary of the ESU should be, and the biological status of any revised ESU. In conducting this status review, new information became available indicating that the range of the ESU should be extended southward (Spence *et al.,* 2011). This information included observations of coho salmon in Soquel Creek in 2008, genetic analysis of tissue samples indicating that the fish from Soquel Creek were closely related to nearby coho salmon populations in the ESU, and the ecological similarity of Soquel and Aptos creeks with other nearby creeks that support coho salmon. Based on this information, a review of the biological status of coho salmon populations within this ESU (Spence and Williams, 2011), and a consideration of the five factors listed under Section 4(a)(1) of the ESA, we proposed moving the southern boundary of the ESU south from the San Lorenzo River to include any coho salmon found in Soquel and Aptos creeks (76 FR 6383; February 4, 2011).

Summary of Peer Review and Public Comments on Proposed CCC Coho Salmon ESU Range Extension

Peer Review Comments

In December 2004, the Office of Management (OMB) issued a Final Information Quality Bulletin for Peer Review establishing minimum standards for peer review. Similarly, a joint NMFS/U.S. Fish and Wildlife Service (FWS) Policy for Peer Review in Endangered Species Act Activities (59 FR 34270; July 1, 1994) requires us to solicit independent expert review from at least three qualified specialists on proposed listing determinations. Accordingly, we solicited reviews from three scientific peer reviewers having expertise with coho salmon in California and received comments from all three reviewers. We carefully reviewed the peer review comments and have addressed them as appropriate in this final rule. A summary of the peer review comments and our responses follow below.

Issue: Proposed ESU Range Extension

Comment 1: Two of the peer reviewers fully supported our proposal to extend the southern boundary of the CCC coho salmon ESU to include coho salmon populations in Soquel and Aptos creeks. The reviewers cited information referenced in the proposed

rule and its supporting reports (Spence *et al.,* 2011; Spence and Williams, 2011) as supporting the range extension, including: (1) The historic and recent occurrence of coho salmon in Soquel Creek, (2) the likely presence of coho salmon in Aptos Creek historically, (3) the similarity of freshwater habitat in Soquel and Aptos creeks to that found in the San Lorenzo River and other nearby streams that also support coho salmon or did in the past, and (4) the proximity of Soquel and Aptos creeks to nearby streams that support coho salmon.

Response: We agree with the reviewers that the available evidence presented in the proposed rule and the supporting technical reports support our proposal to extend the ESU's range to include coho salmon populations in Soquel and Aptos creeks.

Comment 2: One peer reviewer indicated that the streams immediately south of Aptos Creek, including the Pajaro, Salinas and Carmel rivers, are not likely to have historically supported sustainable coho salmon populations because: (1) Their spawning and rearing habitat is located much farther inland compared with Aptos and Soquel creeks (and other streams farther northward) making adult and juvenile migration difficult, (2) these habitats are likely to lose their connectivity to the ocean during periods of prolonged drought, and (3) coho salmon would therefore be unlikely to persist given their rigid 3-year life cycle.

Response: We agree with the reviewer's comments and believe they support our decision not to include the Pajaro River in the proposed range extension. The reviewer's comments are also consistent with the rationale that led Spence *et al.* (2011) to conclude that the Pajaro River should not be included in any proposed range extension.

Comment 3: One reviewer agreed that the available evidence supports extending the range of the ESU southward to include Soquel Creek, but contended that Aptos Creek should not be included in the proposed range extension because there is no evidence of recent or historic presence of coho salmon spawning in that watershed.

Response: We disagree with the peer reviewer on this issue. Spence *et al.* (2011) explained at length why they concluded that both Soquel and Aptos creeks should be included in any range extension for this ESU, and their rationale was the basis for our proposal. First, they found there was no strong ecological reason that the distribution of coho salmon would have historically stopped at the San Lorenzo River (the current southern boundary of the ESU) because there is no significant ecological break along the coast before the southern edge of the Santa Cruz Mountains which marks the southern boundary of the Coast Range Ecoregion. Second, they indicated that Soquel and Aptos creeks are in the Coast Range Ecoregion, both are in very close proximity to the San Lorenzo River (approximately 7 and 10 km south, respectively), and both historically shared many habitat characteristics with the San Lorenzo and other similar sized coho salmon bearing streams to the north. Third, they indicated that the recent documentation of coho spawning in Soquel Creek suggests it is possible that coho salmon may also stray into Aptos Creek (as well as Soquel Creek) from populations in nearby watersheds to the north because of their close proximity.

Based on the arguments presented in Spence *et al.* (2011), our proposal to extend the southern boundary of this ESU to include both Soquel and Aptos creeks was intended to ensure that any coho salmon found in either watershed in the future would be considered part of this ESU, and therefore, subject to protection under the ESA. Absent a formal range extension that includes Aptos Creek, we believe it would be difficult to ensure that any coho salmon found in that watershed would be protected under the ESA in the future. By formally including Aptos Creek in the range extension, we have provided the public and other entities with notice (and comment opportunity) that any coho salmon found there in the future will be considered part of the ESU and subject to protection under the ESA.

Comment 4: The same peer reviewer that disagreed with our proposal to include Aptos Creek in the proposed range extension also questioned why Spence *et al.* (2011) did not recommend including the Pajaro River in the range extension since it may have also historically supported coho salmon just as was the case for Aptos Creek.

Response: In evaluating the various alternative southern watershed boundaries for this ESU (e.g., San Lorenzo River, Soquel Creek, Aptos Creek, and the Pajaro River), Spence *et al.* (2011) considered three primary factors: (1) Evidence of historical and recent occurrence of coho in each watershed, (2) the historical suitability of freshwater habitats for coho salmon in each watershed, and (3) the geographic proximity of each watershed to other known populations of coho salmon. In making their recommendation for a southern boundary extension, Spence *et al.* (2011) weighed all of the available information related to these factors and concluded that the available evidence did not support including the Pajaro River in any range extension.

Their reasons for not recommending inclusion of the Pajaro River in the range extension were: (1) The lack of recent or historical first hand accounts of coho salmon in the watershed, (2) the likelihood that environmental conditions were not favorable for coho salmon in the southern and eastern portions of the watershed because of habitat and environmental changes that occur in watersheds south of the Santa Cruz Mountains, (3) the high likelihood that any suitable habitat for coho salmon in the watershed (most likely in areas draining the Santa Cruz Mountains) would lose its connectivity to the ocean, unlike Soquel and Aptos creeks, during periods of drought, thereby precluding successful adult and juvenile migration to and from the ocean, and (4) the relatively low likelihood that coho salmon from streams to the north would stray into the watershed given its relative large distance from Aptos Creek and the San Lorenzo River (16 and 26 kilometers, respectively).

Issue: ESU Status and Characterization

Comment 5: One peer reviewer commented that the long-term trend analysis presented by Spence and Williams (2011) for the abundance of several coho salmon populations in this ESU failed to emphasize the major decline in abundance that began for most of the populations starting in 2006. The peer reviewer contended that the main factor responsible for the population declines that began in 2006 was a significant reduction in ocean productivity that began in 2005 and adversely impacted the ocean survival of coho salmon.

Response: We agree with the peer reviewer that the trend analysis presented in Spence and Williams (2011) does not reflect the significant population declines that were observed starting in 2006. Spence and Williams (2011) did note that the poor returns began in 2006, but did not attribute the declines to any particular cause. We agree with the peer reviewer that these abrupt population declines beginning in 2006 were most likely caused by poor ocean conditions that started in 2005. Other salmon and steelhead populations in California also exhibited major declines in abundance during this period that were attributed to poor ocean productivity (Lindley *et al.,* 2009), and therefore, it is reasonable to conclude that reductions in ocean productivity were the primary cause of

these coho salmon population declines as well.

Comment 6: Each of the peer reviewers agreed with Spence and Williams (2011) that the extinction risk of this ESU has increased since it was last reviewed in 2005 and that our proposal to list the ESU as endangered was warranted.

Response: We agree with the peer reviewers that extinction risk for this ESU has increased substantially since it was last reviewed in 2005 and that the ESU therefore continues to warrant listing as an endangered species under the ESA.

Comment 7: One peer reviewer felt it was inappropriate for the proposed rule to characterize the 2008 discovery of juvenile coho salmon in Soquel Creek (and the associated spawning that produced the juveniles) as a ''population'' of coho salmon because we do not know if those juveniles will produce returning adults that will successfully spawn in the future leading to a persistent population.

Response: We agree with the peer reviewer that the proposed rule should not have characterized the observation of juvenile coho salmon in 2008 as a ''coho salmon population'' since this presumes that a persistent population of coho salmon has been established. Accordingly, we have revised the final rule where appropriate to indicate there is documented evidence of coho salmon spawning and rearing in Soquel Creek rather than evidence of a newly established coho salmon ''population.''

Comment 8: One peer reviewer indicated that the technical reports supporting the proposed range extension (Spence *et al.,* 2011; Spence and Williams, 2011) were inconsistent in how they described the number of spawning events that may have occurred in Soquel Creek in 2008.

Response: The peer reviewer misinterpreted the description of how many spawning events occurred in Soquel Creek, and therefore, the reports are not inconsistent. In Spence and Williams (2011), the authors were referring to genetic analysis of fish collected in three watersheds, only one of which was Soquel Creek. The method of analysis used by the researchers referenced in the report can only provide a minimum number of spawners and for two of the streams (San Vincente and Alpine) the methodology indicated there had been a minimum of a single spawning pair. In Soquel Creek, however, the analysis indicated that there had been at least three individuals involved in spawning, which indicated that there were a minimum of two spawning events. Spence *et al.* (2011) indicate that the juveniles found in Soquel Creek were the product of at least two reproductive events, and therefore, the two reports are consistent.

Public Comments

The proposed range extension for the CCC coho salmon ESU was published on February 4, 2011 (76 FR 6383) with a 60-day public comment period. Based on a request from one individual, we extended the public comment period for an additional 60 days, so the public comment period finally closed on June 6, 2011. Two written comment submittals were received on the proposed action. One set of comments was provided by the petitioner and largely focused on the scientific issues addressed in our 12-month finding on that petition as well as our scientific evaluation of the petition (Spence *et al.,* 2011). The other commenter provided comments regarding the potential economic consequences of the proposed range extension. We carefully reviewed the comments to identify those issues that were within the scope of the rulemaking and have addressed those herein. A summary of those comments and NMFS' responses are presented below by specific issue.

Issue: Scientific Information Used To Support NMFS' 12-Month Finding That Coho Salmon Populations South of San Francisco Bay Are Part of the CCC Coho Salmon ESU and the Proposed Range Extension

Comment 9: One commenter asserted that the available scientific information does not support NMFS' 12-month finding that coho salmon populations south of the entrance to San Francisco Bay are part of the CCC coho salmon ESU or our proposal to extend the geographic range of this ESU south to include coho salmon populations in Aptos and Soquel creeks. In making this assertion, the commenter argued there were gaps or other problems with the scientific information used by NMFS in making these determinations or that we somehow misinterpreted the available information. The scientific issues raised by the commenter in support of this assertion were: (1) NMFS' use of intrinsic potential modeling to evaluate historical habitat potential in watersheds south of the entrance to San Francisco Bay; (2) questions about recent fish surveys conducted by the Southwest Fisheries Science Center (SWFSC) in watersheds south of San Francisco; (3) the absence of genetic data for coho salmon from the San Lorenzo River; (4) inaccuracies in the historical hatchery stocking information for coho salmon considered by NMFS; (5) NMFS' interpretation of archeological data for coho salmon; and (6) NMFS's evaluation of coho salmon habitat suitability in areas south and immediately north of the entrance to San Francisco Bay. A general response to the commenter is provided here and each of the points identified in this comment to support the commenter's assertion are addressed in greater detail in comments 10 through 15.

Response: We convened a biological review team (BRT) to thoroughly evaluate all of the information in the petition to delist coho salmon populations south of the entrance to San Francisco Bay, as well as all other relevant scientific data and information concerning the issues raised in the petition. Based on its review and analysis, the BRT concluded that: (1) Coho salmon populations south of the entrance to San Francisco Bay were native to the area and extant populations are part of the CCC coho salmon ESU; and (2) the southern boundary of the ESU should be moved farther south to include coho salmon populations occurring in Soquel and Aptos creeks (Spence *et al.,* 2011). The BRT's review included an exhaustive assessment of information in the petition and other relevant information including: Evidence about coho salmon distribution in the historical literature; archeological data for coho salmon from native American Indian middens; the suitability of freshwater habitat conditions for coho salmon in coastal watersheds immediately north and south of San Francisco Bay; historical hatchery stocking information for coho salmon in watersheds south of San Francisco Bay; comprehensive genetic data collected for extant coho salmon populations throughout the range of the ESU including those south of San Francisco Bay; and recent information on the presence of coho salmon in watersheds south of San Francisco Bay including Soquel Creek. We believe that the BRT used the best available scientific information and that its conclusions regarding coho salmon populations south of the entrance to San Francisco Bay represent the most scientifically defensible interpretation of the available data. Our 12-month finding and proposed range extension were based upon the scientific information and conclusions reached by the BRT, and therefore, we believe these decisions are scientifically defensible and consistent with the best available information. Responses to the issues upon which the commenter based his

assertion are provided in comments 10 through 15.

Comment 10: The commenter criticized NMFS' use of an intrinsic habitat model to estimate potential coho salmon habitat capacity in streams south of the entrance to San Francisco Bay. The commenter argued that the model assumptions were unrealistic and that the model was not properly calibrated for stream habitat and coho salmon populations south of San Francisco Bay. For these reasons, the commenter asserted that use of this modeling resulted in an inaccurate characterization of coho salmon population structure south of San Francisco Bay, an overestimation of the historical habitat and abundance of coho salmon populations in streams south of San Francisco Bay, and an underestimate of the extinction risk of the populations south of San Francisco Bay.

Response: In developing the draft recovery plan for the CCC coho salmon ESU, NMFS established a technical recovery team (TRT) to develop a scientific foundation for the recovery planning analysis. As part of its work, the TRT used an intrinsic potential habitat model to estimate habitat that would potentially be available to support individual coho salmon populations that are part of this ESU if the habitat was properly functioning (Agrawal *et al.,* 2005; Bjorkstedt *et al.,* 2005). The results of this analysis were then used in the historical population structure analysis and in estimating adult spawner abundance levels that could have been supported by the habitat. This information was used to develop viability criteria or recovery targets for the ESU as a whole. The TRT stated its working assumptions in using this model and evaluated those assumptions and the overall modeling approach by comparing available historical adult spawner estimates with adult abundance estimates that were derived from the intrinsic potential habitat modeling (Spence *et al.,* 2008). The TRT noted that there was a high degree of uncertainty regarding available historical estimates of adult abundance, but they noted these estimates provided the only basis for assessing whether the estimates derived from the modeling were within a plausible range for this and other ESUs that were similarly evaluated (Bjorkstedt *et al.,* 2005). A comparison of projected adult abundance levels derived from the modeling with adult abundance levels estimated in a 1965 statewide coho salmon abundance assessment (California Department of Fish and Game (CDFG), 1965) led the TRT to conclude that the habitat model predicted abundance levels that were plausible (Spence *et al.,* 2008).

For the area south of the entrance to San Francisco Bay, the TRT compared intrinsic habitat modeling population estimates with coho salmon abundance data collected by Shapovalov and Taft (1954) in Waddell Creek. Shapovalov and Taft (1954) estimated adult abundance of coho salmon in Waddell Creek over a nine year period covering the spawning seasons from 1933–1942. The average annual adult run size for coho salmon during that period was estimated to be 313 fish (range 111–748). In comparison, the intrinsic habitat modeling for the smallest independent population in the area south of San Francisco Bay yielded an estimate of 365 potential adult spawners. Because the habitat conditions in Waddell Creek at the time of the study were less than pristine due to heavy timber harvest in the past, the TRT concluded the modeled adult abundance projection was realistic and not an overestimate. Based on these and other results presented by the TRT (Agrawal *et al.,* 2005; Bjorkstedt *et al.,* 2005), we believe the use of intrinsic habitat modeling for streams south of the entrance to San Francisco Bay is a valid tool for assessing population structure and developing population viability criteria for coho salmon. For these reasons we disagree with the commenter that the intrinsic potential habitat modeling overestimated historic abundance levels and underestimated extinction risk for watersheds south of San Francisco Bay.

Comment 11: The commenter indicated that coho salmon survey information collected by the SWFSC in streams south of San Francisco Bay from 2006–2008 and discussed in the BRT's report on the coho salmon delisting petition (Spence *et al.,* 2011) was incomplete and difficult to interpret because the survey objectives, methods and detailed results were not presented. The commenter argued this information was relevant for evaluating the status of coho populations south of the entrance to San Francisco Bay and determining whether they were part of the CCC coho salmon ESU.

Response: The objectives of the SWFSC 's surveys from 2006–2008 were three-fold: (1) To evaluate methods for defining an appropriate sampling protocol for species' presence in areas where it is known to be in low abundance or patchily distributed; (2) to develop statistical methods for estimating occupancy rates of species under such circumstances; and (3) to develop a short time series on the status of coho salmon in the area south of San Francisco between San Gregorio and Aptos creeks, a range which spanned three brood cycles. The genetic analysis and the surveys completed in connection with this study are final and documented with detailed results; the surveys and genetic analysis were completed using standard NMFS methodology but have not yet been published (SWFSC, unpublished). As such, we do not believe that the information relied upon was incomplete or difficult to interpret. Furthermore, the information derived from these completed aspects of the study is scientifically credible and represents the best available information on the status and geographic range of coho salmon south of San Francisco Bay. This final, scientifically credible information documents the presence of coho salmon in Soquel Creek and the analysis of genetic data from these fish. This information was considered by the BRT and was an important factor in their recommendation to extend the southern boundary of the CCC coho salmon ESU to include Soquel and Aptos creeks (Spence *et al.,* 2011). This information was also considered by Spence and Williams (2011) in their updated assessment of the status of this ESU. Information collected on the status of coho salmon in these streams was considered by the BRT and did provide important information regarding the southern boundary of the CCC coho salmon ESU, as well as the current status of coho salmon in the streams south of San Francisco Bay (Spence and Williams, 2011). As such, we believe that our determination to extend the geographic boundary of the ESU southward to include Soquel and Aptos creeks was founded on the best scientific information available.

Comment 12: The commenter asserted the BRT (Spence *et al.,* 2011) failed to report microsatellite DNA results for coho salmon from the San Lorenzo River and that the genetic database for the CCC coho salmon ESU was therefore incomplete. The commenter further argued that NMFS' conclusions regarding the origin and ancestry of coho salmon south of the entrance to San Francisco Bay could be in error because the genetic database did not include data for fish from the San Lorenzo River.

Response: We do not have any genetic data for coho salmon from the San Lorenzo River, and therefore, it could not be included in the genetic data sets analyzed by the BRT (Spence *et al.,* 2011). Coho salmon are rarely observed in the San Lorenzo River, which has contributed to the lack of genetic

information for that watershed. The SWFSC does have a limited number of coho salmon tissue samples taken from the San Lorenzo River, but they have not been analyzed largely because of uncertainties about their origin.

Although we do not have genetic data for coho salmon from the San Lorenzo River, there are comprehensive genetic data from coho salmon populations in other watersheds south of San Francisco Bay, as well as watersheds north of San Francisco Bay, and that information was carefully analyzed by the BRT (Spence *et al.,* 2011). Based on the analysis of all the available genetic data for coho salmon in this ESU, the BRT concluded that extant populations of coho salmon south of San Francisco Bay are part of the ESU and not the result of stock transfers from populations outside the ESU (Spence *et al.,* 2011). We believe the genetic data that the BRT analyzed in its review of the southern boundary of this ESU are scientifically credible, that they represent the best available information for coho salmon populations throughout the geographic range of this ESU including those populations south of San Francisco Bay, and that they support our determination to extend the geographic boundary of the ESU southward to include Soquel and Aptos creeks.

Comment 13: The commenter asserted that, in its review of the coho delisting petition, the BRT did not use all available historical records regarding the artificial propagation and out-planting of coho salmon in streams south of the entrance to San Francisco Bay. The commenter provided information regarding the history of coho salmon out-planting in Waddell and Scott creeks that he asserted were in conflict with that reviewed by the BRT. Waddell Creek is an important watershed south of the entrance to San Francisco Bay in part because a major study on the life history of coho salmon and steelhead was initiated there by Shapovalov and Taft (1954) around the same time coho salmon were out-planted into the watershed. The commenter suggested coho salmon were planted in Waddell Creek in large numbers between the early 1920s and 1933 (citing Streig (1991) and Bryant (1994)) and by inference, implied that planted fish contributed to the number of adults observed in the Shapovalov and Taft (1954) life history study.

Response: We reviewed the source data cited by Streig (1991) and Bryant (1994) as well as other sources of data, and found no evidence of coho salmon being out-planted into Waddell Creek during the period from 1911 to 1941, other than 15,000 fish that were released in 1933 and an undetermined number that were released for an age validation study in 1929. Both of these plantings were considered by the BRT and discussed in their report (Spence *et al.,* 2011). In evaluating the Streig (1991) report, which was the basis for the numbers presented in Bryant (1994), we found discrepancies between reported numbers and the original sources that were cited. If other stocking information was used in compiling the Streig (1991) and Bryant (1994) reports, we have not found that information, and therefore, believe the data and analysis by the BRT (Spence *et al.,* 2011) are the most scientifically defensible data available for assessing the artificial propagation and out-planting of coho salmon in streams south of San Francisco Bay.

Moreover, regardless of the number of fish out-planted into Waddell Creek or any other watershed south of San Francisco Bay, the BRT (Spence *et al.,* 2011) emphasized that the out-planted coho salmon likely experienced very low survival rates due to the common practice at the time of releasing fish as fry. Because of these low survival rates, we believe the out-planting of artificially propagated coho salmon into Waddell Creek is unlikely to have contributed substantially to the adult coho salmon numbers reported by Shapovalov and Taft (1954).

Comment 14: The commenter disagreed with the BRT's interpretation of archeological data from a site at Año Nuevo State Reserve that was used to support the determination that coho salmon populations were native to watersheds south of San Francisco Bay. The commenter asserted that the coho bones found there were from fish that were of marine origin, rather than from a stream at that site, and therefore, argued that these data are inconclusive and do not support the BRT's statement that coho salmon occurred as far south as Santa Cruz county.

Response: The BRT reviewed the most recent available archeological information relevant to the southern extent of the range of coho salmon (Gobalet, in press), as well as earlier literature by Gobalet (Gobalet, 1990; Gobalet and Jones, 1995; and Gobalet *et al.,* 2004) that provide additional information regarding the archeological record for coho salmon in California. The BRT acknowledged that evidence in the archeological record for coho salmon in California, particularly in coastal areas, is sparse (Spence *et al.* 2011). However, the BRT considered the information, analysis and conclusions presented in Gobalet (in press) to be the best available archeological information relevant to determining the historical presence of coho salmon south of San Francisco Bay, and their conclusion that coho salmon occurred as far south as Santa Cruz county is based on that information. The commenter did not provide any new information to support his assertion that the coho salmon bones found at the Año Neuvo site were of marine origin or that would alter our view that these bones are from coho salmon and constitute significant data documenting the presence of coho salmon in Santa Cruz County. We believe the data presented in Gobalet (in press) represents the best available archeological information relevant to determining the historical distribution of coho salmon south of San Francisco Bay. In summary, we believe the available archeological information reviewed by the BRT is scientifically credible, that it represents the best available information regarding the historical distribution of coho salmon south of San Francisco Bay, and that it supports our 12-month finding that coho salmon south of San Francisco are part of the CCC coho salmon ESU.

Comment 15: The commenter asserted that the BRT's conclusion that freshwater habitat conditions are suitable for coho salmon in watersheds both south and north of the entrance to San Francisco Bay was incorrect and that there are significant habitat differences between the two areas that preclude the persistence of coho salmon in streams south of San Francisco. The commenter provided information for survival rates in streams in Oregon and Washington that were published in 1982 and compared those data to survival rates estimated by Shapovalov and Taft (1954). The commenter also provided information on flood flows recorded during the Shapovalov and Taft (1954) study.

Response: The BRT carefully reviewed contemporary freshwater habitat data for streams north and south of San Francisco Bay in its review of the petition to delist coho salmon south of San Francisco Bay (Spence *et al.,* 2011). Their review included substantial information submitted by the petitioner as a supplement to the original petition. Following its review, the BRT concluded that historical habitat conditions in watersheds south of San Francisco Bay were conducive to the presence of persistent coho salmon populations since the freshwater habitat conditions south of San Francisco Bay are not appreciably different from those in watersheds immediately north of San Francisco Bay, as described in their report. The BRT also concluded that current habitat conditions south of San Francisco (as well as elsewhere in the

range of the CCC coho salmon ESU) are a challenge to coho salmon populations, but that currently degraded habitat conditions are mainly due to anthropogenic effects, rather than any inherent characteristics of the watersheds themselves. We believe that the freshwater habitat information considered by the BRT represents the best available information regarding the suitability of habitat for coho salmon south of San Francisco Bay. The survival rate information provided by the commenter concerned coho salmon from a different eco-region under different environmental conditions; furthermore, the data cited by the commenter were gathered in a time period different from the one considered in Shapalov and Taft. The data provided by the commenter do not represent a valid comparison of habitat conditions from areas north and south of San Francisco, and therefore, do not refute the scientifically-credible conclusions of the BRT. After considering the information provided by the commenter and its relevance, in addition to the information and analysis found in Spence *et al.,* (2011), we believe that the BRT's conclusions concerning freshwater habitat suitability for coho salmon in watersheds both south and north of the entrance to San Francisco Bay were correct. The BRT's conclusions support both our finding that coho salmon south of San Francisco are part of the CCC coho salmon ESU and our proposal to move the southern boundary of the ESU south to include Soquel and Aptos creeks.

Issue: Viability of Coho Populations South of San Francisco Bay and Their Contribution to the Evolutionary Legacy of the CCC Coho Salmon ESU

Comment 16: One commenter provided an analysis of data collected by Shapovalov and Taft (1954) and argued the results indicated coho salmon populations south of San Francisco were likely to go extinct and that these and other populations south of San Francisco are ''sink'' populations that are ephemeral and do not contribute to the evolutionary legacy of the CCC coho salmon ESU. Based on these reasons and the commenter's interpretation of NMFS' ESU policy, the commenter argues that coho salmon populations south of San Francisco Bay should not be part of the CCC coho salmon ESU. A similar argument was made in the petition to delist coho salmon populations south of San Francisco Bay.

Response: The BRT that evaluated the petition to delist coho salmon populations south of San Francisco Bay addressed the viability of coho salmon populations south of San Francisco Bay and their contribution to the evolutionary legacy of the species (Spence *et al.,* 2011). Based on the BRT's review of the best available information (especially Bjorkstedt *et al.,* 2005), they concluded that populations south of San Francisco Bay were most likely a combination of independent and dependent populations that contributed to the overall functioning of the CCC coho salmon ESU rather than serving as''sink'' or ephemeral populations. The BRT also noted that even if the populations south of San Francisco were ''sink'' populations they could still contribute to the persistence of the ESU as a whole based on the current understanding of meta-population function. For the reasons stated in Spence *et al.* (2011), we reach the same conclusions arrived at by the BRT with regard to the populations south of San Francisco Bay. Lastly, the commenter's argument that populations south of San Francisco Bay do not contribute to the evolutionary legacy of the ESU, and therefore, should not be included in the ESU, demonstrates a lack of understanding of the evolutionary legacy criterion in NMFS' ESU policy for Pacific Salmon (56 FR 58612; November 20, 1991). The commenter is attempting to apply the evolutionary legacy criterion to individual populations, which is inappropriate. Under NMFS' ESU policy, the evolutionary legacy criterion is applied to the group of populations being considered as an ESU, rather to individual populations. Accordingly, we believe that our proposed redefinition of the CCC coho salmon ESU boundaries is based on the best available information and the proper interpretation and application of NMFS' ESU policy for Pacific Salmon.

Issue: Climate Change and Long-Term Sustainability of Coho Salmon Populations South of San Francisco Bay

Comment 17: One commenter questioned the long-term sustainability or viability of the coho salmon populations in coastal streams south of the entrance to San Francisco Bay in light of potential future impacts to the species and its habitat from climate change, changes in sea level, changes in the California Current and its productivity, and other factors. Given these factors, the commenter expressed concern about the economic cost of maintaining suitable habitat for coho salmon populations in watersheds south of San Francisco Bay and questioned the need to include these populations in the CCC coho salmon ESU and provide them with protection under the ESA.

Response: Although we recognize that ensuring the long-term persistence of coho salmon in streams south of San Francisco presents many difficulties and uncertainties due to the current extremely low population sizes, the poor condition of the habitat in many watersheds, changes in the productivity of the California Current, and the possible effects of climate change, coho salmon populations south of San Francisco Bay are critical to the long-term viability and recovery of the CCC coho salmon ESU as a whole, and it is both necessary and possible to restore these populations (NMFS, 2010). Moreover, once we identify an ESU that meets the criteria of our ESU policy for Pacific Salmon, and determine that that ESU is threatened or endangered under the ESA, we must list that ESU.

Issue: Economic Impacts of Proposed CCC Coho Salmon ESU Range Extension

Comment 18: One commenter asserted the proposed range extension of the CCC coho salmon ESU failed to consider the potential financial impacts to landowners and other entities in Soquel and Aptos creeks.

Response: Our proposal was to revise the CCC Coho ESU boundaries in order to formally recognize that the freshwater range of coho salmon in this ESU actually extends further south than was previously thought. Unlike critical habitat designations, section 4(b)(1)(A) of the ESA explicitly prohibits us from considering non-scientific information (including potential economic impacts) when making listing determinations. If we determine that the existing critical habitat designation for this ESU should be revised in the future to include freshwater habitat in Soquel and Aptos creeks, then an economic analysis appropriate to critical habitat designations, as stated in the applicable statutes, implementing regulations, and executive orders, will be conducted.

Revised Geographic Range of CCC Coho Salmon ESU

The ESU boundaries for west coast coho salmon, ranging from southern British Columbia to Central California, were first delineated in a 1994 status review (Weitkamp *et al.,* 1995). In delineating these ESU boundaries, a wide range of information pertaining to West Coast coho salmon throughout its range was considered, including geographic variables, ecological and habitat variables, genetic variation among populations, and variation in life history traits among populations. In the 1995 proposal to list the CCC coho

salmon ESU (60 FR 38011), NMFS indicated that the southern boundary of the ESU was the San Lorenzo River in Santa Cruz County based on the best available information at that time.

The 1994 status review (Weitkamp *et al.,* 1995) recognized that the rivers draining the Santa Cruz Mountains south of San Francisco Bay formed a cohesive group with respect to environmental conditions, and therefore, concluded that the Pajaro River was likely the historical southern limit of coho salmon in the area. In determining where the southern boundary of the CCC coho salmon ESU should be placed, the status review analysis relied heavily on information provided in a 1993 status review of coho salmon in Scott and Waddell creeks (Bryant, 1994), which indicated there were no recent reports of coho salmon in rivers south of the San Lorenzo River. Faced with uncertainty about whether any coho salmon populations were present south of the San Lorenzo River and the uncertain origin of coho salmon in the San Lorenzo River, Weitkamp *et al.* (1995) concluded that the San Lorenzo River should be the southern-most basin in the ESU and that any coho salmon found spawning south of the San Lorenzo River that were not the result of non-ESU origin stock transfers should be considered part of the ESU.

In reviewing the petition to delist coho salmon populations south of San Francisco Bay, the BRT reviewed recently collected information on the distribution of coho salmon in this area (Spence *et al.,* 2011). Based on this new information and other information indicating that freshwater habitat conditions and watershed processes in Soquel and Aptos creeks were similar to those found in nearby watersheds within the ESU, the BRT recommended that the southern boundary of the CCC coho salmon ESU be moved southward from the San Lorenzo River to include coho salmon occurring in Soquel and Aptos creeks. The new information supporting this recommendation included: (1) Observations of juvenile coho salmon in Soquel Creek in 2008 and (2) genetic information obtained from the juvenile coho salmon observed in Soquel Creek indicating the fish were closely related to populations in nearby watersheds.

During the summer of 2008, juvenile coho salmon were observed in Soquel Creek by NMFS scientists for the first time in many years. Soquel Creek enters the Pacific Ocean about 6.5 km south of the San Lorenzo River. A total of approximately 170 juvenile fish were observed in the East Branch of Soquel Creek and some were photographed. These observations demonstrated that suitable spawning and rearing habitat for coho salmon occurs in Soquel Creek. A total of 28 of these fish were captured for tissue sampling and subsequent genetic analysis. Genetic analyses of these samples used 18 microsatellite loci to genotype the fish, investigate the origins of their parents, and to estimate the minimum number of reproductive events that contributed to the observed juveniles. Standard genetic stock identification techniques were used with a baseline reference database that included representative stocks from all regional California groups of coho salmon. The Soquel Creek fish were compared to coho salmon from a south of San Francisco Bay reference population (Scott Creek in Santa Cruz County, California) and it was determined, with very high confidence, that they were closely related. This analysis demonstrated that the juvenile fish observed in Soquel Creek were the progeny of locally produced adults returning to reproduce in nearby streams, and that they were native to streams draining the Santa Cruz Mountains south of San Francisco Bay.

Genetic analysis of tissue samples from these juveniles (Garza *et al.,* unpublished as cited in Spence *et al.,* 2011) also revealed that they were produced by a minimum of two reproductive events in Soquel Creek, rather than by a single pair of fish randomly straying into the watershed. The analysis only determined the minimum number of spawning parents, so it is possible that additional reproductive events occurred in Soquel Creek in 2008. This information strongly supports our conclusion that the fish in Soquel Creek are part of the CCC coho salmon ESU.

In reviewing the ecological conditions of streams south of San Francisco Bay that originate from the Santa Cruz Mountains, Spence *et al.* (2011) noted that a significant ecological transition occurs immediately south of the Santa Cruz Mountains, with the northern edge of the Salinas Valley marking the boundary between an area with cool, wet redwood forests to the north and an area with warm, drier chaparral landscapes to the south where small relic redwood forests are primarily confined to riparian areas near the coast. The Soquel and Aptos watersheds occur within the Coast Range Ecoregion, which runs almost continuously from the Oregon border to the southern boundary of the Santa Cruz Mountains (the northern edge of the Pajaro River basin) and includes all the streams originating from the Santa Cruz Mountains south of San Francisco. Soquel and Aptos creeks exhibit ecological, climatic, and habitat attributes similar to streams historically and/or presently occupied by coho salmon elsewhere in this Ecoregion, indicating they provide habitat that is suitable for coho salmon.

Status of the CCC Coho Salmon ESU

Status reviews by Weitkamp *et al.* (1995), Good *et al.* (2005), and Spence and Williams (2011) have all concluded that the CCC coho salmon ESU is in danger of extinction. NMFS listed this ESU as threatened in 1996 (61 FR 56138) and reclassified its status as endangered in 2005 (71 FR 834). The status reviews by Weitkamp *et al.* (1995) and Good *et al.* (2005) cited concerns over low abundance and long-term downward trends in abundance throughout the ESU, as well as the extirpation or near extirpation of populations across most of the southern two-thirds of the ESU's historical range, including several major river basins. They further cited as risk factors the potential loss of genetic diversity associated with the reduction in range and the loss of one or more brood lineages in some populations coupled with the historical influence of hatchery fish (Good *et al.,* 2005).

As part of a recent 5-year status review update for listed salmon and steelhead in California, Spence and Williams (2011) updated the biological status of the CCC coho salmon ESU, taking into consideration the recent discovery of coho salmon in Soquel Creek. Their review concluded that despite the lack of long-term data on coho salmon abundance, available information from recent short-term research and monitoring efforts demonstrates that the status of coho populations in this ESU has worsened since it was reviewed in 2005 (Good *et al.,* 2005). For all available time series, recent population trends were downward, in many cases significantly so, with particularly poor adult returns from 2006 to 2010. Based on population viability criteria that were developed to support preparation of the draft recovery plan for this ESU (Bjorkstedt *et al.,* 2005; Spence *et al.,* 2008), all of its independent populations in the ESU are well below low-risk abundance targets (e.g., Ten Mile River, Noyo River, Albion River), and several are, if not extirpated, below high-risk depensation thresholds (e.g., San Lorenzo River, Pescadero Creek, Gualala River). Though population-level estimates of abundance for most independent populations are lacking, it does not appear that any of the five diversity strata identified by Bjorkstedt *et al.*

(2005) for this ESU currently support a single viable population based on the viability criteria developed by Spence *et al.* (2008). Based on a consideration of all new substantive information regarding the biological status of this ESU, including the recent discovery of juvenile coho salmon in Soquel Creek, Spence and Williams (2011) concluded that the CCC coho salmon ESU continues to be in danger of extinction and that its overall extinction risk has increased since 2005. We concur.

Summary of Factors Affecting the Revised CCC Coho Salmon ESU

A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat and Range

Our review of factors affecting the CCC coho salmon ESU concluded that logging, agriculture, mining activities, urbanization, stream channelization, dams, wetland loss, water withdrawals, and unscreened diversions have contributed to its decline. Land-use activities associated with logging, road construction, urban development, mining, agriculture, and recreation have significantly altered coho salmon habitat quantity and quality (61 FR 56138, October 31, 1996; 70 FR 37150, June 28, 2005). Impacts of these activities include alteration of streambank and channel morphology, alteration of ambient stream water temperatures, elimination of spawning and rearing habitat, fragmentation of available habitats, elimination of downstream recruitment of spawning gravels and large woody debris, removal of riparian vegetation resulting in increased stream bank erosion, and degradation of water quality (61 FR 56138, October 31, 1966; 70 FR 37150, June 28, 2005).

Land-use and extraction activities leading to habitat modification can have significant direct and indirect impacts to coho salmon populations. Land-use activities associated with residential and commercial development, road construction, use and maintenance, recreation, and past logging practices have significantly altered coho salmon freshwater habitat quantity and quality throughout this ESU, as well as in the Aptos and Soquel watersheds. Associated impacts of these activities include alteration of streambank and channel morphology, alteration of ambient stream water temperatures, degradation of water quality, elimination of spawning and rearing habitats, removal of instream large woody debris that forms pool habitats and overwintering refugia, removal of riparian vegetation resulting in increased bank erosion, loss of floodplain habitats and associated refugia, and increased sedimentation input into spawning and rearing areas resulting in the loss of channel complexity, pool habitat, and suitable gravel substrate.

The loss and degradation of habitats and instream flow conditions were identified as threats to coho salmon in Soquel and Aptos creeks in the draft recovery plan for this ESU (NMFS, 2010). Although many historically harmful practices have been halted, particularly removal of large woody debris by Santa Cruz County, much of the historical damage to habitats limiting coho salmon in these watersheds remains to be addressed. Habitat restoration activities and threat abatement actions will likely require more focused effort and time to stabilize and improve habitat conditions in order to improve the survival of coho salmon in these watersheds. Additionally, some land-use practices such as water diversions, floodplain development, unauthorized removal of inchannel woody debris, quarrying, and road maintenance practices continue to pose risks to the survival of local coho salmon populations. Insufficient flow during the summer due to authorized and unauthorized water diversions is likely one of the most significant limiting factors to coho salmon, particularly on the lower mainstem of Soquel Creek.

B. Overutilization for Commercial, Recreational, Scientific, or Education Purposes

Commercial and recreational fisheries are closed for coho salmon in California; however, coho salmon in this ESU can still be incidentally captured in fisheries for other species. The impacts to coho salmon of this type of incidental bycatch are poorly understood, but may be significant in watersheds where population abundance is low. Recreational fishing for steelhead is allowed in Soquel and Aptos creeks, and coho salmon, if present, may unintentionally be caught by anglers targeting steelhead. The risk of unintentional capture is believed to be higher in these watersheds than in many other coastal streams with coho salmon because the current State of California fishing regulations allow catch and release of steelhead based on calendar dates regardless of river flow. Steelhead fishing season opens on December 1, which is a time of year when coho salmon typically begin their upstream migration and is typically one month before the main steelhead migration. Fishing for steelhead during low-flow periods may expose coho salmon adults to increased rates of incidental capture and injury.

At the time the CCC coho salmon ESU was listed in 1996, collection for scientific research and educational programs was believed to have little or no impact on California coho salmon populations. In California, most scientific collection permits are issued by CDFG and NMFS to environmental consultants, Federal resource agencies, and educational institutions. Regulation of take is achieved by conditioning individual research permits (61 FR 56138, October 31, 1996). Given the extremely low population levels throughout this ESU, but especially in watersheds south of San Francisco Bay, any collections could have significant impacts on local populations and need to be carefully controlled and monitored. In Soquel and Aptos creeks, two researchers are currently sampling juvenile salmonid populations using electrofishing as part of their sampling methodology. Only one researcher is authorized to capture coho salmon and the other must stop collections if juvenile coho salmon are detected.

C. Disease or Predation

Relative to the effects of habitat degradation, disease and predation were not believed to be major factors contributing to the decline of West Coast coho salmon populations in general or for this ESU in particular. Nevertheless, disease and predation could have substantial adverse impacts in localized areas. Specific diseases known to be present in the ESU and affect salmonids are discussed in a previous listing determination (69 FR 33102; June 14, 2004). No historical or current information is available to estimate infection levels or mortality rates for coho salmon attributable to these diseases.

Habitat conditions such as low water flows and high water temperatures can exacerbate susceptibility to infectious diseases (69 FR 33102). The large quantity of water diverted from Soquel Creek, which results in decreased summer flows, may increase the susceptibility of rearing coho salmon to disease and predation. Avian predators have been shown to impact some juvenile salmonids in freshwater and near shore environments. In Scott Creek, which is near Soquel and Aptos creeks, NMFS staff (Hayes, personnel communication) have documented substantial predation impacts on out-migrating salmonid smolts, based on the discovery of pit tags in gull nesting areas. Predation may significantly influence salmonid abundance in some

local populations when other prey species are absent and physical conditions lead to the concentration of adults and juveniles (Cooper and Johnson, 1992). Low flow conditions in these watersheds may enhance predation opportunities, particularly in streams where adult coho salmon may congregate at the mouth of streams waiting for high flows for access (CDFG, 1995). These types of conditions could significantly impact coho salmon in Soquel Creek because of the low abundance of fish in that watershed. Marine predation (i.e., seals and sea lions) is a concern in some areas given the dwindling abundance of coho salmon across the range of this ESU; however, such predation is generally considered by most investigators and the BRT to be an insignificant contributor to the population declines that have been observed in Central California.

D. Inadequacy of Existing Regulatory Mechanisms

At the time this ESU was originally listed, most Federal and non-Federal regulatory efforts were not found to adequately protect coho salmon due to a variety of factors including uncertain funding and implementation, the voluntary nature of many programs, or simply their ineffectiveness. Detailed information on regulatory mechanisms and other protective efforts for coho salmon is provided in NMFS' Draft Recovery Plan for this ESU (NMFS, 2010) and the 1996 and 2005 final listing determinations for this ESU. Since the original listing determination for this ESU in 1996, few significant improvements in regulatory mechanisms have been made aside from efforts implemented under the ESA (i.e., NMFS' efforts under section 7 of the ESA and the designation of critical habitat for this ESU). A variety of State and Federal regulatory mechanisms exist to protect coho salmon habitat, but they have not been adequately implemented (61 FR 56138; October 31, 1996). Overall, we believe that most current regulatory mechanisms and/or other protective efforts are not sufficiently certain to be implemented and/or are not effective in reducing threats to coho salmon in this ESU (70 FR 37160; June 28, 2005).

In Soquel and Aptos creeks, one recent beneficial regulatory change has been the termination of funding for Santa Cruz County's in-stream wood removal program in 2009. Curtailment of this program is expected to eventually result in improvements to summer and winter rearing habitat for coho salmon in the County. Problems with other regulatory efforts, including poor oversight and enforcement of State water law pertaining to permitted and unpermitted diversions, are a significant concern in Soquel and Aptos creeks.

E. Other Natural or Human-Made Factors Affecting Its Continued Existence

Long-term trends in rainfall and marine productivity associated with atmospheric conditions in the North Pacific Ocean have a major influence on coho salmon production on the West Coast. Natural climatic conditions may have exacerbated or mitigated the problems associated with degraded and altered freshwater and estuarine habitats that coho salmon depend upon (69 FR 33102). Detailed discussions of these factors can be found the 1996 and 2005 listing determinations for this ESU (61 FR 56138, October 31, 1996 and 70 FR 37160, June 28, 2005, respectively). No significant changes to this listing factor have occurred since the original listing, although the risk of climate change may well have increased.

The best available scientific information indicates that the Earth's climate is warming, driven by the accumulation of greenhouse gasses in the atmosphere (Oreskes, 2004; Battin *et al.,* 2007; Lindley *et al.,* 2007). Because coho salmon depend upon freshwater streams and the ocean during their life cycle, most if not all populations in this ESU, including those in Soquel and Aptos creeks, are likely to be impacted by climate change in the decades ahead, though the type and magnitude of these impacts are difficult to predict at this time.

Final Determination

Based on a consideration of the best available information, including new information on the presence of coho salmon in Soquel Creek, genetic data indicating the fish from Soquel Creek are closely related to fish from nearby watersheds, the similarity of habitat in Soquel and Aptos creeks to that in nearby watersheds presently or historically supporting coho salmon, and the proximity of Soquel and Aptos creeks to nearby watersheds supporting coho salmon, we conclude that the southern boundary of the CCC coho salmon ESU should be moved southward to include Soquel and Aptos creeks in Santa Cruz County, California. Based on an updated status assessment of coho salmon populations throughout the range of the ESU, including the recent discovery of juvenile coho salmon in Soquel Creek, and consideration of the factors affecting this species throughout the range of the ESU, we conclude that the redefined ESU continues to be an endangered species.

Section 9 Take Prohibitions and Other Protections

The CCC coho salmon ESU is an endangered species and Section 9 of the ESA prohibits certain activities that directly or indirectly affect endangered species. The section 9(a) prohibitions apply to all individuals, organizations, and agencies subject to U.S. jurisdiction. Section 9 prohibitions apply automatically to endangered species such as the CCC coho salmon ESU, throughout its range. As a result of this range extension, the section 9 take prohibitions now will apply to all naturally produced coho salmon in Soquel and Aptos creeks.

Section 7(a) of the ESA, as amended, requires Federal agencies to evaluate their actions with respect to any species that is listed as endangered or threatened and with respect to its critical habitat, if any is designated. Regulations implementing this interagency cooperation provision of the ESA are codified at 50 CFR part 402. Section 7(a)(4) of the ESA requires Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a species proposed for listing or result in the destruction or adverse modification of proposed critical habitat. If a species is subsequently listed, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with us under the provisions of section 7(a)(2). Federal agencies and actions that may be affected by the revision of the CCC coho salmon ESU include the U.S. Army Corps of Engineers and its issuance of permits under the Clean Water Act.

Sections 10(a)(1)(A) and 10(a)(1)(B) of the ESA provide us 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 the affected species. NMFS has issued section 10(a)(1)(A) research/enhancement permits for listed salmonids, including CCC coho salmon, 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 that 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, but are not limited to, state-regulated angling, academic research not receiving Federal authorization or funding, road building, timber management, grazing, and diverting water onto private lands.

NMFS' Policies on Endangered and Threatened Fish and Wildlife

NMFS and the FWS published a policy in the **Federal Register** on July 1, 1994 (59 FR 34272) indicating that both agencies would identify, to the maximum extent practicable at the time a species is listed, those activities that would or would not constitute a violation of section 9 of the ESA. The intent of this policy is to increase public awareness of the effect of this listing on proposed and ongoing activities within the species range. Based on the best available information, we believe that the following actions are unlikely to result in a violation of section 9 for coho salmon in this ESU, including Soquel and Aptos creeks:

1. Any incidental take of listed fish from this ESU resulting from an otherwise lawful activity conducted in accordance with the conditions of an incidental take permit issued by NMFS under section 10 of the ESA;

2. Any action authorized, funded, or carried out by a Federal agency that is likely to adversely affect listed fish from this ESU when the action is conducted in accordance with the terms and conditions of an incidental take statement issued by NMFS under section 7 of the ESA;

3. Any action carried out for scientific purposes or to enhance the propagation or survival of listed fish from this ESU that is conducted in accordance with the conditions of a permit issued by NMFS under section 10 of the ESA

Activities that are likely to result in a violation of section 9 prohibitions against the ''taking'' of fish from this ESU include, but are not limited to, the following:

1. Unauthorized killing, collecting, handling, or harassing of individual fish from this ESU;

2. Land-use activities that adversely affect habitats supporting coho salmon, such as logging, development, road construction in riparian areas and in areas susceptible to mass wasting and surface erosion;

3. Destruction/alteration of the habitats supporting coho salmon, such as removal of large woody debris and ''sinker logs'' or riparian shade canopy, dredging, discharge of fill material, sandbar breaching, draining, ditching, diverting, blocking, or altering stream channels or surface or ground water flow;

4. Discharges or dumping of toxic chemicals or other pollutants (e.g., sewage, oil, gasoline) into waters or riparian areas supporting coho salmon in the ESU;

5. Violation of discharge permits into the ESU;

6. Application of pesticides affecting water quality or riparian areas supporting coho salmon in the ESU;

7. Introduction of non-native species likely to prey on coho salmon within the ESU or displace them from their habitat.

Other activities not identified here will be reviewed on a case-by-case basis to determine if violation of section 9 of the ESA may be likely to result from such activities. Questions regarding whether specific activities may constitute a violation of the section 9 take prohibition, and general inquiries regarding prohibitions and permits, should be directed to NMFS (see **ADDRESSES**). We do not consider these lists to be exhaustive and we provide them as general information to the public.

Peer Review

In December 2004, the Office of Management and Budget (OMB) issued a Final Information Quality Bulletin for peer review establishing minimum peer review standards, a transparent process for public disclosure of peer review planning, and opportunities for public participation. The OMB Bulletin, implemented under the Information Quality Act, is intended to enhance the quality and credibility of the Federal Government's scientific information and applies to influential or highly influential scientific information disseminated on or after June 16, 2005. To satisfy our requirements under the OMB Bulletin, we obtained independent peer review of the scientific information compiled in the BRT report (Spence *et al.*, 2011) that supports the proposed range extension and the continued listing of the CCC coho salmon ESU as an endangered species. The peer reviewers provided only limited, minor comments which were addressed in the final BRT report.

A joint NMFS/U.S. Fish and Wildlife policy (59 FR 34270; July 1, 1994) requires us to solicit independent expert review from at least three qualified specialists on proposed listing determinations such as this range extension. Accordingly, we solicited reviews from three scientific peer reviewers having expertise with coho salmon in California and received comments from all three reviewers. We carefully reviewed the peer review comments and have addressed them as appropriate in this final rule (see summary of peer review comments above).

Critical Habitat

Critical habitat is defined in section 3 of the ESA as: ''(i) The specific areas within the geographic area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, on which are found those physical and biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species'' (16 U.S.C. 1532(5)(A)). Conservation means the use of all methods and procedures needed to bring the species to the point at which listing under the ESA is no longer necessary. Section 4(b)(2) requires that designation of critical habitat be based on the best scientific data available, after taking into consideration the economic, national security, and other relevant impacts of specifying any particular area as critical habitat.

Once critical habitat is designated, section 7 of the ESA requires Federal agencies to ensure that they do not fund, authorize, or carry out any actions that are likely to destroy or adversely modify that habitat. This requirement is in addition to the section 7 requirement that Federal agencies ensure that their actions do not jeopardize the continued existence of the listed species.

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. Critical habitat for the CCC coho salmon ESU was designated on May 5, 1999 (64 FR 24049) and presently includes all river reaches accessible to coho salmon in rivers between Punta Gorda and the San Lorenzo River. Within these streams, critical habitat includes all waterways, substrate and adjacent riparian habitat below longstanding, natural impassable

barriers and some specific dams. Critical habitat is not presently being proposed for designation in Soquel and Aptos creek watersheds. Prior to making any determination regarding the designation of critical habitat in these watersheds, we will complete an analysis to determine if habitat in Soquel and Aptos creeks should be designated and whether any modification of the existing critical habitat designation is warranted. Following completion of this analysis, NMFS may initiate rulemaking to designate critical habitat in these watersheds. Any such proposed rule will provide an opportunity for public comments and a public hearing, if requested.

References

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

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. 2nd 829 (6th Cir. 1981), we have concluded that ESA listing actions are not subject to the environmental assessment requirements of the National Environmental Policy Act (See NOAA Administrative Order 216–6).

Regulatory Flexibility Act, Executive Order 12866, and Paperwork Reduction Act

As noted in the Conference Report on the 1982 Amendments to the ESA, economic impacts cannot be considered when assessing the status of a species. Therefore, the economic analysis requirements of the Regulatory Flexibility Act are not applicable to the ESA listing process. Thus, this final rule is also exempt from review under Executive Order 12866. This final rule does not contain a collection-of-information requirement for the purposes of the Paperwork Reduction Act.

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, development of this rule included coordination with the State of California through the CDFG.

List of Subjects in 50 CFR Part 224

Endangered marine and anadromous species.

Dated: March 27, 2012.

Alan D. Risenhoover,

Acting Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

For the reasons set out in the preamble, 50 CFR part 224 is amended as follows:

PART 224—ENDANGERED MARINE AND ANADROMOUS SPECIES

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

Authority: 12 U.S.C. 1531–1543 and 16 U.S.C. 1361 *et seq.*

■ 2. Revise the entry for ''Central California Coast coho,'' in § 224.101(a) to read as follows:

§ 224.101 Enumeration of endangered marine and anadromous species.

* * * * *

(a) * * *

Species [1]		Where listed	Citation(s) for listing determinations	Citations(s) for critical habitat Designations
Common name	Scientific name			
*	*	* * *	*	*
Central California Coast coho.	*Oncorhynchus kitsutch.*	U.S.A., CA, including all naturally spawning populations of coho salmon from Punta Gorda in northern California south to and including Aptos Creek in central California, as well as populations in tributaries to San Francisco Bay, excluding the Sacramento-San Joaquin River system, as well as three artificial propagation programs: the Don Clausen Fish Hatchery Captive Broodstock Program, Scott Creek/King Fisher Flats Conservation Program, and the Scott Creek Captive Broodstock Program.	[INSERT FR CITATION & April 2, 2012.	64 FR 24049; May 5, 1999.
*	*	* * *	*	*

[1] Species includes taxonomic species, subspecies, distinct population segments (DPSs) (for a policy statement, see 61 FR 4722, February 7, 1996), and evolutionarily significant units (ESUs) (for a policy statement, see 56 FR 58612, November 20, 1991).

* * * * *

[FR Doc. 2012–7860 Filed 3–30–12; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 622

[Docket Nos. 100610255–0257–01 and 040205043–4043–01]

RIN 0648–XB074

2012 Accountability Measures for Gulf of Mexico Commercial Greater Amberjack and Closure of the Commercial Sector for Greater Amberjack

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

ACTION: Temporary rule; closure.

SUMMARY: NMFS implements accountability measures (AMs) for commercial greater amberjack in the Gulf of Mexico (Gulf) for the 2012 fishing year through this temporary final rule, and announces the closure of the 2012 commercial sector for greater amberjack of the Gulf reef fish fishery. This rule reduces the 2012 commercial quota for greater amberjack to 237,438 lb (107,700 kg), based on the 2011 quota overage. The commercial fishing season opened on January 1, 2012 and is closed March 1–May 31. The season is scheduled to re-open on June 1, however, NMFS has determined that the 2012 adjusted commercial quota for Gulf greater amberjack was harvested in January and February of 2012. Therefore, the commercial sector for greater amberjack will remain closed for the remainder of the 2012 fishing year. These actions are necessary to reduce overfishing of the Gulf greater amberjack resource.

DATES: This rule is effective April 2, 2012, through December 31, 2012.

ADDRESSES: Copies of the final rule for Amendment 30A, the Final Supplemental Environmental Impact Statement (FSEIS) for Amendment 30A, and other supporting documentation may be obtained from Rich Malinowski, NMFS, Southeast Regional Office, 263 13th Avenue South, St. Petersburg, FL 33701; telephone: 727–824–5305.

FOR FURTHER INFORMATION CONTACT: Rich Malinowski, telephone: 727–824–5305, email *Rich.Malinowski@noaa.gov.*

SUPPLEMENTARY INFORMATION: NMFS manages the reef fish fishery of the Gulf under the Fishery Management Plan for Reef Fish Resources of the Gulf of Mexico (FMP). The Gulf of Mexico Fishery Management Council (Council) prepared the FMP and NMFS implements the FMP under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) by regulations at 50 CFR part 622.

Background

The 2006 reauthorization of the Magnuson-Stevens Act established new requirements including annual catch limits (ACLs) and AMs to end overfishing and prevent overfishing from occurring. AMs are management controls to prevent ACLs from being exceeded, and correct or mitigate overages of the ACL if they occur. Section 303(a)(15) of the Magnuson-Stevens Act mandates the establishment of ACLs at a level such that overfishing does not occur in the fishery, including measures to ensure accountability.

On July 3, 2008, NMFS issued a final rule (73 FR 38139) to implement Amendment 30A to the FMP. Amendment 30A established commercial and recreational quotas for Gulf greater amberjack and AMs that would go into effect if the commercial and recreational quotas for greater amberjack are exceeded. In accordance with regulations at 50 CFR 622.49(a)(1)(i), when the applicable commercial quota is reached, or projected to be reached, the Assistant Administrator for Fisheries, NOAA, (AA), will file a notification with the Office of the Federal Register to close the commercial sector for the remainder of the fishing year. If despite such closure, commercial landings exceed the quota, the AA will reduce the quota the year following an overage by the amount of the overage of the prior fishing year.

Management Measures Contained in this Temporary Rule

Finalized 2011 commercial landings data indicated the adjusted 2011 commercial quota of 342,091 lb (155,170 kg) was exceeded by 78 percent, or 265,562 lb (120,457 kg). Therefore, the reduced 2012 commercial quota for Gulf greater amberjack is 237,438 lb (107,700 kg) (*i.e.,* 503,000-lb (228,157-kg) commercial quota minus the overage of 265,562 lb (120,457 kg)). The NMFS Southeast Fisheries Science Center estimated that the commercial sector landed 221,789 lb (100,601 kg) of greater amberjack during the months of January and February of 2012, and projects subsequent updates to the landings data will meet the adjusted 2012 commercial sector quota for greater amberjack of 237,438 lb (107,700 kg).

Accordingly, NMFS is closing commercial sector harvest of greater amberjack in the Gulf EEZ for the remainder of the 2012 fishing year. The operator of a vessel with a valid commercial vessel permit for Gulf reef fish having greater amberjack aboard must have landed, bartered, traded, or sold such greater amberjack prior to 12:01 a.m., local time, March 1, 2012.

During the closure, all commercial harvest or possession of greater amberjack in or from the Gulf EEZ, and the sale or purchase of greater amberjack taken from the EEZ is prohibited. The prohibition on sale or purchase does not apply to sale or purchase of greater amberjack that were harvested, landed ashore, and sold prior to 12:01 a.m., local time, March 1, 2012, and were held in cold storage by a dealer or processor. In addition to the Gulf EEZ closure, a person on board a vessel for which a commercial vessel permit for Gulf reef fish has been issued must comply with these closure provisions regardless of where the Gulf greater amberjack are harvested, *i.e.,* in State or Federal waters. This closure is intended to prevent overfishing of Gulf greater amberjack and increase the likelihood that the 2012 commercial quota will not be exceeded.

The 2013 commercial quota for greater amberjack will return to the quota of 503,000 lb (228,157 kg) specified at 50 CFR 622.42(a)(1)(v) unless AMs are implemented due to a quota overage and NMFS specifies a reduced quota through notification in the **Federal Register,** or the Council takes subsequent regulatory action to adjust the quota.

Classification

The Regional Administrator, Southeast Region, NMFS, (RA) has determined this temporary rule is necessary for the conservation and management of the Gulf greater amberjack component of the Gulf reef fish fishery and is consistent with the Magnuson-Stevens Act, the FMP, and other applicable laws.

The temporary rule has been determined to be not significant for purposes of Executive Order 12866.

These measures are exempt from the procedures of the Regulatory Flexibility Act because the temporary rule is issued without opportunity for prior notice and comment.

NMFS prepared a Final Environmental Impact Statement (FEIS) for Amendment 30A. A notice of availability for the FEIS was published on April 18, 2008 (73 FR 21124). A copy