

increased rapidly since 1970. Coho salmon in the Chehalis River Basin exhibit two run timings: "Normal," with spawning in early December throughout the basin, and "late," with spawning in January and February in lower Chehalis River tributaries. Hiss and Knudsen suggested that the normal run is composed of a mixture of hatchery and wild fish, while the late run is virtually all wild fish (but they did not specify whether "wild" implies native fish, or simply natural production regardless of origin). The two run timings are treated as a single stock for fishery management purposes, and NMFS has no separate abundance estimates for the late run. Hiss and Knudsen identified three streams known to have late-run fish (Bingham Creek, the upper Wynoochee River, and the Wishkah River), and noted that this run has always been less abundant than the normal run, but has been particularly small in recent years. No escapement estimates are available for other streams in Grays Harbor or Willapa Bay.

Abundance of late-run coho salmon in the Clackamas River has been measured since 1950 as adult passage at River Mill (1950 to 1957) and North Fork (1958 to present) Dams, and total run size (early and late runs) has ranged from 416 (1950) to 4,700 (1968). The late portion of the run has ranged from 309 (1958) to 3,588 (1968), however it is unclear whether these are native fish or naturalized hatchery fish. Cramer and Cramer (1994) concluded that production of the population is depressed due to a variety of factors. They further concluded that, under current harvest rates, the population will remain stable, but it is vulnerable to overharvest. Johnson et al. (1991) briefly reviewed abundance data for this population and concluded that it had a low risk of extinction if population parameters remain stable, but recommended close monitoring of the population.

While the number of naturally-reproducing fish within the lower Columbia River/southwest Washington coast ESU is fairly large, evaluating the risk to this ESU is difficult because of the uncertainty about the relationship of the present natural populations to the historic ESU. If native coho salmon persist in the Clackamas River or in southwest Washington, they would represent a small fraction of the ESU's historical abundance. However, it is not presently possible, with the limited information available, to identify with certainty native, naturally-reproducing populations in lower Columbia River tributaries or along the Washington coast south of Point Grenville.

Therefore, NMFS concludes that a listing is not warranted for the lower Columbia River/southwest Washington coast ESU at this time. However, there is sufficient concern regarding the overall health of this ESU (especially in light of evidence that some native, naturally-reproducing fish may exist). Therefore, NMFS is adding the lower Columbia River/southwest Washington coast ESU to the Candidate List until the distribution and status of the native populations can be resolved.

During the period between this proposed rule and publication of any final rule, NMFS will conduct a thorough reevaluation of this ESU and will reconsider the present decision that a listing is not warranted. In the event that this reevaluation establishes that listing the lower Columbia River/southwest Washington coast ESU is warranted, NMFS would issue a proposed rule to list this ESU as threatened or endangered.

5. Olympic Peninsula—Evidence examined by NMFS for this ESU included trends in terminal run size (i.e., the number of adults returning to the river mouth), hatchery contribution, trends in ocean exploitation rate, and trends in the size of fish in terminal landings. Data on terminal run for stocks in this ESU are collected cooperatively by the Washington Department of Fish and Wildlife (WDFW) and the coastal tribes. Spawning escapements to most streams are estimated by extrapolating from cumulative redd counts on index reaches of the streams. Because streams within the range of this ESU typically have highly variable flows during the spawning season, (making it difficult to conduct accurate counts of spawning fish) WDFW and tribal biologists believe that redd counts provide the most reliable estimates of total escapement (PFMC 1990). These natural escapement estimates, combined with hatchery escapements, form the basis for escapement summaries for the Olympic Peninsula (WDF et al. 1993, PFMC 1994). However, no attempt has been made to estimate the number of hatchery-produced fish that spawn naturally.

No trends were detected in terminal run size, and there is no evidence for trends in ocean exploitation rates. In the stock complexes monitored and reported by the PFMC, hatchery returns accounted for 50 percent of the spawning escapement in the period from 1982 through 1992, with the majority of hatchery production contributing to the Quillayute River summer-run, Quinault River, and Queets River stocks (PFMC 1994). Of

these stocks, the Quinault River and the Salmon River (tributary of the Queets River) were identified by WDF et al. (1993) as of mixed origin, while the majority of other stocks were identified as of native origin. Average recent (1989 to 1993) natural adult escapement estimates for some of these stocks are (PFMC 1994): Quinault River—4,700, Queets River—5,400, Hoh River—3,100, Quillayute River—800 summer run and 7,500 fall run. NMFS found no historical run-size estimates for these stock complexes to compare with recent abundance, but there have presumably been substantial declines in coho salmon production as a result of well-documented habitat degradation since European settlement.

NMFS also reviewed assessments of coho salmon stocks by Nehlsen et al. (1991) and WDF et al. (1993). Nehlsen et al. identified only one at risk coho salmon stock in this ESU: Lake Ozette coho salmon as of special concern. WDF et al. considered most coho salmon stocks in this ESU to be healthy or of unknown status, representing a mixture of native, mixed, and non-native origins and wild or composite (hatchery and wild) production. Some stocks along the Strait of Juan de Fuca were identified as depressed. WDF et al. identified eight stocks of native origin with wild production in this ESU, four of healthy status and four of unknown status.

NMFS has determined that, relative to the other ESUs, coho salmon abundance within the Olympic Peninsula ESU is moderate, but stable. While these stocks have been reduced from historical levels by large-scale habitat degradation in the lower river basins, there is a significant portion of coho salmon habitat in several rivers protected within the boundaries of Olympic National Park. This habitat refuge, along with the relatively moderate use of hatchery production (primarily derived from native stocks), appears to have protected these coho salmon stocks from the serious losses seen in adjacent regions. While there is continuing cause for concern about habitat destruction and hatchery practices within this ESU, NMFS believes that there is substantial native, natural production of coho salmon in the Olympic Peninsula ESU and that it is not threatened or endangered at this time.

6. Puget Sound/Strait of Georgia—To determine the status of this ESU, NMFS examined spawning escapement data, long-term trends in escapement to counting facilities, hatchery contribution rates, ocean and total exploitation rates, and trends in the size of fish in the terminal landings. Spawning escapements in the Puget