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KEY INFORMATION

Area of Concern

Drainages of Puget Sound and Hood Canal, the eastern Olympic Peninsula (east of Salt Creek), and the Strait of Georgia from the eastern side of Vancouver Island and the British Columbia mainland (north to and including Campbell and Powell Rivers), excluding the upper Fraser River above Hope.

Year Identified as "Species of Concern"
1997

Factors for Decline

- Hatchery fish interactions
- Fishing
- Logging
- Agriculture
- Development
- Dams and hydropower projects
- Pollution
- Reduced population productivity

Conservation Designations

IUCN: Not Evaluated

Species of Greatest Conservation Need: WA

Current Status:

Demographic and Genetic Diversity Concerns:

The Puget Sound/Strait of Georgia (PS/SOG) **Evolutionarily Significant Unit** (ESU) includes coho salmon from drainages of Puget Sound and Hood Canal, the eastern Olympic Peninsula (east of Salt Creek), and the Strait of Georgia from the eastern side of Vancouver Island and the British Columbia mainland (north to and including Campbell and Powell Rivers), excluding the upper Fraser River above Hope (Figure 1). The status of the PS/SOG coho ESU is of concern due to declines in abundance and productivity, reduced distribution, and threats to genetic diversity. Historic natural run sizes were probably a bit over 1 million fish. There is significant hatchery fish production in this ESU. Hatchery fish are suspected of causing changes in population structure and loss of diversity in the ESU. The hatchery populations represent a substantial portion of the remaining genetic resources within the ESU. Average recent run sizes (1981-1992) for the main US stocks of the ESU are about 479,000 natural and 776,000 hatchery fish. Thus, total run size in the US has not declined, but is mostly made up of hatchery fish. The trend in abundance of the Canadian portion of the ESU has been a downward decline of 50% through the mid-1990s. It is unclear what proportion of Canadian coho salmon production is due to hatchery versus wild production. Bledsoe et al. (1989) examined changes in run sizes of Puget Sound salmon since 1896. They reported a dramatic 85% decline of coho salmon terminal runs in south Puget Sound from 1935 to 1975.

Only three rivers have long-term (extending back to the 1930s or 1940s) escapement data from which to estimate trends. Baker River and White River showed declining trends in the 1960s and 1970s, with evidence of recovery in the 1980s. The number of adults on the Samish River did not change over a 55-year period. **Stocks** in this ESU were considered by WDF et al. (1993) to range from healthy to critical status. Of the stocks identified by WDF et al. (1993), abundance estimates from models were available for 1965 through 1993 for 17 stocks. Two stocks had significant downward trends, five had significant upward trends, and the remainder had no significant trend. Nehlsen et al. (1991) identified three stocks in this ESU as at high risk of extinction, and one



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(Nooksack River) to be possibly extinct. None of the stocks that they identified as healthy were of strictly wild origin (i.e., had no hatchery influence). Two stocks (Deer Creek and Sumas/ Chilliwack) were identified as of native origin with wild production, but were of unknown status. More recent spawner survey data are available for numerous rivers within this ESU, but no reliable breakdown of natural and hatchery production is available. Between 1972 and 1993 the average size of fish in the terminal landings underwent a sharp decline, from an average of about 9 lbs to 4 lbs (Weitkamp et al. 1995).

Existing Protections and Conservation Actions:

This stock benefits from numerous protections enacted to conserve and improve conditions for other Pacific salmon listed under the Endangered Species Act.

Brief Species Description:

Coho salmon are distributed throughout the North Pacific Ocean, and inhabit most coastal streams and rivers from Alaska to central California. They are **anadromous**, meaning they migrate from the ocean to spawn in fresh water. In contrast to the life-history patterns of other anadromous salmonids, coho salmon from central British Columbia south generally exhibit a simple, 3-year life cycle. Adults typically begin their freshwater spawning migration in fall, spawn by mid winter, then die. Juveniles rear in fresh water for up to 15 months, then migrate to the ocean as **"smolts"** in the spring. Coho salmon typically spend two growing (summer) seasons in the ocean before returning to their natal streams to spawn as 3 year-old adults.

References:

- Bledsoe, L.J., et al. 1989. Can. Spec. Publ. Fish. Aquat. Sci. 105.
- Busby, P. et al. 1996. Status review update for salmon from WA, OR, and CA. NOAA NMFS. <http://www.nwr.noaa.gov/Publications/Biological-Status-Reviews/Upload/SR1996-coho2.pdf>.
- Nehlsen, W., et al. 1991. Pacific salmon at the crossroads: stocks at risk from California, Oregon, Idaho, and Washington. Fisheries 16:4-21.
- WDF et al. 1993. 1992 Washington State salmon and steelhead stock inventory. WA Dep. Fish Wildl., Olympia.

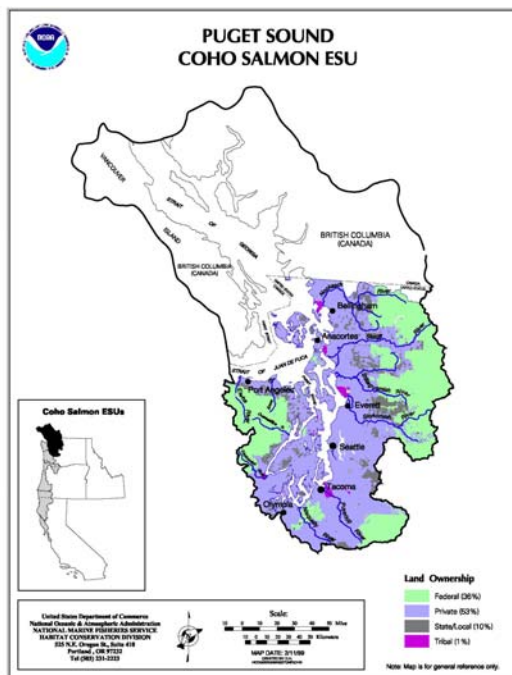


Figure 1. ESU map.

Contact Information

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