

# LOWER COLUMBIA – LOWER COWLITZ SPRING CHINOOK

This stock was previously known as Cowlitz spring Chinook. The name change emphasizes the displacement of Cowlitz basin spring Chinook, which spawned in the upper watershed historically, to the lower mainstem following dam construction. Efforts are underway to restore spring Chinook to the upper watershed.

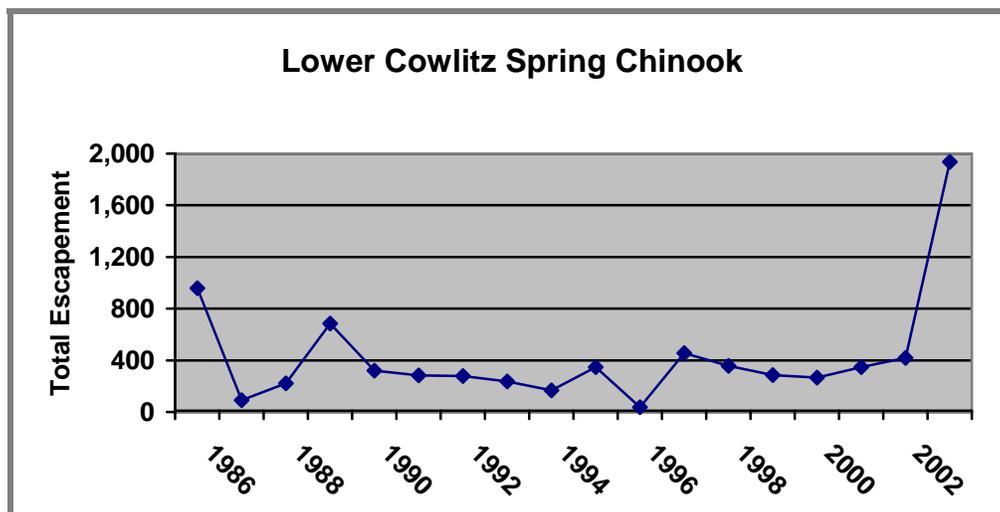
## STOCK STATUS

1992 STATUS <b>Healthy</b>	2002 STATUS <b>Depressed</b>
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## STOCK STATUS RATING DATA

USEFULNESS FOR RATING STOCK STATUS: Good

YEAR	TOTAL ESCAPEMENT	YEAR	TOTAL ESCAPEMENT
1986	959	1995	347
1987	90	1996	36
1988	221	1997	455
1989	684	1998	356
1990	320	1999	285
1991	284	2000	266
1992	279	2001	347
1993	236	2002	419
1994	167	2003	1,937



Data are total escapement estimates expanded from annual peak redd counts from the barrier dam just below the Cowlitz Salmon Hatchery (RM 50.4) downstream to the Kelso Bridge (RM 5.1).

Stock status is rated **Depressed** in 2002 because of **chronically low** escapements. Natural escapement levels (which include hatchery-origin fish) are typically only 200 to 400 fish.

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## STOCK DEFINITION

Lower Cowlitz spring Chinook were identified as stock based on their distinct spawning distribution and early spawning timing.

**SPAWNING DISTRIBUTION:** Historically all spawning occurred above the three dams on the mainstem Cowlitz in the area above Packwood and in the Cispus River between Iron and East Canyon creeks. Natural spawning now occurs primarily within an eight-mile stretch between the Cowlitz Trout Hatchery on Blue Creek and the Cowlitz Salmon Hatchery. Some adult fish are now transported to various sites above the dams as part of a restoration project.

**SPAWNING TIMING:** Spawning generally occurs from late August through early October.

**GENETIC ANALYSIS:** No genetic analysis has been done on naturally-spawning Lower Cowlitz spring Chinook. Allozyme analysis of the hatchery population sampled in 1982 and 1987 showed them to be genetically similar to, but distinct from, Kalama Hatchery and Lewis River wild spring Chinook and distinct from all other Columbia River spring Chinook stocks (WDF and WDW 1993).

## STOCK ORIGIN

This is a **mixed** stock with **composite** production. The native component of the stock may be a mixture of spring Chinook stocks present in the upper Cowlitz before the dams were built (Myers et al. 2002). The Cowlitz Salmon Hatchery was built to mitigate for the loss of spawning habitat above Mayfield Dam. Because run and spawning timing separation between spring and fall Chinook at the hatchery is not complete, spring and fall Chinook have been crossed (Myers et al. 2002). The majority of Chinook are released at the hatchery; however, some subyearlings are released above Mayfield Dam as part of a restoration project with the expectation that they will return to the upper watershed and spawn.