

**Cowlitz, Kalama, and Lewis River
Spring Chinook Fact Sheet
January 2025**

2025 Spring Chinook Forecasts

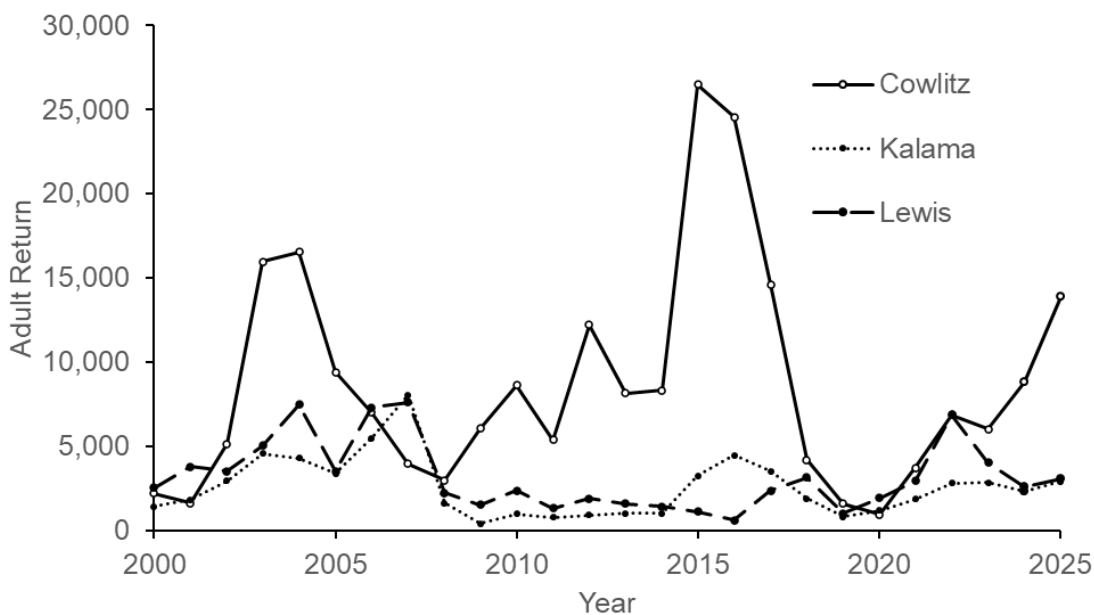
Spring Chinook forecasts are commonly based on average brood year relationships, where: age-3 (jacks) predict age-4 adults, age-4 predict age-5 adults. The forecasts provided below are estimated by using a suite of sibling regression, cohort ratio, and average return models to estimate runsize and are an aggregate of hatchery and natural origin. The forecast returns of spring Chinook returning to the Columbia River mouth (for Washington tributary stocks below Bonneville Dam) are:

- Cowlitz River= 13,721 adult spring Chinook
- Kalama River= 2,990 adult spring Chinook
- Lewis River= 3,155 adult spring Chinook

Historic Spring Chinook returns to these lower Columbia tributaries (after accounting for mainstem fisheries) and the forecasted return for 2024 are provided in Figure 1 below.

- The 2025 Cowlitz River spring Chinook forecast to the tributary mouth is greater than the recent 5-year and 10-year average return of 5,300 and 9,800, respectively.
- The 2025 Kalama River spring Chinook forecast to the tributary mouth is similar to the recent 5-year and 10 year average return of 2,200 and 2,500, respectively.
- The 2025 Lewis River spring Chinook forecast to the tributary mouth is similar to the recent 5-year average return of 3,700 and greater than the 10-year average return of 2,600.

Figure 1. Adult spring Chinook returns to the Cowlitz, Kalama, and Lewis rivers by return year and forecasted return for 2025.



Additional information on Columbia River spring Chinook forecasts can be found at:
<https://wdfw.wa.gov/fishing/management/columbia-river/compact/other-information#2025>.

Hatchery Releases

- Hatchery spring Chinook releases from Cowlitz, Kalama, and Lewis facilities for 2014-2023 are shown in Table 1.
- Adults (age 4-6) returning in 2025 were released in 2020-2023.
- Cowlitz releases in 2014-2020 were near or above goal.
- Cowlitz 2019 included an additional June release of 118,000 subyearling smolts as a result of surplus production.
- Cowlitz 2022 release was reduced due to lack of adult brood returns. This release was a combination of Cowlitz and a one-time backfill of Kalama origin production.
<https://wdfw.medium.com/anglers-may-see-more-unmarked-chinook-smolts-on-the-cowlitz-river-this-spring-heres-why-e53fc6bfc0ef>
- Kalama releases in 2014-2023 have been near or above goal.

Table 1. Spring Chinook hatchery releases from Cowlitz, Kalama, and Lewis facilities in 2014-2023. Shaded rows correspond to releases contributing to the 2025 adult return.

Release Year	COWLITZ			KALAMA			LEWIS		
	Goal	Plant	% Of Goal	Goal	Plant	% Of Goal	Goal	Plant	% Of Goal
2014	1,797,115	2,051,598	114%	500,000	515,038	103%	1,675,000	1,516,940	91%
2015	1,793,529	1,958,471	109%	500,000	549,558	110%	1,925,000	1,814,469	94%
2016	1,793,529	1,874,482	105%	500,000	481,624	96%	1,250,000	717,742	57%
2017	1,741,899	1,852,960	106%	500,000	533,954	107%	1,250,000	402,224	32%
2018	1,741,899	1,844,162	106%	500,000	509,425	102%	1,250,000	710,708	57%
2019	1,741,899	2,011,018	115%	500,000	509,909	102%	1,350,000	2,294,425	170%
2020	1,741,899	1,968,336	113%	500,000	479,961	96%	1,350,000	1,760,485	130%
2021	1,741,899	1,290,014	74%	500,000	499,859	99%	1,350,000	1,739,959	129%
2022	1,741,899	911,240	52%	500,000	522,702	105%	1,350,000	1,600,544	118%
2023	1,741,899	1,673,505	96%	500,000	509,000	102%	1,350,000	1,673,505	124%

- Lewis releases in 2014-2018 were below goal due to a combination of reduced in-hatchery survival and subsequent low adult returns for use as hatchery broodstock.
- Changes in release size and timing strategies have been made at Lewis Hatchery to address the challenges with in-hatchery survival that have occurred in recent years. A program has been implemented to evaluate these changes, including sub-yearling smolt releases in June and October. The release goals and release numbers in Table 1 include all strategies.
- 2019-2023 Lewis releases included additional sub-yearling smolts released in June to supplement forage for Southern Resident Killer Whales.

Hatchery Escapement Goals

- Hatchery escapement needs for Cowlitz, Kalama, and Lewis rivers are shown in Table 2.
- The on-station escapement needs at each hatchery in Table 2 are the number of adults needed to meet broodstock needs for the in-basin hatchery release goals and harvest programs.
- On-station hatchery escapement needs for the Cowlitz and Lewis are defined in the *U.S. v. Oregon* Biological Opinion (BIOP) issued by NOAA Fisheries. Available at: https://media.fisheries.noaa.gov/dam-migration/s7-usvoregon_2018-2027_mgmagmnt_final_signed.pdf
- Based upon preseason forecasts for 2025, the Cowlitz, Kalama, and Lewis River spring Chinook fisheries will open under the permanent rules detailed in the 2024-2025 Sport Fishing Rules pamphlet.
- Fishery managers will closely monitor in-season return information and notify anglers through emergency rule changes if season and/or regulation changes are warranted.
- ESA obligations guide hatchery-origin adult escapement goals so that conservation objectives can be met to continue efforts to re-introduce fish into the upper basins in the Cowlitz and Lewis rivers.

Table 2. Cowlitz, Kalama, and Lewis River spring Chinook run-size forecasts for 2025 and hatchery escapement needs. Actual annual hatchery broodstock needs may vary slightly to account for changes in fecundity, sex ratios, pre-spawn loss, etc.

2025 Expectations			
Details	Cowlitz	Kalama	Lewis
Forecasted return to Col. R. Mouth	13,721	2,990	3,155
Expected CR mainstem harvest for 2024	412	90	95
Forecasted return to tributary mouth	13,309	2,900	3,060
Avg. % natural-origin return	12.3%	3.4%	5.6%
Natural-origin return	1,637	98	171
Hatchery-origin return to trib. mouth	11,672	2,802	2,888
Hatchery-origin escapement need to trib. Mouth¹	1,508	795	1,596
Est. tributary hatchery spawners below hatchery	171	195	216
Minimum broodstock need at hatchery	1,337	600	1,380
Upstream transport	TBD ²	NA	TBD ²
Harvestable hatchery-origin surplus	10,164³	2,007	1,292

- 1- Includes fish spawning in the wild outside the hatchery
- 2- Fish above hatchery program needs are transported and released above dams for population recovery; exact numbers ‘To Be Determined’ (TBD) through in-season management
- 3- Includes 5-year-old returns from Kalama origin backfill intended for harvest only

Ocean Conditions

- Ocean conditions have been identified as a leading contributor to adult salmon returns along the Pacific coast of the U.S. and Canada.

- Table 3 presents NOAA’s Northwest Fisheries Science Center “stoplight” chart of ocean ecosystem indicators that are measured and collectively provide a gauge of the “ocean conditions” experienced by some salmonids during their marine residence. The specific factors most closely related to survival of each species and population vary, so this chart is meant merely as a “snapshot” of a variety of ocean condition indices.

Table 3. NOAA Fisheries – Northwest Fisheries Science Center Ecosystem Indicator “Stoplight” chart, available at: <https://www.fisheries.noaa.gov/west-coast/science-data/ocean-conditions-indicators-trends>

