**Summary of field data collection efforts for fall-run Chinook Salmon in the Oregon portion of the Mainstem Klamath River during the 2024 Season**

Oregon Department of Fish and Wildlife, Klamath Anadromous Restoration Program, Klamath Falls, Oregon January 23rd, 2025

Oregon Department of Fish and Wildlife staff began weekly floating and foot-based spawning ground surveys for fall-run Chinook Salmon on the mainstem of the Klamath River on October 8, 2024, and ended surveys on December 26th, 2024 following multiple weeks of zero new live fish and zero new redds. Surveys consisted of floating multiple reaches of the river using at least one cataraft and one inflatable kayak so that both sides of the river could be surveyed. The surveys covered three segments including 3.65km of the former JC Boyle reservoir footprint, the 1.71km stretch from Klamath River Campground to Turtle Campground, and the 2.93km stretch from Turtle Campground to above the Caldera Rapids (fig 6). Data collected included counts of live fish, counts of new redds, and all new carcasses encountered were sampled for sex, length, fin clips, and scales were collected on all carcasses for aging if the preferred collection area on body was present. Heads were removed from all ad-clipped carcasses encountered for CWT recovery. Due to safety concerns and physical access, much of the Klamath River was not surveyed. Reaches not surveyed are in steep canyons where the river consists of high gradient, large boulder sections that contain little to no suitable spawning habitat. However, where it is known that *O.mykiss* (resident Rainbow Trout) spawn in these difficult to access reaches, periodic foot-based surveys were conducted, such as the bypass reach upstream of the former JC Boyle powerhouse.

**Live Fish Summary**

During weekly surveys of reaches in the mainstem Klamath River all live fall-run Chinook Salmon were counted. Live fish were first observed in the JC Boyle reach above the former JC Boyle Dam on October 23rd, 2024, and peaked at 88 live fish on October 30th. The Campground and Frain Ranch reaches were surveyed weekly on the same day throughout the survey period and were combined with a peak count on November 6th of 93 fall-run Chinook Salmon (fig 1). On a foot-based survey in the Bypass Reach on Oct 29th 5 fall-run Chinook Salmon were observed at one location. **The summation of all reaches maximum daily live fish counts (186) plus total sampled carcasses up to that date (9) resulted in an estimated run size based on live fish observations of 195 fall-run Chinook Salmon (table 1).**

***Note that while an estimate of run size was determined using live fish observations, ODFW does not recommend this method in determining the run size of fall-run Chinook Salmon in the Oregon portion of the Klamath River due to the difficulties of observing fish in such a large river with turbid or off-color water. Instead, ODFW recommends using the redd count data and jack fraction to estimate run size, which is calculated in the subsequent section.***

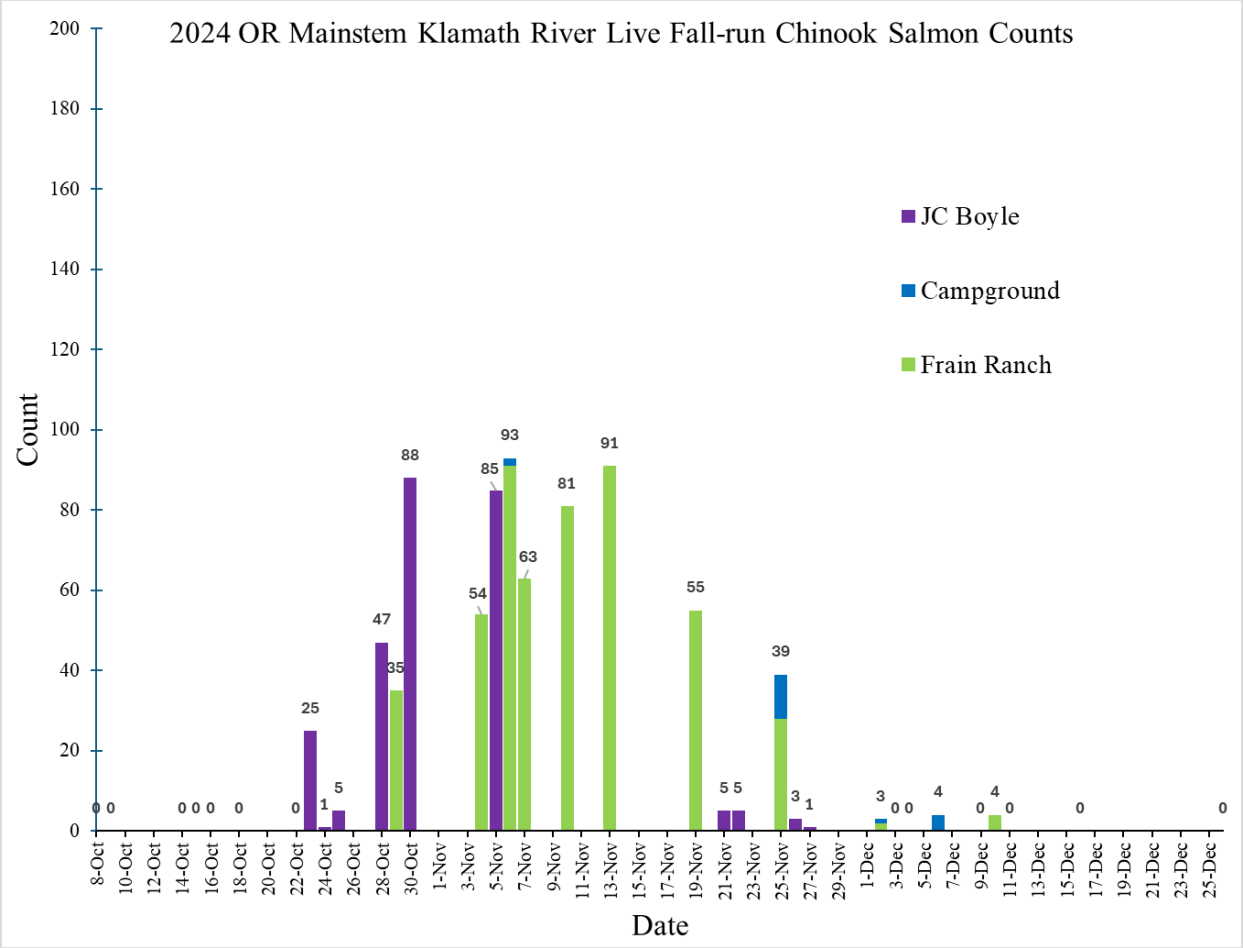



**Figure 1.** Counts of live fall-run Chinook Salmon in the Oregon Mainstem Klamath River during the 2024 survey. Zeros denote a survey took place on that day, but no live fish were observed.

**Table 1.** Maximum daily counts of live fall-run Chinook Salmon in the Oregon Mainstem Klamath River during the 2024 survey.

| **2024 Oregon Mainstem Klamath River Estimated fall-run Chinook Salmon based on live fish counts** | | | | |
|---|---|---|---|---|
| **Reach** | **Date** | **Daily maximum count** | **# Carcasses up to max count date** | **Estimated run size** (Daily max count plus carcasses to date) |
| JC Boyle Reach | 10/30/2024 | 88 | 7 | 95 |
| Frain Ranch and campground Reaches | 11/6/2024 | 93 | 2 | 95 |
| Bypass Reach | 10/29/2024 | 5 | 0 | 5 |
| **Total** | | **186** | **9** | **195** |

## Redd Count Summary and Run Size Estimate

During weekly surveys of the mainstem Klamath River, all new fall-run Chinook Salmon redds were enumerated and marked with flagging to prevent duplicate counting in subsequent surveys. A total of 151 redds were observed (fig 2). Mean daily discharge in the mainstem Klamath River downstream of the former JC Boyle powerhouse fluctuated between 940 cfs and 1,010 cfs during the survey period. Mean daily turbidity (measured in FNU) fluctuated between 5 and 11 FNUs (fig 3).

Assuming each redd represents one adult female and one adult male fall-run Chinook Salmon, redd counts were multiplied by two to estimate adult escapement. An estimated 302 adult fall-run Chinook Salmon spawned in the mainstem Klamath River in Oregon downstream of Keno Dam.

From examination of length frequency distributions of carcasses and known-age fall-run Chinook Salmon that were determined from CWT analysis, a preliminary jack cut off of ≤59 cm was established for the mainstem Klamath River in Oregon. Based on this determination **ODFW estimates that the 2024 fall-run Chinook Salmon run in the Oregon portion of the Klamath River was comprised of 53 jacks (14.9%) and 302 (85.1%) adults for a total run size estimate of 355 (table 2).**

**Table 2.** Estimated fall-run Chinook Salmon run size in 2024 in the Oregon portion of the Klamath River based on redd count and estimated jack fraction.

| **2024 Oregon Mainstem Klamath River Estimated fall-run Chinook Salmon based on redd counts** | | | | | | |
|---|---|---|---|---|---|---|
| **Total Redds counted** | **Redd Multiplier** | **Estimated adult run size** (total redds*multiplier) | **Jacks** (≤59 FL cm) | **Estimated jack fraction (Pjack)** (jack carcasses measured/total male carcasses measured) | **Estimated Total run size including jacks** (Est. adult run size/(1-Pjack) | **Estimated number of jacks** (Est. total run - Est. adult run) |
| 151 | 2 | 302 | 7 | 0.15 | **355** | 53 |

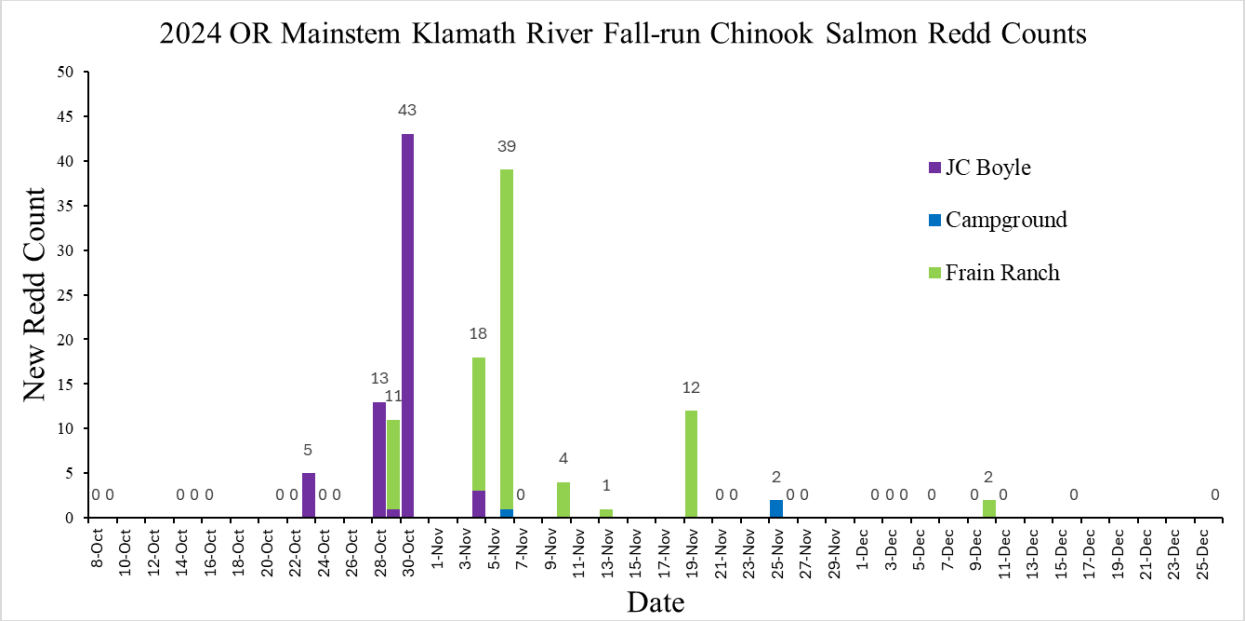



**Figure 2.** Counts of new fall-run Chinook Salmon redds in the Oregon portion of the mainstem Klamath River during the 2024 survey. Zeros denote a survey took place on that day, but no new redds were observed.

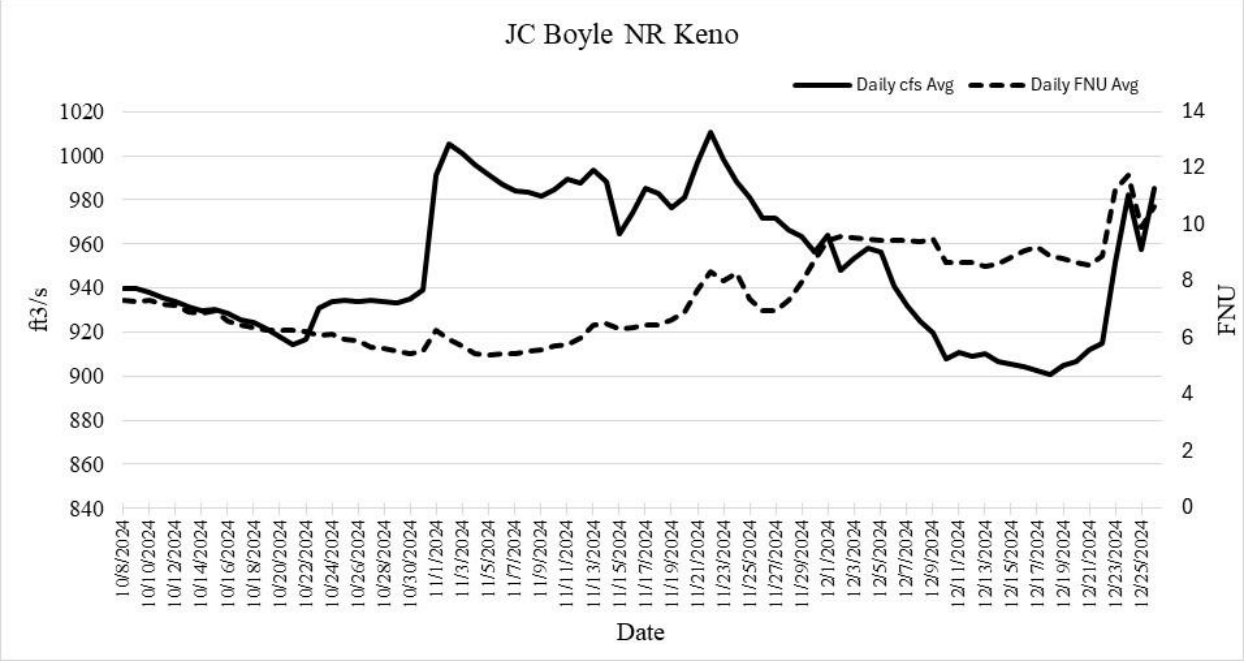
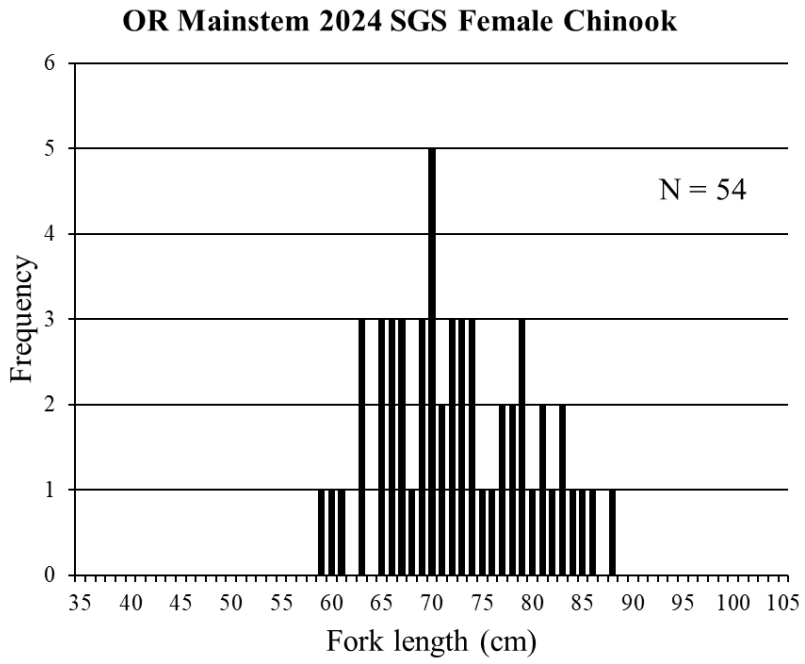


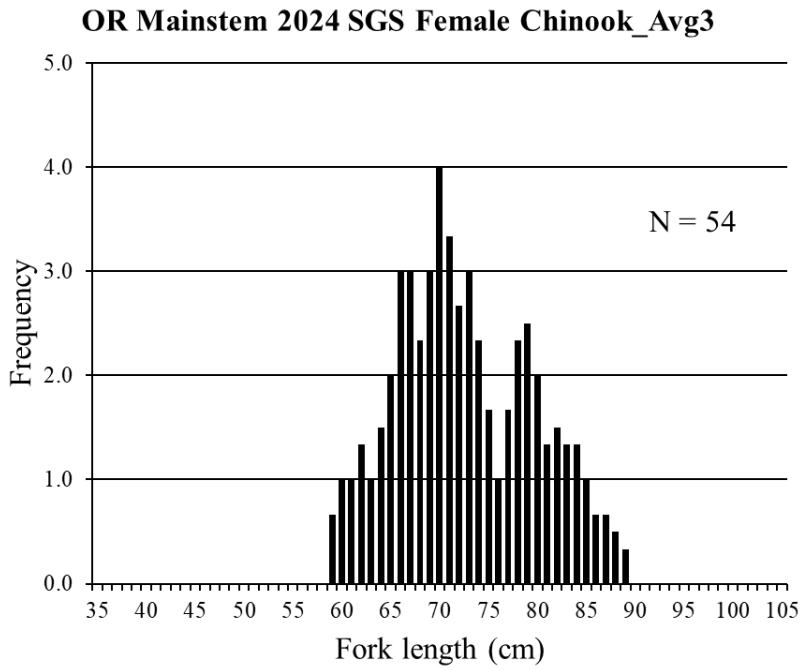

**Figure 3.** Mean daily discharge (solid line; cfs) and turbidity (dashed line; FNU) in the Klamath River Below John C. Boyle Powerplant, near Keno, OR (USGS Gaging Station 11510700) during the 2024 fall-run Chinook Salmon redd surveys (https://waterdata.usgs.gov; January 16, 2025)

**Carcass Survey Summary**

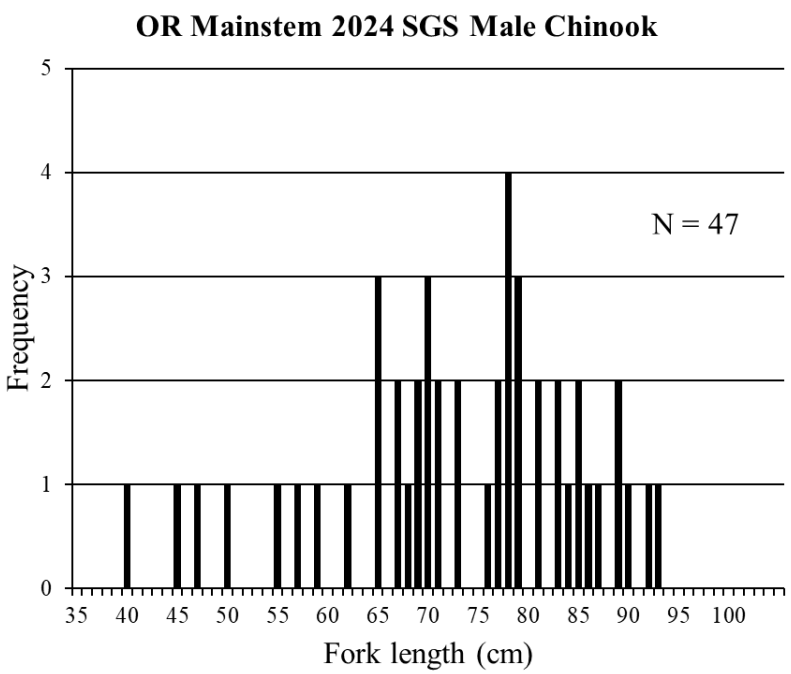
During weekly surveys of reaches in the mainstem Klamath River all carcasses encountered were counted and sampled. Depending on the condition of the carcass, length, sex, and fin clips were recorded. If they could be obtained, scales were collected from carcasses. Heads were collected from ad-clipped fish for detection of CWTs. A total of 143 carcasses were counted in all sampled reaches of the mainstem Klamath River in Oregon during the spawning ground surveys. Of the carcasses that were able to be identified by sex and could be measured (FL, cm) 47 were male (46.53%) and 54 were female (53.47%) (fig 4). Thirty-two carcasses of the total counted could not be identified by sex, usually due to scavenging from wildlife prior to encountering them. Scales were collected from 132 fall-run Chinook Salmon carcasses.

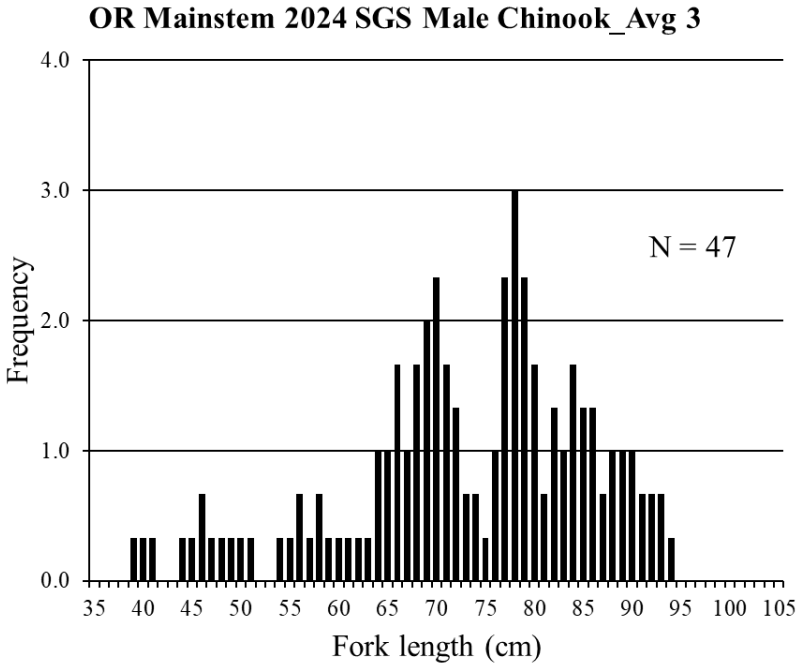
Positive CWT codes were obtained from the 18 heads collected from ad-clipped carcasses. Known age fish along with their lengths are summarized in figure 5. Due to the sampling regime applied and the frequency of sampling we assume that 100% of the carcasses that were present in the reaches surveyed were recovered and no sample expansion was applied. CWT recoveries were expanded by their production multiplier (estimated at the time of juvenile release, obtained from hatchery records). **The estimated number of hatchery fall-run Chinook Salmon in the mainstem Klamath River was 68 fish (19.2% of total estimated run; table 3) (updated on 1/22/2026; previous reports were 27 hatchery fish and 7.6% due to not expanding the sample).**



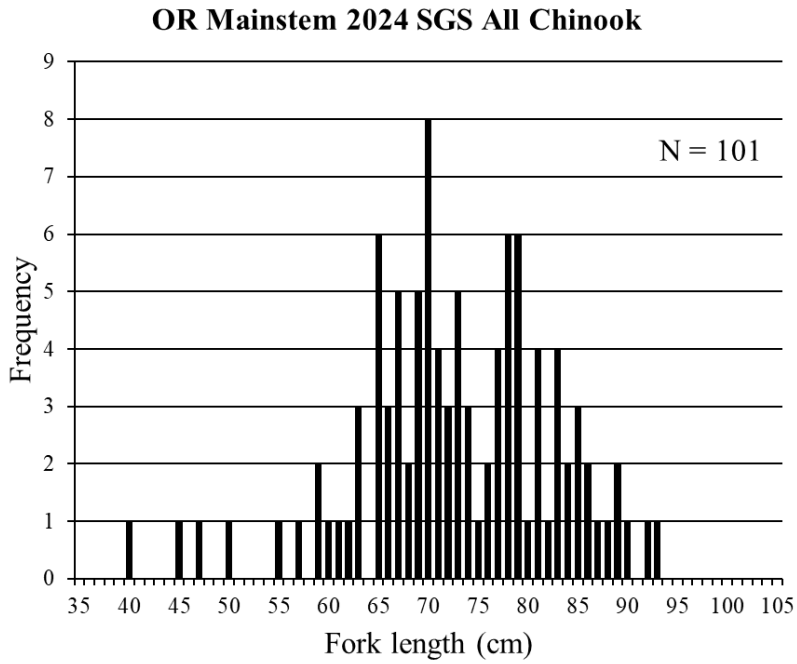




| 2024 Oregon Mainstem SGS Female Chinook | | | | |
|---|---|---|---|---|
| Length | Frequency | Avg 3 | % at FL | % ≤FL |
| 35 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 36 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 37 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 38 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 39 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 40 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 41 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 42 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 43 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 44 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 45 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 46 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 47 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 48 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 49 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 50 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 51 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 52 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 53 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 54 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 55 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 56 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 57 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 58 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 59 | 1 | 0.6667 | 0.0185 | 0.0185 |
| 60 | 1 | 1.0000 | 0.0185 | 0.0370 |
| 61 | 1 | 1.0000 | 0.0185 | 0.0556 |
| 62 | 0 | 1.3333 | 0.0000 | 0.0556 |
| 63 | 3 | 1.0000 | 0.0556 | 0.1111 |
| 64 | 0 | 1.5000 | 0.0000 | 0.1111 |
| 65 | 3 | 2.0000 | 0.0556 | 0.1667 |
| 66 | 3 | 3.0000 | 0.0556 | 0.2222 |
| 67 | 3 | 3.0000 | 0.0556 | 0.2778 |
| 68 | 1 | 2.3333 | 0.0185 | 0.2963 |
| 69 | 3 | 3.0000 | 0.0556 | 0.3519 |
| 70 | 5 | 4.0000 | 0.0926 | 0.4444 |
| 71 | 2 | 3.3333 | 0.0370 | 0.4815 |
| 72 | 3 | 2.6667 | 0.0556 | 0.5370 |
| 73 | 3 | 3.0000 | 0.0556 | 0.5926 |
| 74 | 3 | 2.3333 | 0.0556 | 0.6481 |
| 75 | 1 | 1.6667 | 0.0185 | 0.6667 |
| 76 | 1 | 1.0000 | 0.0185 | 0.6852 |
| 77 | 2 | 1.6667 | 0.0370 | 0.7222 |
| 78 | 2 | 2.3333 | 0.0370 | 0.7593 |
| 79 | 3 | 2.5000 | 0.0556 | 0.8148 |
| 80 | 1 | 2.0000 | 0.0185 | 0.8333 |
| 81 | 2 | 1.3333 | 0.0370 | 0.8704 |
| 82 | 1 | 1.5000 | 0.0185 | 0.8889 |
| 83 | 2 | 1.3333 | 0.0370 | 0.9259 |
| 84 | 1 | 1.3333 | 0.0185 | 0.9444 |
| 85 | 1 | 1.0000 | 0.0185 | 0.9630 |
| 86 | 1 | 0.6667 | 0.0185 | 0.9815 |
| 87 | 0 | 0.6667 | 0.0000 | 0.9815 |
| 88 | 1 | 0.5000 | 0.0185 | 1.0000 |
| 89 | 0 | 0.3333 | 0.0000 | 1.0000 |
| 90 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 91 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 92 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 93 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 94 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 95 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 96 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 97 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 98 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 99 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 100 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 101 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 102 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 103 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 104 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 105 | 0 | 0.0000 | 0.0000 | 1.0000 |
| | | | | |
| N | 54 | | | |
| Avg FL | 72.56 | | | |
| %f | 53.47 | | | |




| 2024 Oregon Mainstem SGS Male Chinook | | | | |
|---|---|---|---|---|
| Length | Frequency | Avg 3 | % at FL | % ≤FL |
| 35 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 36 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 37 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 38 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 39 | 0 | 0.3333 | 0.0000 | 0.0000 |
| 40 | 1 | 0.3333 | 0.0213 | 0.0213 |
| 41 | 0 | 0.3333 | 0.0000 | 0.0213 |
| 42 | 0 | 0.0000 | 0.0000 | 0.0213 |
| 43 | 0 | 0.0000 | 0.0000 | 0.0213 |
| 44 | 0 | 0.3333 | 0.0000 | 0.0213 |
| 45 | 1 | 0.3333 | 0.0213 | 0.0426 |
| 46 | 0 | 0.6667 | 0.0000 | 0.0426 |
| 47 | 1 | 0.3333 | 0.0213 | 0.0638 |
| 48 | 0 | 0.3333 | 0.0000 | 0.0638 |
| 49 | 0 | 0.3333 | 0.0000 | 0.0638 |
| 50 | 1 | 0.3333 | 0.0213 | 0.0851 |
| 51 | 0 | 0.3333 | 0.0000 | 0.0851 |
| 52 | 0 | 0.0000 | 0.0000 | 0.0851 |
| 53 | 0 | 0.0000 | 0.0000 | 0.0851 |
| 54 | 0 | 0.3333 | 0.0000 | 0.0851 |
| 55 | 1 | 0.3333 | 0.0213 | 0.1064 |
| 56 | 0 | 0.6667 | 0.0000 | 0.1064 |
| 57 | 1 | 0.3333 | 0.0213 | 0.1277 |
| 58 | 0 | 0.6667 | 0.0000 | 0.1277 |
| 59 | 1 | 0.3333 | 0.0213 | 0.1489 |
| 60 | 0 | 0.3333 | 0.0000 | 0.1489 |
| 61 | 0 | 0.3333 | 0.0000 | 0.1489 |
| 62 | 1 | 0.3333 | 0.0213 | 0.1702 |
| 63 | 0 | 0.3333 | 0.0000 | 0.1702 |
| 64 | 0 | 1.0000 | 0.0000 | 0.1702 |
| 65 | 3 | 1.0000 | 0.0638 | 0.2340 |
| 66 | 0 | 1.6667 | 0.0000 | 0.2340 |
| 67 | 2 | 1.0000 | 0.0426 | 0.2766 |
| 68 | 1 | 1.6667 | 0.0213 | 0.2979 |
| 69 | 2 | 2.0000 | 0.0426 | 0.3404 |
| 70 | 3 | 2.3333 | 0.0638 | 0.4043 |
| 71 | 2 | 1.6667 | 0.0426 | 0.4468 |
| 72 | 0 | 1.3333 | 0.0000 | 0.4468 |
| 73 | 2 | 0.6667 | 0.0426 | 0.4894 |
| 74 | 0 | 0.6667 | 0.0000 | 0.4894 |
| 75 | 0 | 0.3333 | 0.0000 | 0.4894 |
| 76 | 1 | 1.0000 | 0.0213 | 0.5106 |
| 77 | 2 | 2.3333 | 0.0426 | 0.5532 |
| 78 | 4 | 3.0000 | 0.0851 | 0.6383 |
| 79 | 3 | 2.3333 | 0.0638 | 0.7021 |
| 80 | 0 | 1.6667 | 0.0000 | 0.7021 |
| 81 | 2 | 0.6667 | 0.0426 | 0.7447 |
| 82 | 0 | 1.3333 | 0.0000 | 0.7447 |
| 83 | 2 | 1.0000 | 0.0426 | 0.7872 |
| 84 | 1 | 1.6667 | 0.0213 | 0.8085 |
| 85 | 2 | 1.3333 | 0.0426 | 0.8511 |
| 86 | 1 | 1.3333 | 0.0213 | 0.8723 |
| 87 | 1 | 0.6667 | 0.0213 | 0.8936 |
| 88 | 0 | 1.0000 | 0.0000 | 0.8936 |
| 89 | 2 | 1.0000 | 0.0426 | 0.9362 |
| 90 | 1 | 1.0000 | 0.0213 | 0.9574 |
| 91 | 0 | 0.6667 | 0.0000 | 0.9574 |
| 92 | 1 | 0.6667 | 0.0213 | 0.9787 |
| 93 | 1 | 0.6667 | 0.0213 | 1.0000 |
| 94 | 0 | 0.3333 | 0.0000 | 1.0000 |
| 95 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 96 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 97 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 98 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 99 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 100 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 101 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 102 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 103 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 104 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 105 | 0 | 0.0000 | 0.0000 | 1.0000 |
| | | | | |
| N | 47 | | | |
| Avg FL | 73.09 | | | |
| %m | 46.53 | | | |



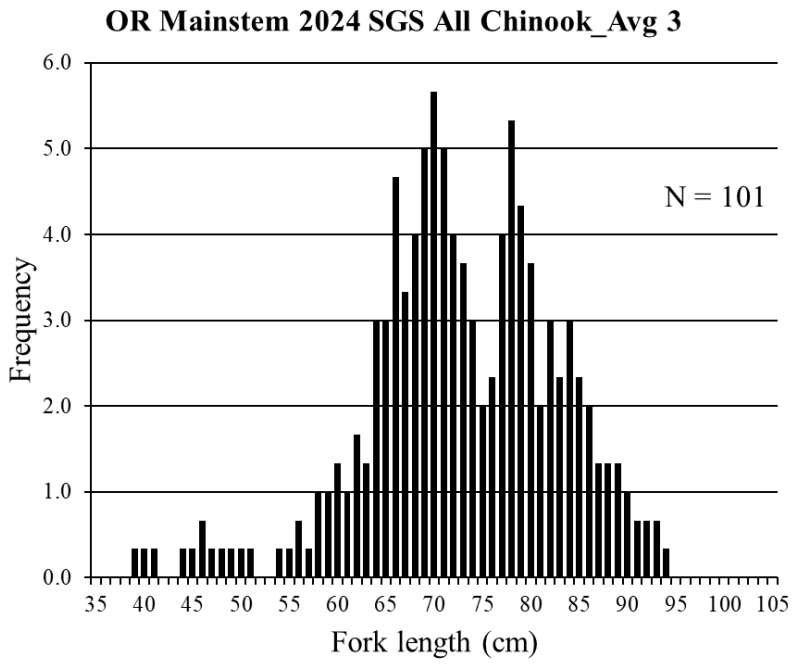




**Figure 4.** Fork length (cm) histograms and moving average of 3 (Avg 3) histograms of Chinook Salmon carcasses sampled in the Oregon mainstem Klamath River during spawning ground surveys (SGS) in 2024

| 2024 Oregon Klamath River SGS All Chinook | | | | |
|---|---|---|---|---|
| Length | Frequency | Avg 3 | % at FL | % ≤FL |
| 35 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 36 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 37 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 38 | 0 | 0.0000 | 0.0000 | 0.0000 |
| 39 | 0 | 0.3333 | 0.0000 | 0.0000 |
| 40 | 1 | 0.3333 | 0.0099 | 0.0099 |
| 41 | 0 | 0.3333 | 0.0000 | 0.0099 |
| 42 | 0 | 0.0000 | 0.0000 | 0.0099 |
| 43 | 0 | 0.0000 | 0.0000 | 0.0099 |
| 44 | 0 | 0.3333 | 0.0000 | 0.0099 |
| 45 | 1 | 0.3333 | 0.0099 | 0.0198 |
| 46 | 0 | 0.6667 | 0.0000 | 0.0198 |
| 47 | 1 | 0.3333 | 0.0099 | 0.0297 |
| 48 | 0 | 0.3333 | 0.0000 | 0.0297 |
| 49 | 0 | 0.3333 | 0.0000 | 0.0297 |
| 50 | 1 | 0.3333 | 0.0099 | 0.0396 |
| 51 | 0 | 0.3333 | 0.0000 | 0.0396 |
| 52 | 0 | 0.0000 | 0.0000 | 0.0396 |
| 53 | 0 | 0.0000 | 0.0000 | 0.0396 |
| 54 | 0 | 0.3333 | 0.0000 | 0.0396 |
| 55 | 1 | 0.3333 | 0.0099 | 0.0495 |
| 56 | 0 | 0.6667 | 0.0000 | 0.0495 |
| 57 | 1 | 0.3333 | 0.0099 | 0.0594 |
| 58 | 0 | 1.0000 | 0.0000 | 0.0594 |
| 59 | 2 | 1.0000 | 0.0198 | 0.0792 |
| 60 | 1 | 1.3333 | 0.0099 | 0.0891 |
| 61 | 1 | 1.0000 | 0.0099 | 0.0990 |
| 62 | 1 | 1.6667 | 0.0099 | 0.1089 |
| 63 | 3 | 1.3333 | 0.0297 | 0.1386 |
| 64 | 0 | 3.0000 | 0.0000 | 0.1386 |
| 65 | 6 | 3.0000 | 0.0594 | 0.1980 |
| 66 | 3 | 4.6667 | 0.0297 | 0.2277 |
| 67 | 5 | 3.3333 | 0.0495 | 0.2772 |
| 68 | 2 | 4.0000 | 0.0198 | 0.2970 |
| 69 | 5 | 5.0000 | 0.0495 | 0.3465 |
| 70 | 8 | 5.6667 | 0.0792 | 0.4257 |
| 71 | 4 | 5.0000 | 0.0396 | 0.4653 |
| 72 | 3 | 4.0000 | 0.0297 | 0.4950 |
| 73 | 5 | 3.6667 | 0.0495 | 0.5446 |
| 74 | 3 | 3.0000 | 0.0297 | 0.5743 |
| 75 | 1 | 2.0000 | 0.0099 | 0.5842 |
| 76 | 2 | 2.3333 | 0.0198 | 0.6040 |
| 77 | 4 | 4.0000 | 0.0396 | 0.6436 |
| 78 | 6 | 5.3333 | 0.0594 | 0.7030 |
| 79 | 6 | 4.3333 | 0.0594 | 0.7624 |
| 80 | 1 | 3.6667 | 0.0099 | 0.7723 |
| 81 | 4 | 2.0000 | 0.0396 | 0.8119 |
| 82 | 1 | 3.0000 | 0.0099 | 0.8218 |
| 83 | 4 | 2.3333 | 0.0396 | 0.8614 |
| 84 | 2 | 3.0000 | 0.0198 | 0.8812 |
| 85 | 3 | 2.3333 | 0.0297 | 0.9109 |
| 86 | 2 | 2.0000 | 0.0198 | 0.9307 |
| 87 | 1 | 1.3333 | 0.0099 | 0.9406 |
| 88 | 1 | 1.3333 | 0.0099 | 0.9505 |
| 89 | 2 | 1.3333 | 0.0198 | 0.9703 |
| 90 | 1 | 1.0000 | 0.0099 | 0.9802 |
| 91 | 0 | 0.6667 | 0.0000 | 0.9802 |
| 92 | 1 | 0.6667 | 0.0099 | 0.9901 |
| 93 | 1 | 0.6667 | 0.0099 | 1.0000 |
| 94 | 0 | 0.3333 | 0.0000 | 1.0000 |
| 95 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 96 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 97 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 98 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 99 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 100 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 101 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 102 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 103 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 104 | 0 | 0.0000 | 0.0000 | 1.0000 |
| 105 | 0 | 0.0000 | 0.0000 | 1.0000 |
| | | | | |
| N | 101 | | | |
| Avg FL | 72.80 | | | |

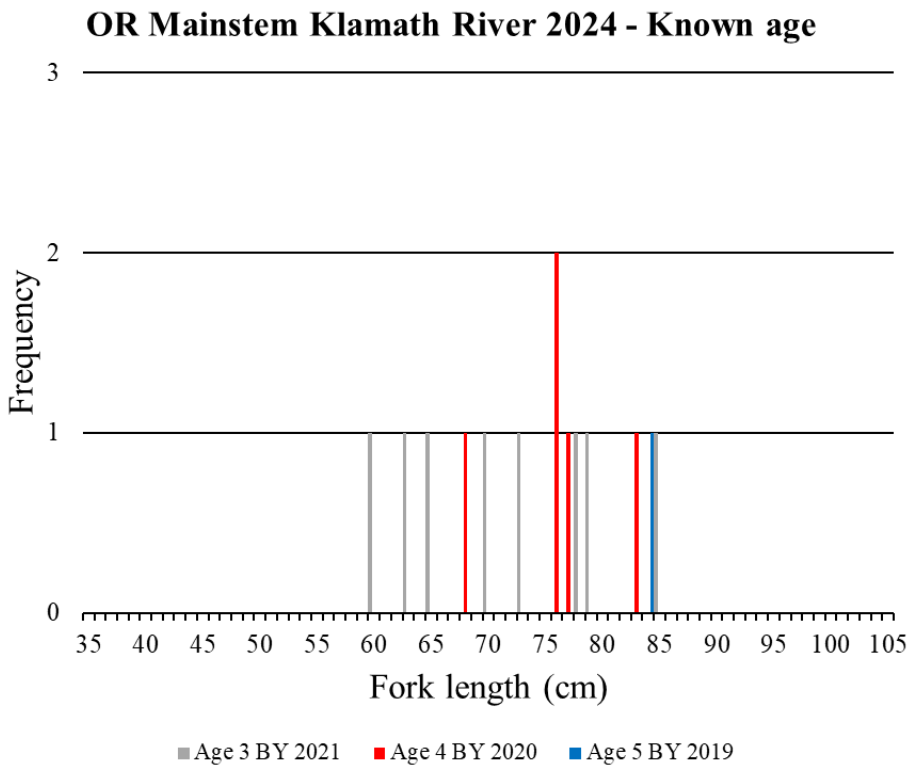



**Figure 5.** Fork length (cm) histogram of known age and brood year (BY) fall-run Chinook Salmon carcasses with codded-wire-tags (CWT) sampled in the Oregon mainstem Klamath River during spawning ground surveys in 2024.

**Table 3.** Summary of Oregon mainstem Klamath River fall-run Chinook Salmon hatchery contribution derived from CWT recovered during spawning ground surveys in 2024.

| 2024 ORMain - Klamath River Spawning Ground Survey | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CWT | Location | Release type a/ | Brood year | Sample number | Production multiplier b/ | production estimate c/ | Sample Expansion d/ | Expanded estimate e/ |
| 61545 | IGH | F | 2021 | 1 | 1.0157 | 1.0157 | 2.4825 | 2.5215 |
| 61546 | IGH | F | 2021 | 1 | 1.0146 | 1.0146 | 2.4825 | 2.5187 |
| 61582 | IGH | Y | 2020 | 3 | 1.0112 | 3.0336 | 2.4825 | 7.5309 |
| 61585 | IGH | AF | 2020 | 3 | 4.0241 | 12.0723 | 2.4825 | 29.9695 |
| 62078 | IGH | Y | 2019 | 1 | 1.0058 | 1.0058 | 2.4825 | 2.4969 |
| 62079 | IGH | AF | 2021 | 3 | 1.0181 | 3.0543 | 2.4825 | 7.5823 |
| 62269 | IGH | F | 2021 | 2 | 1.0056 | 2.0112 | 2.4825 | 4.9928 |
| 62270 | IGH | F | 2021 | 2 | 1.0079 | 2.0158 | 2.4825 | 5.0042 |
| 62271 | IGH | AF | 2021 | 1 | 1.0187 | 1.0187 | 2.4825 | 2.5289 |
| 62386 | IGH | AF | 2021 | 1 | 1.0193 | 1.0193 | 2.4825 | 2.5304 |
| **CWT sample subtotal =** | | | | **18** | | | | |
| **Hatchery contribution of carcasses sampled subtotal =** | | | | | | **27** | | |
| **Total of estimated hatchery contributions =** | | | | | | | | **68** |

| | |
|---|---|
| a/ | Release type; F=fingerling, Y=yearling, AF=advanced fingerling |
| b/ | Production multiplier is the ratio of # of fish released/fish marked |
| c/ | Production estimate is the sample number multiplied by the production multiplier |
| d/ | Sample expansion is the ratio of the estimated total run size and the number of carcasses sampled |
| e/ | Expanded estimate is the production estimate multiplied by the sample expansion |

### Age composition and age-specific run-size from scale analysis

Scales were collected from every carcass encountered during the survey and analyzed by the Yurok Tribe Fisheries Department. This data is incorporated in the Klamath River Technical Team (KRTT) estimate for age-specific escapement of fall-run Chinook Salmon for the entire Klamath River Basin. The age proportions for the mainstem Klamath River are shown in Table 4. **The ages from the scale analysis were used to estimate an age-specific run-size from redd count data resulting in an age-specific run size of 322 fall-run Chinook Salmon** (table 4).

**Table 4.** Age composition and age-specific run size estimated from scales collected from fall-run Chinook Salmon carcasses sampled in the mainstem Klamath River, Oregon in 2024.

| Mainstem Klamath River, OR fall-run Chinook Salmon scale-based age analysis | | | | | |
|---|---|---|---|---|---|
| | Age | | | | |
| | 2 | 3 | 4 | 5 | Total |
| Proportion | 0.0609 | 0.4992 | 0.3902 | 0.0498 | 1.0000 |
| Age-specific run Est. | 19 | 163 | 124 | 16 | 322 |

**Aknowledgement**

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