



## Klamath River Carcass and Redd Surveys Final Update – 2022

Synopsis: Annual fall-run Chinook Salmon carcass and redd surveys on the mainstem Klamath River are conducted jointly by the USFWS Arcata Fish and Wildlife Office (AFWO), Karuk Tribe of California, and Yurok Tribal Fisheries Program (YTFP). Surveys in 2022 began the week of October 9 (calendar week 42) and concluded December 1, after nearly all spawning activity ended. Weekly mark-recapture carcass surveys were conducted by AFWO and YTFP crews from Iron Gate Dam to the Shasta River confluence. Weekly redd surveys were conducted by AFWO and Karuk Tribe crews from the Shasta River confluence to Wingate Bar, about seven miles downstream of Happy Camp, California.

Captures of fresh carcasses (Figure 1), weekly pre-spawn mortality (Figure 2), and redd counts (Figure 3) are compared to previous years in the following charts. Note that the numbers presented in Figures 1 and 3 are actual cumulative counts that have not yet been expanded into escapement estimates. ‘Fresh’ carcass numbers in Figure 1 merely indicate relative yearly abundance. At the end of the survey season the carcass mark-recapture data is used to estimate escapement above the Shasta River using a hierarchical latent variables model. Redd counts will be doubled (i.e., one redd represents one adult female and one adult male spawner) to estimate escapement below the Shasta River confluence. Of the 596 ‘fresh’ female carcasses observed, 35 (5.9%) were pre-spawn mortalities.

*The data presented here are preliminary in nature and subject to revision.*

If you have any questions regarding these surveys, please contact Steve Gough ([steve\\_gough@fws.gov](mailto:steve_gough@fws.gov)).



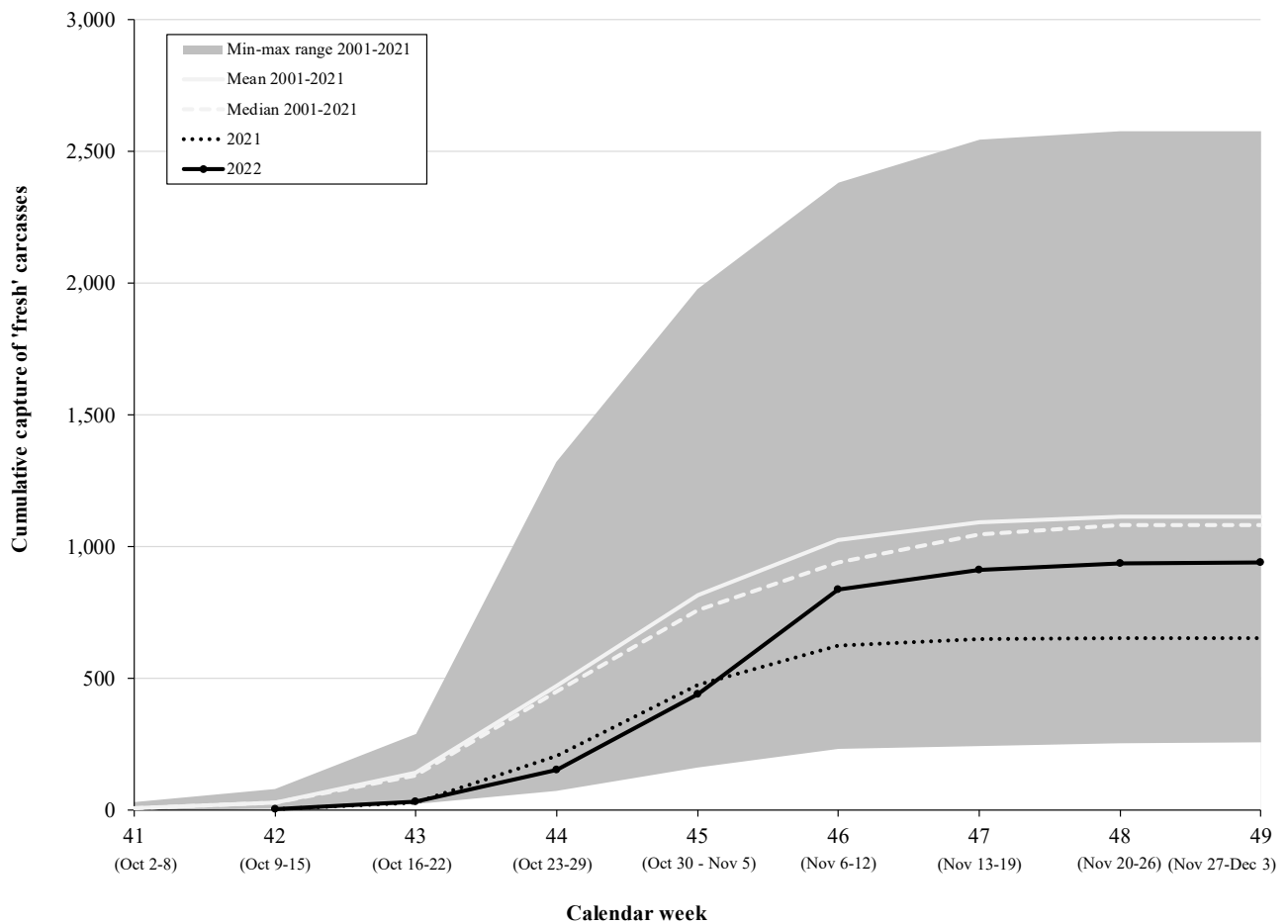


Figure 1. Cumulative count of ‘fresh’ (F<sub>1</sub>- and D<sub>2</sub>-condition) fall Chinook Salmon carcasses in the Klamath River from Iron Gate Dam to the Shasta River confluence in 2022 compared with 2001–2021. The number of fresh carcasses can be used as an indicator of annual run size; these counts have not yet been expanded into an estimate of escapement.

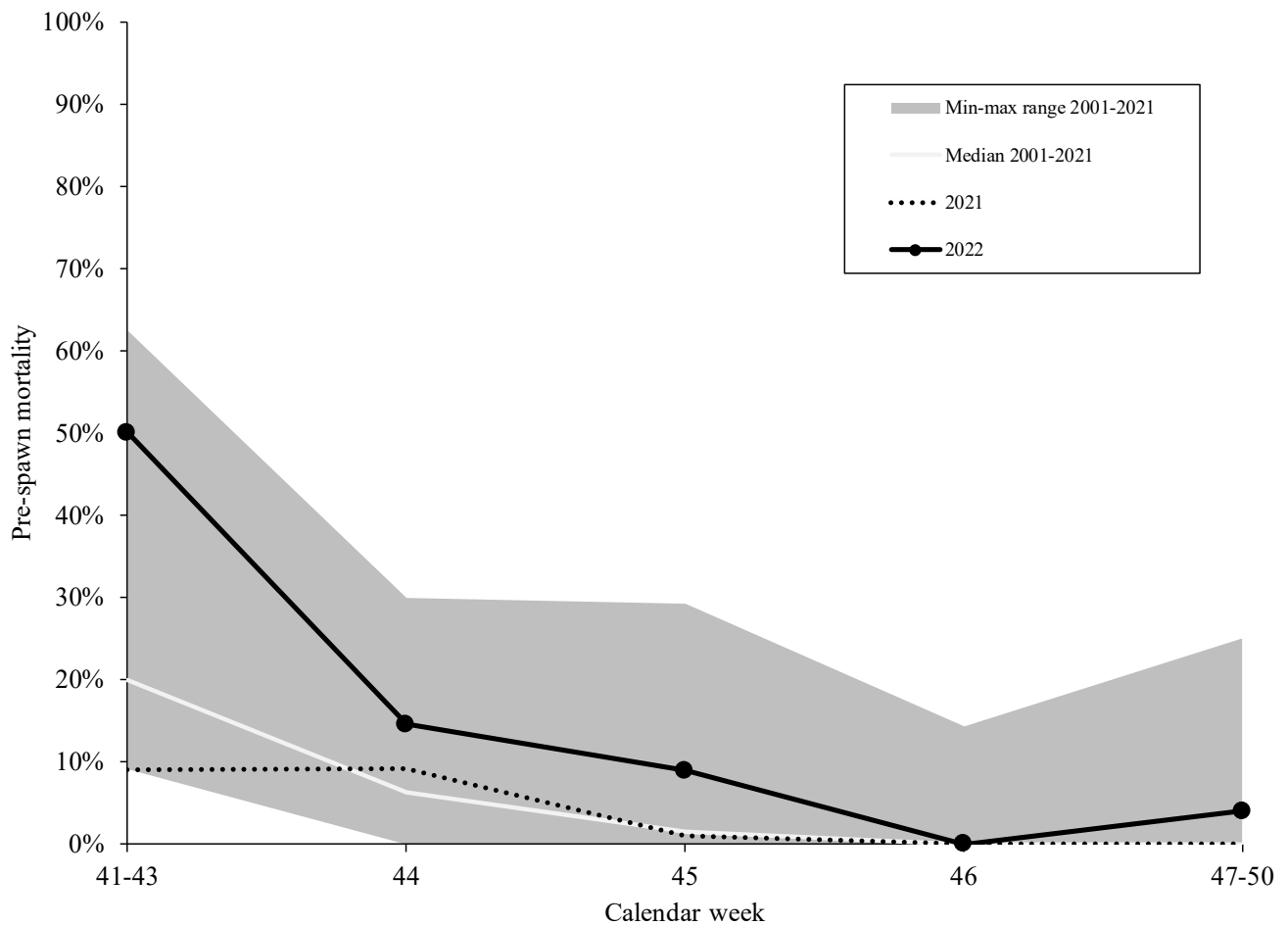


Figure 2. Weekly pre-spawn mortality from F1-condition female Chinook Salmon carcasses, Klamath River surveys in 2022 compared with 2001–2021. Calendar weeks 41–43 and 47–50 were combined since sample sizes were typically low in calendar weeks 41, 42, 48, 49, and 50, if surveyed. See Figure 1 for the dates defining this year’s calendar weeks.

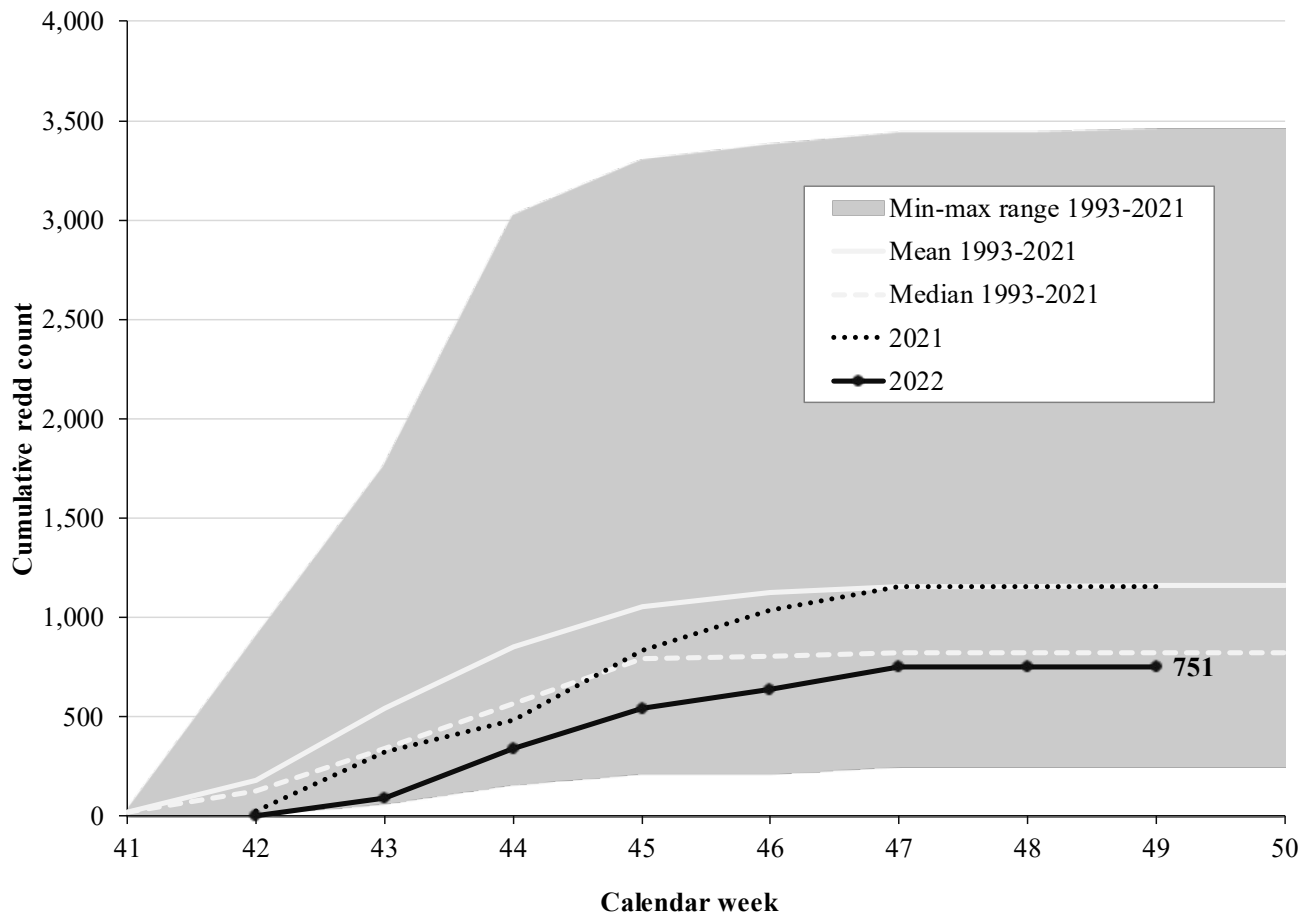


Figure 3. Cumulative count of fall Chinook Salmon redds in the mainstem Klamath River from Shasta River to Indian Creek in 2022 compared with 1993–2021. An additional 21 redds were counted between Indian Creek and Wingate Bar. See Figure 1 for the dates defining this year’s calendar weeks.