



## Klamath River Carcass and Redd Surveys Update – December 9, 2014

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 2014 began the week of October 6. Weekly mark-recapture carcass surveys are conducted by AFWO and YTFP crews from Iron Gate Dam to the Shasta River confluence. Weekly redd surveys are conducted by AFWO and Karuk Tribe crews from the Shasta River confluence to the Indian Creek confluence at Happy Camp.

Captures of fresh carcasses (Figure 1), weekly pre-spawn mortality (Figure 2), and redd counts (Figure 3) are compared to previous years' surveys 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. At the end of the survey season the carcass mark-recapture data is used to estimate escapement above the Shasta River using an area-under-the-curve methodology. 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.

A large number of fall Chinook Salmon spawned in the Klamath River this season. The cumulative counts of fresh-condition carcasses (Figure 1) and redds (Figure 3) are the highest in the history of these surveys. Pre-spawn mortality dropped to normal levels ( $\leq 10\%$  of 'fresh' female Chinook Salmon carcasses) in the fourth survey week (Calendar Week 44) after concerns over a relatively high rate (45%) of pre-spawn mortality in the third survey week was observed by the carcass survey crews (Figure 3).

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

If you have any questions regarding this summary, please contact Steve Gough at (707) 825-5197.

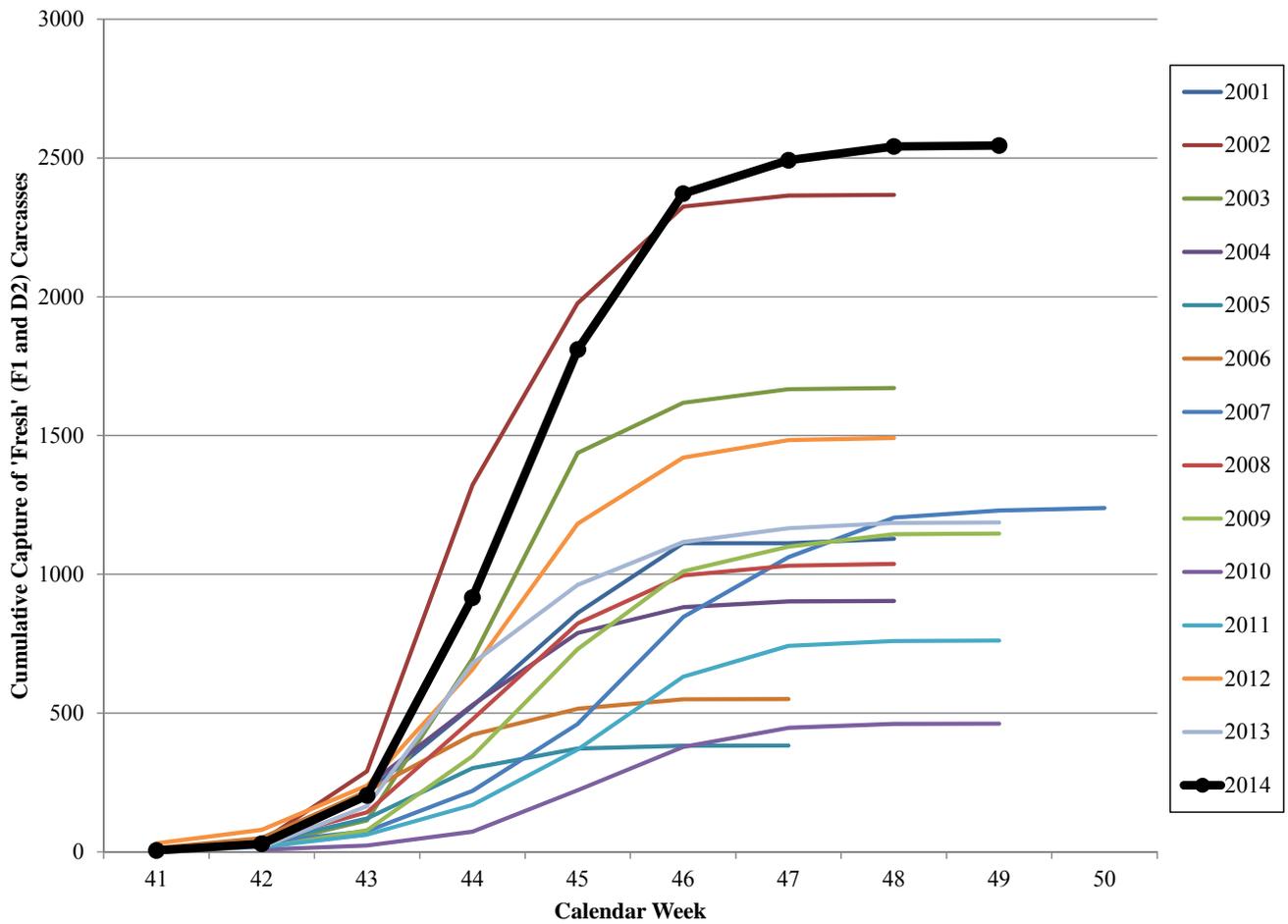


Figure 1. Cumulative count of 'fresh' fall Chinook Salmon carcasses in the Klamath River from Iron Gate Dam to the Shasta River confluence, 2001-2014. Calendar week 49 in 2014 is November 30 to December 6.

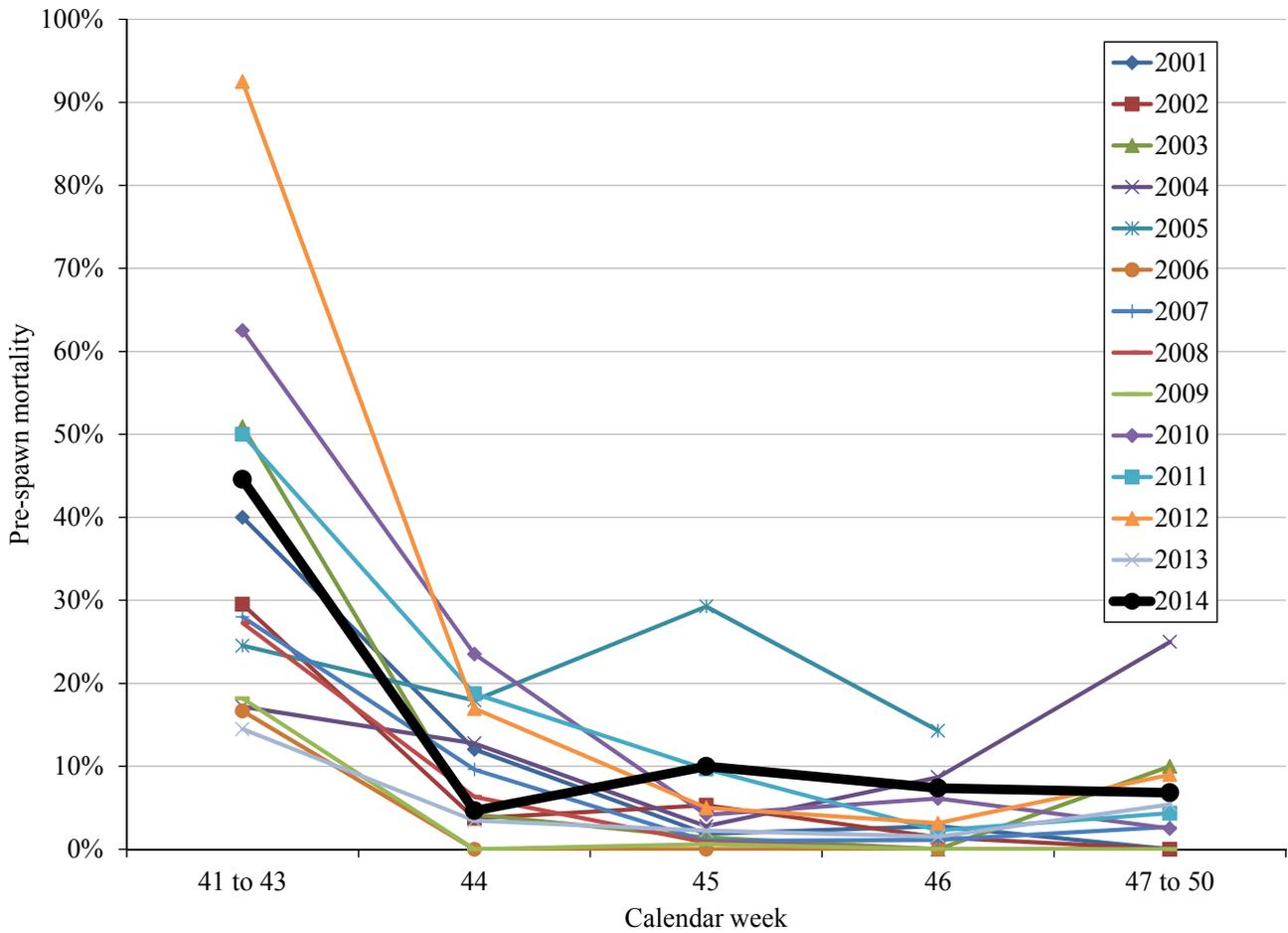


Figure 2. Weekly pre-spawn mortality from F1-condition female Chinook Salmon carcasses, Klamath River surveys 2001 to 2014. Calendar weeks 41 to 43 and 47 to 50 were combined since sample sizes were typically low in calendar weeks 41, 42, 48, 49, and 50, if surveyed. Calendar week 47 in 2014 is November 16-22.

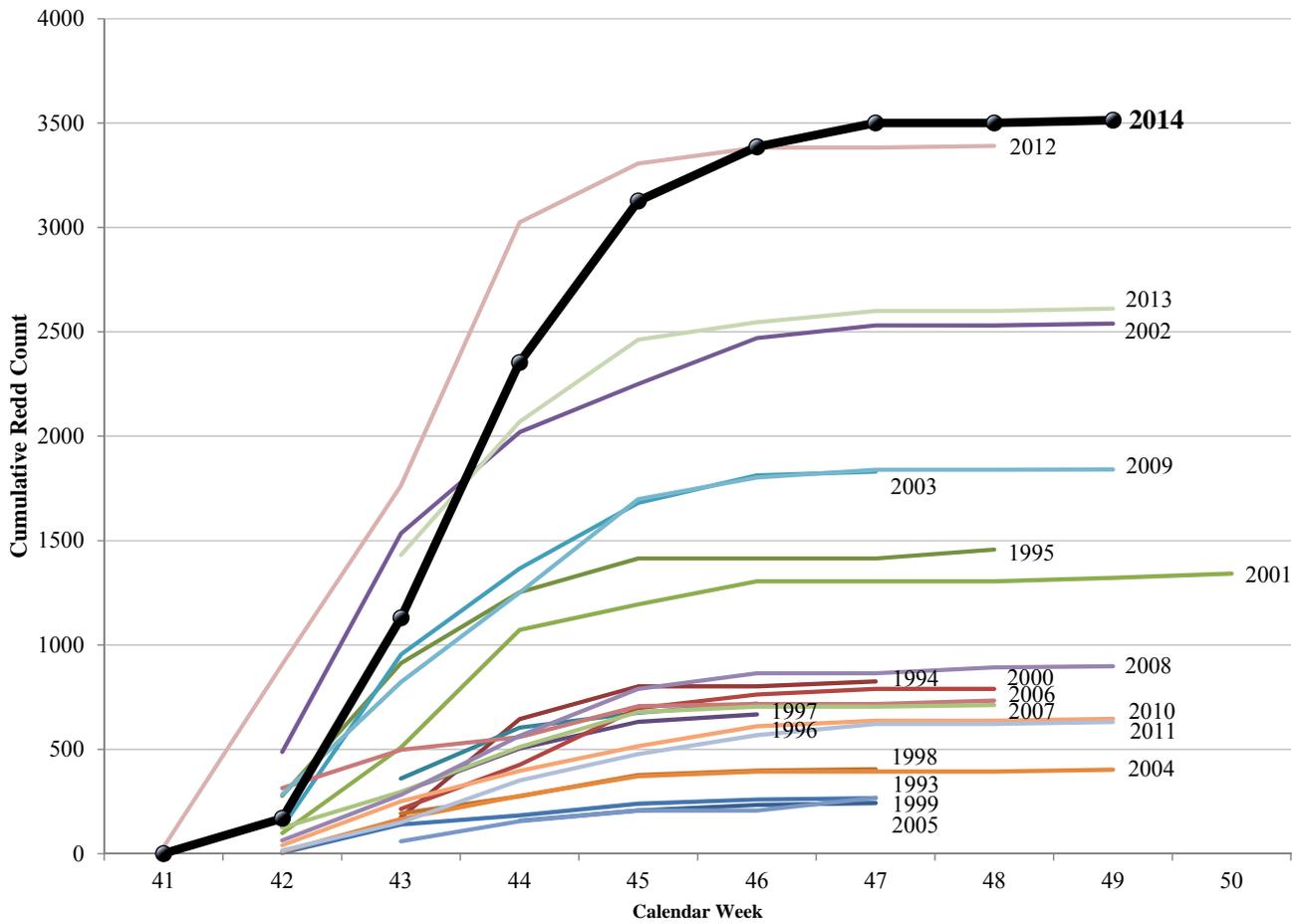


Figure 3. Cumulative count of fall Chinook Salmon redds in the mainstem Klamath River from Shasta River to Indian Creek, 1993-2014. Calendar week 49 in 2014 is November 30 to December 6.