

SALMON TECHNICAL TEAM REPORT ON
WORK GROUP REPORT ON CAUSES OF THE 2008 SALMON FAILURE

The Salmon Technical Team (STT) has reviewed the report “What caused the Sacramento River fall Chinook stock collapse” by Lindley et al., and agrees with the central result that poor ocean conditions were likely the proximate cause of the poor survival of the 2004 and 2005 broods of Sacramento River fall Chinook (SRFC). In addition, based on first principles, the STT agrees that a more diverse population with several naturally spawning populations distributed over space should be more resilient in a variable environment.

However, while we agree with the general results of the analysis, we question the utility of this approach in predicting or preventing future stock collapses. Salmon populations are highly variable, and environmental predictors thought to be reliable have varied in their predictive abilities over time.

Finally, in the recommendations section, under the subsection of “improving resilience”, the authors suggest that “The PFMC should consider creating specific conservation objectives for natural populations of SRFC.” The STT believes this recommendation may have merit, but suggests that hatchery stray rates to natural spawning areas should first be estimated from data collected on returning adults from broods marked at a 25 percent rate. Constant fractional marking at this rate was initiated in Central Valley hatcheries beginning on brood year 2006. Returning adults from broods from 2006 forward will allow for estimation of the degree to which spawning in natural areas is supplemented by hatchery strays, and the potential sustainability of independent naturally spawning populations in the Central Valley.

PFMC
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