

**Selected Recent Publications by SWFSC Relevant to Salmon Fisheries Management**  
Submitted by Steve Lindley, Fisheries Ecology Division, SWFSC, NMFS.

Satterthwaite, W. H., M. S. Mohr, M. R. O'Farrell, E. C. Anderson, M. A. Banks, S. J. Bates, M. R. Bellinger, L. A. Borgerson, E. D. Crandall, J. C. Garza, B. J. Kormos, P. W. Lawson, and M. L. Palmer-Zwahlen. In press. Use of genetic stock identification data for comparison of the ocean spatial distribution, size-at-age, and fishery exposure of Klamath River versus California Coastal Chinook salmon. Transactions of the American Fisheries Society. DOI:10.1080/00028487.2013.837096

We used GSI to perform a novel evaluation of the suitability of a tagged indicator stock for an untagged stock of conservation concern, testing a critical assumption that is widely applied but rarely tested. California Coastal Chinook (untagged, threatened stock) and Klamath River Chinook (tagged, indicator stock) may be more similar in their exposure to the fishery early in the year than late in the year, when California Coastal Chinook may have higher interactions with fisheries around Fort Bragg and Klamath Chinook may have higher interactions with fisheries around Eureka. Our techniques allow for uncertainty estimate incorporating both sampling and genetic assignment error.

Winship, A.J., O'Farrell, M.R., and Mohr, M.S. 2013. Management strategy evaluation applied to the conservation of an endangered population subject to incidental take. Biological Conservation 158:155-166.

We evaluated the population viability and fishery implications of several alternative fishery control rules for Sacramento River winter Chinook. The management strategy evaluation simulated winter Chinook population dynamics as well as monitoring, assessment, and control rule implementation processes while accounting for attendant uncertainties. The results from this paper provided quantitative scientific advice in support of the process of adopting a new winter Chinook control rule.

*In review:*

Winship, A.J., O'Farrell, M.R., Satterthwaite, W.H., Wells, B.K., and Mohr, M.S. In review. Expected future performance of abundance forecast models with application to Sacramento River fall Chinook.

We conducted a rigorous evaluation of a wide range of alternative Sacramento Index forecast models, including models incorporating environmental variables. Results suggest there is scope for modestly improving Sacramento Index forecasts relative to the status quo method. This analysis provides the basis for the recommendation to the Council to adopt a new forecast method: a jack model with lag-1 autoregressive errors. And, more broadly, the paper implements a rigorous forecast evaluation procedure to provide realistic expectations for future performance.