

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON  
SALMON ENDANGERED SPECIES ACT (ESA) CONSULTATION ANALYSIS

The Scientific and Statistical Committee (SSC) reviewed the document “Alternatives for Salmon Bycatch Management in the Pacific Coast Groundfish Fisheries” (Agenda Item I.1.a, NMFS Report 1), which provides estimates of salmon bycatch in the groundfish fisheries under a suite of scenarios specified by the Council. Ms. Susan Bishop (West Coast Region) and Drs. Paul Moran (Northwest Fisheries Science Center) and Sean Matson (West Coast Region) were available to answer questions. To characterize uncertainty in the potential bycatches of salmon by the groundfish fisheries, the analyses projected salmon bycatches for three levels of groundfish landings (the minimum, mean and maximum observed amounts) given three salmon bycatch rates per ton of landed groundfish (the minimum, mean and maximum observed amounts).

To apportion the salmon bycatch to impacts on individual salmon stocks (defined at the level of genetic reporting groups), the analysts used a regression approach to estimate salmon stock proportions as a linear function of the mean latitude of the groundfish catch. The SSC expressed concern regarding technical issues associated with this approach, as it ignores potentially important details of the spatial distribution of the groundfish catches. However, the regressions do mimic the available data. An analysis using suitable latitudinal strata would be an improvement over assuming a linear relationship with latitude. The SSC notes that predictions of salmon bycatch and its composition are more uncertain for southern salmon stocks because data from south of Cape Blanco are sparse or unavailable for certain sectors.

The SSC also noted that using a bycatch ratio approach (number of salmon per ton of groundfish) is potentially a noisy predictor of salmon bycatch because the ratio will depend on temporal and spatial variation in the relative densities of salmon and groundfish, as well as fishing effort. It might be advantageous to explore an approach that predicts salmon bycatch based on salmon catch per trawl hour rather than per ton of groundfish catch. Further, the approach of using minimum, mean and maximum values to capture uncertainty does not frame the problem in a manner that cleanly illustrates the potential risk of exceeding a given salmon bycatch cap. It would have been useful to consider a resampling approach to estimate the probability of exceeding a bycatch cap, such as was used previously in a Council analysis of bycatch in the drift gill net fishery for swordfish.

Finally, the SSC is concerned that the time periods selected to represent the different scenarios may not provide a good basis for projecting the likely impact of future groundfish fisheries on salmon. For example, salmon abundance and stock compositions are variable and may differ substantially in the future, and projections of catch in the non-whiting midwater trawl fishery do not reflect potential for expansion of this fishery. There is also concern that using the recent bycatch rates for the bottom trawl fishery may underestimate potential bycatch because some vessels are resuming use (under permits) of bottom trawl nets that catch rockfish in lieu of the flatfish nets, which tended to reduce catch of species up off the bottom.