

Dissenting Views.

The following dissent to the “Report of the Joint Canada-USA Review Panel on the Stock Assessment of the Coastal Pacific Hake/Whiting Stock Off the West Coast of North America” is provided by Mr. Rod Moore, who served as the Groundfish Advisory Subpanel (GAP) advisor to the Panel. The views are his own and do not necessarily reflect the views of the GAP. Further, while reasonable people can reasonably disagree on modeling assumptions and the management decisions that are derived from scientific analysis, this dissent is limited to the decision by the majority of the Panel to forward a single model run to the Pacific Fishery Management Council. It should not be construed as criticism of the work performed by the Panel or the Stock Assessment (STAT) Team.

As noted in the report, presentations were made on the NMFS acoustic and shelf surveys for Pacific whiting. The report further briefly describes the 3 models presented to the Panel prior to convening and 2 additional models presented at the beginning of the Panel meeting. Models requested and / or presented during the meeting are not at issue here. The section of the report which discusses “Model Evaluation” states that “the Panel agreed that Model 1...should be used as the preferred assessment model.” It is here that the author of these views disagrees with the rest of the Panel. *For reasons discussed below, the GAP advisor believes that Model 1 and Model 4 should be forwarded to the Scientific and Statistical Committee and the Council as equally plausible models.*

Acoustic Catchability

The presentation on the 2001 acoustic and trawl surveys discussed why the trawl survey has consistently shown a higher calculated biomass and why the acoustic survey better characterizes the biomass. However, the presenters made clear that even the acoustic survey did not fully “catch” all available whiting. Small fish, fish outside the survey area (especially in the south), fish located at or near the bottom, fish diving or climbing vertically in the water column, and fish that have undergone a rapid change in water pressure all tend to be missed by the acoustic signal. While the number of these missing fish cannot be accurately calculated, there is agreement that the true “catchability” - or the value of Q, as used in the assessment model - is less than 1.0.

Model Differences

As described by the STAT Team, Model 1 and Model 4 differ in only one way: Model 1 sets a prior value of Q for the acoustic survey (since the trawl survey value is de-emphasized in both models, it will be ignored here) at 1.0; Model 4 allows the model to estimate the value of Q , which gives it a value of .53 for the entire acoustic time series. While the Model 4 value of Q may be more accurate for the earlier years of the acoustic survey, it is probably low for the current years. However, as noted above in the discussion on survey catchability, even the most recent acoustic surveys do not fully “catch” all the fish available and thus the value of Q cannot be 1.0. The real value thus lies someplace in between the values shown in these two models, which leads to the suggestion that both models be presented as equally plausible and thus representing the range of likely biomass estimates.

Precedents

Failure to present a preferred model is not something new. For example, the Canary Rockfish STAR Panel in 1999 reviewed two different modeling approaches for northern and southern stocks and could not characterize either as being correct. In the same year, a STAR Panel examining petrale sole assessments concurred on a model for the northern stocks but could not recommend a model for the southern stocks. In 2001, the STAR Panel reviewing the sablefish assessment agreed on a single model, but could not agree on a single state of nature that resulted in an apparent recruitment failure, resulting in two different sets of recommendations for management based on two different assumptions of future recruitment.

Establishing a value for Q via model estimation has also been done previously, including in the sablefish model in 2001, where the accepted model imposed a Q greater than 1.0 for younger fish and less than 1.0 for older fish, a scenario similar in many ways to Model 4 of the whiting assessment.

Conclusion

Thus, for the reasons noted above and based on the precedents used in other stock assessments that have been subject to STAR Panel review and have been accepted by the Council, the author recommends that Model 1 and Model 4 be considered equally plausible and be used to define the range within which management decisions should be made.