

**MODEL EVALUATION WORKGROUP (MEW) PROGRESS REPORT:
FRAM MODIFICATIONS TO ADDRESS MARK SELECTIVE FISHERIES BIAS**

At the 2009 November Council meeting the Model Evaluation Workgroup (MEW) was directed to proceed with modifications of the Coho Fishery Regulation Assessment Model (FRAM) to account for modeling bias introduced by mark-selective fisheries (MSF). At that time an analytical solution was proposed for a single MSF. It was anticipated that coding that solution into FRAM would be relatively straightforward, and that it would account for the great majority of the bias resulting from MSFs with regard to wild stock exploitation rate and unmarked coho escapement calculations. The Council also outlined an evaluation process of the modified FRAM before consideration of using the product for analysis of proposed 2010 salmon fisheries.

While much progress has been made since the 2009 November meeting, more work needs to be done. After much testing and additional simulations, it was discovered that a weighting scheme was required if more than one MSF was present in a FRAM time step. Furthermore, a new algorithm was required to account for the changes in the unmarked-to-marked ratio resulting from mixing non-selective fisheries with MSF. A solution for the first problem regarding weighting among mark-selective fisheries has been completed. However, a solution for the second problem regarding changing unmarked-to-marked ratios is still being evaluated. Therefore, the MEW is not recommending the use of a modified FRAM in 2010.

The MEW would like to meet with the Salmon Technical Team (STT) and Scientific and Statistical Committee (SSC) to present the latest findings regarding weighting among multiple MSF, unmarked-to-marked ratios changing as a result of mixing MSF and non-selective fisheries, modifications to FRAM to address those issues, and associated FRAM documentation. The MEW will discuss progress on these issues with the SSC and STT at the April Council meeting and develop recommendations for how to proceed during the next methodology review cycle.

PFMC
02/17/10