

## **DRAFT SUMMARY MINUTES SALMON TECHNICAL TEAM**

Pacific Fishery Management Council  
Embassy Suites Hotel  
Spruce Room  
7900 NE 82<sup>nd</sup> Ave  
Portland, OR 97220  
(503) 460-3000  
January 3, 2002

### **Call To Order**

The Salmon Technical Team (STT) met in conjunction with the Scientific and Statistical Committee's (SSC) Salmon Subcommittee to review the methodological changes proposed for the coho Fishery Regulation Assessment Model (FRAM). Mr. Larrie LaVoy and Mr. Jim Packer from Washington Department of Fish and Wildlife (WDFW) presented the proposed changes. These minutes do not represent the final recommendations of the STT, the SSC Salmon Subcommittee, or the full SSC, but reflect group discussions and statements by individuals at the meeting. The STT and the full SSC will develop formal recommendations to the Council regarding the proposed changes for the March 2002 Council Meeting.

### **Members In Attendance**

SSC - Dr. Pete Lawson, Dr. Brain Allee, Mr. Alan Byrne, Mr. Robert Conrad, Dr. Kevin Hill, Dr. Shijie Zhou

STT - Mr. Dell Simmons, Mr. Mike Burner, Dr. Robert Kope, Mr. Doug Milward, Dr. Gary Morishima

PFMC - Mr. Chuck Tracy

WDFW - Mr. Jim Packer, Mr. Larrie LaVoy

Observers - Mr. Don Stevens; Mr. Gary Graham; Mr. Sam Sharr, ODFW; Mr. Andy Rankis, NWFIC; Mr. John Frieberg, NWFIC; Mr. Dan Leinan

### **Agenda Review**

The approved agenda included:

Methods for combining six years (1986-1991) into an appropriate base period

Report on stock forecast requirements from state and tribal agencies

Development of suitable output reports

Incorporation of Terminal Area Management Models (TAMMs) into the FRAM

Development of a Model Evaluation Subgroup (MES)

### **Methods for Combining 6 Years Into Base Period**

Four methods for combining the 1986 to 1991 information into a single base period for each time, area, fishery strata were presented:

- A. Average catch for all six years (divided by average cohort size for all six years)
- B. Average of annual exploitation rates for all six years (annual catches divided by average cohort size for all six years)
- C. Average catch for years with open fisheries (divided by average cohort size for all six years)
- D. Average of annual exploitation rates for years with open fisheries (annual catches with open fisheries divided by average cohort size for all six years)

Mr. Packer indicated a preference for method A, because the model will reproduce historical catches from the base period years, and the average is weighted to the years with the most reliable information.

Dr. Lawson indicated that reproducing catches from the base period years indicates the model code is functioning correctly, not that the model provides the best management tool. He believes the SSC/STT

should recommend a management tool based on scientific principles and robustness and one that will best represent reality when fishery regulations and other model inputs area changed.

Dr. Morishima indicated the objective should drive the choice of method (i.e., are exploitation rates or catches needed for management decisions?).

Dr. Zhou indicated pooling catch from all six years will introduce bias, and the average should be weighted (i.e., using exploitation rate).

Mr. Packer indicated that since the exploitation rates were divided into time periods, they do not represent unbiased or evenly weighted values; changing the cohort size at time steps gives different results than an annual exploitation rate.

Dr. Lawson questioned the use of all six years in estimating the average cohort size for methods using open fishery years rather than just the years with open fisheries. Using a 6-year average may bias exploitation rates low and under predict impacts.

Dr. Zhou was concerned with the use of ratio estimators and whether they were appropriate.

Dr. Morishima indicated a preference for the method using exploitation rates for open fisheries, because it is defensible, and it allows relatively straightforward incorporation of new information where current exploitation rate estimates are weak or assumed from other strata.

Mr. LaVoy indicated that when model input is restricted to dead fish (i.e., quota fisheries or expected catches), the difference in results from the various methods is drastically reduced.

The consensus of the STT members present was the method using average exploitation rates when fisheries were open (Method D) is preferable at this time.

### **Stock Forecasts**

Dr. Lawson inquired about the ability of agencies and tribes to comply with the new stock specific forecasts required by the FRAM.

Mr. Packer indicated WDFW and ODFW are able to meet the requirements. Canada, Alaska, and California may be problematic, and some educated guesses (e.g., recent year averages) may be required; however, the problems should not be too critical due to scaled back fisheries.

### **Six Coastal Coho Stocks**

Mr. LaVoy indicated the technical issue of how to handle six Washington coastal stocks in the terminal fisheries is being discussed among the technical staff.

### **Output Reports**

Mr. Packer indicated the new model addresses all of the Council needs, and most other needs, including incidental mortality (bycatch) estimates. There are still some terminal area issues to be resolved including a South Sound/Nooksack treaty Indian/ non-Indian sharing issue.

Dr. Morishima asked if exploitation rates for marked and unmarked stocks for a given area can be compared (for the purpose of comparing effects of selective fisheries).

Mr. Packer indicated they can not with current reports, but creating new reports would be fairly easy, and hatchery and wild comparisons can be included.

## **TAMMs**

Mr. Packer indicated the new model has been successfully tested by taking data from TAMM into FRAM, but not vice-versa yet. TAMMs for some stocks that will be different than the old FRAM output based models are still being negotiated.

Dr. Morishima inquired if the estimates of ocean escapement the 2001 FRAM were equal to estimates from the new FRAM set with no coastal terminal fisheries (assuming the same base period and model inputs).

Mr. Packer and Mr. Milward indicated they were equal.

## **Model Evaluation Subgroup**

Dr. Lawson indicated the reestablishment of a model evaluation subgroup would be desirable to increase feedback to the model developers, work out bugs, expand the pool of model developers, and include new information in the base period as it became available.

## **Public Comment**

Mr. Don Stevens was concerned with an accounting procedure that included fish landed in the Columbia River area troll fishery during August 2-3 in the Month of July due to the use of statistical weeks, which overlap months.

Mr. Stevens also expressed dissatisfaction and a profound concern with potential bias introduced into the model by using stock component information from treaty Indian troll landings in a different area to represent non-Indian troll catch in the Columbia River area.

## **Conclusions**

The new model is scheduled for release in mid-January, presumably after the January 18 comanager meeting to decide on its application.

There are no unresolved issues for the short term.

Long term issues in need of further exploration include:

- use of the six year average cohort size for the denominator in the annual exploitation rates used for the base period,
- formation of a model evaluation subgroup, and
- verification and validation of the model (task for the model evaluation subgroup).

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