

Final Report of the Southern BC Fishery Mgmt Module

SP2 - A015

Background

The Fisheries Regulation Assessment Model (FRAM) has been identified by the Coho Technical Committee as the core regional planning model called for in the Treaty agreement. A common method to project fishery specific exploitation rates in the simulated year is by specifying an effort scalar relative to a base (1986-1991 mean). Relationships between exploitation rate and fishery methods are complex (e.g., the impact of mark selective fisheries, value and abundance of all species taken by the gear, the ability of the gear to select desired species, time/area closures).

The Coho Model Workgroup (subgroup of the PSC Coho Technical Committee) has been involved for over a year in transferring a better understanding of the US process to the Canadian section. The deficiencies in procedures and documentation identified by these activities have been the genesis of this project.

Project Objectives

- The objective of this project is to assist the FRAM user in establishing the exploitation rate scalars.
- Establish relationships between fishery parameters (e.g. effort) and fishery specific exploitation rates.
- Document algorithms and procedures in a memorandum format.

Project Description / Deliverables

A common method to project fishery specific exploitation rates in the simulated year is by specifying an effort scalar relative to a base (1986-1991 mean). The scaling is usually accomplished by relating base effort measures to that predicted for the year to be modelled. Where effort predictions are not available catch ratios (predicted to that observed in the base year) can be used. We will assume that net fisheries are not directed at coho; thus, effort scalars are straightforward because the underlying catchability does not change. For hook-and-line fisheries, the effort directed at coho depends on what other salmon species are available (relative catchabilities and value to the user) and ant time/area closures. Specific work tasks for implementation of this component are as follows:

- Compile directed effort for BC hook-and-line and net fisheries and time periods as defined for FRAM over the base years (1986 to 1991). Use the multi-species algorithms developed for the hook-and-line management models (English, K.K., W.J. Gazey, T.F. Shardlow and M.A. Labelle. 1987. Development of troll fishery management models for southern British Columbia. Can. Tech. Rep. Fish. Aquat. Sci. 1526: 80p.) to partition effort directed at coho.
- Develop an algorithm to approximate coho directed effort for hook-and-line fisheries based on predicted run of all salmon species and effort by time period. Implement the algorithm using application VB macros inside an Excel spreadsheet.
- Assemble preseason effort predictions from net planning models (e.g., PSC Sockeye Planning Model). Where not available use catch expectations in comparison to the base years to compute a pseudo effort scalar.
- Document algorithms and procedures in a memorandum format.

Benefits

- FRAM has been identified by the Coho Technical Committee as the core regional planning model called for in the Treaty agreement. This project will assist the FRAM user in establishing key parameter inputs.
- Improved management and assessment of Coho resources.
- The long term success of the project will be measured by the use of the FRAM and the associated tools developed by this project to assist the user in specifying effort scalars

Budget

a) Proposed costs:

<u>Direct</u>			
	▪ investigator's time - 18 days @ \$550/day	=	\$9,900
	▪ office supplies	=	\$50
	▪ telephone costs	=	\$50
	▪ total	=	\$10,000
<u>DFO In-Kind</u>			
	▪ manager support BI-03@266/day	=	\$1,300
	▪ analytical support BI-03@266/day	=	\$5,400
	▪ total	=	\$6,700
Total costs		=	\$16,700

b) Funds Paid out:

2005-06 SOUTH COAST BUDGET LEDGER			
Date	Supplier	Item	Cost
April 7, 2005	Bill Gazey	Development of Southern BC Fishery Monitoing Model	\$10,000

Electronic files of all works are included.