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Canadian Atlantic Fisheries Scientific Advisory Committee

CAFSAC Research Document 86/96

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Comité scientifique consultatif des pêches canadiennes dans l'Atlantique

CSCPCA Document de recherche 86/96

CAFSAC Assessment Software Catalog

bу

Assessment Computation Working Group of the CAFSAC Statistics, Sampling, and Surveys Subcommittee P.O. Box 1006 Dartmouth, N.S. B2Y 4A2

¹ This series documents the scientific basis for fisheries management advice in Atlantic Canada. As such, it addresses the issues of the day in the time frames required and the Research Documents it contains are not intended as definitive statements on the subjects addressed but rather as progress reports on ongoing investigations.

Research Documents are produced in the official language in which they are provided to the Secretariat by the author.

² Permission is hereby granted to cite this document for any purposes of the Department of Fisheries and Oceans. ¹ Cette série documente les bases scientifiques des conseils de gestion des pêches sur la côte atlantique du Canada. Comme telle, elle couvre les problèmes actuels selon les échéanciers voulus et les Documents de recherche qu'elle contient ne doivent pas être considérés comme des énoncés finals sur les sujets traités mais plutôt comme des rapports d'étape sur les études en cours.

Les Documents de recherche sont publiés dans la langue officielle utilisée par les auteurs dans le manuscrit envoyé au secrétariat.

²Il est permis par la présente de citer ce document à toute fin invoquée par le ministère des Pêches et des Océans.

Abstract

The catalog describes software available to CAFSAC scientists in the Groundfish and Pelagic Subcommittees. The purpose of the catalog is to provide a convenient way to refer to a particular program for citation purposes and to facilitate efforts to improve and maintain assessment software.

Résumé

Le catalogue décrit les logiciels dont disposent les scientifiques du CSCPCA qui siègent aux sous-comités du poisson de fond et du poisson pélagique. Il vise à faciliter la consultation d'un programme particulier ainsi que l'amélioration et la tenue de logiciels d'évaluation.

Introduction

This catalog includes software which is available for use in preparing stock assessments in the CAFSAC Groundfish and Pelagic Subcommittees. It is produced annually by the CAFSAC Statistics, Surveys, and Sampling Subcommittee's Assessment Computation Working Group. The Working Group has not reviewed and does not endorse the software which appears in this catalog. Validation results for a particular program can be found by consulting the reference section. At this time, few programs have been validated in a document and systematic way, and the quality is uneven. It is the responsibility of individual scientists to be familiar with the capabilities and limitations of the programs used in a particular setting. A given program may be adequate for routine or normal cases, yet give erroneous results under special circumstances. When in doubt users should consult the technical contact named in the catalog entry for the software in guestion.

The catalog contains five sections:

- I. Population analysis this category refers to software used in the analysis phase of the assessment process. Examples include software for sequential population analysis, yield per recruit, and projection. In general, software in this category will use data from more than one source.
- II. Commercial catch/effort this category deals primarily with software used to prepare catch rate series based on commercial catch and effort data.
- III. Commercial sampling this category deals primarily with software used to construct the catch at age.
- IV. Research vessel surveys this category deals with software used to analyze the results of research vessel surveys. This category is dominated by programs connected with the analysis of the annual groundfish surveys using a stratified survey design.
 - V. Other

Catalog entries are organized alphabetically within these subject categories. Table 1 lists the software in the catalog by originating region. It should be noted that scientists often use programs developed in other regions. Assessment documents should refer to the software actually used. A proper software reference would include the entire first line of the catalog entry, namely the program name, version number, last revision date, and originating region.

	Originating Region							
Category	Gulf	Headquarters	Newfoundland	Quebec	Scotia-Fundy			
Population analysis	VPA VPAC YPRTB	FISH (I.P. Sharp) FISH.WS (WATCOM) FISH.AWS (STSC)	COHO3 GENPROD SPA SQNTL SURPROD	FISH∆HER SPA.AWS SPA.WS SVPA.WS	LIBRARY SPAW YLDW			
Commercial catch/effort	NAFSYS		RED RNG STANDAR	COMLQUEB HERRING CPUE STANDARD.AWS STANDARD.WS	COML			
Commercial sampling	ALSYSX CATAGE HERCTA		ALKEY CATCH LF	CATCH.AWS CATCH.WS CAT∆AGE FREQAGE Groundfish catch at age Mackerel catch at age	ALSYS CATCH			
Research surveys	RVAN		STRAP		SMS STRAP			
Other				MIX	APLINFO EXPLORE FTNWS OLDUTIL PARTSW POLYMODE USERSW			

Table 1. CAFSAC Assessment Software Catalog

CONTENTS

1. Population analysis

VERSION: 1 LAST REVISED: UNKNOWN NAME: COHO3 ORIGINATING REGION: NEWFOUNDLAND CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY() OTHER() PURPOSE: POPE'S COHORT ANALYSIS. DESC: PRELIMINARY RUN TO DETERMINE PARTIAL RECRUITMENT FROM AVERAGE FISHING MORTALITYS. INPUT: CATCH AT AGE DATA. INITIAL ESTIMATES FOR F AND M. OUTPUT: POPULATION ESTIMATES AND FISHING MORTALITIES. REPORT (X) PLOT () FILE () APPLICATION CATEGORY: AQUISITION () MANAGEMENT () ANALYSIS (X) OTHER: COMPLEXITY: SYSTEM () PROGRAM (X) UTILITY STATUS: DEVELOPMENTAL () OPERATIONAL (x) DORMANT DOCUMENTATION LEVEL: USER () PROGRAMMER (X) OPERATIONAL () DEVELOPED BY: S. AKENHEAD DATE WRITTEN: UNKNOWN PRIME USER: GROUNDFISH (W. BRODIE) PHONE NUMBER: (709) 772-5477 TECHNICAL CONTACT: G. SOMERTON PHONE NUMBER: (709) 772-2012 COMPUTER/OPERATING SYSTEM: AMDAHL 5860/OS MVS-SP (VERSION 1.3.2) . PROGRAMMING LANGUAGE: FORTRAN IV (VERSION 2.3.0) SPECIAL SOFTWARE: NONE SITE: FRB, NAFC, ST. JOHN'S. **REFERENCE:** COMMENTS: NAME: FISH VERSION: 1.0 LAST REVISED: 82-04-01 ORIGINATING REGION: Headquarters CATEGORY: ASSESSMENT (*) COMMERCIAL CATCH/EFFORT () COMMERCIAL SAMPLE () RESEARCH SURVEY () OTHER () PURPOSE: Fish stock assessment. DESC: Programs for virtual population analysis, survivor analysis, yield per recruit analysis, catch projections, production models, von Bertalanffy growth model, calculation of mortality by the Paloheimo method. INPUT: amalgamated data (usually, annual data) OUTPUT: various reports REPORT (*) PLOT (*) FILE () APPLICATION CATEGORY: AQUISITION () MANAGEMENT () ANALYSIS (*) OTHER () COMPLEXITY: SYSTEM () PROGRAM (*) UTILITY () STATUS: DEVELOPMENTAL () OPERATIONAL (*) DORMANT () DOCUMENTATION LEVEL: USER (*) PROGRAMMER () OPERATIONAL (*) DEVELOPED BY: DATE WRITTEN: 82/04/01 PHONE NUMBER: 613-990-0281 PHONE NUMBER: 613-990-0281 various programmers within DFO PRIME USER: Fisheries Research Branch, Ottawa TECHNICAL CONTACT: Denis Rivard COMPUTER/OPERATING SYSTEM: 1.P. Sharp Time Sharing System PROGRAMMING LANGUAGE: SHARP API SPECIAL SOFTWARE: proprietary functions from I.P. Sharp Ltd. SITE: Fisheries Research Branch, 200 Kent, Ottawa, Ontario. K1A OE6 REFERENCES: Rivard, D. 1982. APL Programs for Stock Assessment (revised). Can. Techn. Rep. Fish. Aqua. Sci. 1091. COMMENTS: resides in workspace 2719067 FISH

NAME: FISH	VERSION: 1.	0	LAST REVISED: 85-05	-01
ORIGINATING REGION:	Headquarters			
CATEGORY:	ASSESSMENT (*) COMMERCI RESEARCH SURVEY ()	AL CATCH/EFFORT () OTHER ()	COMMERCIAL SAMPLE ()	
PURPOSE: Fish stock	assessment.			
DESC: Programs fo production	r virtual population analysis, s models, calculation of mortality	urvivor analysis, yield by the Paloheimo method	per recruit analysis, cate	ch projections,
INPUT: amalgamatec OUTPUT: various rep	Idata (usually, annual data) ports REPORT (*)	PLOT (*)	FILE (*)	
APPLICATION CATEGORY COMPLEXITY: STATUS: DOCUMENTATION LEVEL:	: AQUISITION () SYSTEM () DEVELOPMENTAL () USER (*)	MANAGEHENT () PROGRAM (*) OPERATIONAL (*) PROGRAMMER ()	ANALYSIS (*) UTILITY () DORMANT () OPERATIONAL (*)	
DEVELOPED BY: var PRIME USER: Fisher TECHNICAL CONTACT:	ious programmers within DFO les Research Branch, Ottawa Denis Rivard	DATE WRIT PHONE NUMBER: PHONE NUMBER:	TEN: 85/05/01 : 613-990-0281 : 613-990-0281	ATIC
COMPUTER/OPERATING S PROGRAMMING LANGUAGE SPECIAL SOFTWARE:	YSTEM: IBN-PC, DOS 2.x : APLPLUS (STSC) Done			ON A
SITE:	Fisheries Research Br	anch, 200 Kent, Ottawa, (Ontario. K1A OE6	NA
REFERENCES:	Rivard, D. 1982. APL (Can. Techn. Rep. Fish	^p rograms for Stock Assess . Aqua. Sci. 1091.	ment (revised).	LYSI
	Rivard, D. and M. Jol stock assessment" for 84/27, 18 p.	y. 1984. An Adaptation of an 8088-based microcompu	* MAPL programs for Iter. CAFSAC Res. Doc.	S]
COMMENTS:	Diskette can be obtain	ned from the technical co	mtact.	
NAME: FISH	VERSION: 1.	0	LAST REVISED: 84-05-	01
ORIGINATING REGION:	Headquarters			
CATEGORY:	ASSESSMENT (*) COMMERCIA RESEARCH SURVEY ()	AL CATCH/EFFORT () OTHER ()	COMMERCIAL SAMPLE ()	
PURPOSE: Fish stock	assessment.			
DESC: Programs fo production	r virtual population analysis, su models, calculation of mortality	rvivor analysis, yield p by the Paloheimo method.	er recruit enalysis, cato	h projections,
INPUT: amaigamated OUTPUT: various rep	data (usually, annual data) orts REPORT (*)	PLOT (*)	FILE (*)	
APPLICATION CATEGORY COMPLEXITY: STATUS: DOCUMENTATION LEVEL:	: AQUISITION () SYSTEM () DEVELOPMENTAL () USER (*)	MANAGEMENT () PROGRAM (*) OPERATIONAL (*) PROGRAMMER ()	ANALYSIS (*) UTILITY () DORMANT () OPERATIONAL (*)	OTHER ()
DEVELOPED BY: ver PRIME USER: Fisher TECHNICAL CONTACT:	ious programmers within DFO ies Research Branch, Ottawa Denis Rivard	DATE WRIT PHONE NUMBER: PHONE NUMBER:	TEN: 84/05/01 613-990-0281 613-990-0281	
COMPUTER/OPERATING ST PROGRAMMING LANGUAGE: SPECIAL SOFTWARE:	ISTEM: IBM-PC, DOS 2.x : APL (WATCOM) VERSION none	2.0		σ
SITE:	Fisheries Research Bra	nch, 200 Kent, Ottawa, O	ntario. K1A OE6	age
REFERENCES:	Rivard, D. 1982. APL P Can. Techn. Rep. Fish.	rograms for Stock Assess Aqua. Sci. 1091.	ment (revised).	ω
	Rivard, D. and M. Joly stock assessment" for 84/27, 18 p.	- 1984. An Adaptation of an 8088-based microcompu	"APL programs for ter. CAFSAC Res. Doc.	
COMMENTS:	Diskette can be obtain	ed from the technical co	ntact.	

NAME: FISHAHER	VERSION: 1.0	LAST REVISED: 85/11	NAME: GENPROD	VERSION: 1.1	LAST REVISED:	85/06/07
ORIGINATING REGION: Quebec CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT(OTHER()) COMMERCIAL SAMPL	E() RESEARCH SURVEY()	CATEGORY: ASSESSMENT(X) COMMERCIAL CA OTHER()	TCH/EFFORT()	COMMERCIAL SAMPLE() RESE	ARCH SURVEY()
PURPOSE: Stock assessment by virtual population analysis, catch projections, production	analysis, survivor models, calculatio	analysis, yleld per recruit n of mortality by the	PURPOSE: EQUILIBRIUM GENERAL PRODUCTION DESC: REGRESSIONS USING EITHER LAGGED (PLOTS OF REGRESSION AND MODEL.	N MODEL. OR UNLAGGED DAT	A. THE GENERAL PRODUCTION	RUN INCLUDES
Paloheimo method.			INPUT: CATCH AND EFFORT FOR SELECTED YI OUTPUT: C/F, CPUE TABLES, REGRESSION RI	EARS. ESULTS, MODEL R	RESULTS AND PLOTS.	
DESC: A collection of APL worspaces.			ADDI LOTTION ALTEODRY, ADVICTION ()			
INPUT: See "FISH". OUTPUT: See "FISH"		REPORT(X) PLOT(X) FILE(X)	APPLICATION CATEGORT: AQUISTION () COMPLEXITY: SYSTEM () STATUS: DEVELOPMENTAL () DOCUMENTATION LEVEL: USER (X) DEVELOPED BY: D. B. ATKINSON PRIME USER: GROUNDFISH (D. B. ATKINSON TECHNICAL CONTACT: D. B. ATKINSON COMPUTER/OPERATING SYSTEM: MACINTOSH 5: PROGRAMMING LANGUAGE: MS BASIC (VERSION SPECIAL SOFTWARE: NONE SITE: FRB, NAFC, ST. JOHN'S.	MANAGEMENT (PROGRAM (OPERATIONAL (PROGRAMMER () 12K V 2.1)	 ANALYSIS (X) OTHEL X) UTILITY () X) DORMANT () OPERATIONAL () DATE WRITTEN: 85/04/01 PHONE NUMBER: (709) 772-2 PHONE NUMBER: (709) 772-2 	ATION ANALYSI
APPLICATION CATEGORY: ACQUISITION() MA COMPLEXITY: SYSTEM() STATUS: DEVELOPMENTAL() OPI DOCUMENTATION LEVEL: USER(X) PI	ANAGEMENT() PROGRAM(X) ERATIONAL(X) ROGRAMMER() OP	ANALYSIS(X) OTHER() UTILITY() DORMANT() ERATIONAL()	REFERENCE: COMMENTS:			S
DEVELOPED BY: Denis Rivard, I. McQuinn	DATE WRITTEN PHONE NUMBER	7: 85/11 2: (418) 775-6627	WANE: LIBRARY WORKSPACE	VERSION:	3.0 LAST REV	/ISED: 86/03/20
TECHNICAL CONTACT: I an McQuinn COMPUTER/OPERATING SYSTEM: IBM PC/DOS 3.1	PHONE NUMBER	(418) 775-6627	ORIGINATING REGION: SCOTIA FUNDY CATEGORY: ASJESSMENTIX) COMMERCIAL CA	TCH/EFFORT[]	CONMERCIAL SAMPLE() RE	SEARCH SURVEY()
PROGRAMMING LANGUAGE(S): APLPLUS(STSC) SPECIAL SOFTWARE: None			PURPOSE: PROVIDE A COMPREHENSIVE BUT CO Description: includes functions for spa Estimation of growth param	INPACT SET OF AN , YIELD PER REG HETERS.	PL FUNCTIONS FOR USE IN STO CRUIT, PROJECTION, GENERAL	DCK ASSESSMENT. PRODUCTION, AND
SITE: Fishery science Division, Quebec Region			INPUT: APL VECTORS AND ARRAYS Output: printed tables		REPORT () PL	.OT() FILE(}
REFERENCES: See "FISH". CAFSAC SSSS Report 85/19.			APPLICATION CATEGORY: AQUISITION() M COMPLEXITY: SYSTEM() STATUS: DEVELOPMENTAL() OP DOCUMENTATION LEVEL: USER() P	ANAGEMENT[] PROGRAM[X] PRATIONAL[X] PROGRAMMER[] (ANALYSIS[K] OTHER: UTILITY[] DORMANT[] OPERATIONAL[]	
COMMENTS: Identidal to "FISH" except for COHORT	function. See refe	erence above for constraints.	DEVELOPED BY: BILL NARSHALL PRIME USER: GEORGE WHITE TECHNICAL CONTACT: GEORGE WHITE COMPUTER / OPE ATING SYSTEM: CDC CY PROGRAMMING LANGUAGE(S): CYBER SPECIAL SOFTWARE: SITE: BIO	DA PHI BER 840/NOS 2. APL VERS, 2.1	TE WRITTEN: 78 ONE NUMBER: (902) 426-8509 ONE NUMBER: (902) 426-8509 4	Page
			REFERENCES: MARSHALL, W. 1978. A PRO EXPLOITED STOCKS. CAFSA	GRAMMING LANGU	AGE (APL) PROGRAMS FOR THE	ASSESSMENT OF +
			COMMENTS: THE FUNCTIONS HAVE BEEN MODIF PROVIDE IMPROVED CHECKS OF TH	IED TO USE STAN	NDARD UTILITY FUNCTIONS FRO	M PARTSW AND TO

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VERSION: 2 LAST REVISED: 83/03/01 NAME: SPA ORIGINATING REGION: NEWFOUNDLAND CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY() OTHER() PURPOSE: APL PROGRAMS FOR STOCK ASSESSMENT. DESC: APL FUNCTIONS FOR SEQUENTIAL POPULATION ANALYSIS AND CATCH PROJECTIONS. INPUT: INTERACTIVELY PROMPTED FOR INPUT BASED ON THE ANALYSIS BEING PERFORMED. COMMON INPUTS ARE CATCH AT AGE MATRIX, WEIGHT AT AGE MATRIX, ETC. OUTPUT: TABULAR AND GRAPHICAL OUTPUT BASED ON ANALYSIS BEING PERFORMED. REPORT (X) PLOT (X) FILE () APPLICATION CATEGORY: AQUISITION () MANAGEMENT () ANALYSIS (X) OTHER: COMPLEXITY: SYSTEM () PROGRAM (X) UTILITY () DEVELOPMENTAL () OPERATIONAL (X) DORMANT () STATUS: DOCUMENTATION LEVEL: USER (X) PROGRAMMER () OPERATIONAL () DEVELOPED BY: S. GAVARIS DATE WRITTEN: 82/04/01 PRIME USER: GROUNDFISH PHONE NUMBER: TECHNICAL CONTACT: J. W. BAIRD PHONE NUMBER: (709) 772-5477 COMPUTER/OPERATING SYSTEM: IBM 3084/0S MVS-XA PROGRAMMING LANGUAGE: SHARP APL (RELEASE 17) SPECIAL SOFTWARE; PROGRAMS USE STATISTICAL LIBRARY OF IPSA. SITE: I. P. SHARP ASSOCIATES LTD., TORONTO, ONTARIO. **REFERENCE:**

COMMENTS: REVISIONS TO STOCK ASSESSMENT PACKAGE DEVELOPED BY D. RIVARD. YIELD PER RECRUIT AND SENSITIVITY ANALYSES WERE OMITTED. OTHER MODIFICATIONS ENABLE THE USER TO SELECT REPORTS WANTED, TO SPECIFY AGE RANGE FOR PLUS GROUPS, TO RERUN COHORTS WITH CHANGING TERMINAL FISHING MORTALITY AND TO ACCESS REGRESSION FUNCTIONS FOR CALIBRATION OF COHORT ANALYSIS.

	SKSTON: 1+0 EAST KEVISED: 80/02/21
CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() OTHER()	COMMERCIAL SAMPLE() RESEARCH SURVEY()
PURPOSE: Tuning of sequential population analysis.	PULATIO
DESC: APL workspace.	ANAL
INPUT: Interactive prompts for catch at age, weigh	ts at age, partial recruitment, etc. IS S
OUTFUT: Tabular and graphical output of sequential population analysis	REPORT(X) PLOT(X) FILE(X)
APPLICATION CATEGORY: ACQUISITION() MANA COMPLEXITY: SYSTEM() P STATUS: DEVELOPMENTAL() OPERA DOCUMENTATION LEVEL: USER() PROG	SEMENT() ANALYSIS(X) OTHER() ROGRAM(X) UTILITY() FIONAL(X) DORMANT() RAMMER() OFERATIONAL()
DEVELOPED BY: D. Gascon PRIME USER: D. Gascon TECHNICAL CONTACT: D. Gascon COMPUTER/OPERATING SYSTEM: IBM-PC/PCDOS 2.1 PROGRAMMING LANGUAGE(S): STSC APL 4.1 SPECIAL SOFTWARE: None	DATE WRITTEN: 83/09/01 PHONE NUMBER: (418) 775-6631 PHONE NUMBER: (418) 775-6631
SITE: Fisheries Research Branch, Quebec Region	

VERSION. 1.0

LACT DESILCED. OC (02/21

NAME + CDA AUG

REFERENCES: Rivard D. 1982. APL Programs for Stock Assessment, Can. Tech. Rep. Fish. Aqua. Sci. no. 1091.

COMMENTS: Algorithms are the same as the SPA algorithms of Rivard's FISH.WS.

NAME: SPA.WS VERSION: 5.0 LAST REVISED: 85/04/15 ORIGINATING REGION: Ouébec	NAME: SPAW WORKSPACE VERSION: 2.0 LAST REVISED: 65/01/25 Originating Region: Scotia Fundy
CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY() OTHER()	CATEGORY: ASSESSMENT(X) CONMERCIAL GATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY()
DUDDOCED. Tuning of compartial population analysis	PURPOSE: USED TO PREPARE ESTIMATES OF STOCK STATUS USING SEQUENTIAL POPULATION ANALYSIS
Foreoss. Tuning of sequencial population energy 19.	INPUT: APL ARRAYS OUTPUT: REPORTS AND PLOTS REPORT(X) PLOT(X) FILE()
DESC: APL workspace .	APPLICATION CATEGORY: AQUISITION() MANAGEMENT() ANALYSIS(X) OTHER: DIAL COMPLEXITY: SYSTEM(X) PROGRAM() UTILITY() DIAL STATUS: Developmental() OPERATIONAL(X) DORMANT() DOCUMENTATION LEVEL: USER(X) PROGRAMMER(X) OPERATIONAL(X)
INPUT: Interactive prompts for catch at age, weights at age, partial recruitment, etc	DEVELOPED BY: D. RIVARD DATE WRITTEN: 1982 DATE WRITTEN: 1982 PRIME USER: GEORGE WHITE PHONE NUMBER: (902) 426-8509 DATE WRITTEN: 1982 TECHNICAL CONTACT: GEORGE WHITE PHONE NUMBER: (902) 426-8509 DATE WRITTEN: 1982 COMPUTER / OPERATING SYSTEM: CDC CYBER 840/NOS 2.4 PROGRAMMING LANGUAGE(S): CYBER APL VERS. 2.1 SPECIAL SOFTWARE: SITE: BIO
OUTPUT: Tabular and graphical output of sequential REPORT(X) PLOT(X) FILE(X) population analysis.	REFERENCES: RIVARD,D. 1982. APL PROGRAMS FOR STOCK ASSESSMENT (REVISED). Can. Tech. Rept. Fish. Aquat. Sci. No. 1091. Comments:
APPLICATION CATEGORY: AQUISITION() MANAGEMENT() ANALYSIS(X) OTHER() COMPLEXITY: SYSTEM() PROGRAM(X) UTLLITY() STATUS: DEVELOPMENTAL() OPERATIONAL(X) DORMANT() DOCUMENTATION LEVEL: None USER() PROGRAMMER() OPERATIONAL()	

			-			00,00,	• T
PRIME USER:	D. G	ascon	I	PHONE	NUMBER:	(418)	775-6631
TECHNICAL CONTACT:	D. G	ascon	Ŧ	PHONE	NUMBER:	(418)	775-6631
COMPUTER / OPERATING	SYSTEM:	IBM-PC/PC-DOS	2.1			(410)	//5 0001
PROGRAMMING LANGUAGE	(S):	WATCOM APL 2.	0				
SPECIAL SOFTWARE:							

- SITE: Fisheries Research Branch, Quebec Region
- REFERENCES: Rivard D. 1982. APL Programs for Stock Assessment. Can. Tech. Rep. Fish. Aqu. Sci no. 1091

COMMENTS: Algorithms are the same as the SPA algorithms of Rivard's FISH. WS

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LAST REVISED: 79/03/01 NAME: SONTL VERSION: 1 NAME: SVPA.WS VERSION: 1.0 ORIGINATING REGION: NEWFOUNDLAND ORIGINATING REGION: Quebec CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY() CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY() OTHER() OTHER() PURPOSE: FORTRAN PROGRAMS FOR STOCK ASSESSMENT. DESC: COHORT/VPA PACKAGE INCLUDING CALCULATION OF F AND BIOMASS OVER USER SPECIFIED AGES. PURPOSE: To prepare estimates of stocks status using seperable virtual population analysis REGRESSIONS OF F ON EFFORT AND BIOMASS ON CPUE, INCLUDES PROJECTIONS AND DETERMINATION OF techniques. YIELD PER RECRUIT CURVES WITH CALCULATION OF F(0.1) AND F(MAX). INPUT: CATCH AND WEIGHT AT AGE MATRICES, M AND DESIRED F(0). OUTPUT: POPULATION SIZE AND BIOMASS, F MATRIX, REGRESSION RESULTS, PROJECTION RESULTS AND YIELD DESC: APL functions packaged in one APL workspace. PER RECRUIT VALUES. REPORT (X) PLOT () FILE () ANALYSIS (X) APPLICATION CATEGORY: AQUISITION () MANAGEMENT () OTHER: COMPLEXITY: SYSTEM (X) PROGRAM UTILITY INFUT: Catch at age data, natural mortality rate, first year, youngest age, age at which DEVELOPMENTAL () OPERATIONAL. (X) DORMANT STATUS: partial recruitment is 1.0, partial recruitment on the oldest age. () OPERATIONAL DOCUMENTATION LEVEL: USER (X) PROGRAMMER () DEVELOPED BY: D. MILLER DATE WRITTEN: 79/03/01 PRIME USER: PELAGIC PHONE NUMBER: PHONE NUMBER: (709) 772-5542 TECHNICAL CONTACT: D. MILLER OUTPUT: - Residual of log catch ratios COMPUTER/OPERATING SYSTEM: HP 1000/05 RTE6VM - Age specific partial recruitment PROGRAMMING LANGUAGE: FORTRAN - HP FTN7X - Year specific fishing mortality SPECIAL SOFTWARE: NONE - Fishing mortality at age tables from both SVPA and SPA SITE: FRB, NAFC, ST. JOHN'S. APPLICATION CATEGORY: ACQUISITION() MANAGEMENT() **REFERENCE:** COMPLEXITY: SYSTEM() PROGRAM(X) COMMENTS: INTERACTIVE, USER-FRIENDLY PACKAGE. STATUS: DEVELOPMENTAL() OPERATIONAL(X) DOCUMENTATION LEVEL: USER() PROGRAMMER() DEVELOPED BY: J.J. Maguire DATE WRITTEN: 35/04 PRIME USER: J.J. Maguire PHONE NUMBER: (418) 775-6526 LAST REVISED: 82/01/30 NAME: SURPROD VERSION: 1 TECHNICAL CONTACT: J.J. Maguire PHONE NUMBER: (418) 775-6526 ORIGINATING REGION: NEWFOUNDLAND COMPUTER/OPERATING SYSTEM: IBM PC/PC-DOS3.1 CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY() PROGRAMMING LANGUAGE(S): WATCOM APL Version 2 OTHER() SPECIAL SOFTWARE: PURPOSE: APL PROGRAMS FOR SURPLUS PRODUCTION MODELS. DESC: GENERALIZED NON-EQUILBRIUM SURPLUS PRODUCTION MODEL. SITE: Fishery science Division, Quebec Region INPUT: ANNUAL CATCH AND EFFORT SERIES, INITIAL PARAMETER ESTIMATES FOR CURVE SHAPE, UNFISHED BIOMASS, MAXIMUM SUSTANABLE YIELD AND CATCHABILITY COEFFICIENT. REFERENCES: Pope, J.C. and J.G. Shepherd. 1982. A simple method for the consistent OUTPUT: ESTIMATE FOR NON-EQUILIBRIUM YIELD BASED ON FINAL ESTIMATES OF BIOMASS AND DESIRED interpretation of catch at age data. J. Cons. Int. Explor. Mer., 40: 176-184. EFFECT LEVEL, GRAPH OF PREDICTED AND OBSERVED YIELD, GRAPH OF BIOMASS AND ADJUSTMENT LEVEL, ETC. REPORT (X) PLOT (X) FILE () APPLICATION CATEGORY: AQUISITION () MANAGEMENT () ANALYSIS (X) OTHER: Many functions in the workspace originate from "FISH". COMMENTS: COMPLEXITY: SYSTEM () PROGRAM (X) UTILITY ()A new version in STSC APL has been written but not tested (April 1986). STATUS: DEVELOPMENTAL () OPERATIONAL (X) DORMANT () OPERATIONAL (X) DOCUMENTATION LEVEL: USER () PROGRAMMER DEVELOPED BY: S. GAVARIS DATE WRITTEN: 81/09/01 PHONE NUMBER: PRIME USER: GROUNDFISH TECHNICAL CONTACT: D. B. ATKINSON PHONE NUMBER: (709) 772-2052 COMPUTER/OPERATING SYSTEM: IBM 3084/0S MVS-XA PROGRAMMING LANGUAGE: SHARP APL (RELEASE 17) SPECIAL SOFTWARE: SITE: I.P. SHARP ASSOCIATES LTD., TORONTO, ONTARIO. **REFERENCE:**

COMMENTS: THIS WORKSPACE HAS NOT BEEN USED IN RECENT YEARS AT FRB (ST. JOHN'S), BECAUSE THERE IS NO EXISTING DOCUMENTATION.

Page

POPULATION

ANALYSIS

LAST REVISED: 85/04

REPORT(X) PLOT() FILE()

OTHER()

ANALYSIS(X)

UTILITY()

DORMANT()

OPERATIONAL()

NAME: VPA VERSION: 0002.3 LAST REVISED: 84/06 NAME: YLDW WORKSPACE VERSION: 2.0 LAST REVISED: 85/07/15 ORIGINATING REGION: GULF ORIGINATING REGION: SCOTIA FUNDY CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY() CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY() DESC: APL FUNCTIONS FOR YIELD-PER-RECRUIT ANALYSIS PURPOSE: VIRTUAL POPULATION ANALYSIS PROGRAMME WITH PROJECTION DESC: PROGRAMMED IN FORTRAN INPUT: APL ARRAYS OUTPUT: REPORT REPORT(X) PLOT() FILE() INPUT: DATA FILES OUTPUT: POPULATION.NORTALITY.FUTURE CATCH REPORTING PLOTE 1 FILEE 1 APPLICATION CATEGORY: AQUISITION[] MANAGEMENT[] ANALYSIS(\$) OTHER: COMPLEXITY: SYSTEM [X] PROGRAM() UTILITY() APPLICATION CATEGORY: AQUISITION[] MANAGEMENT() ANALYSIS(X) OTHER: DEVELOPMENTAL() OPERATIONAL(X) STATUS: DORMANT[] COMPLEXITY: SYSTEN() PROGRAM (X) UTILITY() DOCUMENTATION LEVEL: USER(X) PROGRAMMER(X) OPERATIONAL(X) DEVELOPMENTAL() OPERATIONAL(X) DORMANT[] STATUS: DOCUMENTATION LEVEL: USER(X) PROGRAMMER[] OPERATIONAL[] DEVELOPED BY: DENI RIVARD AND GEORGE WHITE DATE WRITTEN: 1981-85 PRIME USER: PHONE NUMBER: (902) 426-8509 GEORGE WHITE DEVELOPED BY: DOUG CLAY DATE WRITTEN: 81 TECHNICAL CONTACT: GEORGE WHITE PHONE NUMBER: (902) 426-8509 PRIME USER: DOUG CLAY PHONE NUMBER: (506) 857-6218 CONPUTER/OPERATING SYSTEM: CDC CYBER 840/NOS 2.4 TECHNICAL CONTACT: DOUG CLAY PHONE NUMBER: (506) 857-6218 PROGRAMMING LANGUAGE(S): CYBER APL VERS. 2.1 COMPUTER / OPERATING SYSTEM: MICROS - CP/M-80 V2.2 ; MS/DOS - V2.0 SPECIAL SOFTWARE: PROGRAMMING LANGUAGE(S): NEVADA FORTRAN V2.3 ; UTAH FORTRAN V1.1 SITE:BIO SPECIAL SOFTWARE: SITE: MONCTON, N.B. REFERENCES: RIVARD, D. 1982. APL PROGRAMS FOR STOCK ASSESSMENT (REVISED). CAN. TECH. REPT. FISH. AQUAT. SCI. NO. 1091. REFERENCES: RIVARD, D. 1982. APL PROGRAMS FOR STOCK ASSESSMENT (REVISED). COMMENTS: YIELD PER RECRUIT FUNCTIONS ARE FROM WHITE (MS1985). CAN. TECH. REPT. FISH. AQUAT. SCI. NO. 1091. PROJECTION PROGRAMS WERE ADAPTED FROM RIVARD (1982). COMMENTS: USES THE ALGORITHMS FROM RIVARD(1982) THIS WORKSPACE REPLACES YIELDW. NAME: YPRTB VERSION: 0001.0 LAST REVISED: 84/06 NAME: VPAC VERSION: 0002.3 LAST REVISED: 84/06 ORIGINATING REGION: GULF ORIGINATING REGION: GULF CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY() CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY() OTHER() PURPOSE: VIRTUAL POPULATION ANALYSIS PROGRAMME WITH AGE-SPECIFIC NATURAL PURPOSE: CALCULATE VIELD PER RECRUIT USING THE ALGORITHM OF THOMPSON AND MORTALITY AND PROJECTION BELL DESC: PROGRAMMED IN FORTRAM DESC: PROGRAMMED IN FORTRAM INPUT: DATA FILES INPUT: DATA FILES OUTPUT: POPULATION, MORTALITY, FUTURE CATCH REPORT(X) PLOT(] FILE(] OUTPUT: CATCH. YIELD. AVG. WEIGHT, YIELD/EFFORT REPORT [X] PLOT [] FILE[] APPLICATION CATEGORY: AQUISITION[] MANAGEMENT[] ANALYSIS[X] OTHER: APPLICATION CATEGORY: AQUISITION(1 NANAGENENT[] ANALYSIS(X) OTHER: COMPLEXITY: SYSTEM() PROGRAM [X] UTILITY(] COMPLEXITY: SYSTEM() PROGRAMIXI UTILITY() STATUS DEVELOPMENTALL] OPERATIONAL [X] DORMANT[] STATUS: DEVELOPMENTAL() OPERATIONAL(X) DORMANTE 3 DOCUMENTATION LEVEL: USER [X] PROGRAMMER[] OPERATIONAL[] DOCUMENTATION LEVEL: USER(X) PROGRAMMER[] OPERATIONAL[] DEVELOPED BY: DOUG CLAY AND GLORIA NIELSEN DATE WRITTEN: 81 DEVELOPED BY: DOUG CLAY DATE WRITTEN: 81 PHONE NUMBER: (506) 857-6218 PRINE USER: DOUG CLAY PHONE NUMBER: (506) 857-6218 PRIME USER: DOUG CLAY TECHNICAL CONTACT: DOUG CLAY PHONE NUMBER: (506) 857-6218 TECHNICAL CONTACT: DOUG CLAY PHONE NUMBER: (506) 857-6218 COMPUTER / OPERATING SYSTEM: MICROS - CP/N-80 V2.2 : MS/DOS - V2.0 MICROS - CP/M-80 V2.2 ; MS/DOS - V2.0 COMPUTER / OPERATING SYSTEM: PROGRAMMING LANGUAGE(S): TURBO PASCAL V2.2 PROGRAMMING LANGUAGE(S): NEVADA FORTRAN V2.3 ; UTAH FORTRAN V1.1 SPECIAL SOFTWARE: SPECIAL SOFTWARE: SITE: MONCTON, N.B. SITE: MONCTON. N.B. REFERENCES: RIVARD. D. 1982. APL PROGRAMS FOR STOCK ASSESSMENT (REVISED). REFERENCES: ABRAMSON, 1971 COMPUTER PROGRAMMES FOR FISH STOCK ASSESSMENTS. CAN. TECH. REPT. FISH. AQUAT. SCI. ND. 1091. FAO FISH. TECH. PAP.NO 101 COMMENTS: COMMENTS:

2. Commercial catch/effort

LAST REVISED: 85/04/30 NAME: COMLL VERSION: 4.0 ORIGINATING REGION: SCOTIA FUNDY CATEGORY: ASSESSMENT[] COMMERCIAL CATCH/EFFORT[X] COMMERCIAL SAMPLE[] RESEARCH SURVEY[] OTHER(] PURPOSE: PREPARE VARIOUS FORMAT CATCH/EFFORT DATA FOR ANALYSIS DESC: A SERIES OF BATCH ORIENTED FORTRAN 77 PROGRAMS IS USED TO REFORMAT DATA FROM VARIOUS SOURCES INTO A COMMON (COMPRESSED) FORMAT AND SUMMARIZE THE COMPRESSED DATA TO A LEVEL COMPARABLE TO NAFO TABLE 5. INPUT: SCOTIA FUNDY COMMERCIAL LANDINGS (VARIOUS FORMATS) ATLANTIC ZONAL INTERCHANGE FILE FORMAT (ZIFF) OUTPUT: COMPRESSED CONMERCIAL LANDINGS SUMMARIZED COMMERCIAL LANDINGS REPORT() PLOT() FILE(X) APPLICATION CATEGORY: AQUISITION() MANAGEMENT(] ANALYSIS(X) OTHER: PROGRAM[] COMPLEXITY: SYSTEMIXI UTILITY[] STATUS: DEVELOPMENTAL() OPERATIONAL(X) DORMANT[] DOCUMENTATION LEVEL: USER[X] PROGRAMMER(X) OPERATIONAL() DEVELOPED BY: B. CHARLTON, SCOTIA FUNDY MFD DATE WRITTEN: 85/01 PRIME USER: J. MCNILLAN, SCOTIA FUNDY MFD PHONE NUMBER: (902) 426-3516 PHONE NUMBER: (902) 426-3516 TECHNICAL CONTACT: B. CHARLTON / J. MCHILLAN COMPUTER / OPERATING SYSTEM: CDC CYBER 840 / NOS 2.4 PROGRAMMING LANGUAGE(S): FORTRAN 77 (CDC FTN5 VERS. 5.1) SPECIAL SOFTWARE: NOS SORT ROUTINES SITE: BIO REFERENCES: NONE

COMMENTS: VERSION 2 HAS BEEN DISTRIBUTED TO THE OTHER ATLANTIC REGIONS.

NAME: CONLQUEB VERSION: 2.0 LAST REVISED: 86/02 ORIGINATING REGION: Quebec CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT(X) COMMERCIAL SAMPLE() RESEARCH SURVEY() OTHER()

PURPOSE: Prepare various format catch/effort data for analysis.

DESC: A series of batch oriented FORTRAN 77 programs is used to reformat data from ZIFF files into a common (compressed) format and summarize the compressed data to a level comparable to NAFO table 5.

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INPUT: Atlantic zonal interchange file format (ZIFF).

•	OUTPUT: - Compressed commercial landings. - Summarized commercial landings. - Table 5 report - Table 4 report		REPORT (X) PLOT() FILE(X)	
	APPLICATION CATEGORY: ACQUISITION() COMPLEXITY: SYSTEM(X) STATUS: DEVELOPMENTAL() DOCUMENTATION LEVEL: USER(X)	MANAGEMENT(X) PROGRAM() OPERATIONAL(X) PROGRAMMER(X) OF	ANALYSIS(UTILITY(DORMANT(FRATIONAL() OTHER() CATCH/	
	DEVELOPED BY: B. Charlton, Scotia Fundy MFD PRIME USER: TECHNICAL CONTACT: COMPUTER/OPERATING SYSTEM: IBH 370/OS-MVS PROGRANMING LANGUAGE(S): FORTRAN, SAS SPECIAL SOFTWARE: IBM SORT UTILITY	DATE WRITTEN PHONE NUMBER PHONE NUMBER	: 85/01 : :	EFFORT	

SITE: IST Inc., Montreal, Quebec

REFERENCES: Charlton, B. MS1985. Processing commercial landings data in MFD Scotia Fundy.

CONMENTS: This is a modified version of COML from Scotia-Fundy. The programs have been modified to run on OS/MVS rather than CDC NOS. This required taking the sorting out of the programs and putting them in intermediate steps. Other changes include: - reading ZIFF files only;

- the 15 species in the compressed file have been modified to include major invertebrates and exclude rare Culf fish:
- SAS programs have been written to generate NAFO Tables 4 and 5 from the summarized files.

VERTING ONE VERTING AND LAST VENTSED, 86/01	NAME: NAFSYS VERSION: 0002.0 LAST REVISED: 86/04
NAME: HERKING CPDE ORIGINATING REGION: Quebec CATEGORY: ASSESSMENT() CONMERCIAL CATCH/EFFORT(X) COMMERCIAL SAMPLE() RESEARCH SURVEY() OTHER()	ORIGINATING REGION: GULF CATEGORY: ASSESSMENT[] COMMERCIAL CATCH/EFFORT[X] COMMERCIAL SAMPLE[] RESEARCH SURVEY[] Other[]
PURPOSE: To obtain catch per unit effort for herring population using data from individual	PURPOSE: SELECT, SUMMARIZE NAFO TABLE 5 AND PURCHASE SLIP DATA SETS; CREATE 'X-MATRIX' FOR STANDARDIZATION OF CPUE
sales slip and other sources.	
	INPUT: NAFO TABLE 5 FILE, PURCHASE SLIP DATA Output: Subset,Catch,Summary,X-Matrix
DESC: A collection of computer programs and manual procedures.	
	APPLICATION CATEGORY: AQUISITION MANAGEMENT[] ANALYSIS(X] OTHER: COMPLEXITY: SYSTEM(X) PROGRAM[] UTILITY[] STATUS: DEVELOPMENTAL[] OPERATIONAL(X] DORMANT[] DOCUMENTATION LEVEL: USER[] PROGRAMMER[X] OPERATIONAL[]
INPUT: Sales slip of individual herring landings.	DEVELOPED BY: GLORIA NIELSEN DATE WRITTEN: 1984 PRIME USER: PHONE NUMBER:
OUTPUT: Average catch per unit effort by week and fishing area REPORT(X) PLOT() FILE()	TECHNICAL CONTACT: GLORIA NIELSEN PHONE NUMBER: (506) 857-6211 COMPUTER / OPERATING SYSTEM: NICROS - CP/M-80 V2.2 : MS/DOS - V2.0 CDC CYBER 173 NOS 2.3
	PROGRAMMING LANGUAGE(S): NEVADA FORTRAN V2.3 ; UTAH FORTRAN V1.1
ANALYSIS() OTHER()	SPECIAL SOFTWARE:
APPLICATION CATEGORY: ACQUISITION() FRANADEMERI(X) REALIST(Y) OTHER(Y) CONPLEXITY: SYSTEM(X) PROGRAM() UTILITY() STATUS: DEVELOPMENTAL() OPERATIONAL(X) DORMANT() DOCUMENTATION LEVEL: USER() PROGRAMMER() OPERATIONAL()	REFERENCES: GAVARIS, S.1980. USE OF A MULTIPLICATIVE MODEL TO ESTIMATE CATCH RATE AND EFFORT FROM Commercial data. Can.j.Fish.aquat.sci.37:2272-2275. Comments:
DEVELOPED WY. Las Magning DATE WEITTEN: 85/09	
DEVELOPED BY: Lan McQuinn PHONE NUMBER: (418) 775-6627 TECHNICAL CONTACT: Lan McQuinn PHONE NUMBER: (418) 775-6627	NAME: REDxxx VERSION: 1 LAST REVISED: 84/04/10
CONPUTER/OPTERATING SYSTEM: CDC CYBER 1/3/NOS 2.x PROGRAHMING LANGUAGE(S): SPSS, FORTRAN 77 SPECIAL SOFTWARE: CDC SORT UTILITY	CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT(X) COMMERCIAL SAMPLE() RESEARCH SURVEY() OTHER()
SITE · BID	PURPOSE: PROGRAMS TO FORMAT DATA FOR USE IN CATCH RATE STANDARDIZATION. DESC: SERIES OF PROGRAMS WHICH FORMAT DATA FROM NAFO REDFISH FILE FOR USE IN MULTIPLICATIVE
	MODEL, ('xxx' DENOTES STOCK REQUIRED).
REFERENCES:	INPUT: DATASET CONTAINS YEAR, COUNTRY, GEAR, TONNAGE CLASS, DIVISION, MONTH, HOURS, DAYS, REDFISH CATCH AND TOTAL CATCH. Output: Reformated data file for USE as Input to 'standar' workspace
	REPORT () PLOT () FILE (X)
COMMENTS:	APPLICATION CATEGORY: AQUISITION (X) MANAGEMENT () ANALYSIS () OTHER: COMPLEXITY: SYSTEM () PROGRAM (X) UTILITY () STATUS: DEVELOPMENT () OPERATION (X) DISTUNCT ()
	DOCUMENTATION LEVEL: USER () PROGRAMMER (X) DORMANY () DEVELOPED BY: D. B. ATKINSON DATE WRITTEN: 84/04/10
	PRIME USER: D. B. AIKINSUN PHONE NUMBER: (709) 772-2052 TECHNICAL CONTACT: D. B. ATKINSON PHONE NUMBER: (709) 772-2052 COMPUTER/OPERATING SYSTEM: AMDAHL 5860/OS MVS-SP (VERSION 2.3.1) PROGRAMMING LANGUAGE: QUIKJOB (VERSION 9.0G) SPECIAL SOFTWARE: NONE
	SITE: FRB, NAFC, ST. JOHN'S.
	REFERENCE :
	COMMENTS: THIS PROGRAM CREATES A FILE WHICH IS SENT TO MULTIPLE ACCESS ON TAPE AND THEN TRANSFERRED FROM TAPE TO DISK AT MA BY USE OF A UTILITY PROGRAM (FORMJCL).

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VERSION: 1 NAME: RNGxxx LAST REVISED: 84/04/10 ORIGINATING REGION: NEWFOUNDLAND CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT(X) COMMERCIAL SAMPLE() RESEARCH SURVEY() OTHER() PURPOSE: PROGRAMS TO FORMAT DATA FOR USE IN CATCH RATE STANDARDIZATION. DESC: SERIES OF PROGRAMS WHICH FORMAT DATA FROM NAFO GRENADIER FILE FOR USE IN MULTIPLICATIVE MODEL. ('xxx' DENOTES STOCK REQUIRED) INPUT: DATASET CONTAINS YEAR, COUNTRY, GEAR, TONNAGE CLASS, DIVISION, MONTH, HOURS, DAYS, GRENADIER CATCH AND TOTAL CATCH. OUTPUT: REFORMATED DATA FILE FOR USE AS INPUT TO 'STANDAR' WORKSPACE. REPORT () PLOT () FILE (X) APPLICATION CATEGORY: AQUISITION () MANAGEMENT (X) ANALYSIS () OTHER: PROGRAM (X) UTILITY COMPLEXITY: SYSTEM () () STATUS: DEVELOPMENTAL () OPERATIONAL (X) DORMANT ()(X) OPERATIONAL () DOCUMENTATION LEVEL: I PROGRAMMER USER () DEVELOPED BY: D. B. ATKINSON DATE WRITTEN: 84/04/10 PHONE NUMBER: (709) 772-2052 PRIME USER: D. B. ATKINSON TECHNICAL CONTACT: D. B. ATKINSON PHONE NUMBER: (709) 772-2052 COMPUTER/OPERATING SYSTEM: AMDAHL 5860/05 MVS-SP (VERSION 2.3.1) PROGRAMMING LANGUAGE: QUIKJOB (VERSION 9.0G) SPECIAL SOFTWARE: NONE SITE: FRB, NAFC, ST. JOHN'S.

REFERENCE:

COMMENTS: THIS PROGRAM CREATES A FILE WHICH IS SENT TO MULTIPLE ACCESS ON TAPE AND THEN TRANSFERRED FROM TAPE TO DISK AT MA BY USE OF A UTILITY PROGRAM (FORMJCL).

		LAST KET	1320: 02/04/01
CATEGORY: ASSESSMENT() COMMERCIAL CAT(OTHER()	H/EFFORT(X) COMM	ERCIAL SAMPLE()	RESEARCH SURVEY()
PURPOSE: APL PROGRAMS FOR CATCH-RATE STA Desc: An APL Workspace containing functi Catch Rate. Functions are designed	NDARDIZATION. ONS TO ASSIST WIT TO IMPLEMENT A M	H THE STANDARDIZAT	TION OF COMMERCIAL
INPUT: CATCH, EFFORT AND BINARY MATRIX (TONNAGE CLASS, NAFO DIVISION, MON LANDING VECTOR ARE REQUIRED.	NF USER SELECTED V. NTHS AND YEARS. MA	ARIABLES INCLUDING TRIX FORMAT DESCRI	COUNTRY-GEAR-
OUTPUT: RESULTS OF MULTIPLICATIVE MODEL, LANDINGS FOR WHICH THERE IS EFFO FROM REGRESSION ETC.	TABLES SHOWING C. IRT DATA, PLOT OF I	ATCH RATE, EFFORT CATCH RATE SERIES,	AND PROPORTION OF , PLOT OF RESIDUALS
		REPORT (X) F	101 (X) FILE ()3
APPLICATION CATEGORY: AQUISITION () COMPLEXITY: SYSTEM () STATUS: DEVELOPMENTAL () C DOCUMENTATION LEVEL: USER (X) DEVELOPED BY: S. GAVARIS PRIME USER: GROUNDFISH (D.B.ATKINSON) TECHNICAL CONTACT: S. GAVARIS COMPUTER/OPERATING SYSTEM: CYBER 76/ NOS PROGRAMMING LANGUAGE: CDC APL (VERSION 7 SPECIAL SOFTWARE: PROGRAMS USE CDC APL F SITE: CONTROL DATA CANADA LTD., OTTAWA,	MANAGEMENT () PROGRAM (X) IPERATIONAL (X) PROGRAMMER () O DATE PHON 2.3 2.1) TLE FUNCTIONS. ONTARIO.	ANALYSIS (X) UTILITY () DORMANT () PERATIONAL () WRITTEN: 80/03/01 E NUMBER: (709) 77 E NUMBER: (506) 5	OTHER: 12-2052 29-8854
REFERENCE: GAVARIS, S. 1980. USE OF A ML FROM COMMERCIAL DATA. CAN. J.	LTIPLICATIVE MODE	L TO ESTIMATE CATO . 37:2272-2275.	H RATE AND EFFORT

VERSION: 1

COMMENTS: A SERIES OF PROGRAMS HAVE BEEN DEVELOPED AT FRB (ST. JOHN'S) TO PREPARE DATA FOR UTILIZATION OF THE ABOVE WORKSPACE FUNCTIONS.

PROGRAM NOTE: INPUT LANDINGS VECTOR MUST NOT BE GIVEN THE NAME 'CATCH'.

NAME: STANDAR

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LAST REVISED: 82/04/01

NAME: STANDARD.AWS VERSION: 1.0 LAST REVISED: 86/02/02 ORIGINATING REGION: Quebec CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT(X) COMMERCIAL SAMPLE() RESEARCH SURVEY() OTHER()	NAME: STANDARD.WS VERSION: 4.0 LAST REVISED: 95/04/01 ORIGINATING REGION: Québec CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT(X) COMMERCIAL SAMPLE() RESEARCH SURVEY() OTHER()
PURPOSE: Standardization of commercial catch rates using the multiplicative model.	PURPOSE: Standardization of commercial catch rates using the multiplicative model.
DESC: APL workspace.	DESC: APL workspace
INPUT: Catch, effort by country, year, tonnage class, NAFO division, month and year. Format description as well as landing vectors are required.	INPUT: Catch, effort by country, year, tonnage class, NAFO division, month and year. Format description as well as landing vectors are required.
OUTPUT: Tables of catch rates, effort, proportion of landings with effort available, plots of catch rate series, residuals, etc. REPORT(X) PLOT(X) FILE() APPLICATION CATEGORY: ACQUISITION() MANAGEMENT() ANALYSIS(X) OTHER()	OUTPUT: Tables of catch rates, effort, proportion of REPORT(X) PLOT(X) FILE() landings with effort available, plots of catch rate series, residuals, etc
COMPLEXITY: SYSTEM() PROGRAM(X) UTILITY() STATUS: DEVELOPMENTAL() OPERATIONAL(X) DORMANT() DOCUMENTATION LEVEL: USER() PROGRAMMER() OPERATIONAL(X) DEVELOPED BY: S. Gavaris and D. Gascon DATE WRITTEN: 1984 PRIME USER: D. Gascon PHOME NUMBER: (418) PROMUM CONVENTION OF CONCENTION O	APPLICATION CATEGORY: AQUISITION() MANAGEMENT() ANALYSIS(X) OTHER() COMPLEXITY: SYSTEM() PROGRAM(X) UTILITY() STATUS: DEVELOPMENTAL() OPERATIONAL(X) DORMANT() DOCUMENTATION LEVEL: none USER() PROGRAMMER() OPERATIONAL()
COMPUTER/OPERATING SYSTEM: IBM-PC/PCDOS 2.1 PROGRAMMING LANGUAGE(S): STSC APL 4.1 SPECIAL SOFTWARE: None SITE: Fisheries Research Branch, Quebec Region	DEVELOPED BY: S. Gavaris and D. Gascon DATE WRITTEN: 1984 PRIME USER: D. Gascon PHONE NUMBER: (418) 775-6631 TECHNICAL CONTACT: D. Gascon PHONE NUMBER: (418) 775-6631 COMFUTER / OPERATING SYSTEM: IBM-PC/PC DOS 2.1 PHONE NUMBER: (418) 775-6631 PROGRAMMING LANGUAGE(S): WATCOM APL 2.0 SPECIAL SOFTWARE:
REFERENCES: Gavaris S. 1980. Use of a multiplicative model to estimate catch rate and effort from commercial data. Can. J. Fish. Aquat. Sci.37: 2272-2275.	SITE: Fisheries Research Branch, Quebec Region
	REFERENCES: Gavaris S. 1980. Use of a multiplicative model to estimate catch rate and effort from commercial data. Can. J. Fish. Aquat. Sci. 37: 2272-2275
COMMENTS: This is an IBC-PC implementation of the workspace written by S. Gavaris at Multiple	

Access Ltd.

- This is an IBC-PC implementation of the workspace written by S. Gavaris at Multiple Access Ltd. COMMENTS:

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3. Commercial sample

NAME: ALKEY	VERSION: 1 LA	ST REVISED: 83/03/01	
ORIGINATING REGION: NEWFOUNDLAND			
OTHER()	L CATCH/EFFORT() CUMMERCIAE SAMP	LE(X) RESEARCH SURVET()	NAME: ALSYSX VERSION: 0002.1 LAST REVISED: 85/04/12 Originating Region: Gulf
PURPOSE: SETS UP AGE/LENGTH KEY FI DESC: SPECIES SPECIFIC PROGRAM WHI	LE FOR APL CATCH AT AGE PROGRAMS. CH GENERATES AGE/LENGTH KEYS FROM	COMMERCIAL AND/OR FCR DATA.	CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE(X) RESEARCH SURVEY(
INPUT: SELECTION CRITERIA PARAMETE AGE, LENGTH, ETC. DEPENDING OUTPUT: FORMATTED AGE/LENGTH KEY A	RS MAY INCLUDE SPECIES, YEAR, MONT ON TYPE OF DATA BEING ACCESSED. S REQUIRED FOR CATCH AT AGE PROGRAM	H, NAFO DIVISION, SEX, MS.	PURPOSE: GENERATE AGE-LENGTH KEYS FOR GROUNDFISH COMMERCIAL SAMPLE DATA DESC: ALSYS, AS RECEIVED FROM SCOTIA-FUNDY HAS BEEN MODIFIED TO Allow A LITTLE HORE FLEXIBILITY IN COMBINING SAMPLES
	REPORT	() PLOT () FILE (X)	INPUT: CONNERCIAL SAMPLES OUTPUT: AGE-LENGTH KEYS REPORT(X1 PLOT(1 FILE(1
APPLICATION CATEGORY: AQUISITION (COMPLEXITY: SYSTEM (STATUS: DEVELOPMENTAL (DOCUMENTATION LEVEL: USER (DEVELOPED BY: G. SOMERTON PRIME USER: GROUNDFISH) MANAGEMENT (X) ANALYSIS) PROGRAM (X) UTILITY) OPERATIONAL (X) ODERATIONAL) PROGRAMMER (X) OPERATIONAL DATE WRITTEN: 8 PHONE NIMMER:	() OTHER: () () 3/03/01	APPLICATION CATEGORY: AQUISITION(] MANAGEMENT(] ANALYSIS(X) OTHER: Complexity: System(X) program(] utility() Status: developmental(] operational(X) dormant(] Documentation level: user(X) programmer() operational(X)
TECHNICAL CONTACT: G. SOMERTON COMPUTER/OPERATING SYSTEM: ANDAHL PROGRAMMING LANGUAGE: STATISTICAL SPECIAL SOFTWARE: NONE SITE: FRB, NAFC, ST. JOHN'S.	PHONE NUMBER: (5860/OS MVS-SP (VERSION 1.3.2) ANALYSIS SYSTEM (SAS-VERSION 5)	709) 772-2012	DEVELOPED BY: JOHN WRIGHT DATE WRITTEN: 1983 PRIME USER: PHONE NUMBER: TECHNICAL CONTACT: JOHN WRIGHT PHONE NUMBER: (506) 857-6985 COMPUTER / OPERATING SYSTEM: CDC CYBER 173/NOS 2.3 PROGRAMMING LANGUAGE(S): FORTRAN 4.6 SPECIAL SOFTWARE: SORT/MERGE
REFERENCE: COMMENTS: THIS PROGRAM CREATES A F TRANSFERRED FROM TAPE TO	ILE WHICH IS SENT TO MULTIPLE ACCE DISK AT MA BY USE OF A UTILITY PRO	SS ON TAPE AND THEN OGRAM (FORMALK).	SITE: BIO Comments: System needs revamping. Recent complaints from Both Programmers and USER5 demonstrate this point.
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NAME: ALSYS AGE LENGTH KEY SYSTËM Originating region: Scotia fundy Category: Assessment() commerci	VERSION: 2.0 AL CATCH/EFFORT() CONMERCIAL SA	LAST REVISED: 86/04/07 NPLE(X) RESEARCH SURVEY()	NAME: CATAGE VERSION: 0001.0 LAST REVISED: 86/04 ORIGINATING REGION: GULF
PURPOSE: GENERATE AGE-LENGTH KEYS DESC: THE SYSTEM ACCEPTS A DESCRIP PREVIOUSLY GENERATED SCRIP KEY OR A KEY FOR EACH SEX.	FOR GROUNDFISH CONMERCIAL SAMPLE D TION OF THE KEY TO BE PRODUCED INT T FILE. THE DESIRED SAMPLES ARE P EACH KEY CONTAINS AGE DATA FROM	ATA ERACTIVELY OR USING A OOLED TO PRODUCE A SINGLE THE SAMPLES USED TO	CATEGORY: ASSESSMENTE J COMMERCIAL CATCH/EFFORTE J COMMERCIAL SAMPLEIAJ RESEARCH SURVEYE PURPOSE: GENERATE AGE-LENGTH KEYS FOR REDFISH CONNERCIAL SAMPLE DATA DESC: CATCH, AS RECEIVED FROM QUEBEC HAS BEEN RODIFIED TO USE GULF FORMATS AND CODES.
INPUT: COMMERCIAL SAMPLES (MFD-D37 GROUNDFISH ONLY)		INPUT: COMMERCIAL SAMPLES Output: Age-length Keys, length frequencies, report(x) plot(} file(} Length-Weight Relationships
OUTPUT: AGE-LENGTH KEYS	R	EPORT(X) PLOT() FILE()	
APPLICATION CATEGORY: AQUISITION(Complexity: System(X Status: Developmental(Documentation level: User(X	1 NANAGEMENT[] ANALYSIS[X] 3 PROGRAM[] UTILITY[] 3 OPERATIONAL[X] DORMANT[] 4 PROGRAMMER[] OPERATIONAL[X]	OTHER:	APPLICATION CATEGORY: AQUISITION() MANAGEMENT() ANALYSIS(X) UTHER: Complexity: System(X) Program() UTLITY() Status: developmental() Operational(X) dormant() Documentation Level: User(X) Programmer() Operational(X)
DEVELOPED BY: CS-GROUP MF-DIV PRIME USER: KEES ZWANENBURG TECHNICAL CONTACT: COMPUTER SECTIO COMPUTER / OPERATING SYSTEM: CO PROGRAMMING LANGUAGE(S): F SPECIAL SOFTWARE: SORT/MERGE SITE: BIO COMMENTS: SYSTEM NEEDS REVAMPING. BOTH PROGRAMMERS AND USE	ISION DATE WRITTEN: 197 PHONE NUMBER: (90 N PHONE NUMBER: (90 DC CYBER 840/NOS 2.4 ORTRAN IV (CDC FTN4 VERS. 4.8) RECENT COMPLAINTS FROM RS DEMONSTRATE THIS POINT.	7-1982 2) 426-3310 2) 426-3537	DEVELOPED BY: GLORIA NIELSEN DATE WRITTEN: 1986 PRIME USER: PETER RUBEC PHONE NUMBER: (506) 857-6233 TECHNICAL CONTACT: GLORIA NIELSEN PHONE NUMBER: (506) 857-6211 COMPUTER / OPERATING SYSTEM: MICRO - NS/DOS V2.0 PROGRAMMING LANGUAGE(S): WATCOM APL V2.0 SPECIAL SOFTWARE: SITE: GULF COMMENTS:

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VERSION: 1 LAST REVISED: 83/10/01 NAME: CATCH ORIGINATING REGION: NEWFOUNDLAND CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLING(X) RESEARCH SURVEY() OTHER() PURPOSE: APL PROGRAMS TO CALCULATE COMMERCIAL CATCH AT AGE. DESC: APL WORKSPACE CONTAINING FUNCTIONS TO DEVELOP THE CATCH AT AGE WITH VARIANCE ESTIMATES. INPUT: AGE-LENGTH KEY FILE, LENGTH FREQUENCY FILE, LENGTH-WEIGHT RELATIONSHIP AND NOMINAL CATCHES. OUTPUT: TABLE OF AVERAGE WEIGHTS AND LENGTHS. MEAN CATCH, STANDARD ERROR AND C. V. BY AGE. REPORT (X) PLOT () FILE () APPLICATION CATEGORY: AQUISITION () MANAGEMENT () ANALYSIS (X) OTHER: COMPLEXITY: SYSTEM () PROGRAM (X) UTILITY ()STATUS: DEVELOPMENTAL () OPERATIONAL (X) DORMANT () () OPERATIONAL () DOCUMENTATION LEVEL: USER (X) PROGRAMMER DEVELOPED BY: S. GAVARIS DATE WRITTEN: 83/10/01 PHONE NUMBER: PRIME USER: GROUNDFISH PHONE NUMBER: (709) 772-5477 TECHNICAL CONTACT: G. MARSHALL COMPUTER/OPERATING SYSTEM: CYBER 76/ NOS 2.3 PROGRAMMING LANGUAGE: CDC APL (VERSION 2.1) SPECIAL SOFTWARE: PROGRAMS USE CDC APL FILE FUNCTIONS. SITE: CONTROL DATA CANADA LTD., OTTAWA. ONTARIO. REFERENCE: COMMENTS: A SERIES OF PROGRAMS HAVE BEEN DEVELOPED AT FRB (ST. JOHN'S) TO PREPARE DATA FOR UTILIZATION OF THE ABOVE WORKSPACE FUNCTIONS. NAME: CATCH VERSION: 1.3 LAST REVISED: 86/04 ORIGINATING REGION: Scotia Fundy CATEGORY: ASSESSMENT[] COMMERCIAL CATCH/EFFORT[] COMMERCIAL SAMPLE[X] RESEARCH SURVEY[] OTHER [] PURPOSE: Calculate catch at age with variance estimates using commercial length frequencies and otolith data DESC: APL workspace and two FORTRAN programs used to select and combine samples. INPUT: Commercial samples data in Scotia-Fundy 'NAFO' format and length-weight parameters OUTPUT: Tables of average weights and lengths, mean catch, standard error and C.V. by age REPORTING PLOTE FILEE .] MANAGEMENT() APPLICATION CATEGORY: AQUISITION[] ANALYSIS(X) OTHER: COMPLEXITY: SYSTEM() PROGRAMIXI UTILITY() STATUS: DEVELOPMENTAL[] OPERATIONAL(X) DORMANT[] DOCUMENTATION LEVEL: none DEVELOPED BY: S. Gavaris DATE WRITTEN: 1983 PRIME USER: A. Sinclair PHONE NUMBER: (902) 426-3501 TECHNICAL CONTACT: A. Sinclair PHONE NUMBER: (902) 426-3501 COMPUTER / OPERATING SYSTEM: CDC CYBER 840 / NOS 2.4 PROGRAMMING LANGUAGE(S); CYBER APL VERS, 2.1, FORTRAN 77 (CDC FTN5 VERS, 5,1) SPECIAL SOFTWARE: SITE: BIO

REFERENCES: Gavaris, 5. and C.A. Gavaris. 1983. Can, Spec. Publ. Fish Aquat. Sci. 66:178-182.

COMMENTS: This program was adapted from CATCH (Version 1, 83/10/31, Newfoundland).

NAME: CATCH.AWS VERSION: 1.1 LAST REVISED: 86/03/04 ORIGINATING REGION: Quebec CATEGORY: ASSESSMENT() CONMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE(X) RESEARCH SURVEY() OTHER()

PURPOSE: To compute catch at age from commercial length and age data.

 DESC:
 APL workspace.
 COMMERCIAL
 Commence
 Commence

 APPLICATION CATEGORY:
 ACQUISITION()

 COMPLEXITY:
 SYSTEM()

 STATUS:
 DEVELOPMENTAL()

 DOCUMENTATION LEVEL:
 USER()

PROGRAM(X) UTILITY() OPERATIONAL(X) DORMANT() PROGRAMMER() OPERATIONAL()

DEVELOPED BY: S. Gavaris PRIME USER: D. Gascon TECINICAL CONTACT: D. Gascon COMPUTER/OPERATING SYSTEM: IBM-PC/PCDOS 2.1 PROGRAMMING LANGUAGE(S): STSC APL 4.1 SPECIAL SOFTWARE: None DATE WRITTEN: PHONE NUMBER: (418) 775-6631 PHONE NUMBER: (418) 775-6631

SITE: Fisheries Research Branch, Quebec Region

REFERENCES: Gavaris S. and C.A. Gavaris. 1983. Can. Spec. Publ. Aquat. Sci. 66 pp 178-182.

CONNENTS: This software is an IBM-PC implementation of the catch worskpace at Multiple Access Ltd.

NAME: CA	TCH.WS VERSION: 1.0	LAST REVISED: 85/04/01		
CATEGORY:	NG REGION: QUEDEC ASSESSMENT() COMMERCIAL CATCH/EFFORT(OTHER()) COMMERCIAL SAMPLE(X) RESEARCH SURVEY()	NAME: CATAAGE VERSION: 1.0 ORIGINATING REGION: Quebec CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL S	LAST REVISED: 86/04 Ample(X) Research Survey()
PURPOSE:	To compute catch at age from commercial	length and age data.	OTHER()	
			PURPOSE: To compute catch at age data for herring populations.	CC
DESC:	APL workspace.			MM
			DESC: APL workspace.	
INPUT:	Age - length key, length frequencies, n division and zone of landing. Also length - weight relation-ship.	ominal catches by month, year, NAFO	INPUT: - Vectors of age proportions for each group. - Mean weight for each group. - Commercial catch.	L SAMP
OUTPUT:	Tables of average weights and length, mean catch, standard error by age.	REPORT(X) PLOT() FILE()	OUTPUT: Catch at age vectors.	REPORT(X) PLOT() FILE()
APPLICATI COMPLEXIT STATUS: DOCUMENTA	ION CATEGORY: AQUISITION() MANA YY: SYSTEM() P IEVELOPMENTAL() OPERA ATION LEVEL: none USER() PROG	GEMENT() ANALYSIS(X) OTHER() ROGRAM(X) UTILITY() . ITONAL(X) DORMANT() RAMMER() OPERATIONAL()	APPLICATION CATEGORY: ACQUISITION() MANAGEMENT() COMPLEXITY: SYSTEM() PROGRAM(X) STATUS: DEVELOPMENTAL() OPERATIONAL(X) DOCUMENTATION LEVEL: USER(X) PROGRAMMER()	ANALYSIS(X) OTHER() UTILITY() DORMANT() OPERATIONAL()
DEVELOPED PRIME USE TECHNICAL COMPUTER PROGRAMMI SPECIAL S	D BY: S. Gavaris SR: D. Gascon L CONTACT: D. Gascon / OPERATING SYSTEM: IBM PC/PCDOS 2.1 ING LANGUAGE(S): WATCOM APL 2.0 SOFTWARE:	DATE WRITTEN: PHONE NUMBER: (418) 775-6631 PHONE NUMBER: (418) 775-6631	DEVELOPED BY: Denis Rivard, I. McQuinn DATE WRI PRIME USER: Ian McQuinn PHONE NU TECHNICAL CONTACT: Ian McQuinn PHONE NU COMPUTER/OPERATING SYSTEM: IBM PC/DOS 3.1 PROGRAMMING LANGUAGE(S): APLPLUS(STSC) SPECIAL SOFTWARE: None	TTEN: 86/04 MMER: (418) 775-6627 MBER: (418) 775-6627
SITE: F	Fisheries Research Branch, Quebec Region		SITE: Fishery science Division, Quebec Region	
REFERENCE	ES: Gavaris S. and C.A. Gavaris. 1983. C	an. Spec. Publ. Aquat. Sci. 66 pp 178-182	REFERENCES:	
COMMENTS	: This software is an IBM-PC implementat	ion of the catch workspace at Multiple	COMMENTS:	

Access Ltd.

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NAME: FREQAGE VERSION: 1.0 LAST REVISED: 86/04 ORIGINATING REGION: Quebec CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE(X) RESEARCH SURVEY() OTHER()	NAME: GROUNDFISH CATCH AT AGE VERSION: 3.0 LAST REVISED: #6/04/15 ORIGINATING REGION: Quebec Region CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE(X) RESEARCH SURVEY() OTHER()
PURPOSE: To compute herring age proportions and mean weights from random non-stratified samples.	PURPOSE: To combine commercial samples of length frequencies and age-length data.
DESC: A set of SPSS procedures produces output for each combination of samples according to combination criteria provided by user.	DESC: Two SAS programs. The first combines length frequencies by species, month, gear, NAFO division, landing zone, sex and uses turnout weight as a weighting factor. The second combines age-length data by species trimester, gear, NAFO division, landing zone and sex.
INPUT: - Biological data file containing age and weight of each fish. - Combination criteria.	. INPUT: Length frequencies (Quebec-Gulf format) and age-length data from commercial sampling or from the observer program.
OUTPUT: Vectors of age proportions and mean weight for REPORT(X) PLOT() FILE() each combination of samples	OUTPUT: Two reports giving number of samples and number of fish REPORT(X) PLOT() FILE(X) for each combination. One length frequency vectors file and one age-length matrices files.
APPLICATION CATEGORY: ACQUISITION() MANAGEMENT(X) ANALYSIS() OTHER() COMPLEXITY: SYSTEM() PROGRAM(X) UTILITY() STATUS: DEVELOPMENTAL() OPERATIONAL(X) DORMANT() DOCUMENTATION LEVEL; USER() PROGRAMMER() OPERATIONAL()	APPLICATION CATEGORY: ACQUISITION() MANAGEMENT(X) ANALYSIS() OTHER() COMPLEXITY: SYSTEM(X) PROGRAM() UTILITY() STATUS: DEVELOPMENTAL() OPERATIONAL(X) DORMANT() DOCUMENTATION LEVEL: USER() PROGRAMMER(X) OPERATIONAL()
DEVELOPED BY: Ian McQuinn DATE WRITTEN: 84/04 PRIME USER: Ian McQuinn PHONE NUMBER: (418) 775-6627 TECHNICAL CONTACT: Ian McQuinn PHONE NUMBER: (418) 775-6627 COMPUTER/OPERATING SYSTEM: CDC CYBER 173/NOS 2.X PHONE NUMBER: (418) 775-6627 PROGRAMMING LANGUAGE(S): SPSS SPECIAL SOFTWARE:	DEVELOPED BY: E. Guindon DATE WRITTEN: 84/03/15 PRIME USER: A. Frechet PHONE NUMBER: (418) 775-6628 TECHNICAL CONTACT: PHONE NUMBER: COMPUTER/OPERATING SYSTEM: IBM 370/OS-MVS PROGRAMMING LANGUAGE(S): SAS SPECIAL SOFTWARE: None
SITE: BIO	SITE: IST Inc., Montreal, Quebec
REFERENCES:	REFERENCES:

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COMMENTS: Used in combination with CATAGE to obtain catch at age data.

COMMENTS: The two output files are meant to be read by CATCH.NS.

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LAST REVISED: 86/12 NAME: HERCTA **VERSION: 0042.1** ORIGINATING REGION: GULF CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE(X) RESEARCH SURVEY[] OTHER[] LAST REVISED: 86/04/15 NAME: MACKEREL CATCH AT AGE PURPOSE: CALCULATE HERRING CATCH-AT-AGE MATRICES VERSION: 3.0 ORIGINATING REGION: Quebec Region DESC: USES BOTH DETAILED AND LENGTH FREQUENCY SAMPLES OMMERCIAL CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE(X) RESEARCH SURVEY() OTHER() INPUT: CONNERCIAL SAMPLES REPORT(X) PLOT() FILE() OUTPUT: CATCH TABLES PURPOSE: To combine mackerel commercial samples of length frequencies and age-length data. APPLICATION CATEGORY: AQUISITION[] MANAGEMENT[] ANALYSIS[X] OTHER: PROGRAMIX3 UTILITY() COMPLEXITY: SYSTEM() STATUS: DEVELOPMENTAL() OPERATIONAL(X) DORMANT(] USER[] PROGRAMMER[] OPERATIONAL[] DOCUMENTATION LEVEL: SAMPLE DESC: Two SAS programs. The first combines length frequencies by month, NAFO division and GLORIA NIELSEN DATE WRITTEN: 1985 DEVELOPED BY: gcar. The second generates age-length keys by trimester, gear and NAFO division. PRIME USER: PHONE NUMBER: (506) 857-6211 TECHNICAL CONTACT: GLORIA NIELSEN MICRO - CP/M-80 V2.2 COMPUTER / OPERATING SYSTEM: PROGRAMMING LANGUAGE(S): MICROSOFT BASIC V5.2 INPUT: Length frequencies (Ouebec-Gulf format or St.Andrews format) and ape-length data SPECIAL SOFTWARE: (St.Andrews format) from commercial sampling or from the observer program. SITE: GULF REFERENCES: NONE COMMENTS: OUTPUT: Reports giving number of samples and fish by NAFO REPORT(X) PLOT() FILE(X) division, month and gear. One length frequency vectors file and one age-length matrices file. LAST REVISED: 83/03/01 NAME: LE VERSION: 1 APPLICATION CATEGORY: ACOULSITION() MANAGEMENT(X) ANALYSIS() OTHER() ORIGINATING REGION: NEWFOUNDLAND SYSTEM(X) PROGRAM() UTILITY() COMPLEXITY: CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE(X) RESEARCH SURVEY() DEVELOPMENTAL() OPERATIONAL(X) DORMANT() STATUS: OTHER() DOCUMENTATION LEVEL: USER() PROGRAMMER(X) OPERATIONAL() PURPOSE: SETS UP LENGTH FREQUENCY FILE FOR APL CATCH AT AGE PROGRAMS DESC: PROGRAM PRODUCES LENGTH FREQUENCIES (NUMBERS PER THOUSAND) FROM COMMERCIAL AND/OR FCR DEVELOPED BY: E. Guindon DATE WRITTEN: 84/04/15 DATA. PRIME USER: J.J. Maguire PHONE NUMBER: (418) 775-6526 PHONE NUMBER: TECHNICAL CONTACT: INPUT: REQUIRED PARAMETERS INCLUDE SPECIES, GEAR, DIVISION, TRIP NO, AS WELL AS OTHER COMPUTER/OPERATING SYSTEM: IBM 370/OS-MVS SELECTION CRITERIA BASED ON DATA BEING ACCESSED. PROGRAMMING LANGUAGE(S): SAS OUTPUT: FORMATTED LENGTH FREQUENCY FILE AS REQUIRED FOR APL CATCH AT AGE PROGRAMS. SPECIAL SOFTWARE: None REPORT () PLOT () FILE (X) APPLICATION CATEGORY: AOUISITION () MANAGEMENT (X) ANALYSIS ()OTHER: SITE: IST Inc., Montreal, Quebec SYSTEM () PROGRAM (X) UTILITY COMPLEXITY: DEVELOPMENTAL () **OPERATIONAL** DORMANT STATUS: (X) () DOCUMENTATION LEVEL: PROGRAMMER (X) OPERATIONAL () USER () **REFERENCES:** DEVELOPED BY: G. SOMERTON DATE WRITTEN: 83/03/01 PRIME USER: GROUNDFISH PHONE NUMBER: PHONE NUMBER: (709) 772-2012 TECHNICAL CONTACT: G. SOMERTON COMPUTER/OPERATING SYSTEM: AMDAHL 5860/OS MYS-SP (VERSION 1.3.2) PROGRAMMING LANGUAGE: QUIKJOB (VERSION 9.0G) FORTRAN-IV (VERSION 2.3.0) COMMENTS: The two output files are meant to be read by CATCH.WS. SPECIAL SOFTWARE: NONE SITE: FRB, NAFC, ST. JOHN'S. **REFERENCE:** COMMENTS: THIS PROGRAM CREATES A FILE WHICH IS SENT TO MULTIPLE ACCESS ON TAPE AND THEN TRANSFERRED FROM TAPE TO DISK AT MA BY USE OF A UTILITY PROGRAM (FORMLEN).

NAME:MACKEREL CATCH AT AGE VERSION: 2.0 LAST REVISED: 85/04/20 ORIGINATING REGION: Quebec Region CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE(X) RESEARCH SURVEY() OTHER()

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- PURPOSE: To combine mackerel commercial samples of length frequencies and age length data.
- DESC: A series of SAS programs (some of which are interactive) to obtain combined length frequencies and age - length keys and to compute catch at age.
- INPUT: Length frequencies (Quebec Gulf format or St.Andrews format) and age length data (St.Andrews format) from commercial sampling or from the observer program.
- OUTPUT: Reports giving number of samples and fish by REPORT(X) PLOT() FILE() NAFO division, month and year, length frequency vectors, age-length keys, catch at age vectors.

APPLICATION CATEGORY	: AQUISITION()	MANAGEMENT(X)	ANALYSIS(X)	OTHER()
COMPLEXITY:	SYSTEM(X)	PROGRAM()	UTILITY()	
STATUS:	DEVELOPMENTAL()	OPERATIONAL(X)	DORMANT()	
DOCUMENTATION LEVEL:	USER()	PROGRAMMER(X)	OPERATIONAL()	

DEVELOPED BY: PRIME USER:	E. Guindon J.J. Maguire	DATE WRITTEN: PHONE NUMBER:	84/04/15 (418) 775-6526
COMPUTER / OPERATING SYSTEM:	IBM 370/0S-MVS	PHONE NUMBER:	
PROGRAMMING LANGUAGE(S): SPECIAL SOFTWARE:	SAS TSO CLIST'S, 1	IBM sort utilit	у

SITE: IST Inc., Montreal, Quebec

REFERENCES:

COMMENTS: A stand-alone system which will be converted to provide file output to Catch. WS eventually. The length frequencies are not combined using turnout weight as a weighting factor.

4. Research surveys

NAME: RVAN VERSION: 0002.0 LAST REVISED: 86/04 ORIGINATING REGION: GULF CATEGORY: ASSESSMENT[] CONNERCIAL CATCH/EFFORT[] CONNERCIAL SAMPLE[] RESEARCH SURVEY[X] PURPOSE: ANALYZE DATA COLLECTED ON STRATIFIED RANDOM GROUNDFISH SURVEYS DESC: INPUT: SCOTIA FUNDY GROUNDFISH RESEARCH SURVEY FORMAT DATA OUTPUT: NO AGE LENGTH, AGE LENGTH REPORTIX) PLOTE] FILE() APPLICATION CATEGORY: AQUISITION[] MANAGEMENT(] ANALYSIS[X] OTHER: PROGRAM [] SYSTEM(X) UTILITY() COMPLEXITY: STATUS: DEVELOPMENTAL(X) OPERATIONAL() DORMANT[] USER[] PROGRAMMER[] OPERATIONAL[] DOCUMENTATION LEVEL: DEVELOPED BY: DOUG CLAY AND PIERRE BRIEN DATE WRITTEN: 1985 PHONE NUMBER: (506) 857-6218 PRIME USER: DOUG CLAY TECHNICAL CONTACT: DOUG CLAY PHONE NUMBER: (506) 857-6218 COMPUTER / OPERATING SYSTEM: MICROS - CP/H-80 V2.2 : M5/D05 - V2.0 PROGRAMMING LANGUAGE(S): TURBO PASCAL V2.2 SPECIAL SOFTWARE: SITE: MONCTON, N.B. REFERENCES: COMMENTS: NAME: Survey Management System (SMS) VERSION: 1.0 LAST REVISED: 85/05/01 ORIGINATING REGION: Scotia Fundy CATEGORY: ASSESSMENT[] CONNERGIAL CATCH/EFFORT[] COMMERCIAL SAMPLE[] RESEARCH SURVEY(X) OTHER() PURPOSE: Prepare raw survey data for analysis DESC: SMS consists of three programs: 1. SELECT: select user defined species and strata from raw card types 5, 6, 7, and 8 2. SRPREP: reformat cards types 5, 6, 7, and 8 into long (2700 byte) records 3. SRSET: convert results of SRPREP to set by set summary records including set id information, environmental variables, nos. and wts. per standardized tow for further processing. INPUT: survey card types 5, 6, 7, 8 OUTPUT: 1500 column long records by set REPORT(] PLOT(] FILE(X) APPLICATION CATEGORY: AQUISITION() NANAGEMENT(X) ANALYSIS() OTHER: COMPLEXITY: SYSTEN(X) PROGRAM [] UTILITY() STATUS DEVELOPMENTAL[] OPERATIONAL(X) DORMANT[] DOCUMENTATION LEVEL: none DEVELOPED BY: R. N. O'Boyle WRITTEN: 85/05/01

PRIME USER: R.N. O'Boyle PHONE NUMBER: (902) 426-3319 TECHNICAL CONTACT: R.N. O'Boyle PHONE NUMBER: (902) 426-3319 COMPUTER / OPERATING SYSTEM: CDC CYBER 840 / NCS 2.4 PROGRAMNING LANGUAGE(S): FORTRAN 77 (CDC FTN5 VERS. 5.1) SPECIAL SOFTWARE: SITE: BIO

REFERENCES: none

COMMENTS: The system is currently specific to 4X haddock, but is being adapted for general use.

NAME . STDAD	NEBOLOU A		
ORIGINATING REGION: NEWFOUN	VERSION: 1	LAST REV	/ISED: 85/04/01
CATEGORY: ASSESSMENT() CO OTHER()	MMERCIAL CATCH/EFFFORT() COMMERCIAL SAMPLE()	RESEARCH SURVEY(X)
PURPOSE: A USER-ORIENTED CC DESC: PROGRAM 'AGELENGTH' F PROGRAM 'NOAGELENGTH' SPECIES PER TOW.	MPUTER ANALYSIS SYSTEM F PROVIDES ESTIMATES OF NUM CALCULATES ESTIMATES OF	OR GROUNDFISH TRAWL SURV BERS CAUGHT PER AGE OR L MEAN NUMBERS AND WEIGHT	EY DATA. ENGTH GROUP. S CAUGHT FOR EACH
INPUT: 'NOAGELENGTH' REQUIR STATEMENTS.	ES A STRATUM AREAS FILE,	SET DETAILS FILE AND PR	OGRAM CONTROL
'AGELENGTH' REQUIRES	THE ABOVE FILES PLUS AN	AGE AND GROWTH FILE AND	A LENGTH FREQUENCY
OUTPUT: 'NOAGELENGTH' LISTS STRATIFIED ANALYSIS 'AGELENGTH' PROVIDE A SUMMARY TABLE OF	PROGRAM AND DATA ERRORS OF THE DATA. S PROGRAM AND DATA ERROR RELEVANT STATISTICS PRES	. GIVES STANDARDIZED NUM S, AGE-LENGTH KEY AND SE ENTED BY AGE GROUP. REPORT (X)	BERS & WEIGHTS AND T DETAIL TABLES AND PLOT () FILE ()
APPLICATION CATEGORY: AQUIS COMPLEXITY: S STATUS: DEVELOPM DOCUMENTATION LEVEL: DEVELOPED BY: S. SMITH AND PRIME USER: GROUNDFISH/PEL TECHNICAL CONTACT: G. SOMER COMPUTER/OPERATING SYSTEM: PROGRAMMING LANGUAGE: PLI - FORTR. SPECIAL SOFTWARE: FORTRAN S' SITE: FRB, NAFC, ST. JOHN'S	ITION () MANAGEMENT YSTEM (X) .PROGRAM ENTAL () OPERATIONAL USER (X) PROGRAMMER G. SOMERTON AGIC TON AMDAHL 5860/OS MVS-SP (VE VERSION 5.1 (FRONT END) AN IV - VERSION 2.3.0 (AN YSTEM DEPENDENT SORT ROUT -	() ANALYSIS (X) () UTILITY () (X) DORMANT () () OPERATIONAL () DATE WRITTEN: 81/09/01 PHONE NUMBER: PHONE NUMBER: (709) 77: RSION 1.3.2) MALYSIS ROUTINES) TNE	OTHER: 2-2012
REFERENCE: SMITH, S. J., AND SYSTEM FOR (SCL. 1030)) G. D. SOMERTON. 1981. GROUNDFISH RESEARCH TRAWL	STRAP: A USER-ORIENTED SURVEY DATA. CAN. TECH	COMPUTER ANALYSIS REP. FISH. AQUAT.

COMMENTS: DATA FORMATS ARE OUTLINED AS PER ST. JOHN'S CODING SPECS (PAGES 32-66 OF REPORT).

NAME: STRAP VERSION: 2.0 LAST REVISED: 86/04/15 ORIGINATING REGION: SCOTIA FUNDY CATEGORY: ASSESSMENT(1 COMMERCIAL CATCH/EFFORT(1 COMMERCIAL SAMPLE() RESEARCH SURVEY(X) PURPOSE: ANALYZE DATA COLLECTED ON STRATIFIED RANDOM GROUNDFISH SURVEYS DESC: AN INTERACTIVE PROGRAM PROMPTS USER FOR VARIOUS DATA SELECTION AND ANALYSIS CRITERIA. A SERIES OF BATCH PROGRAMS IS USED TO SELECT AND ANALYZE THE DATA, PRODUCING A SERIES OF REPORTS. INPUT: SCOTIA FUNDY GROUNDFISH RESEARCH SURVEY FORMAT DATA OUTPUT: NO AGE LENGTH, AGE LENGTH REPORTING PLOTE FILEE APPLICATION CATEGORY: AQUISITION() MANAGEMENT() ANALYSISIX) . OTHER: COMPLEXITY: PROGRAME 3 SYSTEM(X) UTILITY[] STATUS: DEVELOPMENTAL(X) OPERATIONAL() DORMANT (1 DOCUMENTATION LEVEL: USER(X) PROGRAMMER(X) OPERATIONAL() DEVELOPED BY: S. SMITH DATE WRITTEN: YY/MM/DD PRIME USER: 5. GAVARIS. SCOTIA FUNDY NFD PHONE NUMBER: (506) 529-8854 TECHNICAL CONTACT: J. GALE. SCOTIA FUNDY NFD PHONE NUMBER: (506) 529-8854 COMPUTER / OPERATING SYSTEM: HP3000 SERIES 3 / MPE4 HP32002C.B1.A2

PROGRAMMING LANGUAGE(5): TELESAT CANADA TELETRAM, HP FORTRAM 3000 REL. 10 SPECIAL SOFTWARE: SLS FROM HP3000 USER CONTRIBUTED LIBRARY REL. 10

SITE: ST. ANDREWS

REFERENCES: SMITH, S.J. AND G.D. SOMERTON. 1981. STRAP: A USER ORIENTED COMPUTER ANALYSIS System for groundfish research trawl survey data. Can. Tech. Rept. Fish. Aquat. Sci. No. 1030.

DMR CONSULTING. MS. STRAP: A USER ORIENTED ANALYSIS SYSTEM FOR GROUNDFISH RESEARCH SURVEY DATA.

QUASAR SYSTEMS. MS1982. GROUNDFISH RESEARCH DATA SET DESCRIPTION AND EDITING SPECIFICATIONS. CONTRACT REPORT, MARCH 1982.

COMMENTS: THE SYSTEM HAS REPLACED STRAT.

IT IS PLANNED TO HAVE THE SYSTEM PRODUCE REPORTS AS A FLAT FILE SUITABLE FOR USE WITH VARIOUS GENERAL PURPOSE ANALYSIS PACKAGES.

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NAME: APLINFO WORKSPACE VERSION: 2.0 NAME: FINWS WORKSPACE LAST REVISED: 85/10/31 ORIGINATING REGION: SCOTIA FUNDY ORIGINATING REGION: SCOTIA FUNDY CATEGORY: ASSESSMENT[] COMMERCIAL CATCH/EFFORT[] COMMERCIAL SAMPLE[] RESEARCH SURVEY[] CATEGORY: ASSESSMENT(] COMMERCIAL CATCH/EFFORT(] COMMERCIAL SAMPLE(] RESEARCH SURVEY() OTHER (X1 OTHER (X) PURPOSE: PROVIDE ABSTRACTING AND INDEXING FUNCTIONS AND CURRENT NEWS FOR APL USERS. PURPOSE: GENERAL PURPOSE PROCEDURE TO COPY DATA FROM CDC NOS CODED FILES INTO APL. DESC: DESC: USING A FORTRAN FORMAT STRING, NUMERIC FIELDS ARE CONVERTED TO APL NUMERIC ARRAYS WHILE CHARACTER FIELDS ARE LEFT AS APL CHARACTER ARRAYS. INPUT: NONE OUTPUT: 1) NEWS ITEMS AND CODING STANDARDS AND CONVENTIONS INPUT: EITHER NOS FILE (IE. SEQUENTIAL FILE) REPORT() PLOT() FILE() 2) CATALOG OF APL LIBRARIES IN AN ACCOUNT REPORT(X) PLOT() FILE() OUTPUT: APL ARRAYS OR STRUCTURED FILE APPLICATION CATEGORY: AQUISITION[] BANAGEBENT() ANALYSIS() OTHER: SOFTWARE MANAGEMENT APPLICATION CATEGORY: AQUISITION() COMPLEXITY: SYSTEMIXI PROGRAN() COMPLEXITY: UTILITY[] SYSTEM(X) DEVELOPMENTAL() OPERATIONAL(X) STATUS! STATUS: DEVELOPMENTAL() OPERATIONAL(X) DORMANT[] DOCUMENTATION LEVEL: USER(X) PROGRAMMERIXI OPERATIONAL(X) DOCUMENTATION LEVEL: USER(X) PROGRAMMER(X) OPERATIONAL(X) DEVELOPED BY: GEORGE WHITE DATE WRITTEN: 1983/01 DEVELOPED BY: DON GREGORY PRIME USER: GEORGE WHITE PHONE NUMBER: (902) 426-8509 PRIME USER: GEORGE WHITE TECHNICAL CONTACT: GEORGE WHITE PHONE NUMBER: (902) 426-8509 TECHNICAL CONTACT: R. BRANTON COMPUTER / OPERATING SYSTEM: CDC CYBER 840/NOS 2.4 COMPUTER / OPERATING SYSTEM: CDC CYBER 840/NOS 2.4 PROGRAMMING LANGUAGE(S): CYBER APL VEPS. 2.1 PROGRAMMING LANGUAGE(S): CYBER APL VERS. 2.1 SPECIAL SOFTWARE: SPECIAL SOFTWARE: SITE: BIO SITE: BIO REFERENCES: NONE REFERENCES: NONE COMMENTS: COMMENTS: THE CDC PROCEDURE WHICH CONVERTS A CHARACTER STRING TO NUMBERS IS VERY INEFFICIENT. FOR PRODUCTION TRANSFERS OF LARGE DATA SETS THE CDC FUTIL FORTRAN-APL FILES UTILITY SHOULD BE USED. NAME: EXPLORE WORKSPACE VERSION: 0009.0 LAST REVISED: 84/08/20 ORIGINATING REGION: SCOTIA FUNDY CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT(] COMMERCIAL SAMPLE(] RESEARCH SURVEY(] OTHER (X) PURPOSE: EXPLORATORY DATA ANALYSIS DESC: APL FUNCTIONS FOR SMOOTHING AND SIMPLE DATA DESCRIPTION BASED ON THE BOOK EXPLORATORY DATA ANALYSIS. BY J.W. TUKEY INPUT: APL ARRAYS OUTPUT: APL ARRAYS REPORT() PLOT() FILE() APPLICATION CATEGORY: AQUISITION() MANAGEMENT() ANALYSIS(X) OTHER: COMPLEXITY: SYSTEM(X) PROGRAME UTILITY(] STATUS: DEVELOPMENTAL() OPERATIONAL(X) DORMANT(] DOCUMENTATION LEVEL: USER(X) PROGRAMMER(X) OPERATIONAL() DEVELOPED BY: GEORGE WHITE DATE WRITTEN: 1981/04 PRIME USER: GEORGE WHITE PHONE NUMBER: (902) 426-8509 TECHNICAL CONTACT: GEORGE WHITE PHONE NUMBER: (902) 426-8509 CDC CYBER 840/NOS 2.4 COMPUTER / OPERATING SYSTEM: PROGRAMMING LANGUAGE(S): CYBER APL VERS. 2.1 SPECIAL SOFTWARE: SITE: BIO REFERENCES: TUKEY, J.W. 1977. EXPLORATORY DATA ANALYSIS. ADDISON-WESLEY, N.Y.

COMMENTS: LACKS MANY OF THE ANALYSES DESCRIBED IN TUKEY'S BOOK

Other

5.

LAST REVISED: 84/08/20

ANALYSIS() OTHER:

PHONE NUMBER: (902) 426-8509

PHONE NUMBER: (902) 426-3537

UTILITY()

DORMANTE 1

DATE WRITTEN: 1982/03

VERSION: 0003.0

MANAGEMENT(X)

PROGRAME

NAME: OLDUTIL WORKSPACE VERSION: 1.0 LAST REVISED: 85/01/04 NAME: MIX (formerly called MCD080) LAST REVISED: 84/11/15 ORIGINATING REGION: SCOTIA FUNDY VERSION: 2.1 CATEGORY: ASSESSMENT[] COMMERCIAL CATCH/EFFORT[] COMMERCIAL SAMPLE[] RESEARCH SURVEY[] ORIGINATING REGION: Quebec CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY() OTHERIXI OTHER(X) PURPOSE: PROVIDE & SINGLE ORGANIZED SOURCE FOR WIDELY USED APL UTILITIES DESC: APL WORKSPACE OF UTILITY FUNCTIONS FOR THE ASSESSMENT WORKSPACES LIBSPA, LIBSURV, LIBYLD PURPOSE: To compute age group proportions in a population using size frequency samples. OTHER INPUT: NONE OUTPUT: NONE REPORT() PLOT() FILE() DESC: Fortran program with interactive prompts. APPLICATION CATEGORY: AQUISITION() MANAGENENT() ANALYSIS(X) OTHER: COMPLEXITY: SYSTEM() PROGRAM/X1 UTILITY() STATUS: DEVELOPMENTAL() OPERATIONAL() DORMANT[X] DOCUMENTATION LEVEL: USER() PROGRAMMER(] OPERATIONAL() DEVELOPED BY: MARSHALL, RIVARD INPUT: Size classes and frequencies, number of age groups, initial values for proportions, mean DATE WRITTEN: PRIME USER: GEORGE WHITE PHONE NUMBER: (902) 426-8509 size and variance by age group. TECHNICAL CONTACT: GEORGE WHITE PHONE NUMBER: (902) 426-8509 COMPUTER / OPERATING SYSTEM: CDC CYBER 840/NOS 2.4 PROGRAMMING LANGUAGE(S): CYBER APL VERS. 2.1 SPECIAL SOFTWARE: OUTPUT: Estimates of age group proportions, mean size REPORT(X) PLOT() FILE() SITE: BIO and variance, plots of observed vs expected, χ^2 statistic, etc. **REFERENCES: NONE** COMMENTS: THE UTILITY FUNCTIONS IN THIS WORKSPACE WERE USED BY NUCH OF THE OF THE OLDER ASSESSMENT SOFTWARE. THEY NAY BE REQUIRED FOR CUSTOMIZED ANALYSIS PROGRAMS DEVELOPED **APPLICATION CATEGORY:** ACQUISITION() MANAGEMENT() ANALYSIS(X) OTHER() BY INDIVIDUAL SCIENTISTS WHICH ARE STILL IN USE. COMPLEXITY: SYSTEM() PROGRAM(X) UTILITY() STATUS: DEVELOPMENTAL() OPERATIONAL(X) DORMANT() DOCUMENTATION LEVEL: USER() PROGRAMMER(X) OPERATIONAL() _____ - ----NAME: PARTSW UTILITY WORKSPACE VERSION: 2.0 LAST REVISED: 85/10/31 ORIGINATING REGION: SCOTIA FUNDY DATE WRITTEN: 84/07/01 DEVELOPED BY: P.D.M. MacDonald CATEGORY: ASSESSMENT() CONNERCIAL CATCH/EFFORT() CONMERCIAL SAMPLE() RESEARCH SURVEY() PHONE NUMBER: (418) 775-6587 PRIME USER: Patrick Ouellet TECHNICAL CONTACT: OTHER (X) PHONE NUMBER: COMPUTER/OPERATING SYSTEM: IBM-PC/PC-DOS 2.1 PURPOSE: PROVIDE A SINGLE ORGANIZED SOURCE FOR WIDELY USED APL UTILITIES PROGRAMMING LANGUAGE(S): Fortran 77 (Microsoft) DESC: INCLUDES NUMERICAL OPTIMIZATION AND ROOT FINDING, TABLE FORMATTING, CHARACTER SPECIAL SOFTWARE: None NANIPULATION, INTERACTIVE INPUT WITH PROMPTING, ETC. INPUT: VARIES SITE: Fisherles Research Branch, Quebec Region OUTPUT: VARIES REPORT() PLOT() FILE() APPLICATION CATEGORY: AQUISITION[] MANAGEMENT[] ANALYSIS[X] OTHER: REFERENCES: MacDonald P.D.M. and J.J. Pitcher, 1979. J. Fish. Res. Board Can. 36: 987-1001. UTILITY() COMPLEXITY: SYSTEN(X) PROGRAM [] STATUS: DEVELOPMENTAL() OPERATIONAL(X) DORMANT[] DOCUMENTATION LEVEL: USER[X] PROGRAMMER(X) OPERATIONAL(X) DATE WRITTEN: 1982/09 DEVELOPED BY: GEORGE WHITE PRINE USER: GEORGE WHITE PHONE NUMBER: (902) 426-8509 COMMENTS: This implementation was obtained from Dr. MacDonald. We increased the maximum number PHONE NUMBER: (902) 426-8509 TECHNICAL CONTACT: GEORGE WHITE of size classes from 50 to 80. This is a new version of program "POLYMODE" which is COMPUTER / OPERATING SYSTEM: CDG CYBER 840/NOS 2.4 documented in this catalog by Scotia-Fundy. Version 2.2 is now available from PROGRAMMING LANGUAGE(S): CYBER APL VERS. 2.1 Dr. MacDonald (a minor bug has been corrected). We have not used version 2.2 up to SPECIAL SOFTWARE: April 1986. SITE: BIO REFERENCES: NONE COMMENTS: FUNCTIONS IN THIS WORKSPACE HAVE BEEN COMPILED FROM A WIDE RANGE OF SOURCES. INCLUDING INTRODUCTORY APL TEXTS, SYSTEMS DEVELOPED FOR MFD SCOTIA FUNDY BY I.P. SHARP, AND THE FISH WORKSPACES DEVELOPED BY THE QUEBEC REGION. ALL FUNCTIONS Page HAVE BEEN EXTENSIVELY MODIFIED TO PROVIDE A COMMON FORMAT AND TO WORK UNDER CDC APL.

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MAME: POLYMODE VERSION: 2.0 LAST REVISED: 79/09 ORIGINATING REGION: SCOTIA FUNDY CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY() OTHER (X) PURPOSE: A METHOD OF DETERMINING AGE GROUPS OF A SAMPLE USING SIZE FREQ. DATA DESC: INPUT: DATA FILE, CONMAND FILE REPORT(X) PLOT() FILE() OUTPUT: SAMPLE PROPORTIONS, ESTIMATES APPLICATION CATEGORY: AQUISITION() MANAGEMENT() ANALYSIS(X) OTHER: COMPLEXITY: SYSTEM() PROGRAM (X) UTILITY() STATUS: DEVELOPMENTAL() OPERATIONAL(X) DORMANT[] DOCUMENTATION LEVEL: USER(X) PROGRAMMER[] OPERATIONAL[] DEVELOPED BY: DATE WRITTEN: 79 P.D.M. MACDONALD PRIME USER: G. BLACK PHONE NUMBER: (902) 426-2950 TECHNICAL CONTACT: G. BLACK PHONE NUMBER: (902) 426-2950 COMPUTER / OPERATING SYSTEM: HP3000/MPE IV HP32002C.B1.A2 PROGRAMMING LANGUAGE(S): FORTRAN IV HP321028.01.06 SPECIAL SOFTWARE: SITE: ST. ANDREWS, N.B. REFERENCES: MACDONALD, P.D.M. & J.J.PITCHER. 1962. AGE GROUPS FROM SIZE FREQUENCY DATA: A VERSATILE AND EFFICIENT METHOD OF ANALYZING DISTRIBUTION MIXTURES. JFRBC 19(6) COMMENTS: PROGRAM WRITTEN BY MACDONALD, ADAPTED FOR ST. ANDREWS, N.B. BY G. BLACK NAME: USERSW WORKSPACE VERSION: 2.0 LAST REVISED: 85/06/06 ORIGINATING REGION: SCOTIA FUNDY CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY() OTHER [X] PURPOSE: MAKE APL FUNCTIONS DEVELOPED BY USERS ACCESSIBLE TO OTHER USERS DESC: USER CONTRIBUTED FUNCTIONS FOR STOCK ASSESSMENT INPUT: APL ARRAYS OUTPUT: REPORTS AND PLOTS USERS DESC: USER CONTRIBUTED FUNCTIONS FOR STOCK ASSESSMENT INPUT: APL ARRAYS OUTPUT: REPORTS AND PLOTS REPORT(X) PLOT(X) FILE() APPLICATION CATEGORY: AQUISITION() MANAGEMENT() ANALYSIS(X) OTHER: COMPLEXITY: SYSTEM (X) PROGRAM [] UTILITY() STATUS: DEVELOPMENTAL() OPERATIONAL(X) DORMANT[] DOCUMENTATION LEVEL: USER() PROGRAMMER() OPERATIONALL 1 DEVELOPED BY: VARIOUS DATE WRITTEN: VARIOUS PRIME USER: GEORGE WHITE PHONE NUMBER: (902) 426-8509 TECHNICAL CONTACT: GEORGE WHITE PHONE NUMBER: (902) 426-8509 COMPUTER / OPERATING SYSTEM: CDC CYBER 840/NOS 2.4 PROGRAMMING LANGUAGE(S): CYBER APL VERS. 2.1 SPECIAL SOFTWARE: SITE: BIO REFERENCES: NONE COMMENTS: NO DOCUMENTATION. CONTACT INDIVIDUAL AUTHORS FOR INFORMATION ABOUT SPECIFIC FUNCTIONS.

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