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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

by

Assessment Computation Working Group of the CAFSAC
Statistics, Sampling, and Surveys Subcommittee
P.O. Box 1006
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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.

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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.

² Il 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 question.

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.

Table 1. CAFSAC Assessment Software Catalog

Category	Originating Region				
	Gulf	Headquarters	Newfoundland	Quebec	Scotia-Fundy
Population analysis	VPA VPAC YPRTB	FISH (I.P. Sharp) FISH.WS (WATCOM) FISH.AWS (STSC)	COH03 GENPROD SPA SQNTL SURPROD	FISHΔHER 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 CATΔAGE 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

NAME: FISHAHER
ORIGINATING REGION: Quebec
CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY()
OTHER()

VERSION: 1.0 LAST REVISED: 85/11

PURPOSE: Stock assessment by virtual population analysis, survivor analysis, yield per recruit analysis, catch projections, production models, calculation of mortality by the Paloheimo method.

DESC: A collection of APL workspaces.

INPUT: See "FISH".

OUTPUT: See "FISH"

REPORT(X) PLOT(X) FILE(X)

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

DEVELOPED BY: Denis Rivard, I. McQuinn
PRIME USER: Ian McQuinn
TECHNICAL CONTACT: Ian McQuinn
COMPUTER/OPERATING SYSTEM: IBM PC/DOS 3.1
PROGRAMMING LANGUAGE(S): APLPLUS(STSC)
SPECIAL SOFTWARE: None

DATE WRITTEN: 85/11
PHONE NUMBER: (418) 775-6627
PHONE NUMBER: (418) 775-6627

SITE: Fishery science Division, Quebec Region

REFERENCES: See "FISH".
CAFSAC SSSS Report 85/19.

COMMENTS: Identical to "FISH" except for COHORT function. See reference above for constraints.

NAME: GENPROD
ORIGINATING REGION: NEWFOUNDLAND
CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY()
OTHER()

VERSION: 1.1

LAST REVISED: 85/06/07

PURPOSE: EQUILIBRIUM GENERAL PRODUCTION MODEL.
DESC: REGRESSIONS USING EITHER LAGGED OR UNLAGGED DATA. THE GENERAL PRODUCTION RUN INCLUDES PLOTS OF REGRESSION AND MODEL.

INPUT: CATCH AND EFFORT FOR SELECTED YEARS.

OUTPUT: C/F, CPU TABLES, REGRESSION RESULTS, MODEL RESULTS AND PLOTS.

REPORT (X) PLOT (X) FILE ()

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:	D. B. ATKINSON			DATE WRITTEN: 85/04/01
PRIME USER:	GROUND FISH (D. B. ATKINSON)			PHONE NUMBER: (709) 772-2052
TECHNICAL CONTACT:	D. B. ATKINSON			PHONE NUMBER: (709) 772-2052
COMPUTER/OPERATING SYSTEM:	MACINTOSH 512K			
PROGRAMMING LANGUAGE:	MS BASIC (VERSION 2.1)			
SPECIAL SOFTWARE:	NONE			
SITE:	FRB, NAFC, ST. JOHN'S.			

REFERENCE:
COMMENTS:

NAME: LIBRARY WORKSPACE
ORIGINATING REGION: SCOTIA FUNDY
CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY()

VERSION: 3.0

LAST REVISED: 86/03/20

PURPOSE: PROVIDE A COMPREHENSIVE BUT COMPACT SET OF APL FUNCTIONS FOR USE IN STOCK ASSESSMENT.
DESCRIPTION: INCLUDES FUNCTIONS FOR SPA, YIELD PER RECRUIT, PROJECTION, GENERAL PRODUCTION, AND ESTIMATION OF GROWTH PARAMETERS.

INPUT: APL VECTORS AND ARRAYS

OUTPUT: PRINTED TABLES

REPORT () PLOT () FILE ()

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

DEVELOPED BY: BILL MARSHALL
PRIME USER: GEORGE WHITE
TECHNICAL CONTACT: GEORGE WHITE
COMPUTER / OPERATING SYSTEM: CDC CYBER 840/NOS 2.4
PROGRAMMING LANGUAGE(S): CYBER APL VERS. 2.1
SPECIAL SOFTWARE:
SITE: BIO

DATE WRITTEN: 78
PHONE NUMBER: (902) 426-8509
PHONE NUMBER: (902) 426-8509

REFERENCES: MARSHALL, W. 1978. A PROGRAMMING LANGUAGE (APL) PROGRAMS FOR THE ASSESSMENT OF EXPLOITED STOCKS. CAFSAC RES. DOC. 78/12.

COMMENTS: THE FUNCTIONS HAVE BEEN MODIFIED TO USE STANDARD UTILITY FUNCTIONS FROM PARTSW AND TO PROVIDE IMPROVED CHECKS OF THE INPUT DATA.

NAME: SPA VERSION: 2 LAST REVISED: 83/03/01
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 ()
STATUS: DEVELOPMENTAL () OPERATIONAL (X) DORMANT ()
DOCUMENTATION LEVEL: USER (X) PROGRAMMER () OPERATIONAL ()
DEVELOPED BY: S. GAVARIS DATE WRITTEN: 82/04/01
PRIME USER: GROUND FISH PHONE NUMBER:
TECHNICAL CONTACT: J. W. BAIRD PHONE NUMBER: (709) 772-5477
COMPUTER/OPERATING SYSTEM: IBM 3084/OS 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.

NAME: SPA-AWS VERSION: 1.0 LAST REVISED: 86/02/21
ORIGINATING REGION: Quebec
CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY()
 OTHER()

PURPOSE: Tuning of sequential population analysis.

DESC: APL workspace.

INPUT: Interactive prompts for catch at age, weights at age, partial recruitment, etc.

OUTPUT: Tabular and graphical output of sequential REPORT(X) PLOT(X) FILE(X)
 population analysis

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

DEVELOPED BY: D. Gascon DATE WRITTEN: 83/09/01
PRIME USER: D. Gascon PHONE NUMBER: (418) 775-6631
TECHNICAL CONTACT: D. Gascon PHONE NUMBER: (418) 775-6631
COMPUTER/OPERATING SYSTEM: IBM-PC/PCDOS 2.1
PROGRAMMING LANGUAGE(S): STSC APL 4.1
SPECIAL SOFTWARE: None

SITE: Fisheries Research Branch, Quebec Region

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: Québec
CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY()
 OTHER()

PURPOSE: Tuning of sequential population analysis.

DESC: APL workspace

INPUT: Interactive prompts for catch at age, weights at age, partial recruitment, etc...

OUTPUT: Tabular and graphical output of sequential REPORT(X) PLOT(X) FILE(X)
 population analysis.

APPLICATION CATEGORY:	AQUISITION()	MANAGEMENT()	ANALYSIS(X)	OTHER()
COMPLEXITY:	SYSTEM()	PROGRAM(X)	UTILITY()	
STATUS:	DEVELOPMENTAL()	OPERATIONAL(X)	DORMANT()	
DOCUMENTATION LEVEL:	None USER()	PROGRAMMER()	OPERATIONAL()	

DEVELOPED BY: D. Gascon DATE WRITTEN: 83/09/01
PRIME USER: D. Gascon PHONE NUMBER: (418) 775-6631
TECHNICAL CONTACT: D. Gascon PHONE NUMBER: (418) 775-6631
COMPUTER / OPERATING SYSTEM: IBM-PC/PC-DOS 2.1
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

NAME: SPAW WORKSPACE VERSION: 2.0 LAST REVISED: 85/01/25
ORIGINATING REGION: SCOTIA FUNDY
CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY()

PURPOSE: USED TO PREPARE ESTIMATES OF STOCK STATUS USING SEQUENTIAL POPULATION ANALYSIS
DESC: INCLUDES FUNCTIONS FOR COHORT, VPA, AND SURVIVOR

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(X)	PROGRAMMER(X)	OPERATIONAL(X)	

DEVELOPED BY: D. RIVARD DATE WRITTEN: 1982
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: RIVARD,D. 1982. APL PROGRAMS FOR STOCK ASSESSMENT (REVISED).
 CAN. TECH. REPT. FISH. AQUAT. SCI. NO. 1091.

COMMENTS:

NAME: VPA VERSION: 0002.3 LAST REVISED: 84/06
ORIGINATING REGION: GULF
CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY()

PURPOSE: VIRTUAL POPULATION ANALYSIS PROGRAMME WITH PROJECTION
DESC: PROGRAMMED IN FORTRAN

INPUT: DATA FILES
OUTPUT: POPULATION,MORTALITY,FUTURE CATCH REPORT(X) PLOT() FILE()

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: DOUG CLAY DATE WRITTEN: 81
PRIME USER: DOUG CLAY PHONE NUMBER: (506) 857-6218
TECHNICAL CONTACT: DOUG CLAY PHONE NUMBER: (506) 857-6218
COMPUTER / OPERATING SYSTEM: MICROS - CP/M-80 V2.2 ; MS/DOS - V2.0
PROGRAMMING LANGUAGE(S): NEVADA FORTRAN V2.3 ; UTAH FORTRAN V1.1
SPECIAL SOFTWARE:
SITE: MONCTON, N.B.

REFERENCES: RIVARD, D. 1982. APL PROGRAMS FOR STOCK ASSESSMENT (REVISED).
CAN. TECH. REPT. FISH. AQUAT. SCI. NO. 1091.
COMMENTS: USES THE ALGORITHMS FROM RIVARD(1982)

NAME: VPAC VERSION: 0002.3 LAST REVISED: 84/06
ORIGINATING REGION: GULF
CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY()

PURPOSE: VIRTUAL POPULATION ANALYSIS PROGRAMME WITH AGE-SPECIFIC NATURAL
MORTALITY AND PROJECTION
DESC: PROGRAMMED IN FORTRAN

INPUT: DATA FILES
OUTPUT: POPULATION,MORTALITY,FUTURE CATCH REPORT(X) PLOT() FILE()

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: DOUG CLAY AND GLORIA NIELSEN DATE WRITTEN: 81
PRIME USER: DOUG CLAY PHONE NUMBER: (506) 857-6218
TECHNICAL CONTACT: DOUG CLAY PHONE NUMBER: (506) 857-6218
COMPUTER / OPERATING SYSTEM: MICROS - CP/M-80 V2.2 ; MS/DOS - V2.0
PROGRAMMING LANGUAGE(S): TURBO PASCAL V2.2
SPECIAL SOFTWARE:
SITE: MONCTON, N.B.

REFERENCES: RIVARD, D. 1982. APL PROGRAMS FOR STOCK ASSESSMENT (REVISED).
CAN. TECH. REPT. FISH. AQUAT. SCI. NO. 1091.
COMMENTS:

NAME: YLDW WORKSPACE VERSION: 2.0 LAST REVISED: 85/07/15
ORIGINATING REGION: SCOTIA FUNDY
CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY()
DESC: APL FUNCTIONS FOR YIELD-PER-RECRUIT ANALYSIS

INPUT: APL ARRAYS
OUTPUT: REPORT REPORT(X) PLOT() FILE()

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

DEVELOPED BY: DENI RIVARD AND GEORGE WHITE DATE WRITTEN: 1981-85
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: RIVARD, D. 1982. APL PROGRAMS FOR STOCK ASSESSMENT (REVISED).
CAN. TECH. REPT. FISH. AQUAT. SCI. NO. 1091.
COMMENTS: YIELD PER RECRUIT FUNCTIONS ARE FROM WHITE (MS1985).
PROJECTION PROGRAMS WERE ADAPTED FROM RIVARD (1982).
THIS WORKSPACE REPLACES YIELDW.

NAME: YPRTB VERSION: 0001.0 LAST REVISED: 84/06
ORIGINATING REGION: GULF
CATEGORY: ASSESSMENT(X) COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY()
OTHER()

PURPOSE: CALCULATE YIELD PER RECRUIT USING THE ALGORITHM OF THOMPSON AND
BELL
DESC: PROGRAMMED IN FORTRAN

INPUT: DATA FILES
OUTPUT: CATCH,YIELD,AVG. WEIGHT,YIELD/EFFORT REPORT(X) PLOT() FILE()

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: DOUG CLAY DATE WRITTEN: 81
PRIME USER: DOUG CLAY PHONE NUMBER: (506) 857-6218
TECHNICAL CONTACT: DOUG CLAY PHONE NUMBER: (506) 857-6218
COMPUTER / OPERATING SYSTEM: MICROS - CP/M-80 V2.2 ; MS/DOS - V2.0
PROGRAMMING LANGUAGE(S): NEVADA FORTRAN V2.3 ; UTAH FORTRAN V1.1
SPECIAL SOFTWARE:
SITE: MONCTON, N.B.

REFERENCES: ABRAMSON,1971 COMPUTER PROGRAMMES FOR FISH STOCK ASSESSMENTS,
FAO FISH.TECH.PAP.NO 101
COMMENTS:

NAME: HERRING CPUE VERSION: 1.0 LAST REVISED: 86/01
ORIGINATING REGION: Quebec
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 sales slip and other sources.

DESC: A collection of computer programs and manual procedures.

INPUT: Sales slip of individual herring landings.

OUTPUT: Average catch per unit effort by week and fishing area REPORT(X) PLOT() FILE()

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

DEVELOPED BY: Ian McQuinn
PRIME USER: Ian McQuinn
TECHNICAL CONTACT: Ian McQuinn
COMPUTER/OPERATING SYSTEM: CDC CYBER 173/NOS 2.X
PROGRAMMING LANGUAGE(S): SPSS, FORTRAN 77
SPECIAL SOFTWARE: CDC SORT UTILITY

DATE WRITTEN: 85/09
PHONE NUMBER: (418) 775-6627
PHONE NUMBER: (418) 775-6627

SITE: BIO

REFERENCES:

COMMENTS:

NAME: NAFSYS VERSION: 0002.0 LAST REVISED: 86/04
ORIGINATING REGION: GULF
CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT(X) COMMERCIAL SAMPLE() RESEARCH SURVEY()
OTHER()

PURPOSE: SELECT, SUMMARIZE NAFO TABLE 5 AND PURCHASE SLIP DATA SETS;
CREATE 'X-MATRIX' FOR STANDARDIZATION OF CPUE

DESC:

INPUT: NAFO TABLE 5 FILE, PURCHASE SLIP DATA
OUTPUT: SUBSET, CATCH, SUMMARY, X-MATRIX REPORT(X) PLOT() FILE(X)

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

DEVELOPED BY: GLORIA NIELSEN DATE WRITTEN: 1984
PRIME USER: PHONE NUMBER:
TECHNICAL CONTACT: GLORIA NIELSEN PHONE NUMBER: (506) 857-6211
COMPUTER / OPERATING SYSTEM: MICROS - 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
FORTRAN 5.1

SPECIAL SOFTWARE:
SITE: BIO ; GULF

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:

NAME: REDxxx VERSION: 1 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 REDFISH FILE FOR USE IN MULTIPLICATIVE MODEL. ('xxx' DENOTES STOCK REQUIRED).

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)

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

DEVELOPED BY: D. B. ATKINSON DATE WRITTEN: 84/04/10
PRIME USER: D. B. ATKINSON 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).

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()

PURPOSE: Standardization of commercial catch rates using the multiplicative model.

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.

OUTPUT: Tables of catch rates, effort, proportion of landings REPORT(X) PLOT(X) FILE()
 with effort available, plots of catch rate series,
 residuals, etc.

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

DEVELOPED BY: S. Gavaris and 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: 1984
PHONE NUMBER: (418) 775-6631
PHONE NUMBER: (418) 775-6631

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.

NAME: STANDARD.WS VERSION: 4.0 LAST REVISED: 85/04/01
ORIGINATING REGION: Québec
CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT(X) COMMERCIAL SAMPLE() RESEARCH SURVEY()
 OTHER()

PURPOSE: Standardization of commercial catch rates using the multiplicative model.

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.

OUTPUT: Tables of catch rates, effort, proportion of REPORT(X) PLOT(X) FILE()
 landings with effort available, plots of catch
 rate series, residuals, etc...

APPLICATION CATEGORY:	AQUISITION()	MANAGEMENT()	ANALYSIS(X)	OTHER()
COMPLEXITY:	SYSTEM()	PROGRAM(X)	UTILITY()	
STATUS:	DEVELOPMENTAL()	OPERATIONAL(X)	DORMANT()	
DOCUMENTATION LEVEL:	none USER()	PROGRAMMER()	OPERATIONAL()	

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
COMPUTER / OPERATING SYSTEM: IBM-PC/PC DOS 2.1
PROGRAMMING LANGUAGE(S): WATCOM APL 2.0
SPECIAL SOFTWARE:

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.

NAME: CATCH VERSION: 1 LAST REVISED: 83/10/01
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: ACQUISITION () MANAGEMENT () ANALYSIS (X) OTHER:
COMPLEXITY: SYSTEM () PROGRAM (X) UTILITY ()
STATUS: DEVELOPMENTAL () OPERATIONAL (X) DORMANT ()
DOCUMENTATION LEVEL: USER (X) PROGRAMMER () OPERATIONAL ()
DEVELOPED BY: S. GAVARIS DATE WRITTEN: 83/10/01
PRIME USER: GROUND FISH PHONE NUMBER:
TECHNICAL CONTACT: G. MARSHALL PHONE NUMBER: (709) 772-5477
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
REPORT(X) PLOT() FILE()

APPLICATION CATEGORY: ACQUISITION() MANAGEMENT() ANALYSIS(X) OTHER:
COMPLEXITY: SYSTEM() PROGRAM(X) 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 FTNS VERS. 5.1)
SPECIAL SOFTWARE:
SITE: BIO

REFERENCES: Gavaris, S. 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() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE(X) RESEARCH SURVEY()
OTHER()

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

DESC: APL workspace.

INPUT: Age - length key, length frequencies, nominal catches by month, year, NAFO division and
zone of landing.
Also length - weight relationship.

OUTPUT: Tables of average weights and length, mean catch, standard error by age. REPORT(X) PLOT() FILE()

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

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

SITE: Fisheries Research Branch, Quebec Region

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

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

NAME: CATCH.WS VERSION: 1.0 LAST REVISED: 85/04/01
ORIGINATING REGION: Québec
CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE(X) RESEARCH SURVEY()
 OTHER()

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

DESC: APL workspace.

INPUT: Age - length key, length frequencies, nominal catches by month, year, NAFO
 division and zone of landing.
 Also length - weight relation-ship.

OUTPUT: Tables of average weights and length, REPORT(X) PLOT() FILE()
 mean catch, standard error by age.

APPLICATION CATEGORY: AQUISITION() MANAGEMENT() ANALYSIS(X) OTHER()
COMPLEXITY: SYSTEM() PROGRAM(X) UTILITY()
STATUS: DEVELOPMENTAL() OPERATIONAL(X) DORMANT()
DOCUMENTATION LEVEL: none USER() PROGRAMMER() OPERATIONAL()

DEVELOPED BY: S. Gavaris DATE WRITTEN:
PRIME USER: D. Gascon PHONE NUMBER: (418) 775-6631
TECHNICAL CONTACT: D. Gascon PHONE NUMBER: (418) 775-6631
COMPUTER / OPERATING SYSTEM: IBM PC/PCDOS 2.1
PROGRAMMING LANGUAGE(S): WATCOM APL 2.0
SPECIAL SOFTWARE:

SITE: Fisheries Research Branch, Quebec Region

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

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

NAME: CATAAGE VERSION: 1.0 LAST REVISED: 86/04
ORIGINATING REGION: Quebec
CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE(X) RESEARCH SURVEY()
 OTHER()

PURPOSE: To compute catch at age data for herring populations.

DESC: APL workspace.

INPUT: - Vectors of age proportions for each group.
 - Mean weight for each group.
 - Commercial catch.

OUTPUT: Catch at age vectors. REPORT(X) PLOT() FILE()

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

DEVELOPED BY: Denis Rivard, I. McQuinn DATE WRITTEN: 86/04
PRIME USER: Ian McQuinn PHONE NUMBER: (418) 775-6627
TECHNICAL CONTACT: Ian McQuinn PHONE NUMBER: (418) 775-6627
COMPUTER/OPERATING SYSTEM: IBM PC/DOS 3.1
PROGRAMMING LANGUAGE(S): APLPLUS(STSC)
SPECIAL SOFTWARE: None

SITE: Fishery science Division, Quebec Region

REFERENCES:

COMMENTS:

NAME: FREQAGE VERSION: 1.0 LAST REVISED: 86/04
ORIGINATING REGION: Quebec
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.

DESC: A set of SPSS procedures produces output for each combination of samples according to combination criteria provided by user.

INPUT: - Biological data file containing age and weight of each fish.
- Combination criteria.

OUTPUT: Vectors of age proportions and mean weight for each combination of samples REPORT(X) PLOT() FILE()

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

DEVELOPED BY: Ian McQuinn
PRIME USER: Ian McQuinn
TECHNICAL CONTACT: Ian McQuinn
COMPUTER/OPERATING SYSTEM: CDC CYBER 173/NOS 2.X
PROGRAMMING LANGUAGE(S): SPSS
SPECIAL SOFTWARE:

SITE: BIO

REFERENCES:

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

NAME: GROUND FISH CATCH AT AGE VERSION: 3.0 LAST REVISED: 86/04/15
ORIGINATING REGION: Quebec Region
CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE(X) RESEARCH SURVEY()
OTHER()

PURPOSE: To combine commercial samples of length frequencies and age-length data.

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: Length frequencies (Quebec-Gulf format) and age-length data from commercial sampling or from the observer program.

OUTPUT: Two reports giving number of samples and number of fish for each combination. One length frequency vectors file and one age-length matrices files. REPORT(X) PLOT() FILE(X)

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: E. Guindon
PRIME USER: A. Frechet
TECHNICAL CONTACT:
COMPUTER/OPERATING SYSTEM: IBM 370/OS-MVS
PROGRAMMING LANGUAGE(S): SAS
SPECIAL SOFTWARE: None

SITE: IST Inc., Montreal, Quebec

REFERENCES:

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

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()

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: E. Guindon DATE WRITTEN: 84/04/15
PRIME USER: J.J. Maguire PHONE NUMBER: (418) 775-6526
TECHNICAL CONTACT: PHONE NUMBER:
COMPUTER / OPERATING SYSTEM: IBM 370/OS-MVS
PROGRAMMING LANGUAGE(S): SAS
SPECIAL SOFTWARE: TSO CLIST'S, IBM sort utility

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.

5. Other

NAME: APLINFO WORKSPACE VERSION: 2.0 LAST REVISED: 85/10/31
ORIGINATING REGION: SCOTIA FUNDY
CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY() OTHER(X)

PURPOSE: PROVIDE ABSTRACTING AND INDEXING FUNCTIONS AND CURRENT NEWS FOR APL USERS.
DESC:

INPUT: NONE
OUTPUT: 1) NEWS ITEMS AND CODING STANDARDS AND CONVENTIONS REPORT() PLOT() FILE()
2) CATALOG OF APL LIBRARIES IN AN ACCOUNT REPORT(X) PLOT() FILE()

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

DEVELOPED BY: GEORGE WHITE DATE WRITTEN: 1983/01
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:

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) PROGRAM() 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
COMPUTER / OPERATING SYSTEM: CDC CYBER 840/NOS 2.4
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

NAME: FTNWS WORKSPACE VERSION: 0003.0 LAST REVISED: 84/08/20
ORIGINATING REGION: SCOTIA FUNDY
CATEGORY: ASSESSMENT() COMMERCIAL CATCH/EFFORT() COMMERCIAL SAMPLE() RESEARCH SURVEY() OTHER(X)

PURPOSE: GENERAL PURPOSE PROCEDURE TO COPY DATA FROM CDC NOS CODED FILES INTO APL.
DESC: USING A FORTRAN FORMAT STRING, NUMERIC FIELDS ARE CONVERTED TO APL NUMERIC ARRAYS
WHILE CHARACTER FIELDS ARE LEFT AS APL CHARACTER ARRAYS.

INPUT: EITHER NOS FILE (IE. SEQUENTIAL FILE)
OUTPUT: APL ARRAYS OR STRUCTURED FILE REPORT() PLOT() FILE()

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

DEVELOPED BY: DON GREGORY DATE WRITTEN: 1982/03
PRIME USER: GEORGE WHITE PHONE NUMBER: (902) 426-8509
TECHNICAL CONTACT: R. BRANTON PHONE NUMBER: (902) 426-3537
COMPUTER / OPERATING SYSTEM: CDC CYBER 840/NOS 2.4
PROGRAMMING LANGUAGE(S): CYBER APL VERS. 2.1
SPECIAL SOFTWARE:
SITE: BIO

REFERENCES: NONE
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.

OTHER

NAME: 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, COMMAND FILE
OUTPUT: SAMPLE PROPORTIONS, ESTIMATES REPORT(X) PLOT() FILE()

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: P.D.M. MACDONALD DATE WRITTEN: 79
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 HP32102B.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() OPERATIONAL()

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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