

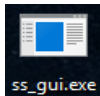
Stock Synthesis Interface (SSI) User Guide - Version 3.30

The Stock Synthesis Interface (SSI) is a graphical interface for creating and running existing Stock Synthesis (SS) models. The SSI will let the user view and analyze data files for Stock Synthesis, run the ss.exe program, and check for errors. The SSI will allow users to modify settings with the following options:

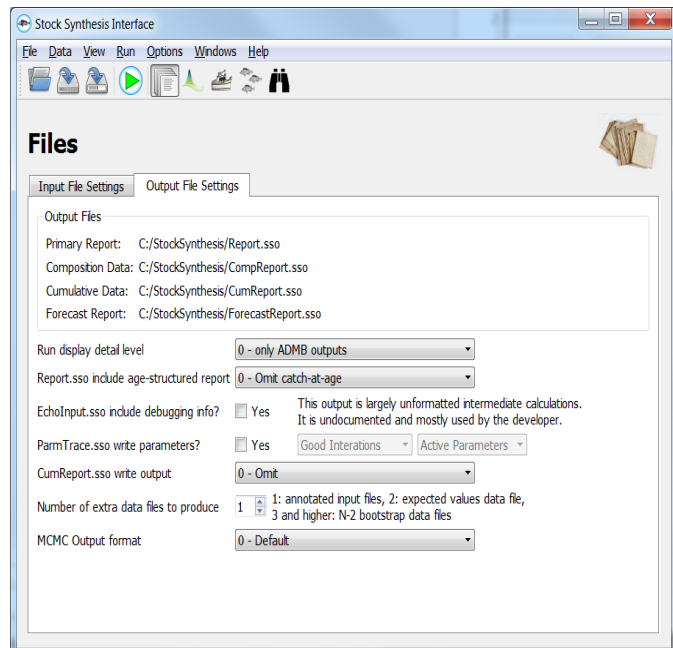
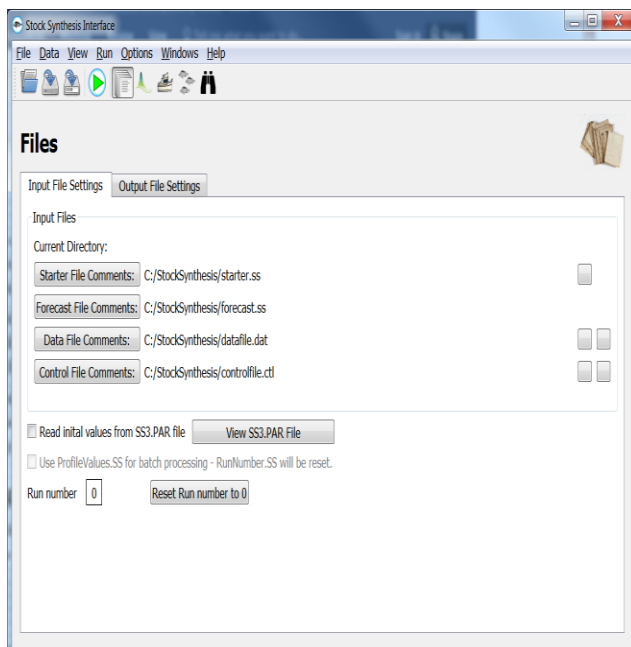
- Output File Settings
- Configuration
- Fleet Data
- Population
- Forecast Data

Getting Started with SSI:

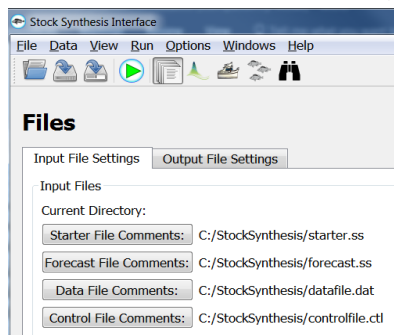
1. Open the SSI (ss_gui.exe) program.



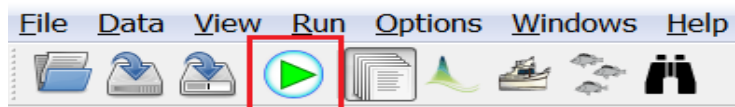
2. After the SSI loads, it will show the Input Files Setting and the Output Files Settings menus. From these two windows, the user will load and adjust output setting for their model run.



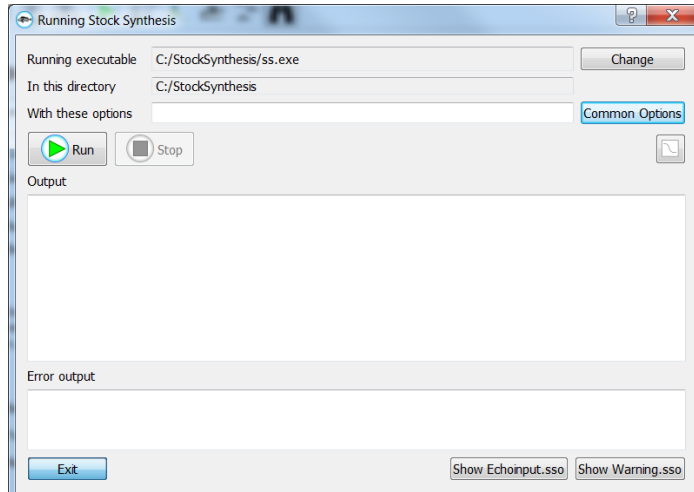
3. After the SSI has loaded go to File > Open.
4. Then select desired Starter File (starter.ss) > File Name > Open



5. SSI will load the required files in the Files > Input Files Settings tab.
6. During the model set up go to the Output File Settings tab and modify options accordingly. [See Output File Settings.](#)
7. Click on the **green run arrow** button to bring up the Running Stock Synthesis window.

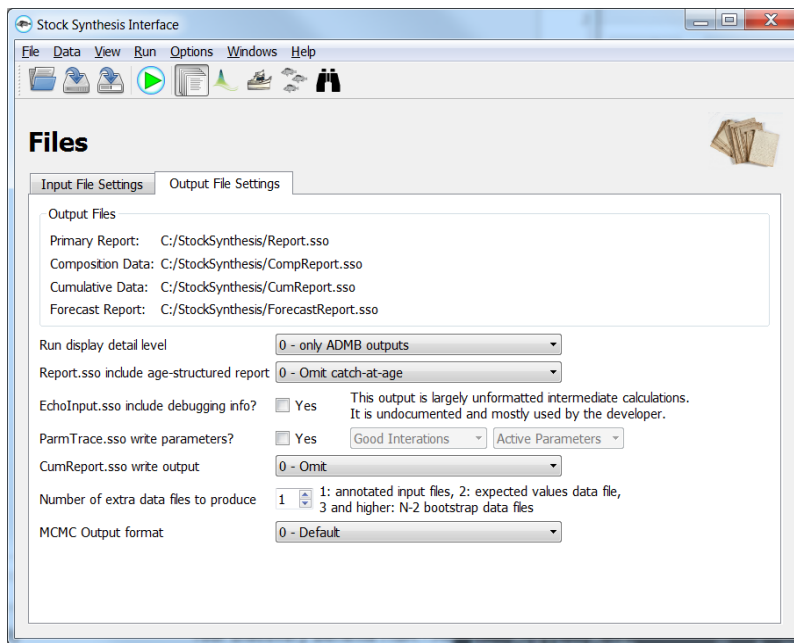


8. Press the **green arrow run** button in the Running Stock Synthesis window and the model will run.



9. Once the model finishes running the run data will show in the Output and Error output windows. For further information press the **Show Echoinput.sso** and **Show Warnings.sso** buttons.

Output File Settings:

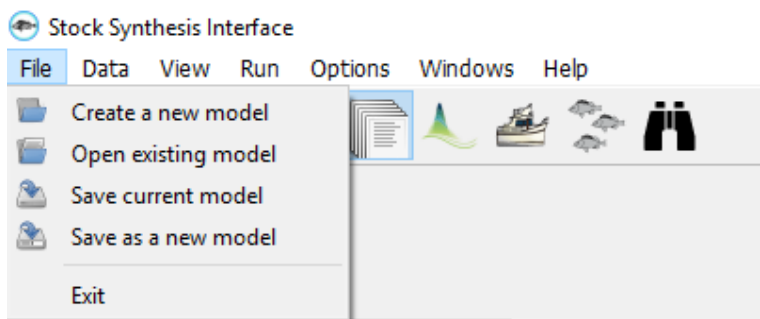


The Output File Settings controls what quantities are included in the Report file and whether additional diagnostic files should be written. The Output File Settings can be changed with the following options:

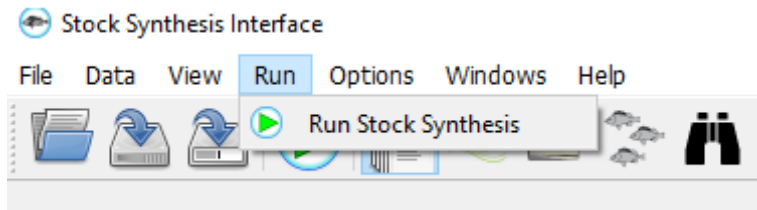
- **Run display detail level:** 0 - only ADMB outputs, 1 - one brief display line for each iteration, and 2 - fuller display for each iteration.
- **Report.sso include age-structured report?** : 0 - Omit catch-at-age, 1 - Complete output, and 2 - Reduced output for data-limited models.
- **ParmTrace.sso write parameters?** : Good Interactions / Every Iteration. Active Parameters / All Parameters.
- **CumReport.sso write output:** 0 – Omit, 1 - Brief Report, and 2 - Full Report.
- **MCMC Output format:** 0 – Default, 1 - Likelihood components with lambda values, and 2 - Expanded output.

Useful Menu Options:

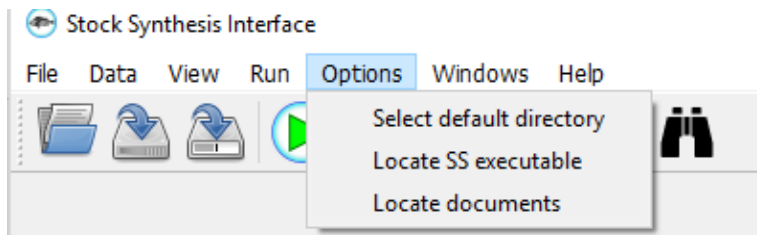
File:



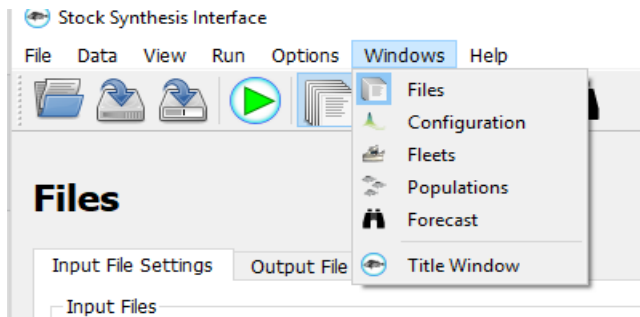
Run:



Options:



Windows:



Configuration Menu:

Dimensions: The Dimensions tab is used to specify the year range, number of sexes, seasons, areas, fishing and survey fleets to be modeled. Please see the SS User Manual– “Model Dimensions” Section 9.4.

Stock Synthesis Interface

File Data View Run Options Windows Help

Configuration

Dimensions Settings Composition Setup Environment Vars Tag Data Blocks Additional Reporting

Start Year 1971

End Year 2001 Total Years 31

Seasons

Number of Seasons per year 1 Number of sub-seasons 2

Season 1 of 1

Number of months in season 12 Total months 12

Spawning month 1.00

Number of sexes (1/2) 2

Number of ages 40

Number of areas 1

Number of Fisheries 1

Number of Surveys 2

Total Fleets 3 See Fleet section for more info or to make changes.

Settings: The Settings tab is used to specify adjustments to starting parameters, summary calculations, and model convergence. Please see the SS User Manual, “Starter File Syntax”, Section 5.

Stock Synthesis Interface

File Data View Run Options Windows Help

Configuration

Dimensions Settings Composition Setup Environment Vars Tag Data Blocks Additional Reporting

Use soft boundaries (recommended) ☒

Exit after completing phase 10 -1-exit after reading files, 0-exit after producing ss_new and sso files

MC burn interval 0

Jitter value 0

Min year for sreport output 1969

Num of individual sd report years 0

Convergence 0.0001

Retrospective year relative to end year 0 (A negative value)

Summary biomass min age 1

Depletion basis 1: $X \cdot B_0$

SPR Report basis 1: $(1 - SPR) / (1 - SPR_target)$

F Report values 4: True F for range of ages

F calculation min age 20

F Report basis 1: F / F_spr

Age Length Key tolerance 0

Calculate prior likelihood for all params ☒

MC thin interval 1

Max year for sreport output 2011

Depletion denominator - Frac(X) 0.4

F calculation max age 23

Composition Setup: The Composition Setup tab specifies the length bin and age bin structure to model the population and the bin structure for the input composition data. Please see the SS User Manual, “Population Length Bins”, Section 9.11.

Stock Synthesis Interface

File Data View Run Options Windows Help

Configuration

Dimensions Settings Composition Setup Environment Vars Tag Data Blocks Additional Reporting

Length Age Age Error General Comp Morphology

Number of bins

Lower edge of length bins

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	68	72	76	80	90

Population Length bin method 1 = use databins; 2 = generate from binwidth, min, max; 3 = read vector

Bin width for population Minimum size in population Maximum size in population

Population length bins

Observations

Environment Vars: Stock Synthesis (SS) accepts input of time series of environmental data. Parameters can be made to be time-varying by making them a function of one of these environmental time series. Please see the SS User Manual, “Environmental Data”, Section 9.17.

Stock Synthesis Interface

File Data View Run Options Windows Help

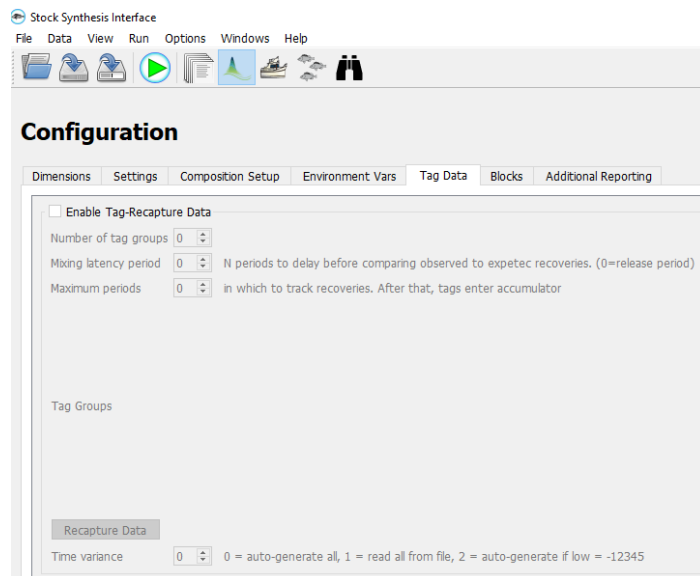
Configuration

Dimensions Settings Composition Setup Environment Vars Tag Data Blocks Additional Reporting

Number of Environment Variables

Observations

Tag Data: Each released tag group is characterized by an area, time, sex and age at release. Each recapture event is characterized by a time and fleet. Please see the SS User Manual, “Tag-Recapture Data”, Section 9.19.



Blocks: The number of block patterns can be referred to in the parameter sections to create a separate parameter value for each block. Please see the SS User Manual, “Blocks”, Section 10.3.3.



Additional Reporting: Additional Reporting includes: Len/Age, Year, N Selectivity, Growth Pattern, N growth bins, Area, Year, and number-at-age bins. Please see the SS User Manual, “Controls for Variance of Derived Quantities”, Section 10.12.

Stock Synthesis Interface

File Data View Run Options Windows Help

Configuration

Dimensions Settings Composition Setup Environment Vars Tag Data Blocks Additional Reporting

☒ Additional Standard Deviation reporting

Specification

	sel type	len/age	year	N sel bins	Gr Pat	N Gr ages	NatAge_area	NatAge_yr	N Natages
1	1	1	-1	5	1	5	1	-1	5

Bin picks

	1	2	3	4	5
1	5	15	25	35	43
2	1	2	14	26	40
3	1	2	14	26	40

Fleet Data Menu:

Basic Data: Define and input composition data type for each fleet with data. List of the fishing fleet and survey names assigned in the data file. Please see the SS User Manual, “Forecast and Reference Points”, Section 12.8.

Stock Synthesis Interface

File Data View Run Options Windows Help

Fleet Data for FISHERY

Basic Data Observations Compositions Catchability Selectivity Lambdas

Name FISHERY Fleet Number

☒ Active (Use the fleet?)

Type

Timing in Season Superseded by real month in observations

Area where the fleet operates

Units of catch 1 = biomass, 2 = numbers

Apply a catch multiplier ☐

Observations: Timing of observations now is input as a year, month and where the month is real. A season is calculated at a runtime from the input month and the input season durations. Please see the SS User Manual, “Benchmark Calculations”, Section 8.1.

Stock Synthesis Interface

FileDataViewRunOptionsWindowsHelp

Fleet Data for FISHERY

Basic DataObservationsCompositionsCatchabilitySelectivityLambdas

CatchAbundanceDiscardMean Body WeightSize at AgeTag-Recapture

Units1(1 = Biomass, 2 = Numbers)

Observations

	Year	Season	Fleet	Catch	Catch SE
1	-999	1	1	0	0.01
2	1971	1	1	0	0.01
3	1972	1	1	200	0.01
4	1973	1	1	1000	0.01
5	1974	1	1	1000	0.01
6	1975	1	1	2000	0.01
7	1976	1	1	3000	0.01
8	1977	1	1	4000	0.01
9	1978	1	1	5000	0.01
10	1979	1	1	6000	0.01
11	1980	1	1	8000	0.01
12	1981	1	1	10000	0.01
13	1982	1	1	10000	0.01
14	1983	1	1	10000	0.01
15	1984	1	1	10000	0.01
16	1985	1	1	10000	0.01
17	1986	1	1	10000	0.01
18	1987	1	1	10000	0.01
19	1988	1	1	9000	0.01
20	1989	1	1	8000	0.01
21	1990	1	1	7000	0.01

Compositions: Population Length Bins define the granularity of the age-length key and the coarseness of the length selectivity. Please see the SS User Manual, “Population Length Bins” sub-section “Length Composition Data Structure”, Section 9.11.

Stock Synthesis Interface

FileDataViewRunOptionsWindowsHelp

Fleet Data for FISHERY

Basic DataObservationsCompositionsCatchabilitySelectivityLambdas

LengthAgeGeneralMorphology

Compress tails of composition0Constant added to proportions1e-7

Combine males with females at or below bin0Compress bins0

Composition error0Composition error param0

Number of Observations31Minimum sample size1

	Year	Month	Fleet	Gender	Part	NSamp	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	F14	F15	F16	F17	F18	F19	F20	F21	F22	F23	F24	F25	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	
1	1971	7	1	3	0	125	0	0	0	0	0	0	0	0	0	4	1	1	2	4	1	5	6	2	3	11	8	4	5	0	0	0	0	0	0	0	0	0	1	0		
2	1972	7	1	3	0	125	0	0	0	0	0	0	0	0	0	3	0	1	2	1	1	6	2	7	4	10	10	4	5	3	0	0	0	0	0	0	0	0	0	1	3	
3	1973	7	1	3	0	125	0	0	0	0	0	0	0	0	0	0	0	0	7	3	4	5	6	3	10	12	6	10	9	0	0	0	0	0	0	0	0	0	0	0	0	
4	1974	7	1	3	0	125	0	0	0	0	0	0	0	0	0	2	2	0	1	1	1	4	5	3	8	8	10	4	7	0	0	0	0	0	0	0	0	0	1	2	0	
5	1975	7	1	3	0	125	0	0	0	0	0	0	0	0	2	1	2	1	3	0	2	5	6	2	3	5	9	10	10	0	0	0	0	0	0	0	0	0	0	0	4	
6	1976	7	1	3	0	125	0	0	0	0	0	0	0	0	2	1	0	2	2	0	3	2	3	3	3	7	18	14	4	2	2	0	0	0	0	0	0	0	1	0	0	
7	1977	7	1	3	0	125	0	0	0	0	0	0	0	1	0	2	0	2	2	4	0	2	6	7	5	11	7	8	5	4	0	0	0	0	0	0	2	1	3	0	1	
8	1978	7	1	3	0	125	0	0	0	0	0	0	0	5	1	1	1	0	1	3	1	8	4	4	6	5	9	8	3	6	5	0	0	0	0	0	0	0	0	2	1	1
9	1979	7	1	3	0	125	0	0	0	0	0	0	0	0	0	0	3	5	2	1	5	0	5	5	2	7	4	7	5	5	0	0	0	0	0	0	0	0	0	0	2	2
10	1980	7	1	3	0	125	0	0	0	0	0	0	0	4	0	0	1	0	2	4	3	2	3	2	3	16	11	12	4	2	0	0	0	0	0	0	0	0	0	0	1	4
11	1981	7	1	3	0	125	0	0	0	0	0	0	1	0	0	0	3	1	2	2	4	5	2	7	3	13	9	8	4	0	0	0	0	0	0	0	0	2	1	1	2	
12	1982	7	1	3	0	125	0	0	0	0	0	0	0	0	5	2	1	3	2	3	8	2	5	4	4	6	10	11	0	0	0	0	0	0	0	0	0	0	1	0	3	
13	1983	7	1	3	0	125	0	0	0	0	0	0	0	0	0	0	0	7	1	1	5	4	2	2	6	2	8	13	8	6	0	0	0	0	0	0	0	0	0	0	0	4
14	1984	7	1	3	0	125	0	0	0	0	0	0	1	0	0	4	3	0	3	1	2	5	2	4	7	11	9	6	8	0	0	0	0	0	0	0	0	0	0	3	3	1
15	1985	7	1	3	0	125	0	0	0	0	0	0	0	0	1	1	2	2	5	0	3	3	5	11	4	8	9	3	2	4	0	0	0	0	0	0	0	0	1	0	1	
16	1986	7	1	3	0	125	0	0	0	3	1	0	1	2	0	4	2	0	0	4	2	8	3	5	11	5	6	6	1	0	0	0	0	0	0	0	0	2	2	0	1	2
17	1987	7	1	3	0	125	0	0	0	0	1	1	1	1	1	0	2	1	6	4	2	7	6	3	5	11	9	5	4	0	0	0	0	0	0	0	0	0	2	1	0	
18	1988	7	1	3	0	125	0	0	0	0	0	2	0	1	4	2	1	1	2	2	1	7	4	5	6	9	9	2	1	0	0	0	0	0	0	0	2	1	1	3	1	
19	1989	7	1	3	0	125	0	0	0	0	0	1	0	2	1	3	3	2	1	4	4	3	4	2	3	9	5	11	2	0	0	0	0	0	0	0	0	0	3	6	2	1

Catchability: Catchability is the scaling factor that relates a model quantity to the expected value for some type of data (index). Please see the SS User Manual, “Catchability”, Section 10.7.

Stock Synthesis Interface

File Data View Run Options Windows Help

Fleet Data for FISHERY

Basic Data Observations Compositions **Catchability** Selectivity Lambdas

Reading Q time-vary parameters 0 0 = auto-generate all, 1 = read all from file, 2 = auto-generate if low = -12345

☐ Q Setup

Setup

	Link	Link_Info	ExtraSD	Bias_Adj	Float
FISHERY	0	0	0	0	0

Parameters

Time Varying Parameters

Selectivity: For each fleet and survey, read a definition line for size selectivity and retention. The four values read from each line are: Pattern, Discard, Male, and Special. Please see the SS User Manual, “Selectivity and Discard”, Section 10.8.

Stock Synthesis Interface

File Data View Run Options Windows Help

Fleet Data for FISHERY

Basic Data Observations Compositions **Catchability** **Selectivity** Lambdas

Reading selx time vary parameters 0 0 = auto-generate all, 1 = read all from file, 2 = auto-generate if low = -12345

2D_AR1 selectivity deviation smoother 0

Size Age

Pattern 1 Logistic Special 0 Male 0 Discard 0

Number of parameters 2 Show Curve Info

Pattern parameters

	Lo	Hi	Init	Prior	P_sd	P_type	Phase	Env	Use_Dev	Dev_min	Dev_max	Dev_sd	Use_Blk	B_type
SizeSel_P1_FISHERY(1)	19	80	53.6526	50	0.01	1	2	0	0	0	0	0	0	0
SizeSel_P2_FISHERY(1)	0.01	60	18.9204	15	0.01	1	3	0	0	0	0	0	0	0

Retain parameters

Discard parameters

Male parameters

Time varying parameters

Lambdas: These values are multiplied by the corresponding likelihood component to calculate the overall negative log likelihood to be minimized. Please see the SS User Manual, “Lambdas” Section 10.11.

Stock Synthesis Interface

File Data View Run Options Windows Help

Fleet Data for FISHERY

Basic Data Observations Compositions Catchability Selectivity Lambdas

Max Lambda phase 4

SD Offset 1

Number of changes to make 0

Changes

Component	Phase	Lambda	SizeFreq
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Population Menu:

Growth: Growth pattern is the number of the growth pattern to be output. Please see the SS User Manual, “Biology”, Section 10.4.

Stock Synthesis Interface

File Data View Run Options Windows Help

Population

Growth Recruitment Recruitment-2 Maturity/Fecundity Movement Natural Mortality Fishing Mortality Seasonal Effects

Number of platoons within growth patterns 1

Growth Model 1: von Bertalanffy (2 parameters)

Reference age for first size-at-age parameter (Amin) 0.00

Reference age for second size-at-age param (Amax) 25.00

Exponential decay above max age -999.00

Standard Deviation added to length-at-age 0.000

Adjustment method for time-varying 1 = Warning relative to base parameter bounds

Reading Biology time-vary parameters 0 0 = auto-generate all, 1 = read all from file, 2 = auto-generate if low = -12345

Growth Parameters

	Lo	Hi	Init	Prior	P_sd	P_type	Phase	Env	Use_Dev	Dev_min	Dev_max	Dev_sd	Use_Bl	B_type
L_at_Amin_Fem_GP_1	-10	45	21.6552	36	10	6	2	0	0	0	0	0	0	0
L_at_Amax_Fem_GP_1	40	90	71.6492	70	10	6	4	0	0	0	0	0	0	0
VonBert_K_Fem_GP_1	0.05	0.25	0.147282	0.15	0.8	6	4	0	0	0	0	0	0	0
L_at_Amin_Mal_GP_1	1	45	0	36	10	0	-3	0	0	0	0	0	0	0
L_at_Amax_Mal_GP_1	40	90	69.5361	70	10	6	4	0	0	0	0	0	0	0
VonBert_K_Mal_GP_1	0.05	0.25	0.163516	0.15	0.8	6	4	0	0	0	0	0	0	0

Time Varying Parameters

CV Pattern 0 - CV=f(LAA)

CV Parameters

	Lo	Hi	Init	Prior	P_sd	P_type	Phase	Env	Use_Dev	Dev_min	Dev_max	Dev_sd	Use_Bl	B_type
CV_young_Fem_GP_1	0.05	0.25	0.1	0.1	0.8	0	-3	0	0	0	0	0	0	0

Recruitment: Spawner Recruitment includes these seven functions: 2=Ricker, 3=Standard Beverton-Holt, 4=ignore steepness and no bias adj., 5=Hockey Stick, 6=Beverton-Holt with flat-top, and 7=Survivorship Function. Please see the SS User Manual, “Spawner-Recruitment”, Section 10.5.

Stock Synthesis Interface

File Data View Run Options Windows Help

Population

Growth Recruitment Recruitment-2 Maturity/Fecundity Movement Natural Mortality Fishing Mortality Seasonal Effects

☒ Global ☐ Area

Function 2=Ricker (2 parameters)

Function parameters

	Lo	Hi	Init	Prior	P_sd	P_type	Phase	Env	Use_Dev	Dev_min	Dev_max	Dev_sd	Use_Bl	B_type
SR_LN(R0)	3	31	8.81544	10.3	10	0	1	0	0	0	0	0	0	0
SR_BH_steep	0.2	1	0.613717	0.7	0.05	1	4	0	0	0	0	0	0	0
SR_sigmaR	0	2	0.6	0.8	0.8	0	-4	0	0	0	0	0	0	0
SR_regime	-5	5	0	0	1	0	-4	0	0	0	0	0	0	0
SR_autocorr	0	0	0	0	0	0	-99	0	0	0	0	0	0	0

Reading S/R time-vary parameters 0 0 = auto-generate all, 1 = read all from file, 2 = auto-generate if low = -12345

Time-varying parameters

Number of settlement assignments 1

Settlement assignments

	GP	Month	Area	Settle Age
1	1	1	1	0

Distribution method for parameters 2 2 = Effects for GP, area, and settle timing, 3 = one param for each settle entity

Distribution Parameters

	Lo	Hi	Init	Prior	P_sd	P_type	Phase	Env	Use_Dev	Dev_min	Dev_max	Dev_sd	Use_Bl	B_type
RecrDist_GP_1	0	0	0	0	0	0	-4	0	0	0	0	0	0	0
RecrDist_Area_1	0	0	0	0	0	0	-4	0	0	0	0	0	0	0

Recruitment 2: Forecast recruitment deviations always begin in the first year after the end of the main recruitment deviations. Recruitment in the forecast period is deterministically derived from the specified stock-recruitment relationship. Please see the SS User Manual, “Spawner-Recruitment”, Section 10.5.

Stock Synthesis Interface

File Data View Run Options Windows Help

Population

Growth Recruitment Recruitment-2 Maturity/Fecundity Movement Natural Mortality Fishing Mortality Seasonal Effects

Recruitment deviations 1 0 = none; 1 = deviation vector; 2 = simple deviations

Main recruitment devs begin year 1971

Main recruitment devs end year 2001

Main recruitment devs phase 2

☒ Advanced Options

Early recruitment dev start 0

Early recruitment dev phase -4

forecast recruitment phase 0

Forecast recruitment devs lambda 1

Last year with no bias adj 1900

First year with full bias adj 1900

Last year with full bias adj 2000

First recent year with no bias adj 2001

Maximum bias adjustment 1

Period for recruitment cycles 0

Period cycle parameters

Minimum recruitment deviation -5

Maximum recruitment deviation 5

Number of explicit recruitment deviations 0

Maturity / Fecundity: The Maturity Options has the following options: 1: Length logistic, 2: Age logistic, 3: Read age-specific maturity for fem., 4: Read age-specific fecundity, and 5: Read empirical data from file wtatage.ss. Please see the SS User Manual, "Maturity-Fecundity", Section 10.4.3.

Stock Synthesis Interface

File Data View Run Options Windows Help

Population

Growth Recruitment Recruitment-2 Maturity/Fecundity Movement Natural Mortality Fishing Mortality Seasonal Effects

Maturity Option 1: Length logistic

First mature age 1

Read wtatage.ss ☐ (View file on Files tab)

Weight to Length Parameters

	Lo	Hi	Init	Prior	P_sd	P_type	Phase	Env	Use_Dev	Dev_min	Dev_max	Dev_sd	Use_Blks	B_type
Wtlen_1_Fem	-3	3	2.44e-006	2.44e-006	0.8	0	-3	0	0	0	0	0	0	0
Wtlen_2_Fem	-3	4	3.34694	3.34694	0.8	0	-3	0	0	0	0	0	0	0
Wtlen_1_Mal	-3	3	2.44e-006	2.44e-006	0.8	0	-3	0	0	0	0	0	0	0
Wtlen_2_Mal	-3	4	3.34694	3.34694	0.8	0	-3	0	0	0	0	0	0	0

Cohort Growth Parameter

	Lo	Hi	Init	Prior	P_sd	P_type	Phase	Env	Use_Dev	Dev_min	Dev_max	Dev_sd	Use_Blks	B_type
CohortGrowDev	1	1	1	1	1	0	-1	0	0	0	0	0	0	0

Cohort Time Varying Parameters

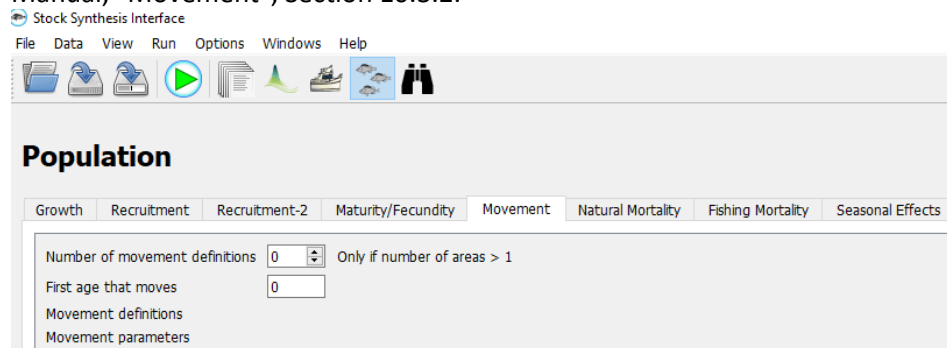
Offset method 1: direct assignment

Fecundity option 1: eggs = wt * (a + b * wt)

Fecundity Parameters

	Lo	Hi	Init	Prior	P_sd	P_type	Phase	Env	Use_Dev	Dev_min	Dev_max	Dev_sd	Use_Blks	B_type
Mat50%_Fem	50	60	55	55	0.8	0	-3	0	0	0	0	0	0	0
Mat_slope_Fem	-3	3	-0.25	-0.25	0.8	0	-3	0	0	0	0	0	0	0

Movement: We define movement among the areas. This is a box transfer with no explicit adjacency of areas, so fish can move from any area to any other area in each time step. Please see the SS User Manual, "Movement", Section 10.3.2.



Stock Synthesis Interface

File Data View Run Options Windows Help

Population

Growth Recruitment Recruitment-2 Maturity/Fecundity **Movement** Natural Mortality Fishing Mortality Seasonal Effects

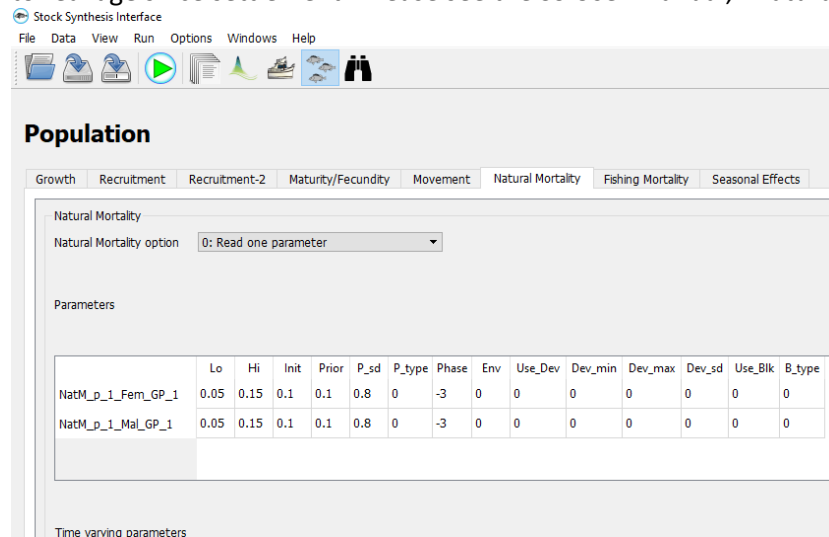
Number of movement definitions Only if number of areas > 1

First age that moves

Movement definitions

Movement parameters

Natural Mortality: Natural mortality (M) has some options that are referenced to integer age, and some to real age since settlement. Please see the SS User Manual, "Natural Mortality", Section 10.4.1.



Stock Synthesis Interface

File Data View Run Options Windows Help

Population

Growth Recruitment Recruitment-2 Maturity/Fecundity Movement **Natural Mortality** Fishing Mortality Seasonal Effects

Natural Mortality

Natural Mortality option

Parameters

	Lo	Hi	Init	Prior	P_sd	P_type	Phase	Env	Use_Dev	Dev_min	Dev_max	Dev_sd	Use_Blkl	B_type
NatM_p_1_Fem_GP_1	0.05	0.15	0.1	0.1	0.8	0	-3	0	0	0	0	0	0	0
NatM_p_1_Mal_GP_1	0.05	0.15	0.1	0.1	0.8	0	-3	0	0	0	0	0	0	0

Time varying parameters

Fishing Mortality: The Fish Mortality has three options which include: 1= Pope's, 2= Continuous F as parameters, and 3 = Hybrid. Please see the SS User Manual, "Fishing Mortality Method", Section 10.6.

Stock Synthesis Interface

File Data View Run Options Windows Help

Population

Growth Recruitment Recruitment-2 Maturity/Fecundity Movement Natural Mortality Fishing Mortality Seasonal Effects

Fishing Mortality

Balpark mortality

Balpark year

Maximum mortality

Method

Number of tuning iterations

Initial Fishing Mortality

Seasonal Effects: Seasonal effects are available for weight-length parameters and for the growth K. Please see the SS User Manual, "Seasonal Biology Parameters", Section 10.4.10.

Stock Synthesis Interface

File Data View Run Options Windows Help

Population

Growth Recruitment Recruitment-2 Maturity/Fecundity Movement Natural Mortality Fishing Mortality Seasonal Effects

Seasonal Effects on Biology parameters

If any factors have seasonality, then read num_of_seasons parameters below.

Female Wt to Length1 ☐ Female Wt to Length2 ☐

Maturity1 ☐ Maturity2 ☐

Fecundity1 ☐ Fecundity2 ☐

Male Wt to Length1 ☐ Male Wt to Length2 ☐

L1 ☐ K ☐

Seasonal parameters

Forecast Data Menu:

Specification: Benchmark calculations are designed to calculate an equilibrium fishing rate intended to serve as a proxy for the fishing rate that would provide maximum sustainable yield (MSY). Please see the SS User Manual, "Benchmark Calculations" Section 8.1 and "MSY and other Benchmark Items" Section 12.4.6.

Stock Synthesis Interface

File Data View Run Options Windows Help

Forecast Data

Specification Controls Catch

Calculate benchmarks F_{spr} , F_{btgt} , F_{msy} ☒

Set MSY 2 = calculate $F(MSY)$

SPR target (e.g. 0.45)

Relative Biomass target (e.g. 0.40)

	Input years		Resulting years	
Biology	begin: <input type="text" value="2001"/>	end: <input type="text" value="2001"/>	begin: <input type="text" value="2001"/>	end: <input type="text" value="2001"/>
Selectivity	begin: <input type="text" value="2001"/>	end: <input type="text" value="2001"/>	begin: <input type="text" value="2001"/>	end: <input type="text" value="2001"/>
Relative F	begin: <input type="text" value="2001"/>	end: <input type="text" value="2001"/>	begin: <input type="text" value="2001"/>	end: <input type="text" value="2001"/>
Recruits	begin: <input type="text" value="1971"/>	end: <input type="text" value="2001"/>	begin: <input type="text" value="1971"/>	end: <input type="text" value="2001"/>
SRparm	begin: <input type="text" value="1971"/>	end: <input type="text" value="2001"/>	begin: <input type="text" value="1971"/>	end: <input type="text" value="2001"/>

Input actual year or relative to end year e.g. 0, -1, -2, -3, ...

Benchmark relative F basis 1 = use year range

Forecast option 1 = $F(SPR)$

Number of forecast years (at least one)

	Input years		Resulting years	
Selectivity	begin: <input type="text" value="0"/>	end: <input type="text" value="0"/>	begin: <input type="text" value="2001"/>	end: <input type="text" value="2001"/>
Relative F	begin: <input type="text" value="-10"/>	end: <input type="text" value="0"/>	begin: <input type="text" value="1991"/>	end: <input type="text" value="2001"/>
Recruits	begin: <input type="text" value="-999"/>	end: <input type="text" value="0"/>	begin: <input type="text" value="1971"/>	end: <input type="text" value="2001"/>

Input actual year or relative to end yr e.g. 0, -1, -2, ...

Controls: Forecast Selectivity Option determines the selectivity used in the forecast years. Please see the SS User Manual, "Forecast File Syntax", Section 8.

Stock Synthesis Interface

File Data View Run Options Windows Help

Forecast Data

Specification Controls Catch

Control rule method: 1 = catch=F(SSB) US West Coast

Control rule upper limit (e.g. 0.40): 0.4

Control rule lower limit (e.g. 0.10): 0.1

Control rule buffer (e.g. 0.75): 0.75

N forecast loops: 3 1=OFL only; 2=ABC; 3=get F from forecast ABC catch

First forecast loop with stochastic recruitment: 3

Forecast recruitment adjustment: 0 0=spawn_rec; 1=value*spawn_rec; 2=value*VirginRec; 3=recent mean

Forecast recruitment adjustment value: 0

First year for caps and allocations: 2010 (should be after years with fixed inputs)

Std dev of log in forecast: 0 (realized catch/target catch)

☐ US West Coast Rebuilder

1999 1999

2002 2002

Catch: Catch can be in terms of biomass or numbers for each fleet. Please see the SS User Manual, "Forecast File Syntax", Section 8.

Stock Synthesis Interface

File Data View Run Options Windows Help

Forecast Data

Specification Controls Catch

Fleet relative F: 1 = use first-last allocation year

Basis for forecast catch maximum: 2 = total catch biomass

Maximum total catch by fleet (include surveys) (-1 to have no max): Fleet_1 Fleet_2 Fleet_3

Maximum total catch by area (-1 to have no max): Area_1 1 0

☐ Allocation Groups

Number of allocation groups: 0

Basis for input forecast catch (units are from fleet units): 2 = Dead catch

Number of observations: 0

Forecasted catch observation (if basis above is < 0)

