

Appendix I. ASAP model output.

obj_fun	=	343377
Component	Lambda	obj_fun
__Catch_Fleet_1	2000	339671
Catch_Fleet_Total	2000	339671
Discard_Fleet_Total	0	0
__Index_Fit_1	10	1309.8
__Index_Fit_2	5	707.571
__Index_Fit_3	5	491.779
__Index_Fit_4	5	47.4302
__Index_Fit_5	5	-100.68
__Index_Fit_6	5	-136.11
__Index_Fit_7	5	27.1739
__Index_Fit_8	5	-157.26
__Index_Fit_9	5	30.4989
__Index_Fit_10	5	-51.007
__Index_Fit_11	5	438.972
__Index_Fit_12	5	330.797
__Index_Fit_13	5	201.747
__Index_Fit_14	5	518.341
__Index_Fit_15	5	605.402
__Index_Fit_16	5	191.618
__Index_Fit_17	5	135.418
__Index_Fit_18	5	33.6683
__Index_Fit_19	5	189.468
__Index_Fit_20	5	-37.056
__Index_Fit_21	5	-342.09
__Index_Fit_22	5	-238.11
__Index_Fit_23	5	-247.99
__Index_Fit_24	5	-430.29
__Index_Fit_25	5	-568.34
__Index_Fit_26	5	-564.71
__Index_Fit_27	5	-453.55
__Index_Fit_28	5	386.671
Index_Fit_Total	145	2319.18
Catch_Age_Comps	see_below	292.509
Discard_Age_Comps	see_below	0
Survey_Age_Comps	see_below	0
Sel_Params_Total	0	0
Index_Sel_Params_Total	0	0
__q_year1_index_1	0.01	0.45336
__q_year1_index_2	0.01	0.25175
__q_year1_index_3	0.01	0.03261
__q_year1_index_4	0.01	-0.0273
__q_year1_index_5	0.01	-0.073
__q_year1_index_6	0.01	-0.0663
__q_year1_index_7	0.01	-0.0898
__q_year1_index_8	0.01	-0.0308

__q_year1_index_9	0.01	0.09016
__q_year1_index_10	0.01	-0.0808
__q_year1_index_11	0.01	0.34198
__q_year1_index_12	0.01	0.0795
__q_year1_index_13	0.01	-0.027
__q_year1_index_14	0.01	0.60538
__q_year1_index_15	0.01	0.256
__q_year1_index_16	0.01	0.22285
__q_year1_index_17	0.01	0.10887
__q_year1_index_18	0.01	0.05431
__q_year1_index_19	0.01	0.04029
__q_year1_index_20	0.01	-0.0534
__q_year1_index_21	0.01	-0.0786
__q_year1_index_22	0.01	-0.0199
__q_year1_index_23	0.01	-0.0225
__q_year1_index_24	0.01	-0.0599
__q_year1_index_25	0.01	-0.0901
__q_year1_index_26	0.01	-0.0777
__q_year1_index_27	0.01	-0.0872
__q_year1_index_28	0.01	0.26622
q_year1_Total	0.28	1.91894
q_devs_Total	2800	0
__Fmult_year1_fleet_1	0.5	-0.6594
Fmult_year1_fleet_Total	0.5	-0.6594
Fmult_devs_fleet_Total	0	0
N_year_1	1	479.868
Recruit_devs	0.1	29.2025
SRR_steepness	1	1.59008
SRR_unexpl_stock	1	582.08
Fmult_Max_penalty	1000	0
F_penalty	0	0
Component	#resids	RMSE
_Catch_Fleet_1	28	0.00056
Catch_Fleet_Total	28	0.00056
_Discard_Fleet_1	0	0
Discard_Fleet_Total	0	0
_Index_1	28	2.18616
_Index_2	28	3.02499
_Index_3	28	3.35732
_Index_4	28	2.69215
_Index_5	25	2.66098
_Index_6	21	2.51511
_Index_7	23	2.82738
_Index_8	20	1.3638
_Index_9	20	1.71315
_Index_10	20	2.63191
_Index_11	22	2.28096
_Index_12	22	2.9382
_Index_13	22	3.13309
_Index_14	25	1.34675

_Index_15	25	2.96059
_Index_16	25	1.85805
_Index_17	25	2.31423
_Index_18	24	2.3515
_Index_19	24	3.01591
_Index_20	23	2.40967
_Index_21	28	1.24461
_Index_22	28	1.24388
_Index_23	28	1.48879
_Index_24	28	1.22357
_Index_25	28	1.12697
_Index_26	28	1.16985
_Index_27	28	1.04913
_Index_28	20	2.50095
Index_Total	694	2.26067
Nyear1	6	11.355
Fmult_Year1	1	1.4304
_Fmult_devs_Fleet_1	0	0
Fmult_devs_Total	0	0
Recruit_devs	28	0.76885
Fleet_Sel_params	0	0
Index_Sel_params	0	0
q_year1	28	6.66269
q_devs	0	0
SRR_steepness	1	2.83696
SRR_unexpl_S	1	33.8573

F0.1	0.18
Fmax	0.28
F40%	0.18
Fmsy	0.14
Fcurrent	0.10

SSmsy 111,901

MSY 12,856

steepness	0.607
alpha	32405.3
beta	62627.4
virgin	325073