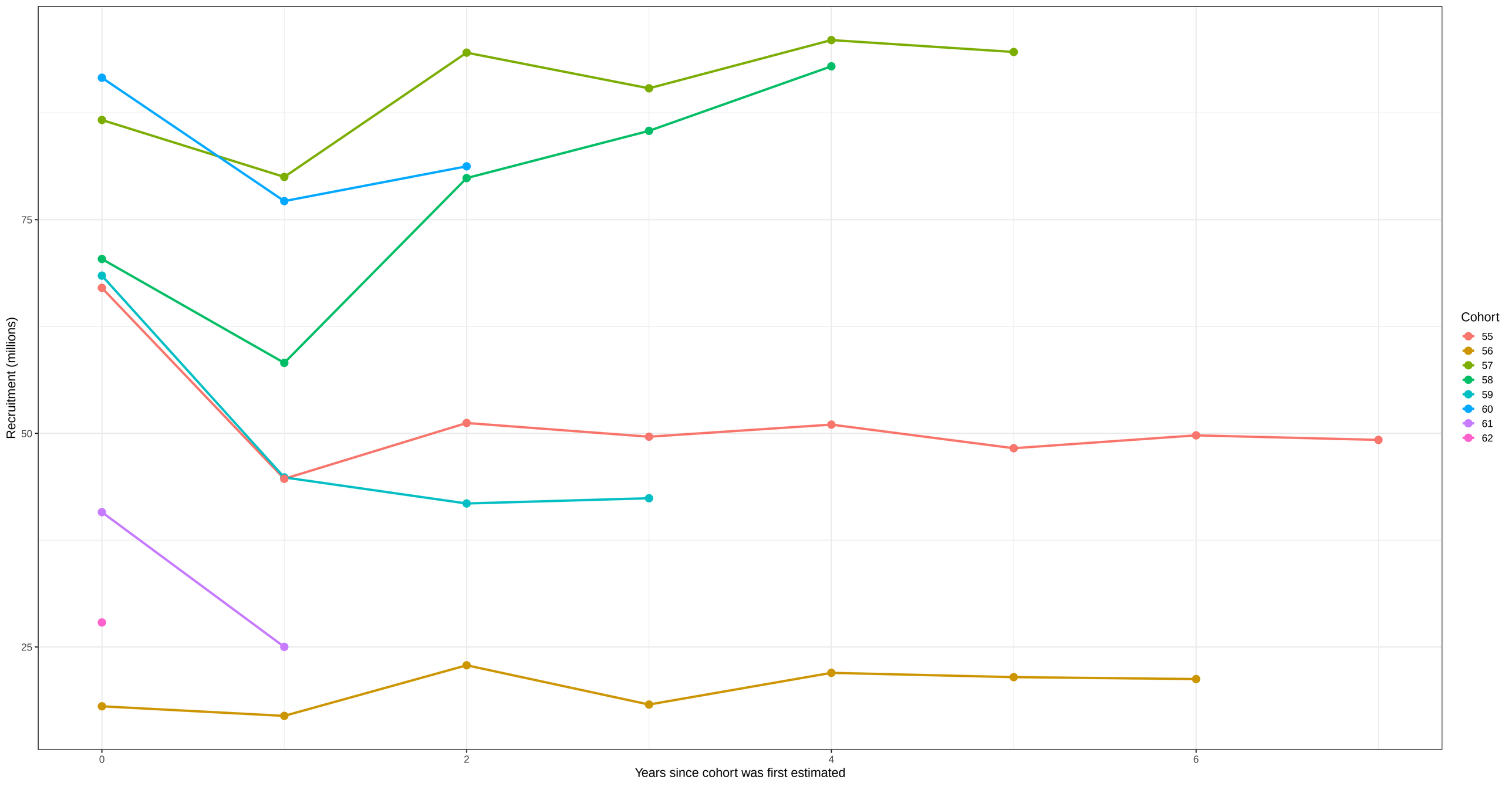
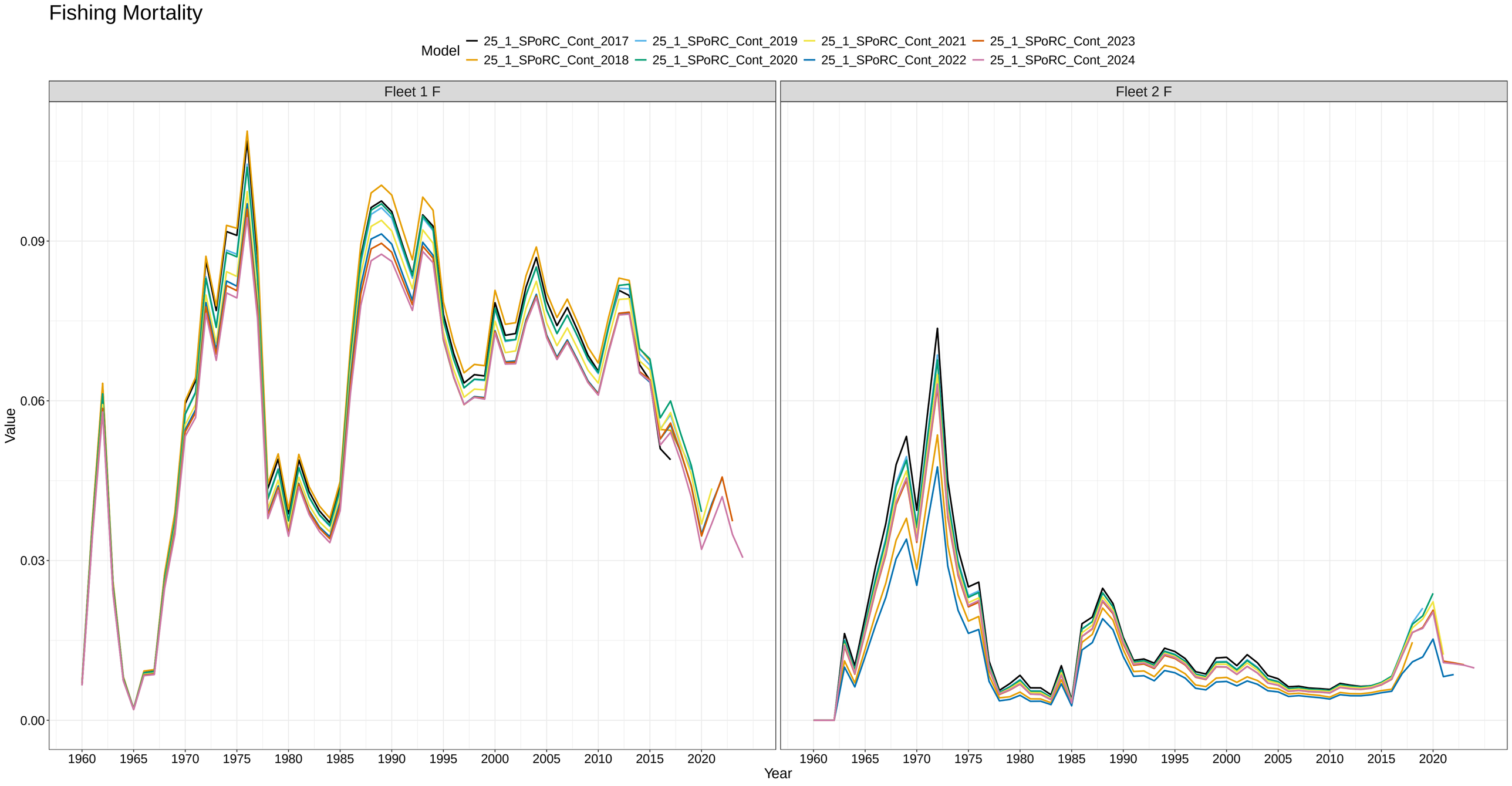
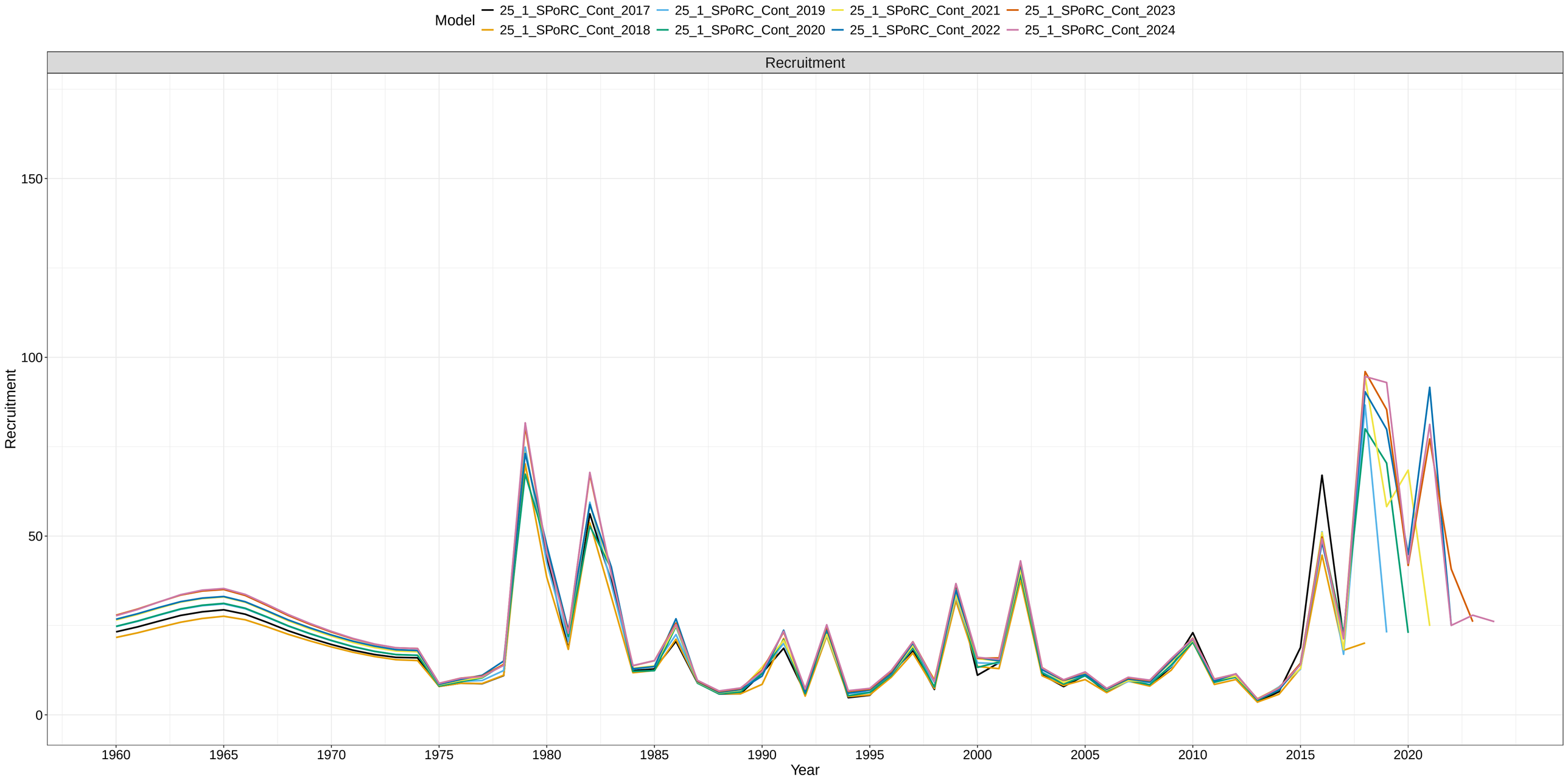
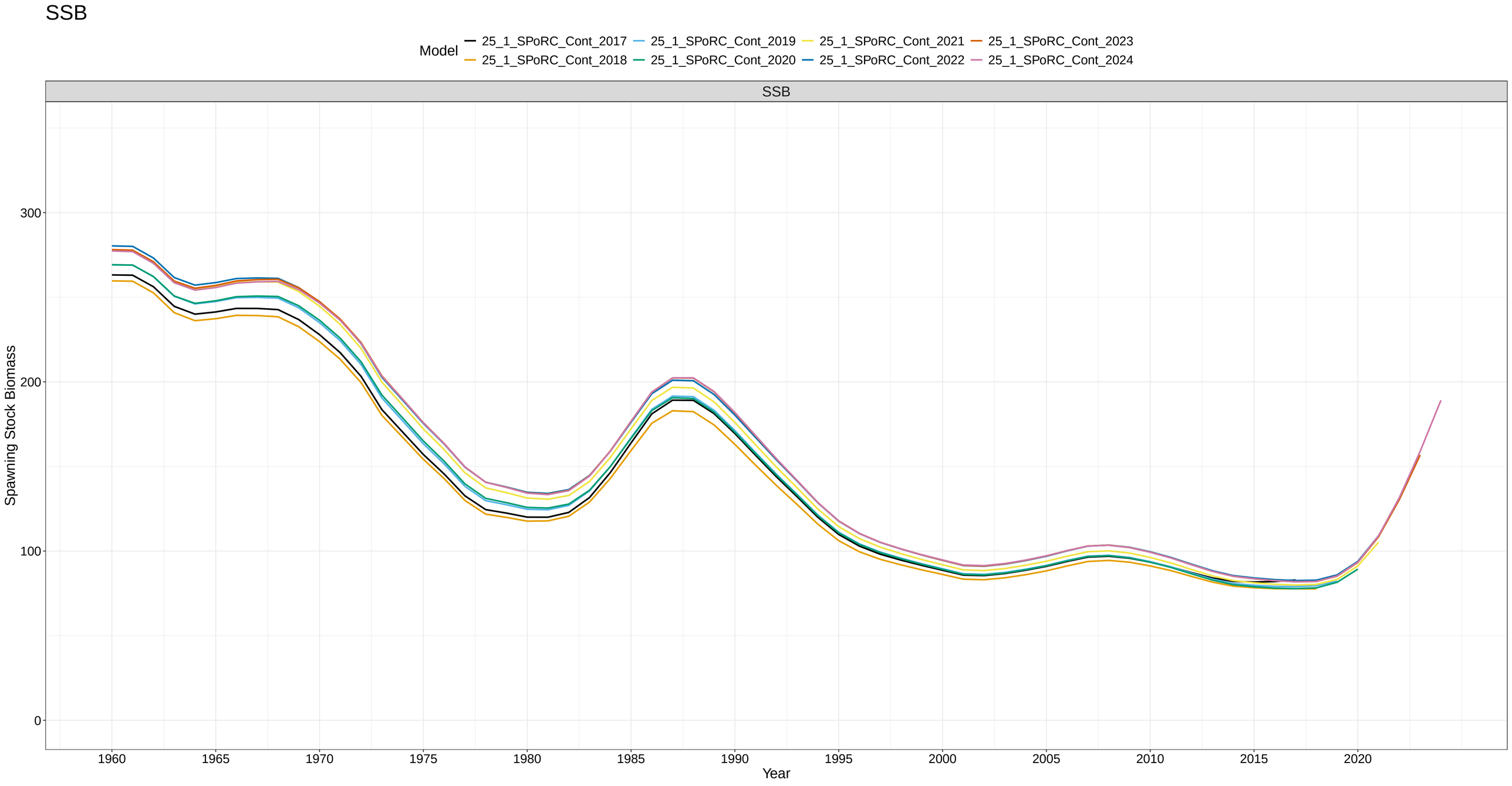

Recruitment (millions)
75
50
25
0
2
4
6
Years since cohort was first estimated
Cohort
55
56
57
58
59
60
61
62

Fishing Mortality

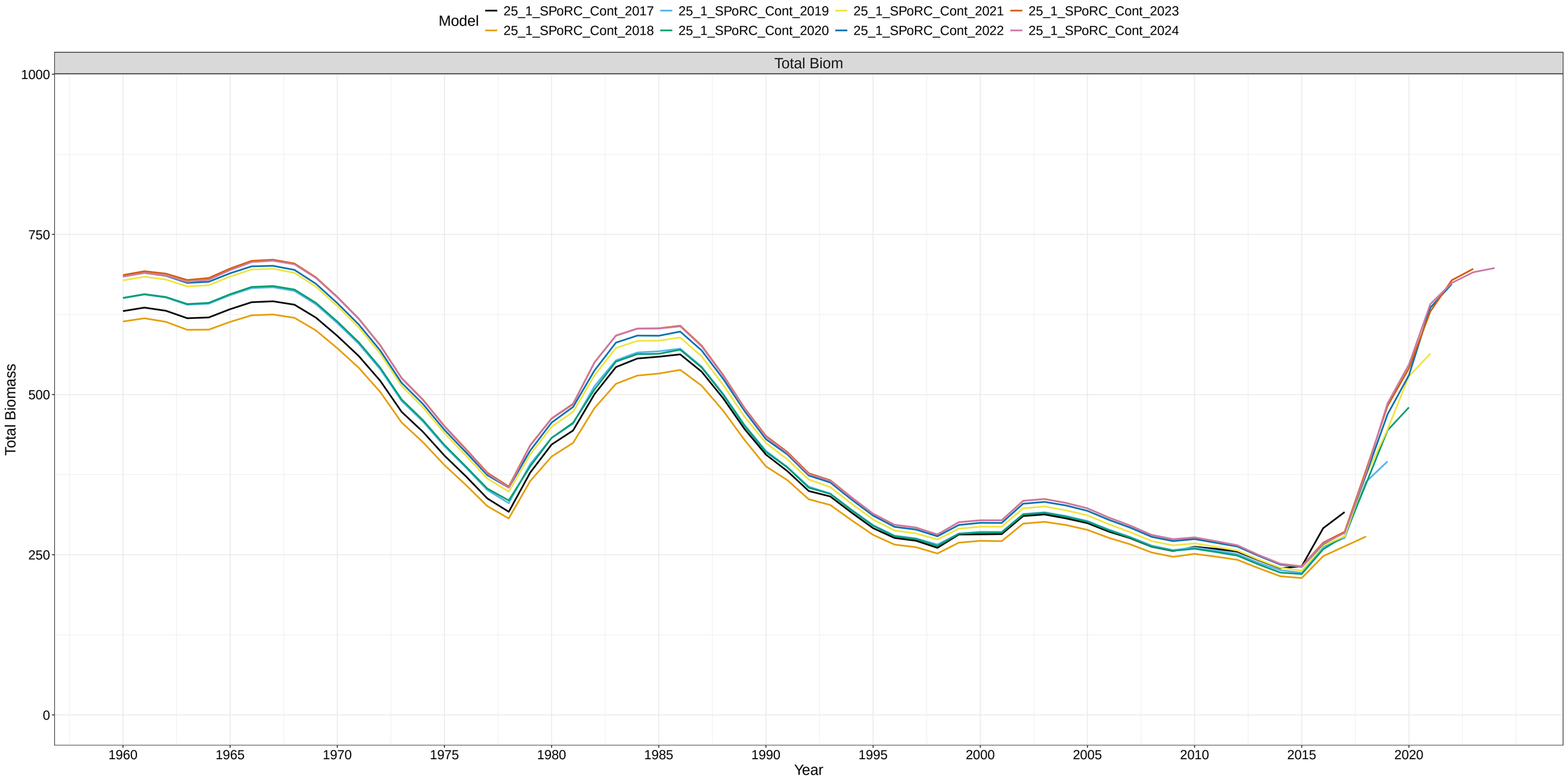


Recruitment



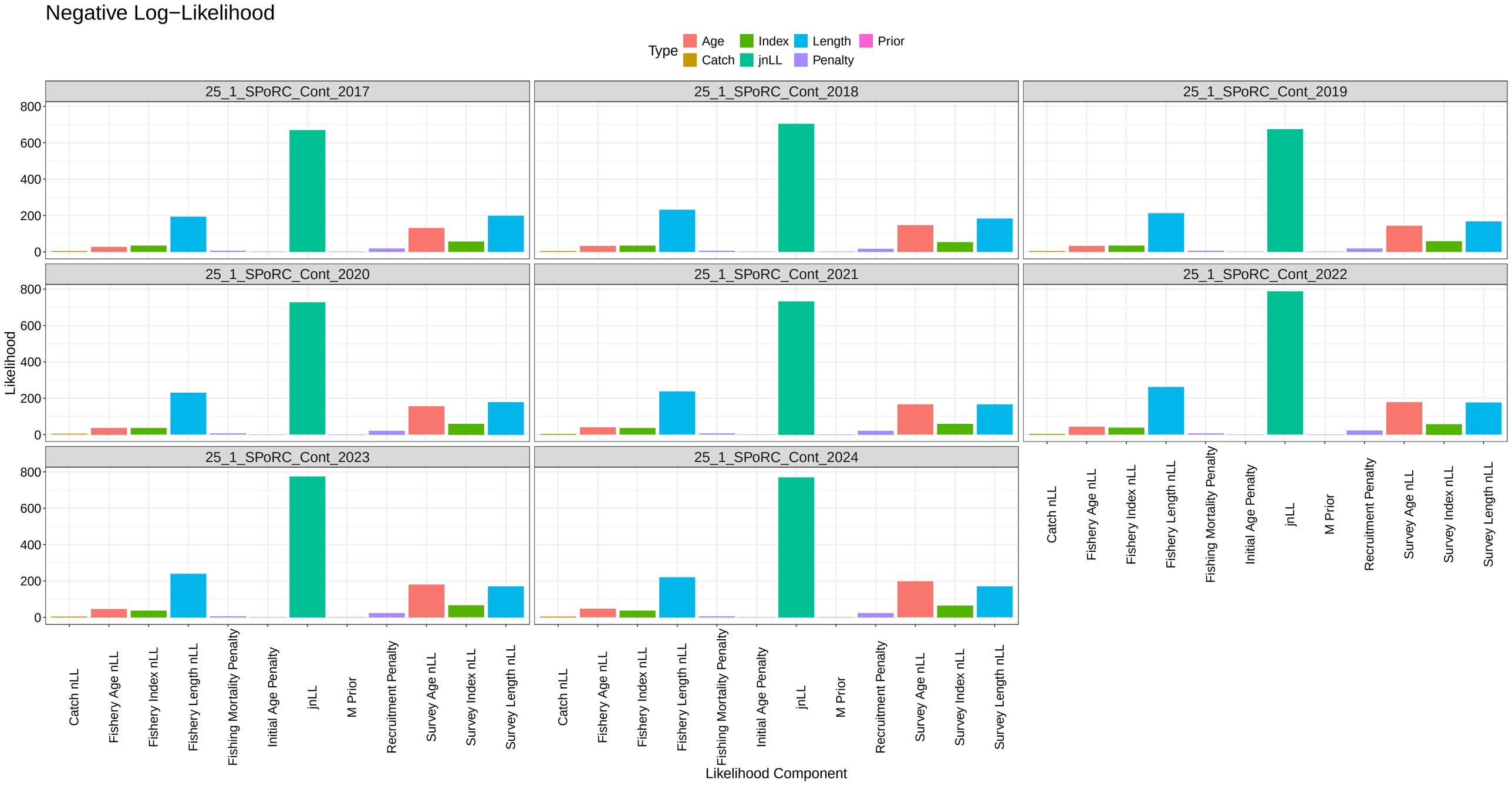

SSB
Model
25_1_SPoRC_Cont_2017
25_1_SPoRC_Cont_2018
25_1_SPoRC_Cont_2019
25_1_SPoRC_Cont_2020
25_1_SPoRC_Cont_2021
25_1_SPoRC_Cont_2022
25_1_SPoRC_Cont_2023
25_1_SPoRC_Cont_2024
SSB
Spawning Stock Biomass
0
100
200
300
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
2020
Year

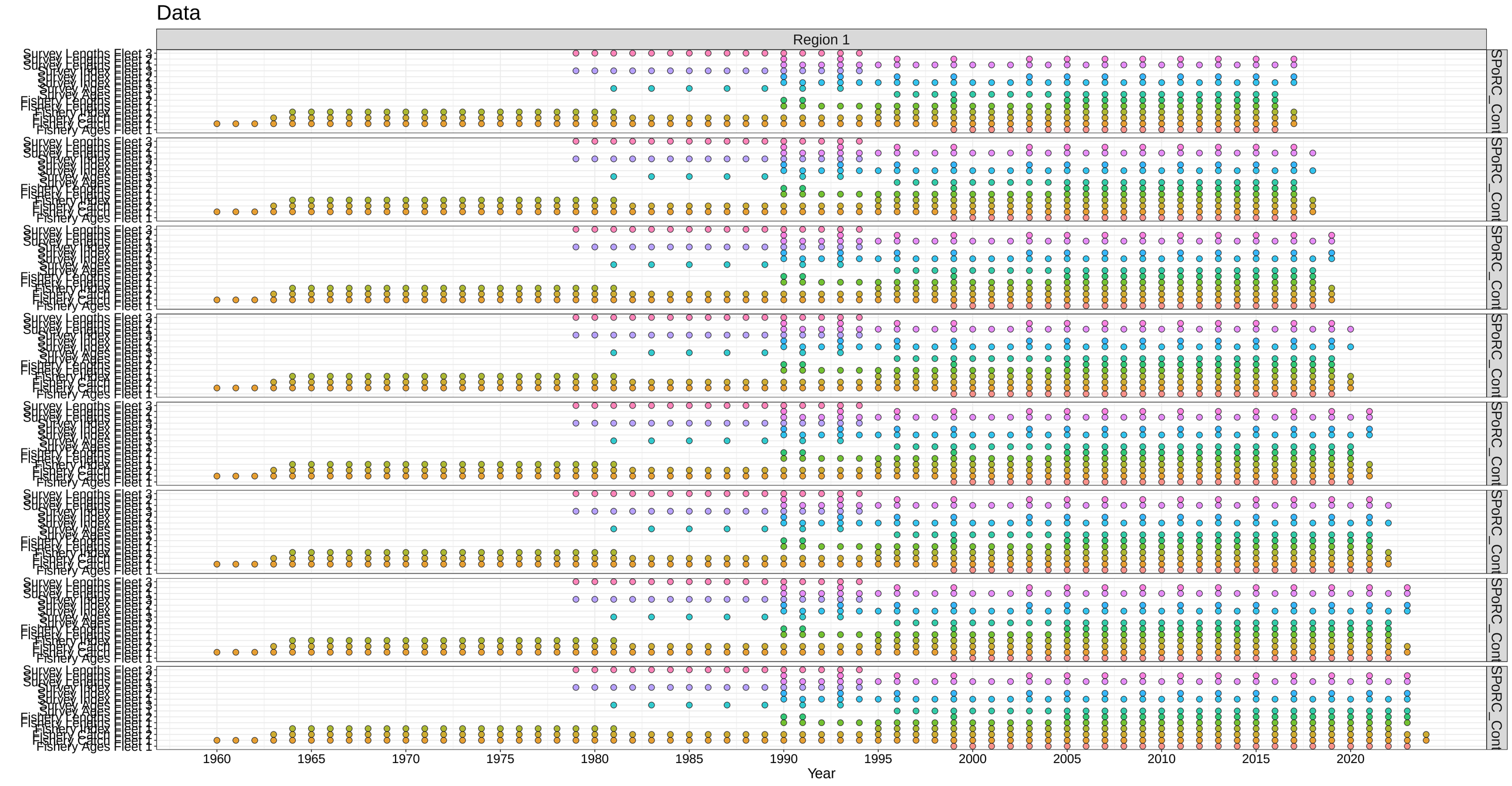
Biomass


Model
25_1_SPoRC_Cont_2017
25_1_SPoRC_Cont_2018
25_1_SPoRC_Cont_2019
25_1_SPoRC_Cont_2020
25_1_SPoRC_Cont_2021
25_1_SPoRC_Cont_2022
25_1_SPoRC_Cont_2023
25_1_SPoRC_Cont_2024
Total Biom
Total Biomass
1000
750
500
250
0
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
2020
Year

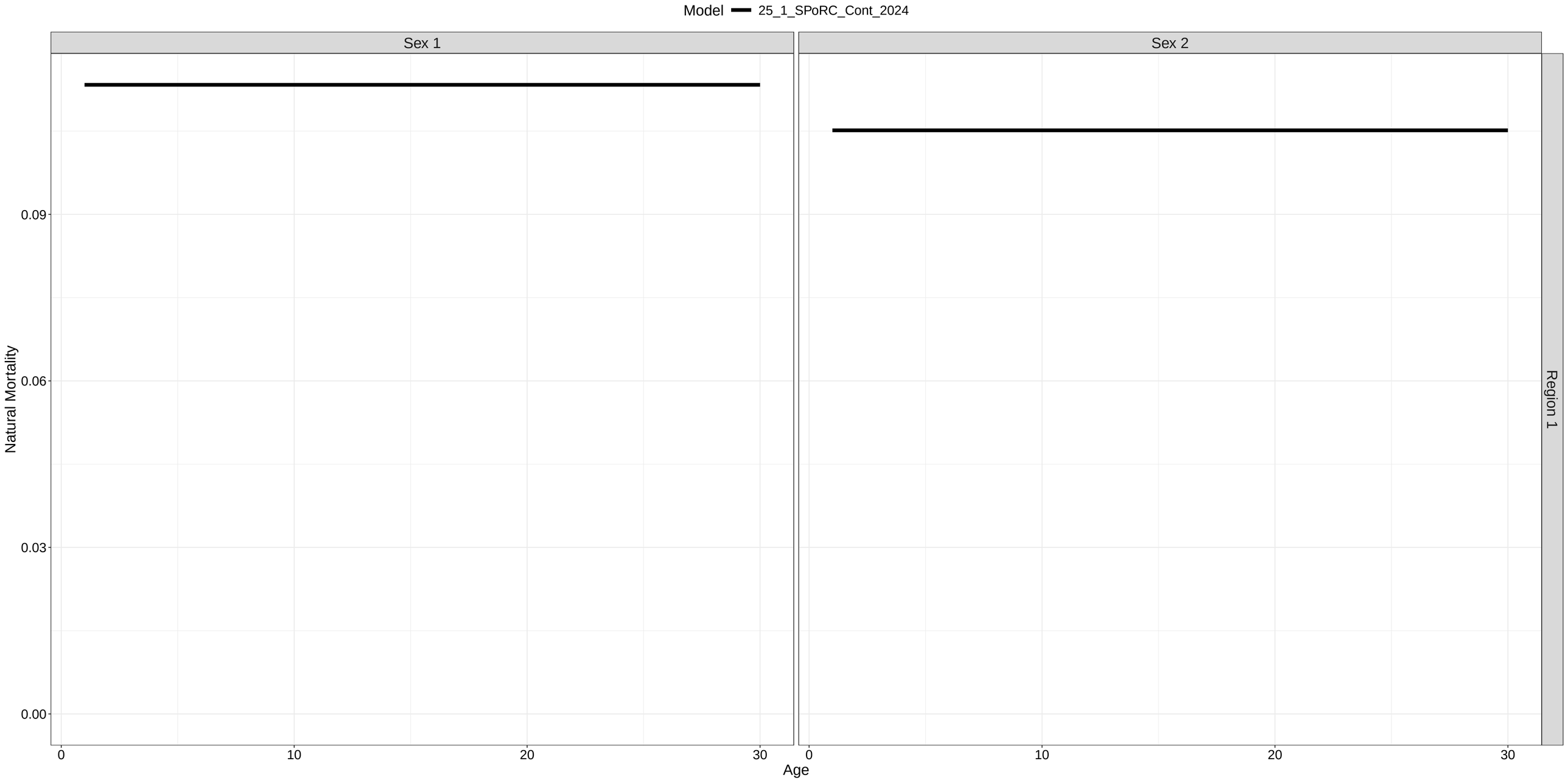
	Model	Region	Terminal_SSB	Terminal_F	Catch_Advice	B_Ref_Pt	F_Ref_Pt	B_over_B_Ref	F_over_F_Ref
1	25_1_SPoRC_Cont_2024	1	189.10677	0.04035857	49.70296	121.04033	0.08594	1.56235	0.46963
2	25_1_SPoRC_Cont_2023	1	156.77393	0.04779570	47.59918	120.37247	0.08579	1.30241	0.55712
3	25_1_SPoRC_Cont_2022	1	130.83045	0.05405843	43.85397	116.22897	0.08047	1.12563	0.67179
4	25_1_SPoRC_Cont_2021	1	105.24349	0.05587305	35.09338	110.45391	0.08498	0.95283	0.65746
5	25_1_SPoRC_Cont_2020	1	89.33651	0.06298844	25.49131	105.94059	0.08545	0.84327	0.73713
6	25_1_SPoRC_Cont_2019	1	82.19790	0.06816872	20.61259	97.83614	0.08424	0.84016	0.80920
7	25_1_SPoRC_Cont_2018	1	77.65626	0.06509498	13.89790	100.23310	0.07448	0.77476	0.87401
8	25_1_SPoRC_Cont_2017	1	82.91527	0.06147305	17.36583	96.54111	0.08198	0.85886	0.74985

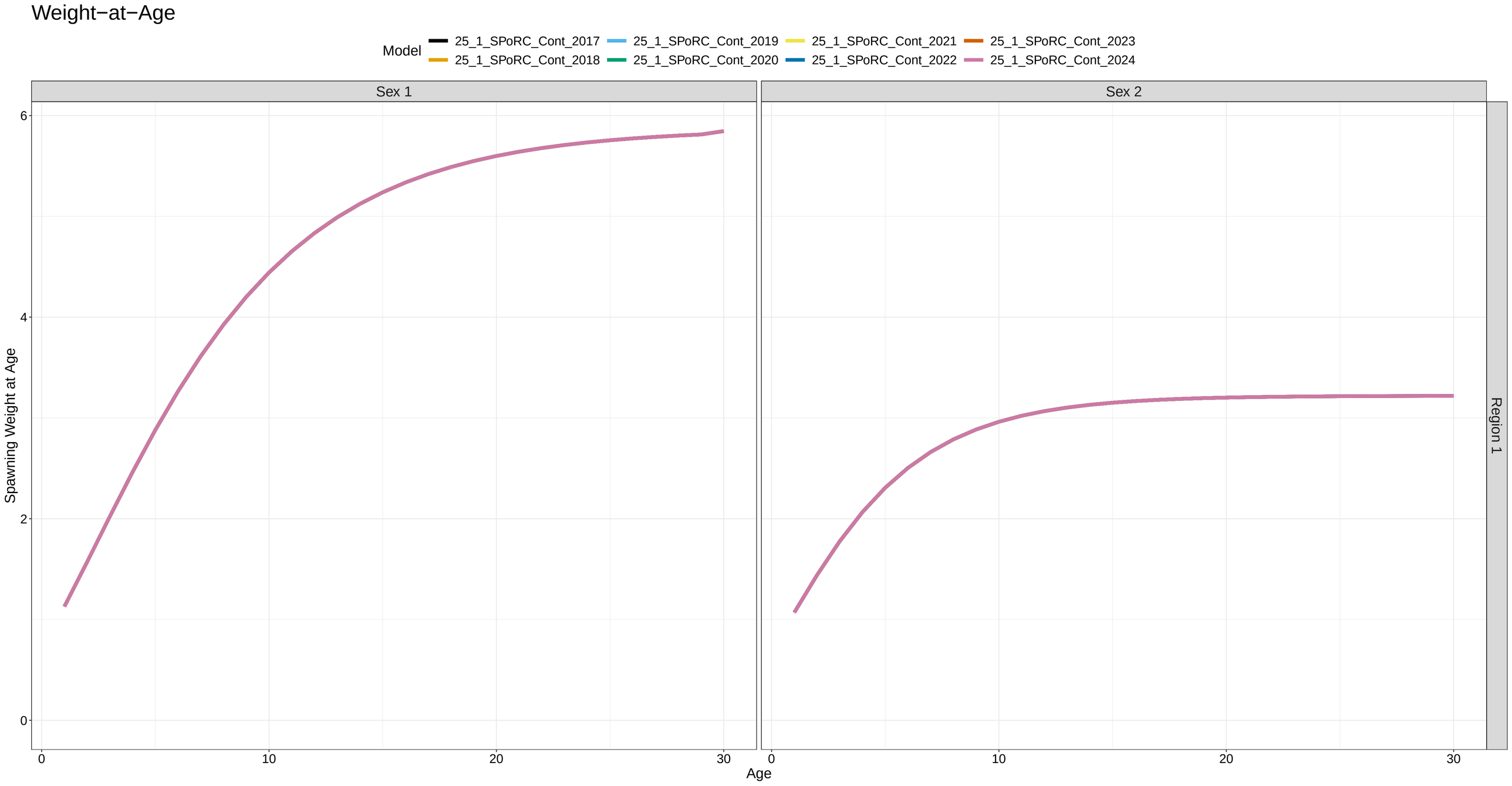
	Model	jnLL	M Prior	Recruitment Penalty	Catch nLL	Fishing Mortality Penalty	Survey Index nLL	Fishery Index nLL	Initial Age Penalty	Survey Age nLL	Fishery Age nLL	Survey Length nLL	Fishery Length nLL
1	25_1_SPoRC_Cont_2024	769.8764	0.7841932716	23.11363	3.689287	6.089119	64.51295	37.74027	0.1636952	197.1268	46.66937	169.5907	220.3963
2	25_1_SPoRC_Cont_2023	774.1019	0.7447479838	23.06890	3.757414	6.035318	65.68024	36.89873	0.1599254	180.8339	46.00142	171.0205	239.9007
3	25_1_SPoRC_Cont_2022	786.6251	0.4256702745	22.99478	3.650251	6.014370	57.37967	37.23167	0.1569567	178.2492	43.65910	176.3122	260.5512
4	25_1_SPoRC_Cont_2021	732.9447	0.4066377254	21.30510	3.937492	6.056119	58.40926	36.34769	0.1892698	165.5367	39.15235	165.3635	236.2406
5	25_1_SPoRC_Cont_2020	726.3143	0.1789458813	21.14065	4.121760	6.056088	58.94252	35.73504	0.1613800	154.7265	36.83505	178.6818	229.7345
6	25_1_SPoRC_Cont_2019	674.7759	0.1836299859	18.62319	3.940965	6.022446	57.86929	34.01472	0.1886873	142.0418	32.01233	167.8380	212.0408
7	25_1_SPoRC_Cont_2018	703.9570	0.0006160989	16.71616	3.916287	6.052704	53.47986	34.12214	0.1719237	145.6580	31.21741	182.0113	230.6106
8	25_1_SPoRC_Cont_2017	668.4850	0.0505548325	18.15480	4.097664	5.982137	56.18666	34.05892	0.1765077	131.3854	27.42660	197.8098	193.1558


Negative Log−Likelihood
Type
Age
Index
Length
Prior
Catch
jnLL
Penalty
25_1_SPoRC_Cont_2017
25_1_SPoRC_Cont_2018
25_1_SPoRC_Cont_2019
25_1_SPoRC_Cont_2020
25_1_SPoRC_Cont_2021
25_1_SPoRC_Cont_2022
25_1_SPoRC_Cont_2023
25_1_SPoRC_Cont_2024
Likelihood
0
200
400
600
800
Catch nLL
Fishery Age nLL
Fishery Index nLL
Fishery Length nLL
Fishing Mortality Penalty
Initial Age Penalty
jnLL
M Prior
Recruitment Penalty
Survey Age nLL
Survey Index nLL
Survey Length nLL
Likelihood Component

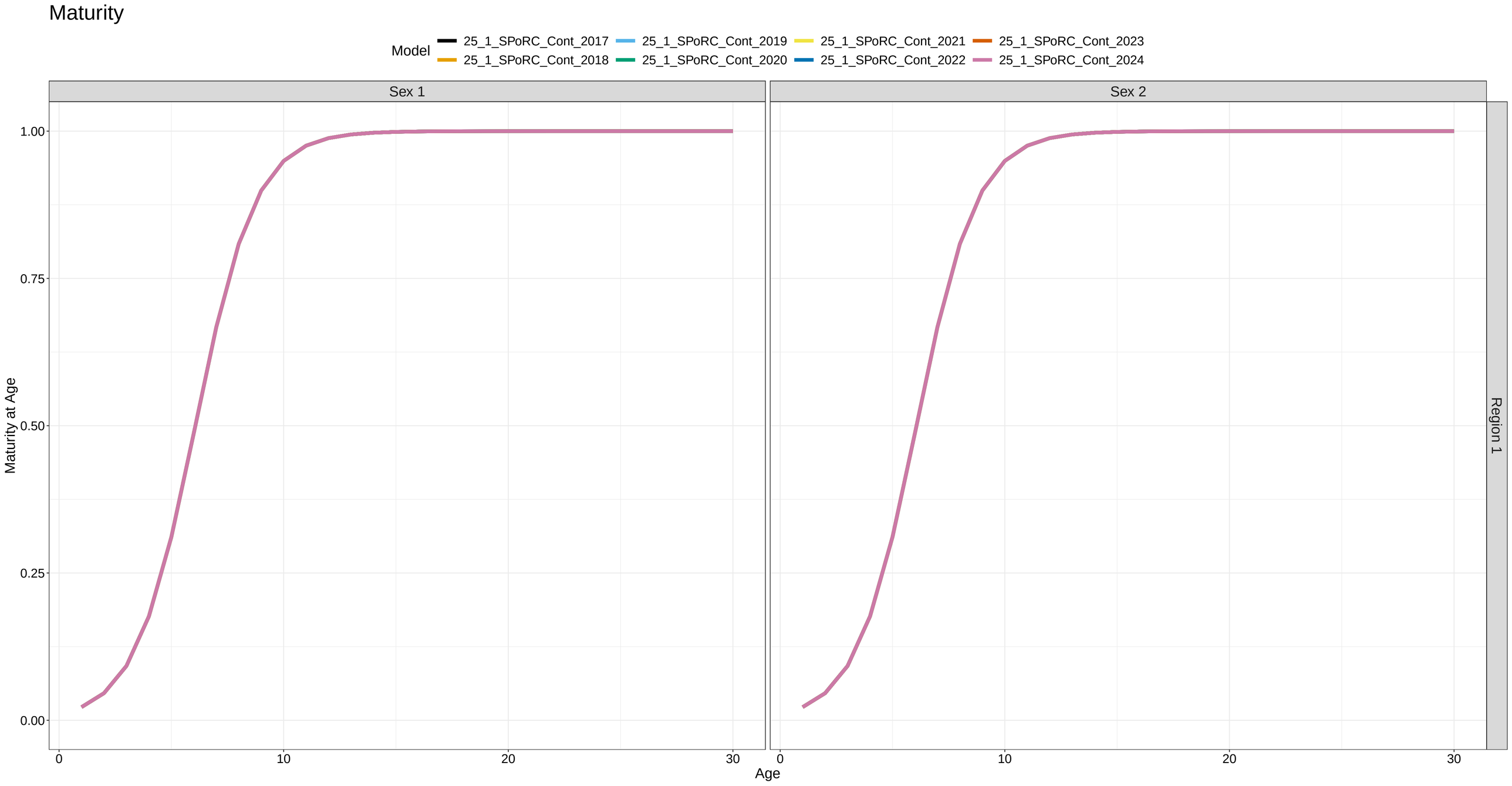

Data
Region 1
Survey Lengths Fleet 3
Survey Lengths Fleet 2
Survey Lengths Fleet 1
Survey Index Fleet 3
Survey Index Fleet 2
Survey Index Fleet 1
Survey Ages Fleet 3
Survey Ages Fleet 2
Survey Ages Fleet 1
Fishery Lengths Fleet 2
Fishery Lengths Fleet 1
Fishery Index Fleet 2
Fishery Index Fleet 1
Fishery Catch Fleet 2
Fishery Catch Fleet 1
Fishery Ages Fleet 1
SPoRC_Cont
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
2020
Year

Natural Mortality

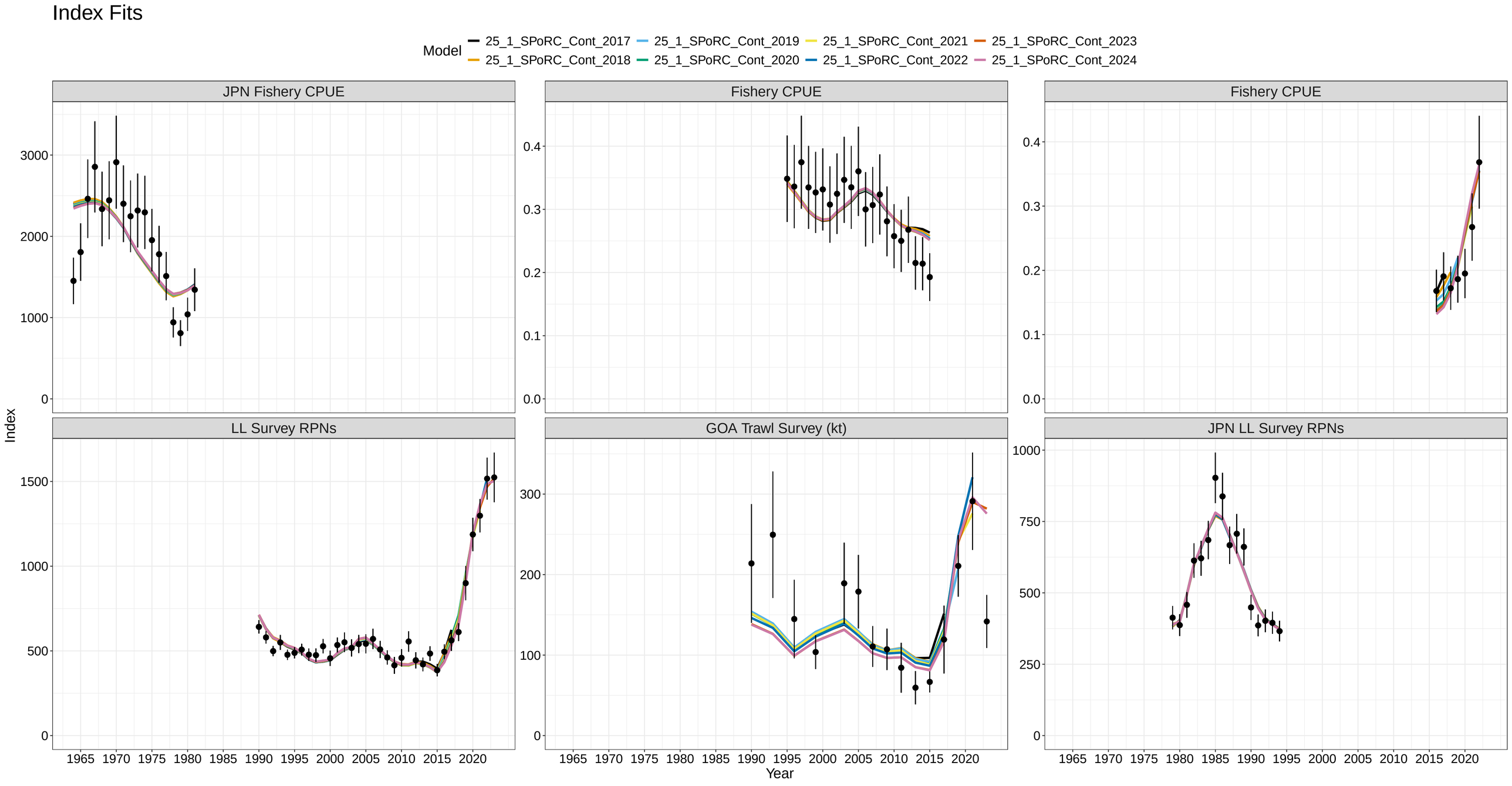



Weight−at−Age
Model
25_1_SPoRC_Cont_2017
25_1_SPoRC_Cont_2018
25_1_SPoRC_Cont_2019
25_1_SPoRC_Cont_2020
25_1_SPoRC_Cont_2021
25_1_SPoRC_Cont_2022
25_1_SPoRC_Cont_2023
25_1_SPoRC_Cont_2024
Sex 1
Sex 2
Region 1
Spawning Weight at Age
Age
0
2
4
6
0
10
20
30

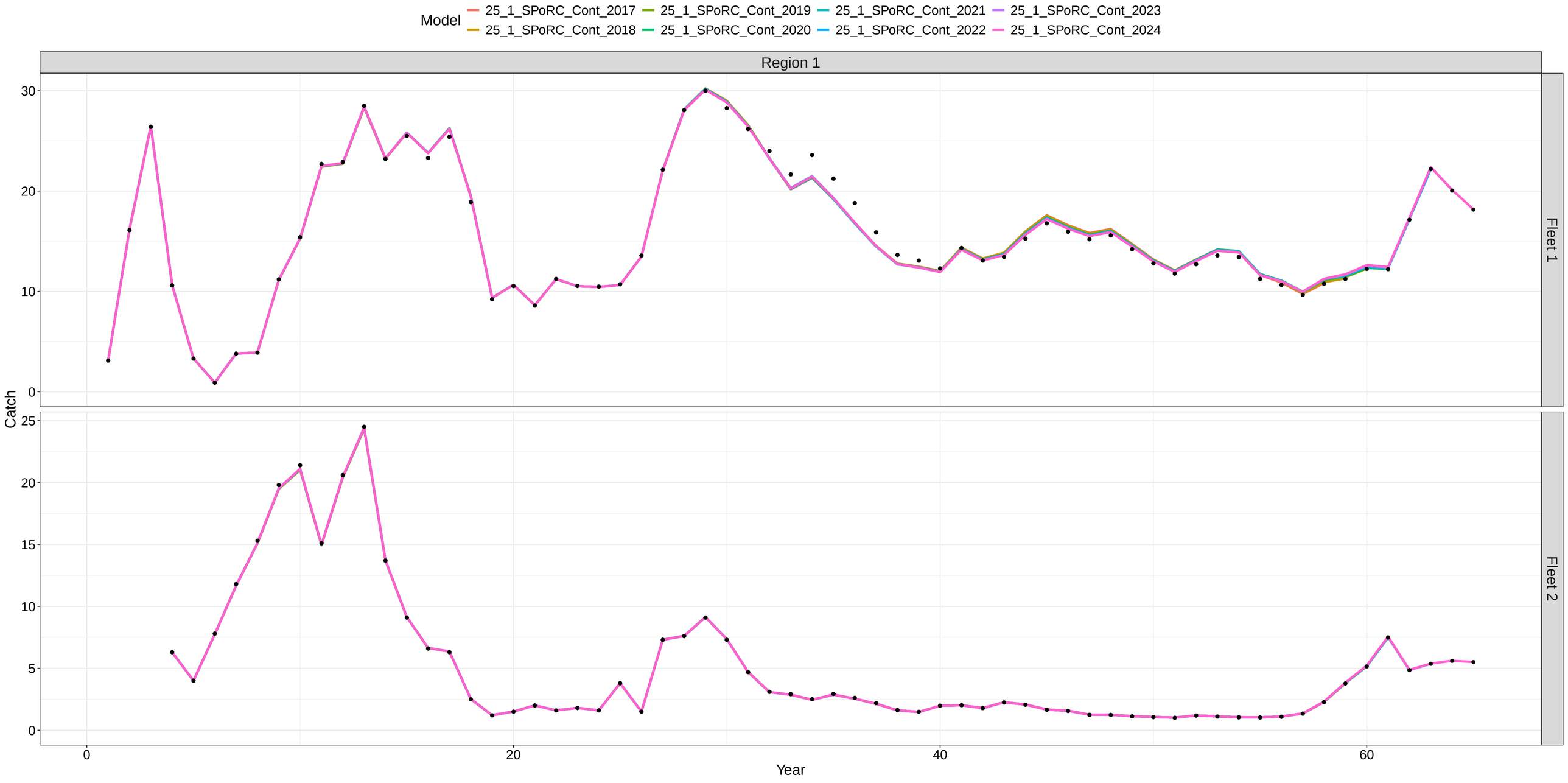
Maturity

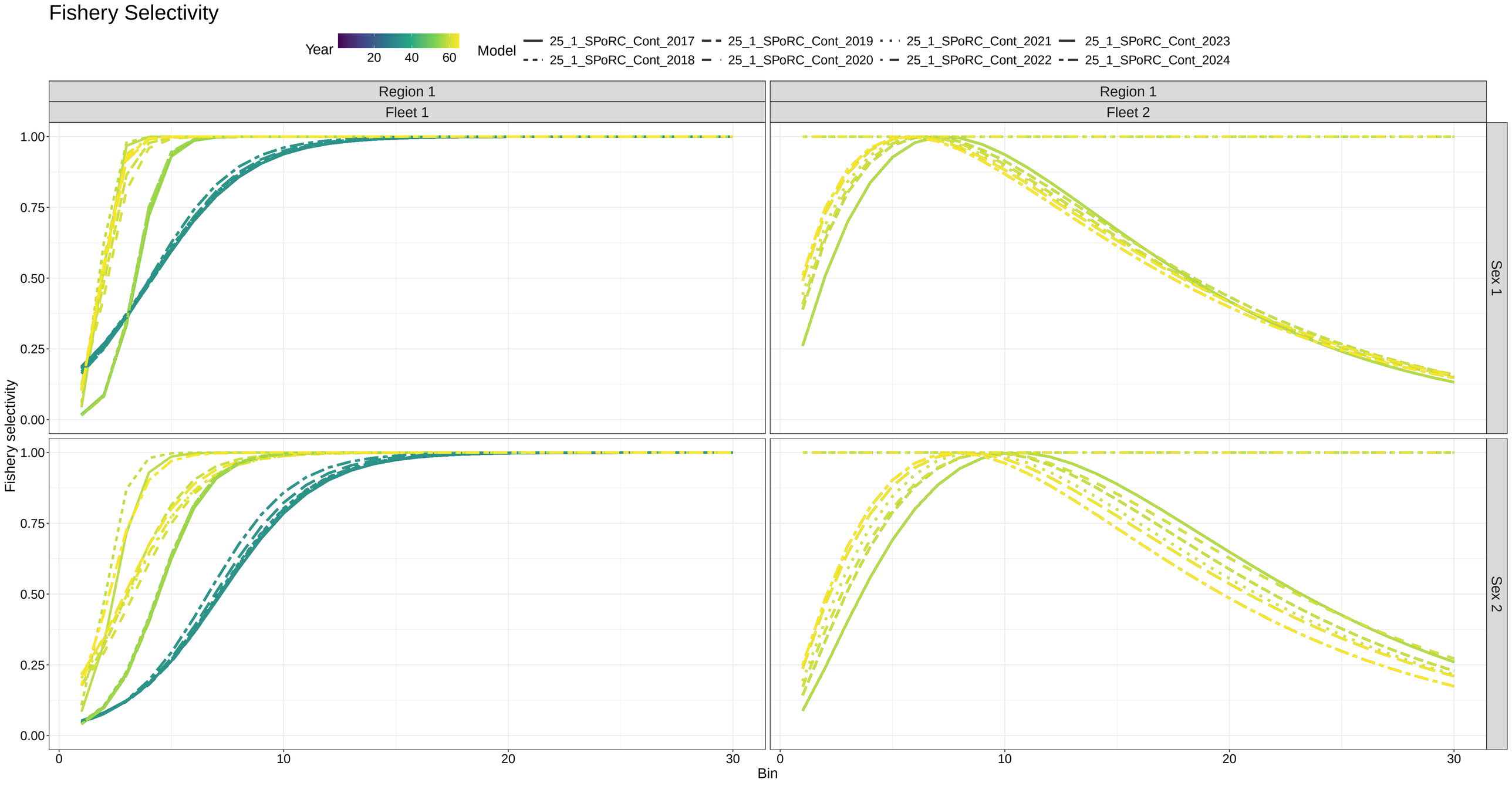

Model
25_1_SPoRC_Cont_2017
25_1_SPoRC_Cont_2018
25_1_SPoRC_Cont_2019
25_1_SPoRC_Cont_2020
25_1_SPoRC_Cont_2021
25_1_SPoRC_Cont_2022
25_1_SPoRC_Cont_2023
25_1_SPoRC_Cont_2024
Sex 1
Sex 2
Region 1
Maturity at Age
1.00
0.75
0.50
0.25
0.00
0
10
20
30
Age

Index Fits

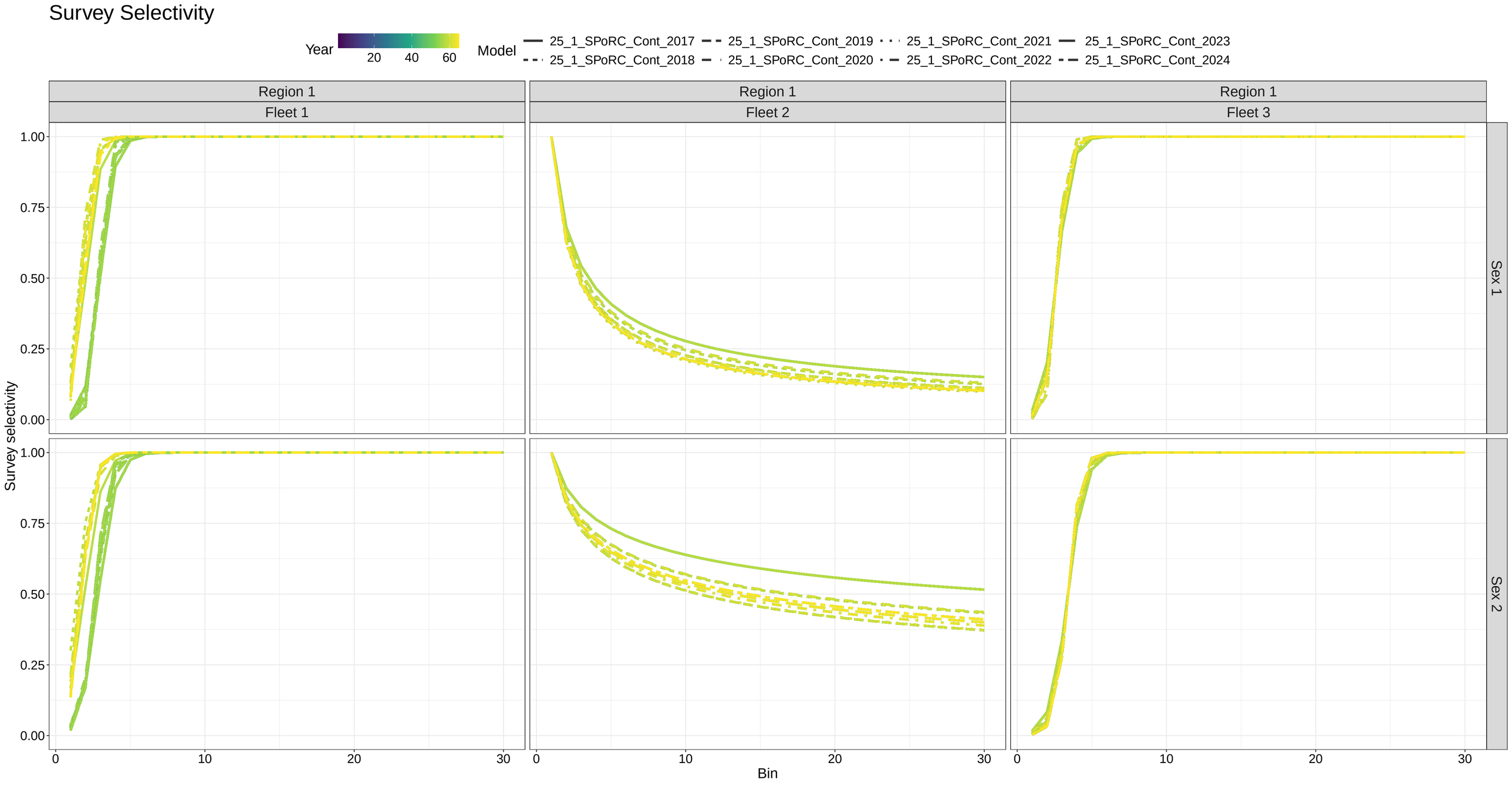

Model
25_1_SPoRC_Cont_2017
25_1_SPoRC_Cont_2018
25_1_SPoRC_Cont_2019
25_1_SPoRC_Cont_2020
25_1_SPoRC_Cont_2021
25_1_SPoRC_Cont_2022
25_1_SPoRC_Cont_2023
25_1_SPoRC_Cont_2024
JPN Fishery CPUE
Fishery CPUE
Fishery CPUE
LL Survey RPNs
GOA Trawl Survey (kt)
JPN LL Survey RPNs
Index
Year

Catch

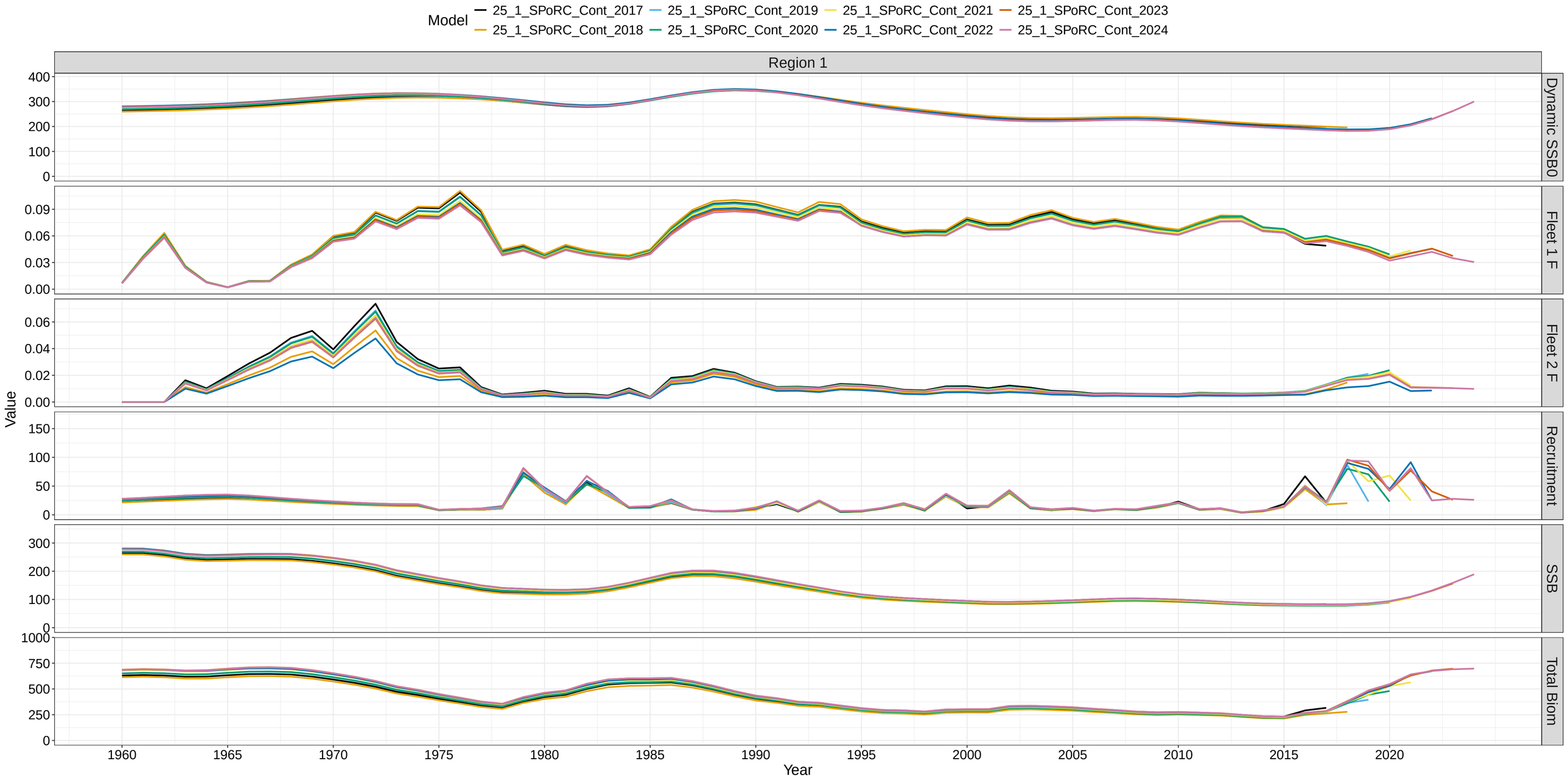

Model
25_1_SPoRC_Cont_2017
25_1_SPoRC_Cont_2018
25_1_SPoRC_Cont_2019
25_1_SPoRC_Cont_2020
25_1_SPoRC_Cont_2021
25_1_SPoRC_Cont_2022
25_1_SPoRC_Cont_2023
25_1_SPoRC_Cont_2024
Region 1
Fleet 1
Fleet 2
Catch
Year
0
10
20
30
5
15
25
40
60


Fishery Selectivity
Year
20
40
60
Model
25_1_SPoRC_Cont_2017
25_1_SPoRC_Cont_2018
25_1_SPoRC_Cont_2019
25_1_SPoRC_Cont_2020
25_1_SPoRC_Cont_2021
25_1_SPoRC_Cont_2022
25_1_SPoRC_Cont_2023
25_1_SPoRC_Cont_2024
Region 1
Fleet 1
Region 1
Fleet 2
Sex 1
Sex 2
Fishery selectivity
1.00
0.75
0.50
0.25
0.00
0
10
20
30
Bin

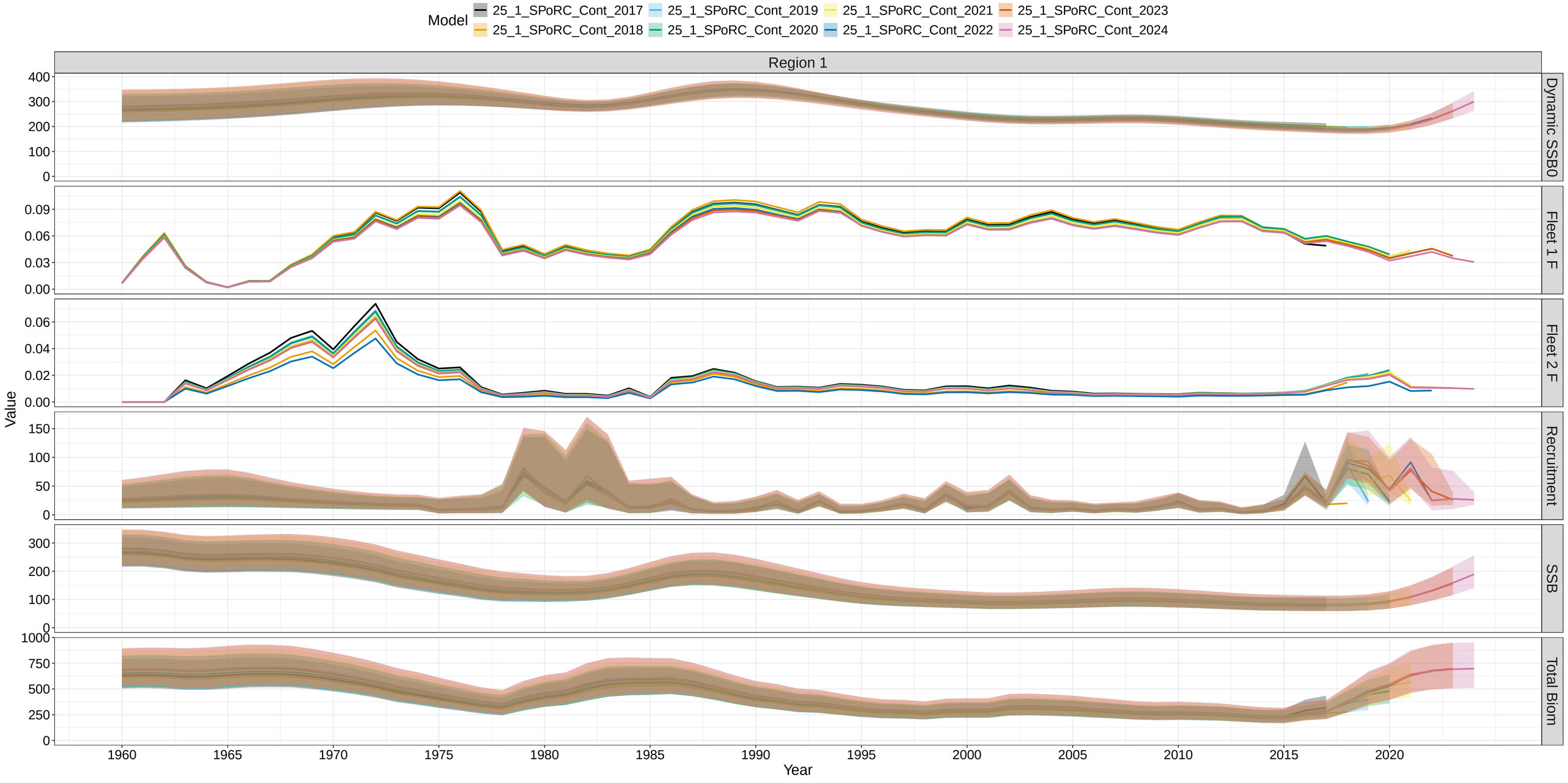
Survey Selectivity



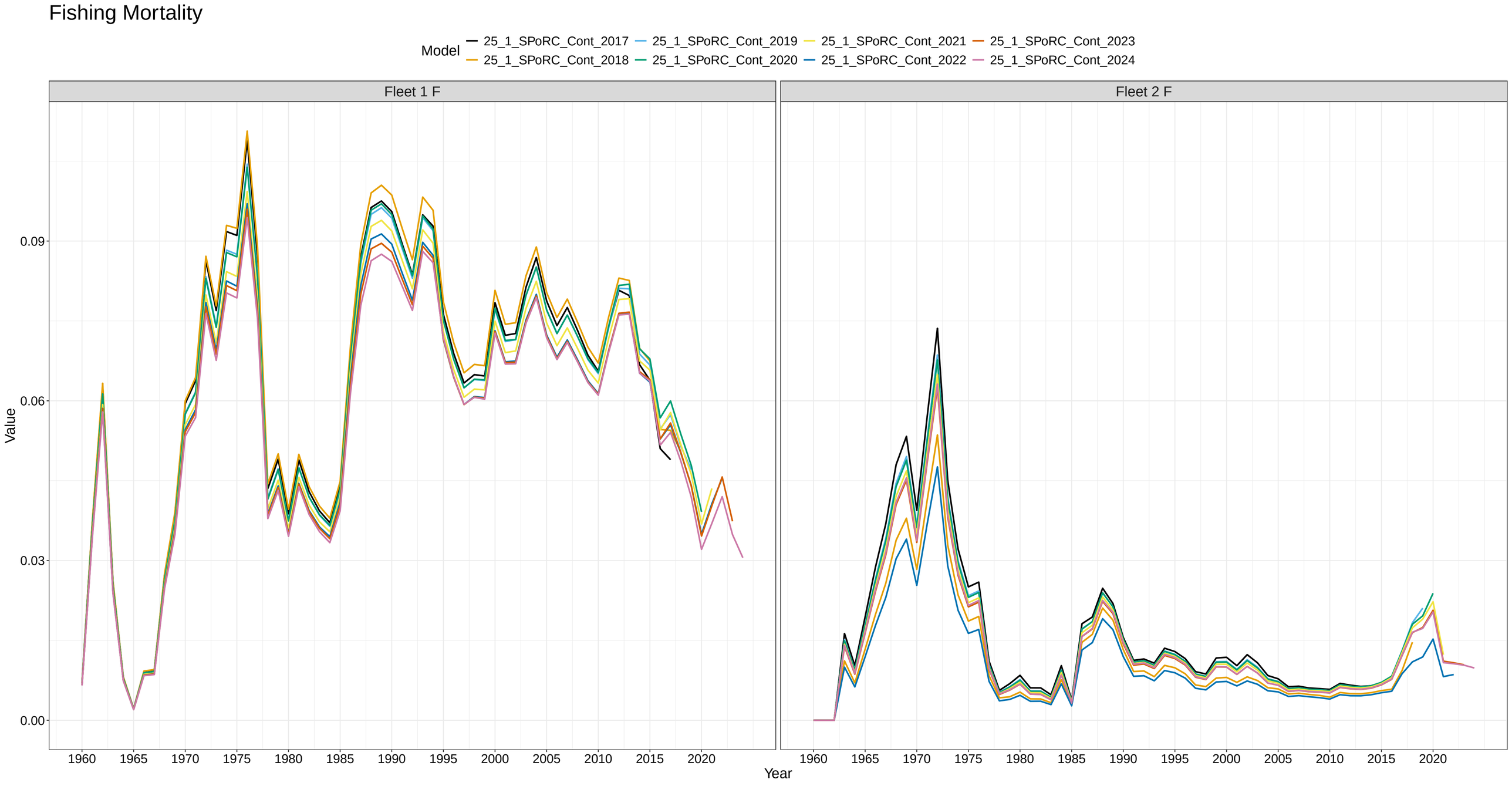
Time Series Plots



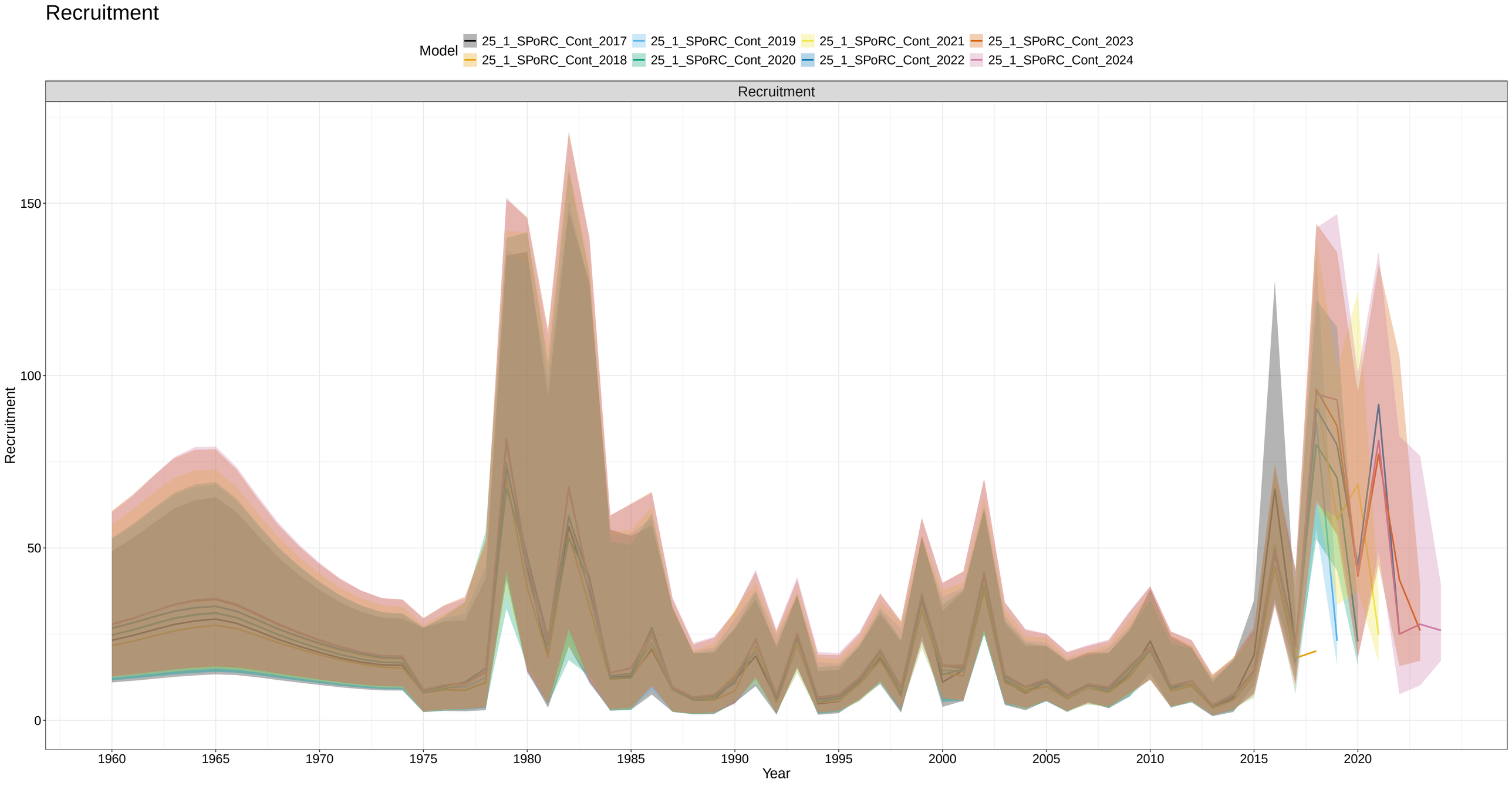
Time Series Plots



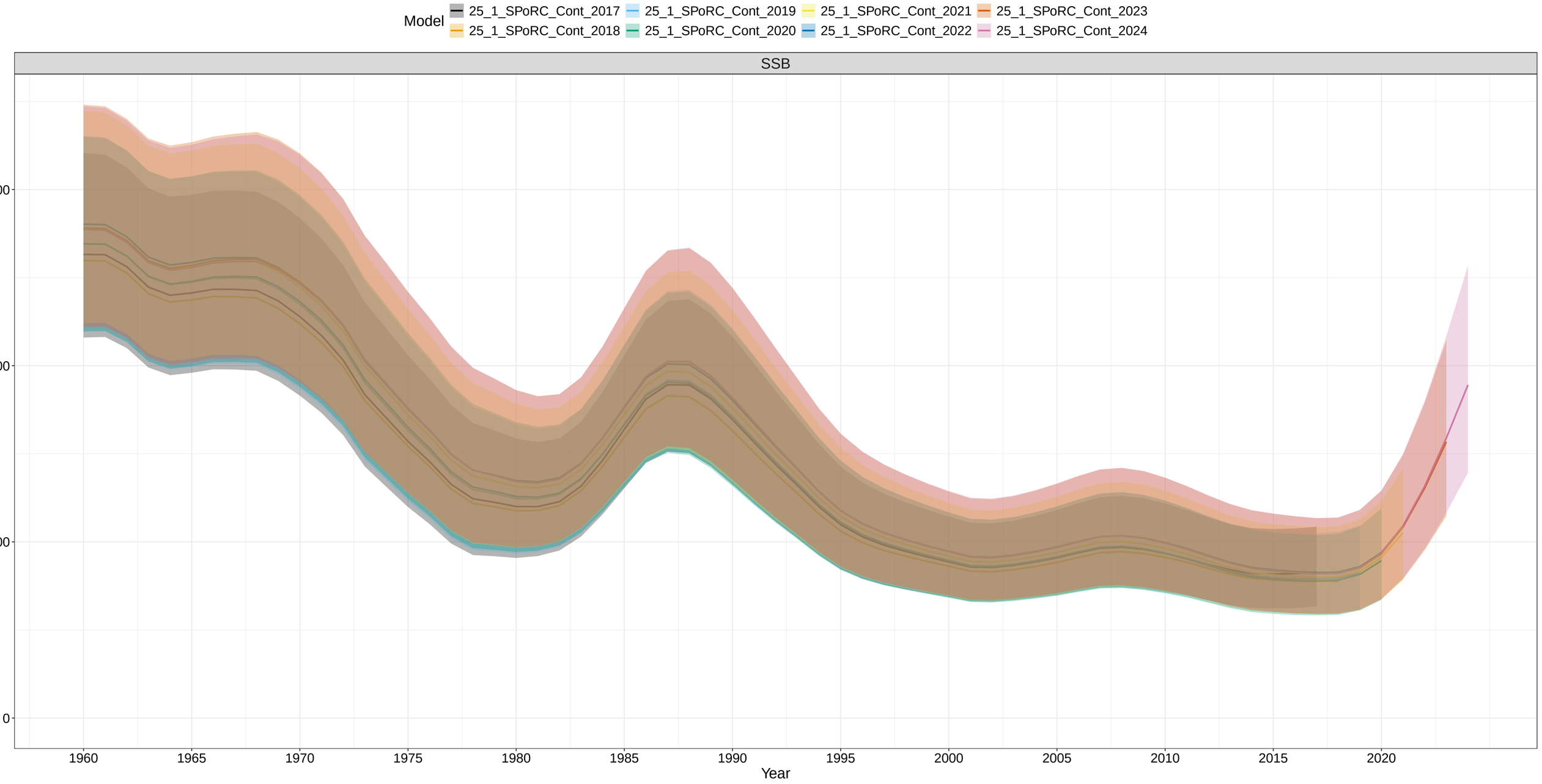
Fishing Mortality



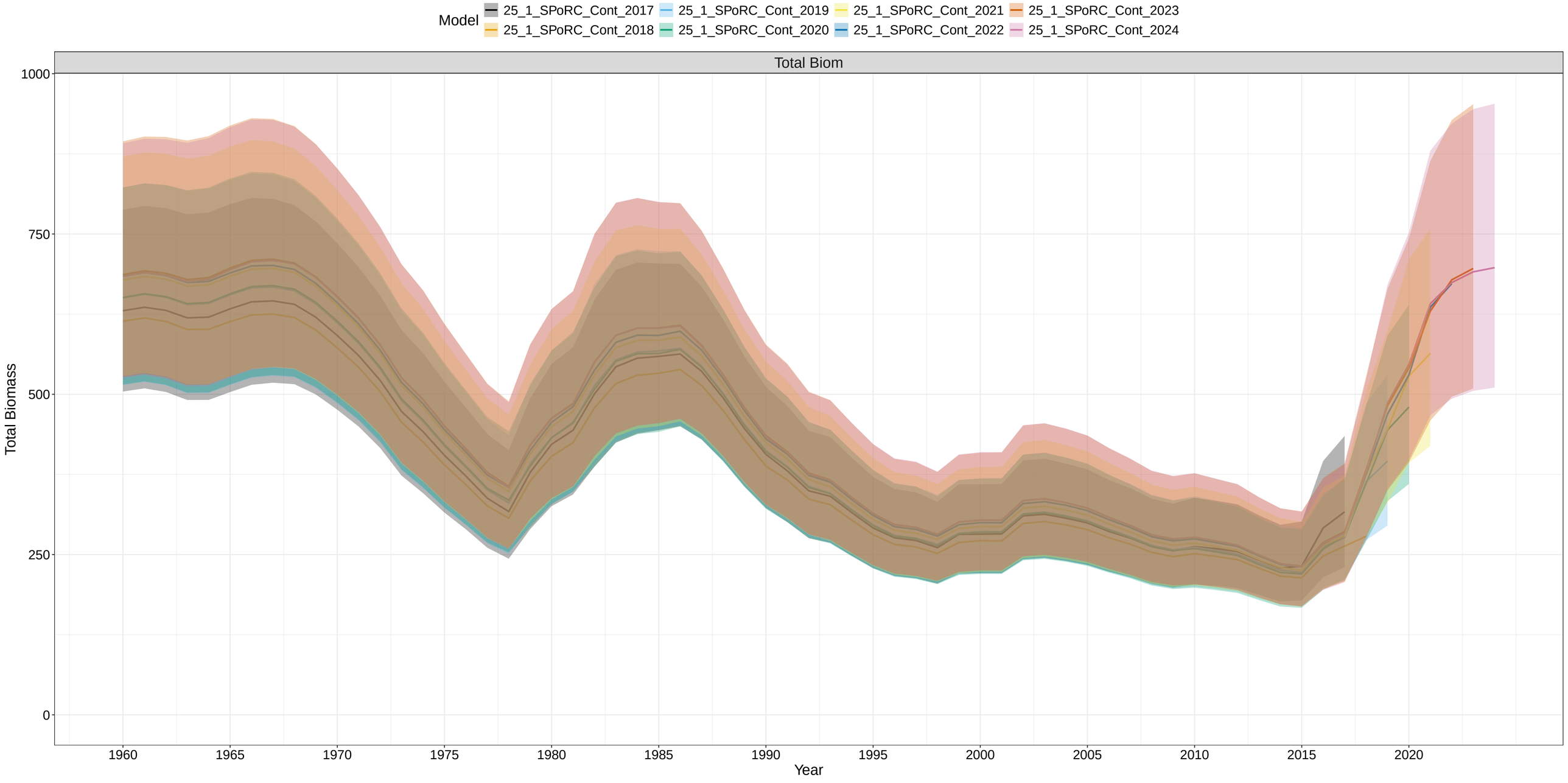
Recruitment



SSB


Model
25_1_SPoRC_Cont_2017
25_1_SPoRC_Cont_2018
25_1_SPoRC_Cont_2019
25_1_SPoRC_Cont_2020
25_1_SPoRC_Cont_2021
25_1_SPoRC_Cont_2022
25_1_SPoRC_Cont_2023
25_1_SPoRC_Cont_2024
SSB
Spawning Stock Biomass
0
100
200
300
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
2020
Year

Biomass


Model
25_1_SPoRC_Cont_2017
25_1_SPoRC_Cont_2018
25_1_SPoRC_Cont_2019
25_1_SPoRC_Cont_2020
25_1_SPoRC_Cont_2021
25_1_SPoRC_Cont_2022
25_1_SPoRC_Cont_2023
25_1_SPoRC_Cont_2024
Total Biom
Total Biomass
1000
750
500
250
0
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
2020
Year