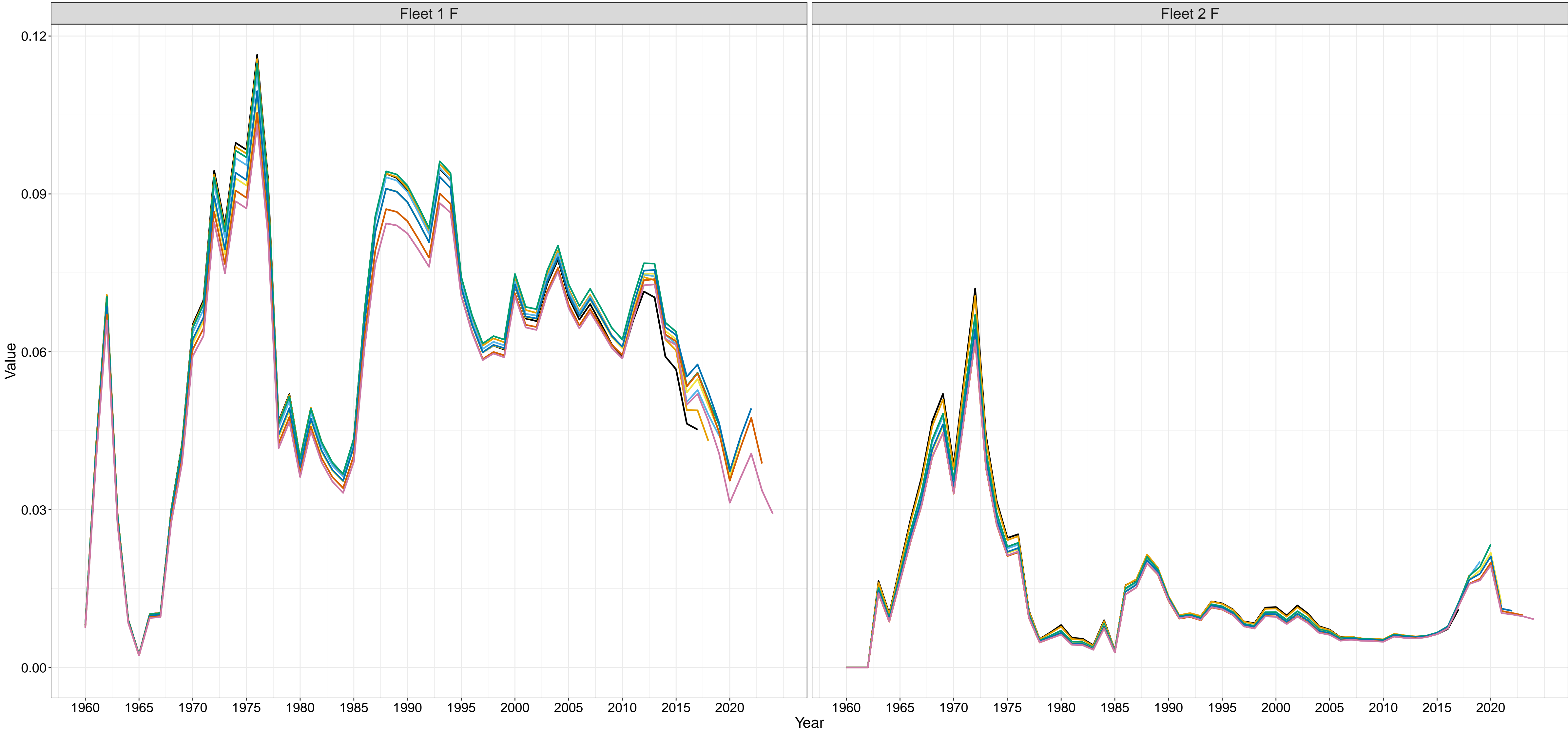


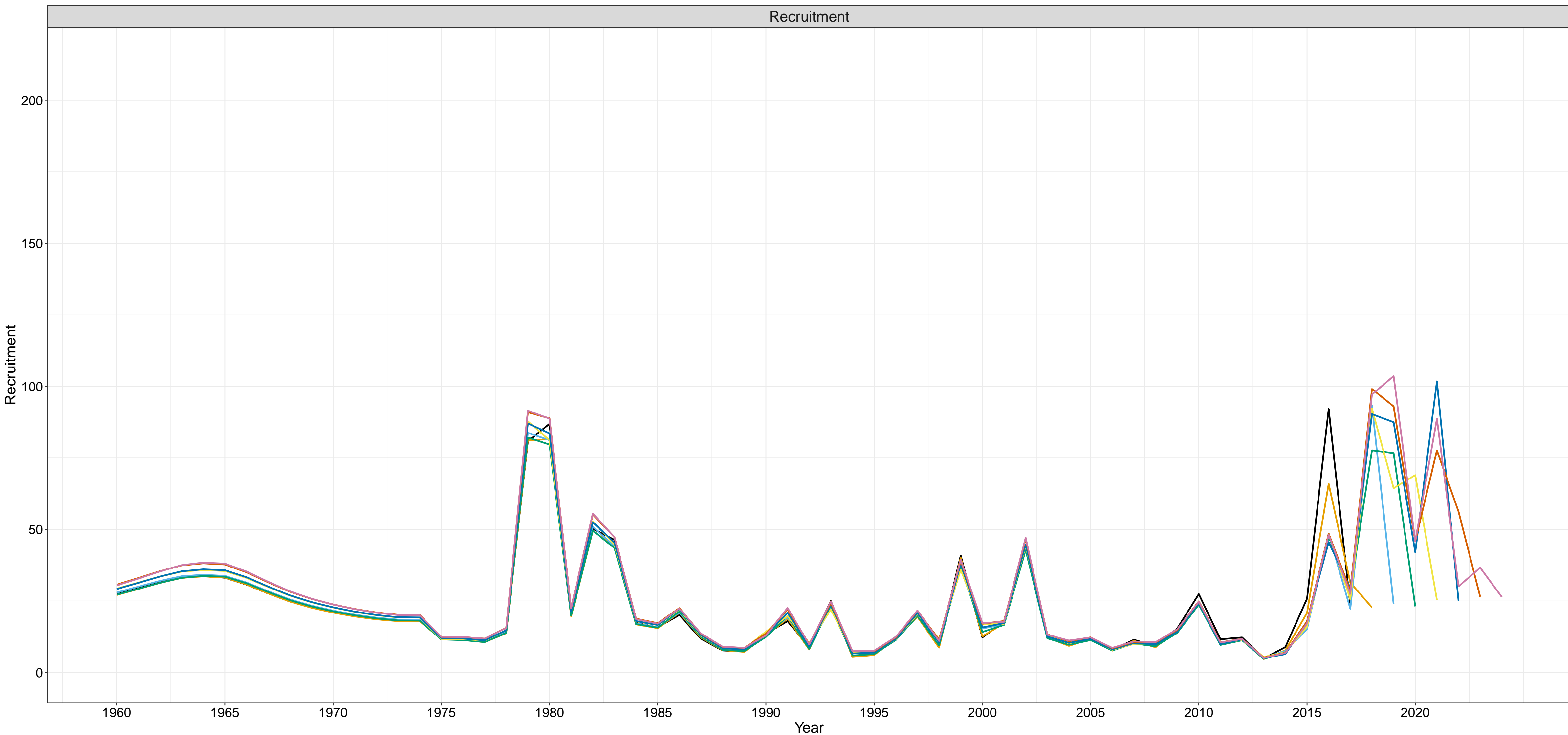
Fishing Mortality

Model 25_6_Upd_Likes_2017 25_6_Upd_Likes_2019 25_6_Upd_Likes_2021 25_6_Upd_Likes_2023
25_6_Upd_Likes_2018 25_6_Upd_Likes_2020 25_6_Upd_Likes_2022 25_6_Upd_Likes_2024

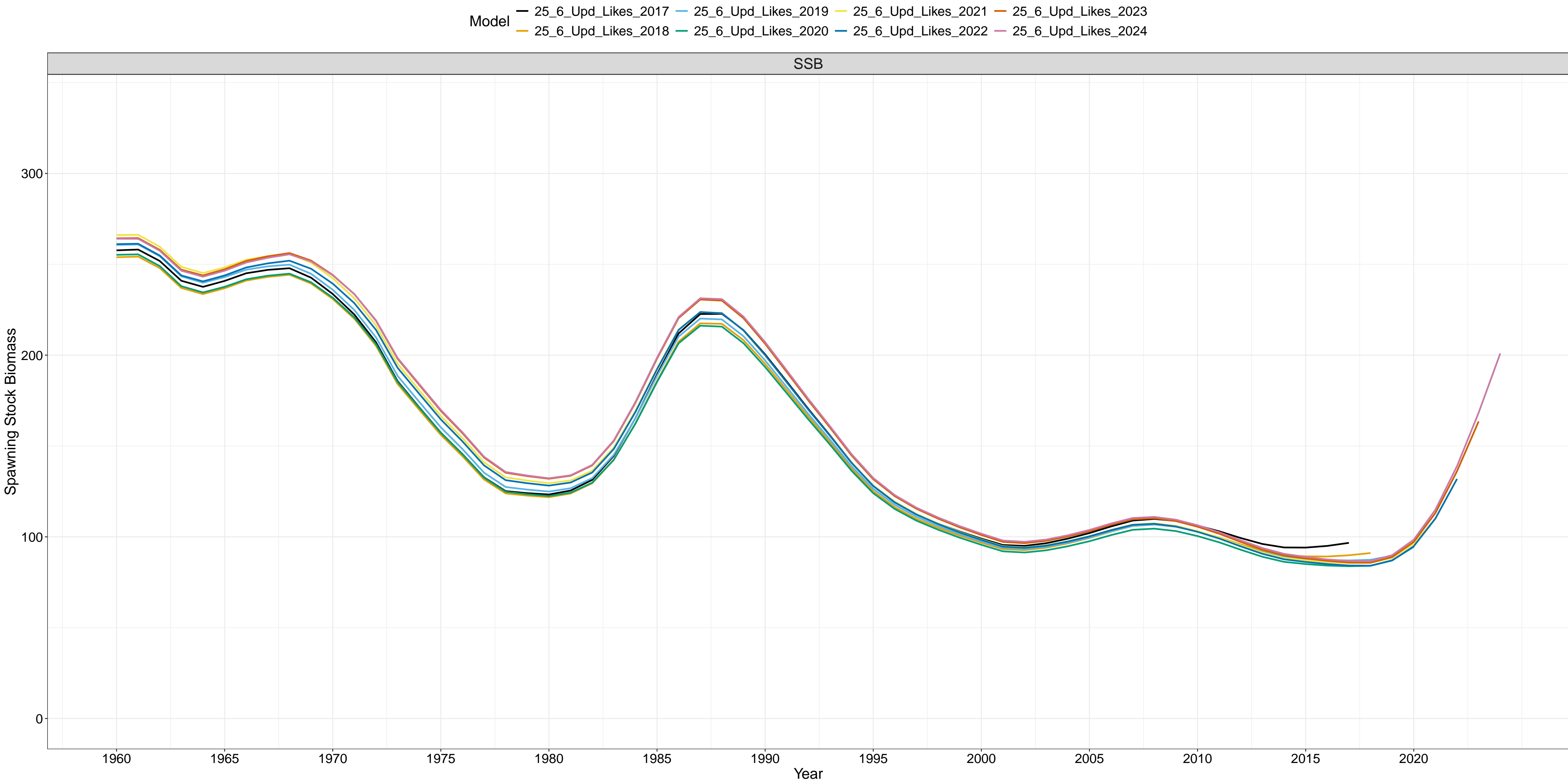


Recruitment

Model — 25_6_Upd_Likes_2017 — 25_6_Upd_Likes_2019 — 25_6_Upd_Likes_2021 — 25_6_Upd_Likes_2023
— 25_6_Upd_Likes_2018 — 25_6_Upd_Likes_2020 — 25_6_Upd_Likes_2022 — 25_6_Upd_Likes_2024

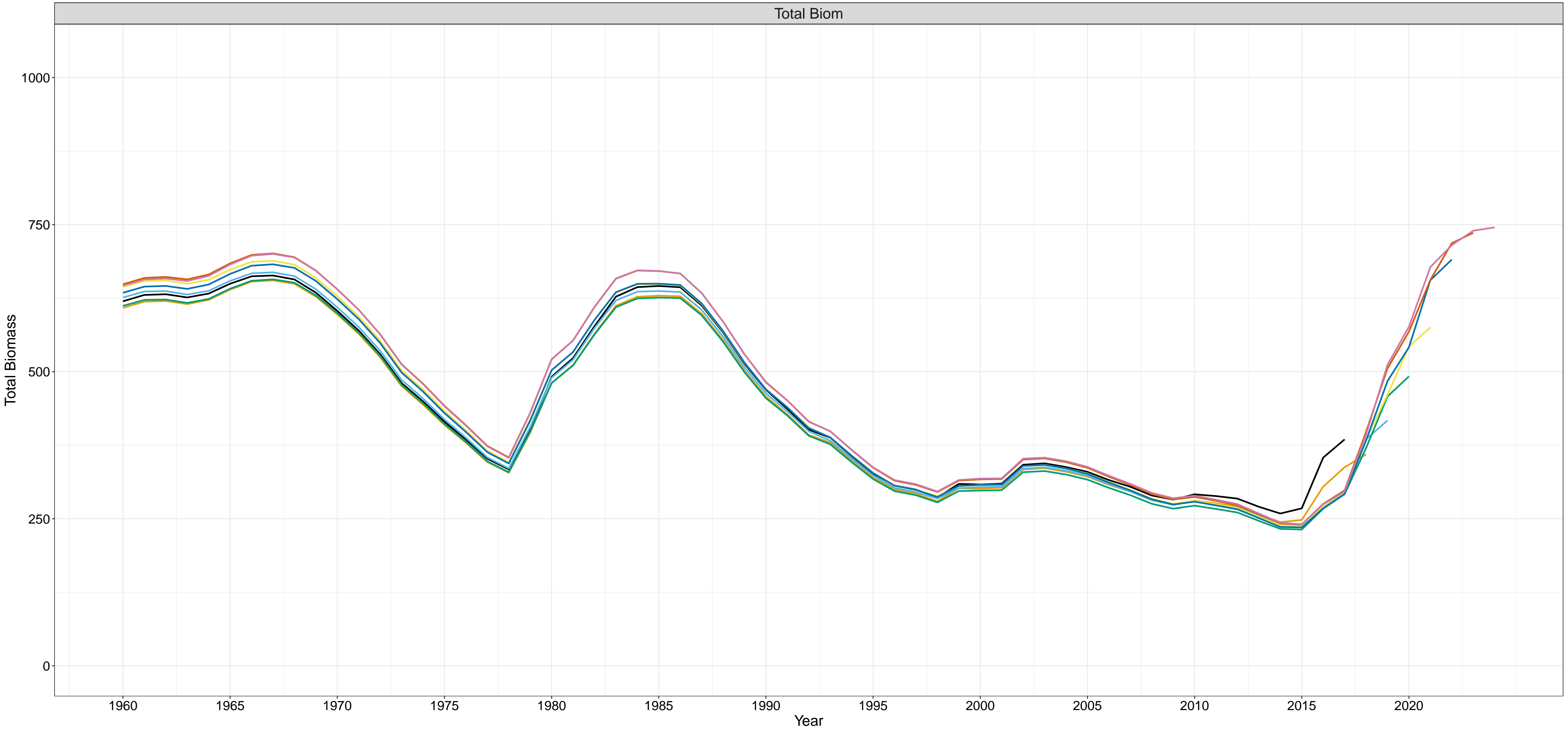


SSB



Biomass

Model 25_6_Upd_Likes_2017 25_6_Upd_Likes_2019 25_6_Upd_Likes_2021 25_6_Upd_Likes_2023
25_6_Upd_Likes_2018 25_6_Upd_Likes_2020 25_6_Upd_Likes_2022 25_6_Upd_Likes_2024



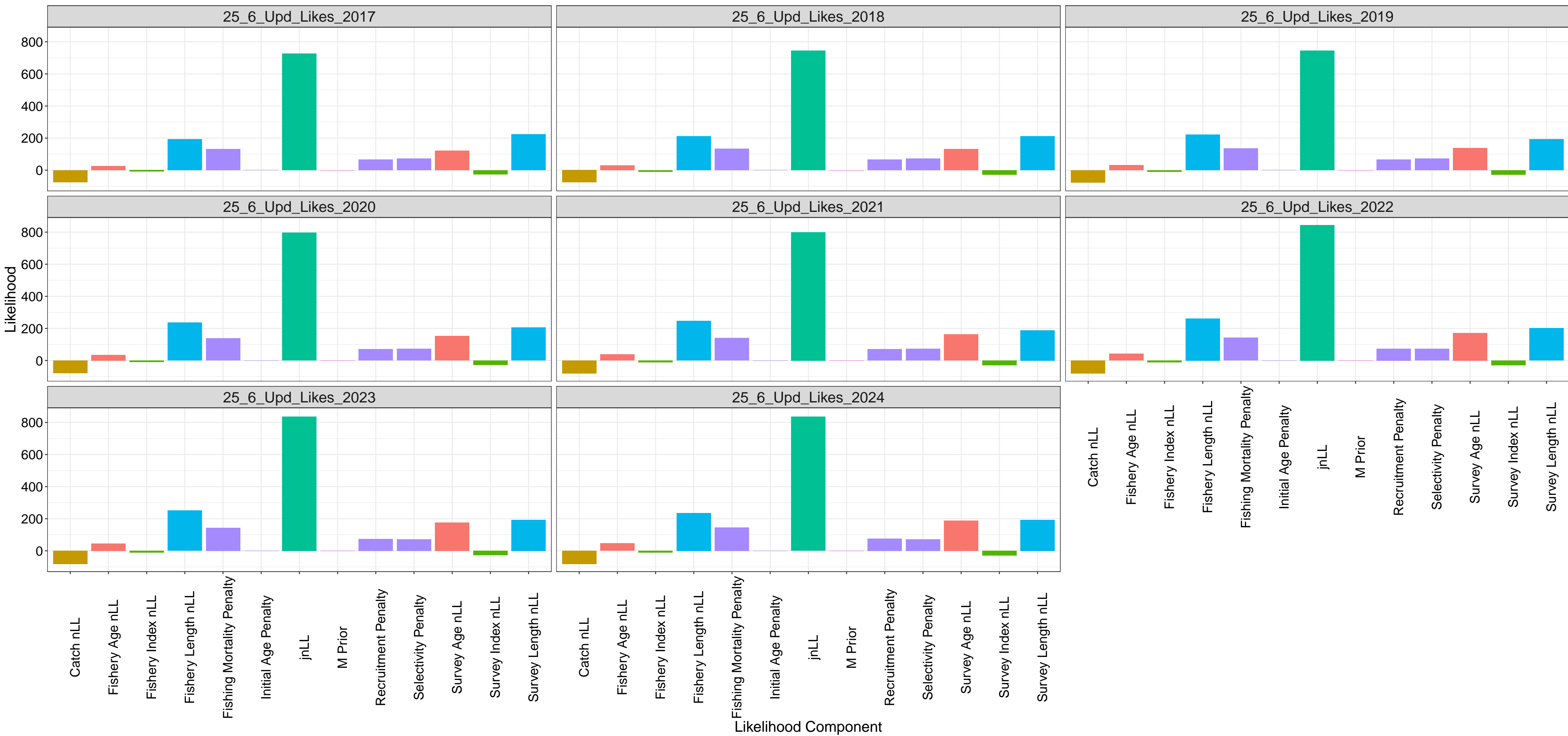
	Model	Region	Terminal_SSB	Terminal_F	Catch_Advice	B_Ref_Pt	F_Ref_Pt	B_over_B_Ref	F_over_F_Ref
1	25_6_Upd_Likes_2024	1	200.91912	0.03842778	52.95886	128.0622	0.08665	1.56892	0.44350
2	25_6_Upd_Likes_2023	1	163.50808	0.04870460	47.60930	125.8408	0.08681	1.29933	0.56103
3	25_6_Upd_Likes_2022	1	131.86050	0.06003183	42.23202	120.1732	0.08491	1.09725	0.70701
4	25_6_Upd_Likes_2021	1	110.05458	0.05550522	35.01623	116.0628	0.08531	0.94823	0.65062
5	25_6_Upd_Likes_2020	1	94.48561	0.06137634	26.00534	111.4006	0.08495	0.84816	0.72251
6	25_6_Upd_Likes_2019	1	89.64605	0.06422434	22.31274	104.1012	0.08429	0.86114	0.76199
7	25_6_Upd_Likes_2018	1	91.06500	0.06067641	19.59390	108.0465	0.08590	0.84283	0.70632
8	25_6_Upd_Likes_2017	1	96.67596	0.05629160	21.78194	104.3829	0.08635	0.92617	0.65191

	Model	jnLL	M Prior	Recruitment Penalty	Selectivity 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_6_Upd_Likes_2024	835.7924	−0.2354034	76.09974	72.52476	−83.77984	146.3153	−29.36051	−10.472907	0.3208338	189.2229	46.83455	192.9026	235.4203
2	25_6_Upd_Likes_2023	836.8685	−0.2362457	75.00969	72.64067	−82.38910	144.0813	−28.04450	−11.125072	0.3280770	175.9100	46.02623	193.4938	251.1737
3	25_6_Upd_Likes_2022	844.7743	−0.6272691	74.23884	72.67555	−81.01412	142.2673	−30.45899	−11.148829	0.3382735	172.0154	42.36425	202.2247	261.8992
4	25_6_Upd_Likes_2021	799.5511	−0.6725235	71.11546	72.69666	−79.75437	140.5259	−29.71607	−10.608991	0.3597404	163.0024	38.27526	188.2134	246.1143
5	25_6_Upd_Likes_2020	796.3751	−0.9977838	70.35424	72.80046	−78.36986	138.6962	−27.44121	−10.064414	0.3387303	152.6955	35.34821	206.3841	236.6309
6	25_6_Upd_Likes_2019	745.6067	−0.9308390	67.33720	72.80696	−77.16030	136.6011	−27.33507	−10.099003	0.3525339	138.2982	31.19901	192.9415	221.5954
7	25_6_Upd_Likes_2018	745.1107	−1.0455873	66.41014	72.71085	−75.85359	134.5870	−27.06530	−9.280678	0.3377093	131.5244	29.75631	212.4753	210.5541
8	25_6_Upd_Likes_2017	725.5862	−0.9967580	65.63338	72.69374	−74.54171	132.7114	−26.00426	−8.244942	0.3516116	121.9584	26.35057	222.8686	192.8061

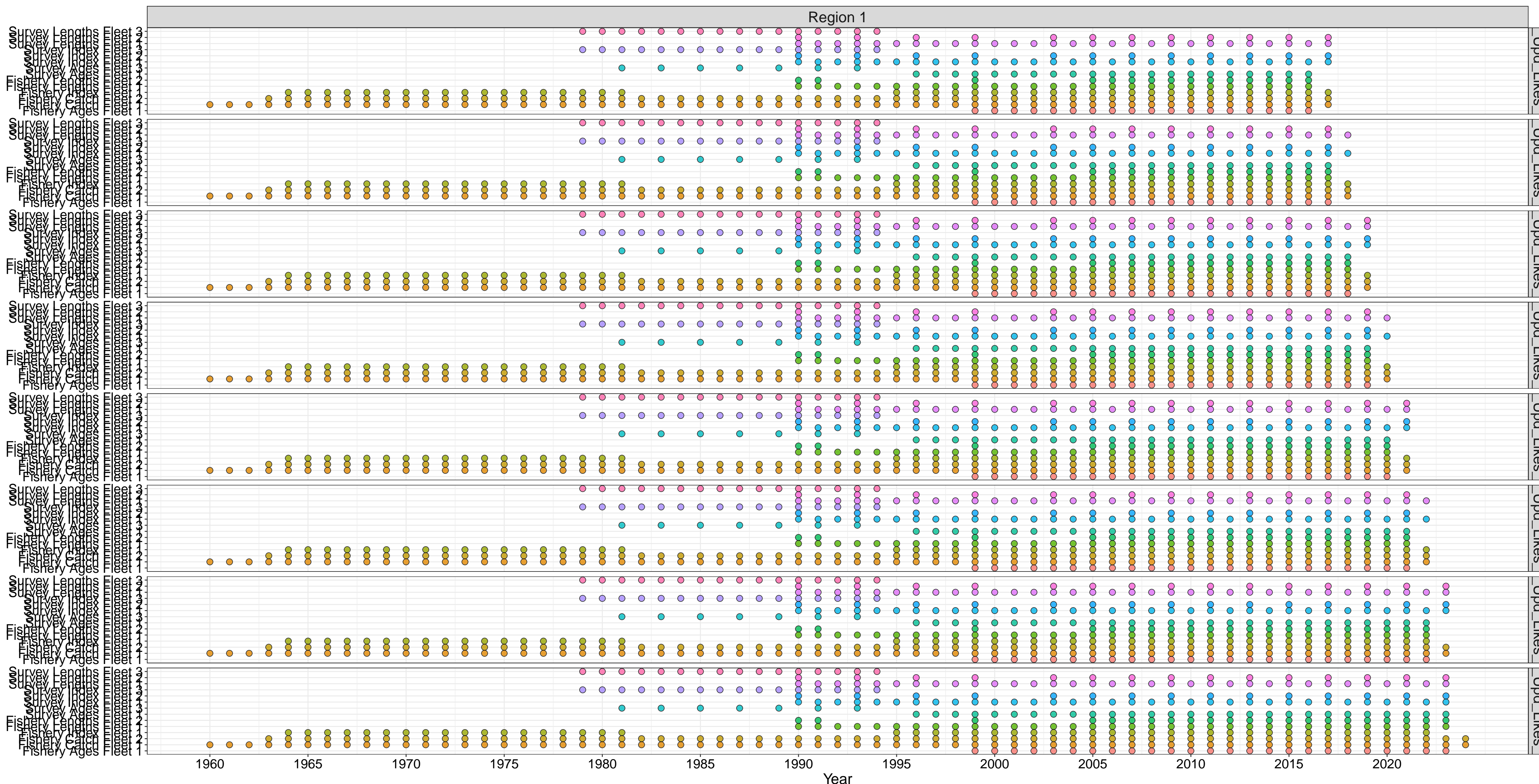
Negative Log-Likelihood

Type

- Age
- Index
- Length
- Prior
- Catch
- jnLL
- Penalty

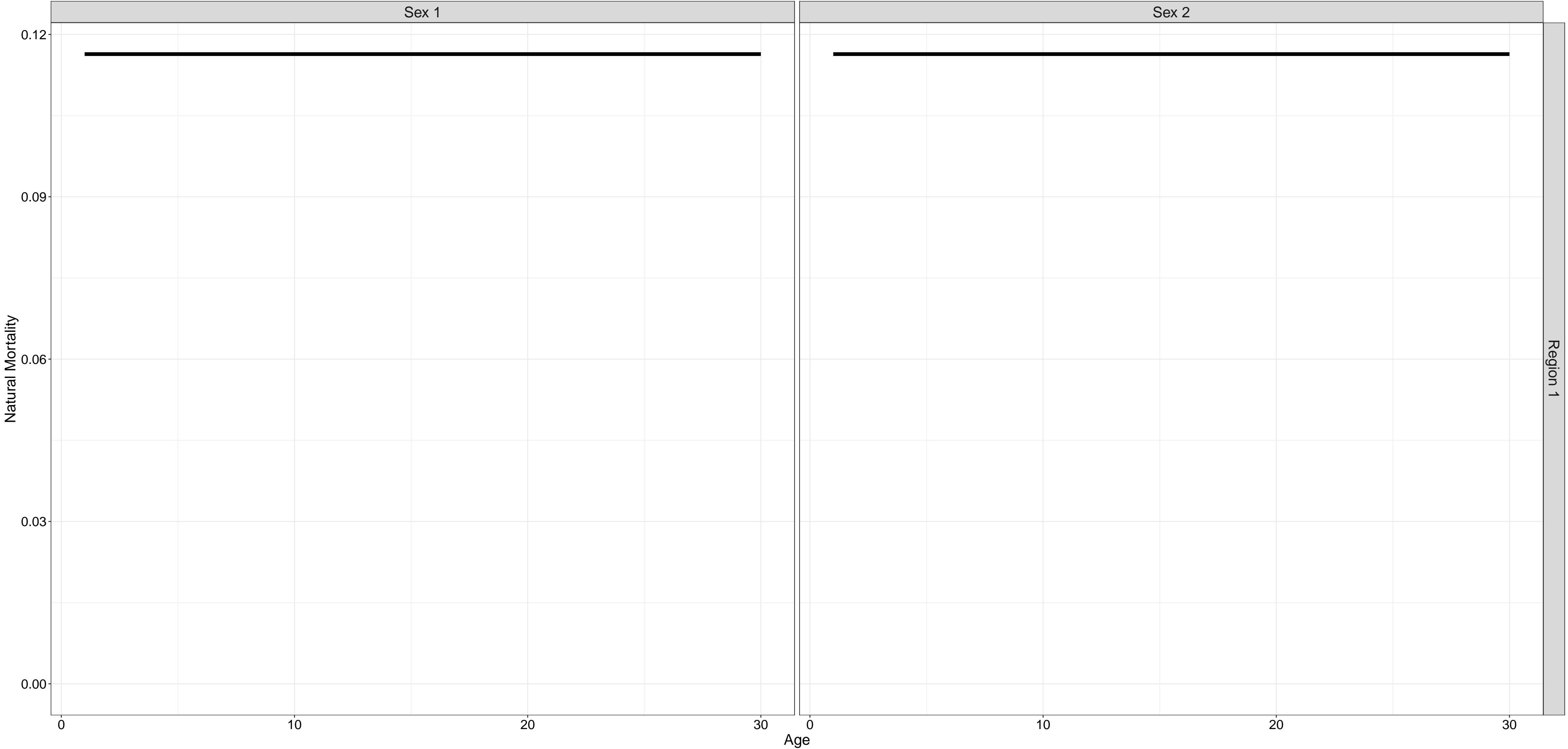


Data



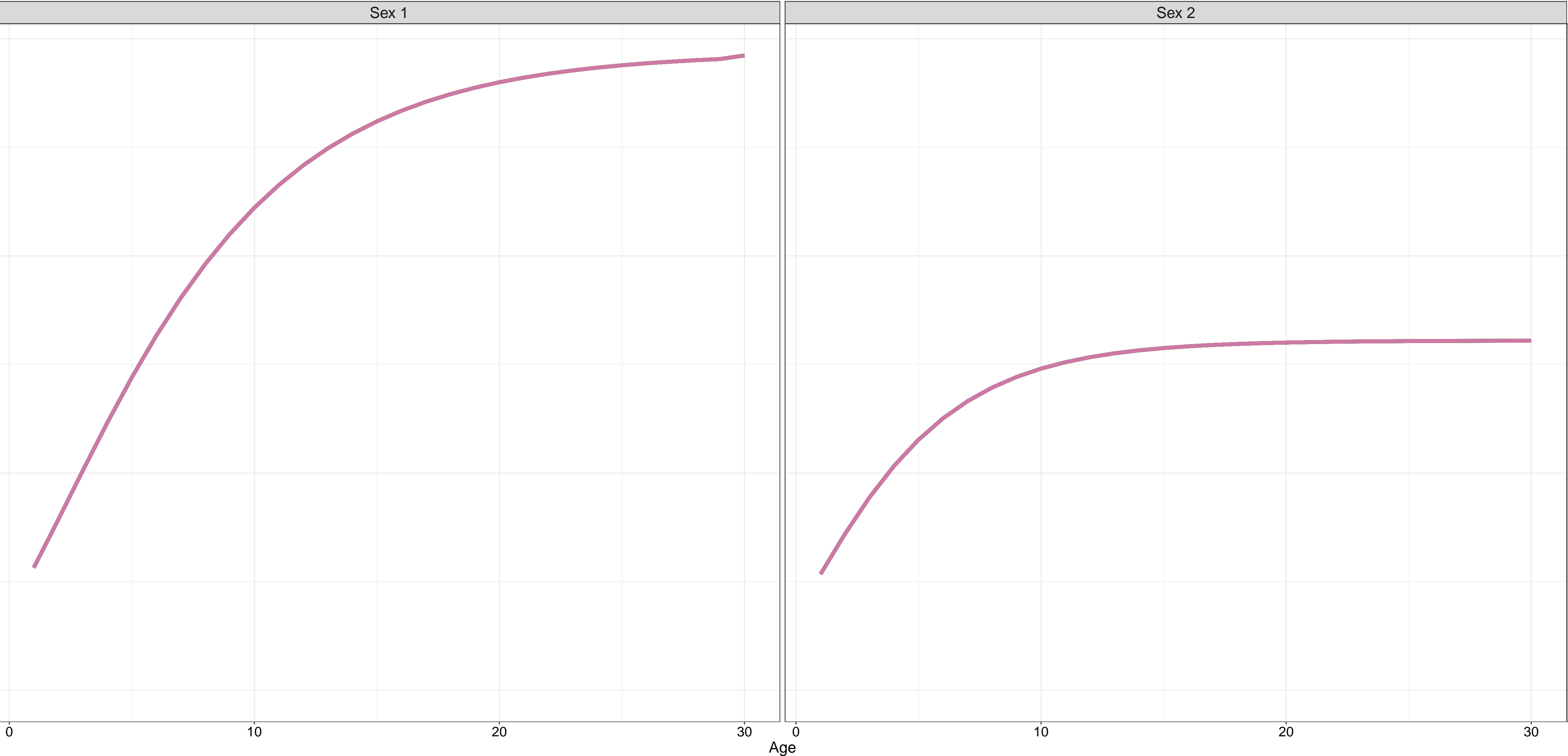
Natural Mortality

Model 25_6_Upd_Likes_2024



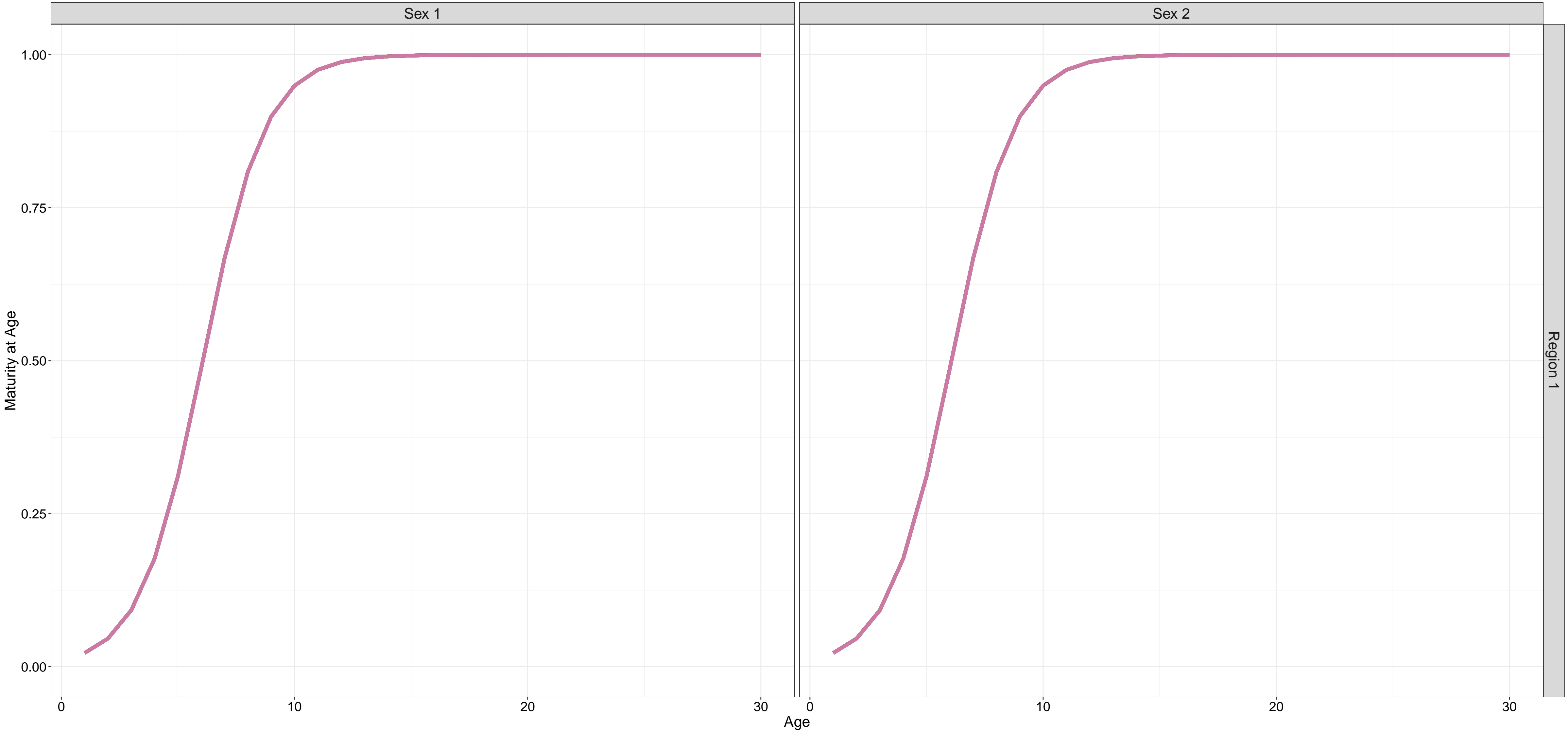
Weight-at-Age

Model 25_6_Upd_Likes_2017 25_6_Upd_Likes_2019 25_6_Upd_Likes_2021 25_6_Upd_Likes_2023
25_6_Upd_Likes_2018 25_6_Upd_Likes_2020 25_6_Upd_Likes_2022 25_6_Upd_Likes_2024



Maturity

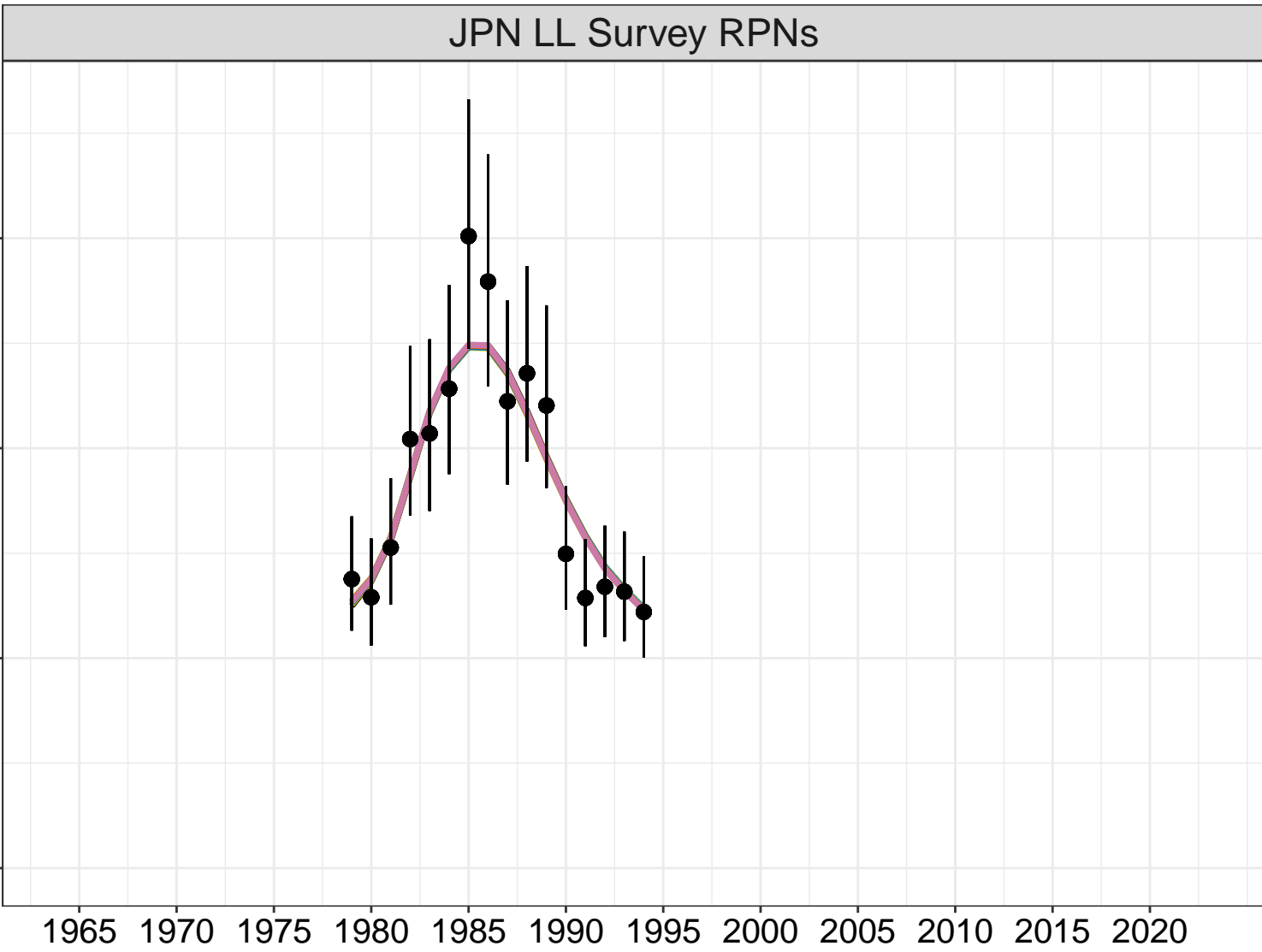
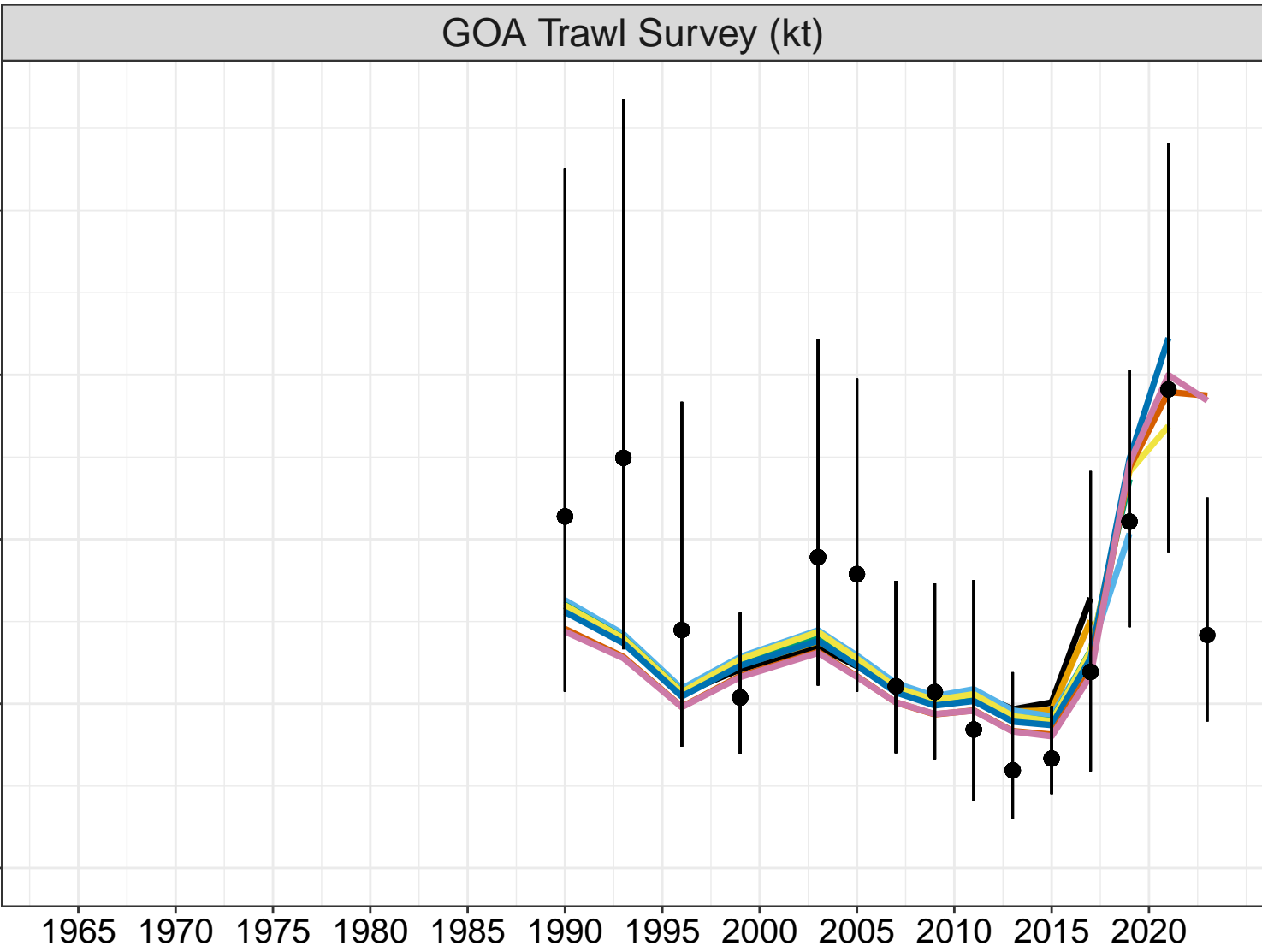
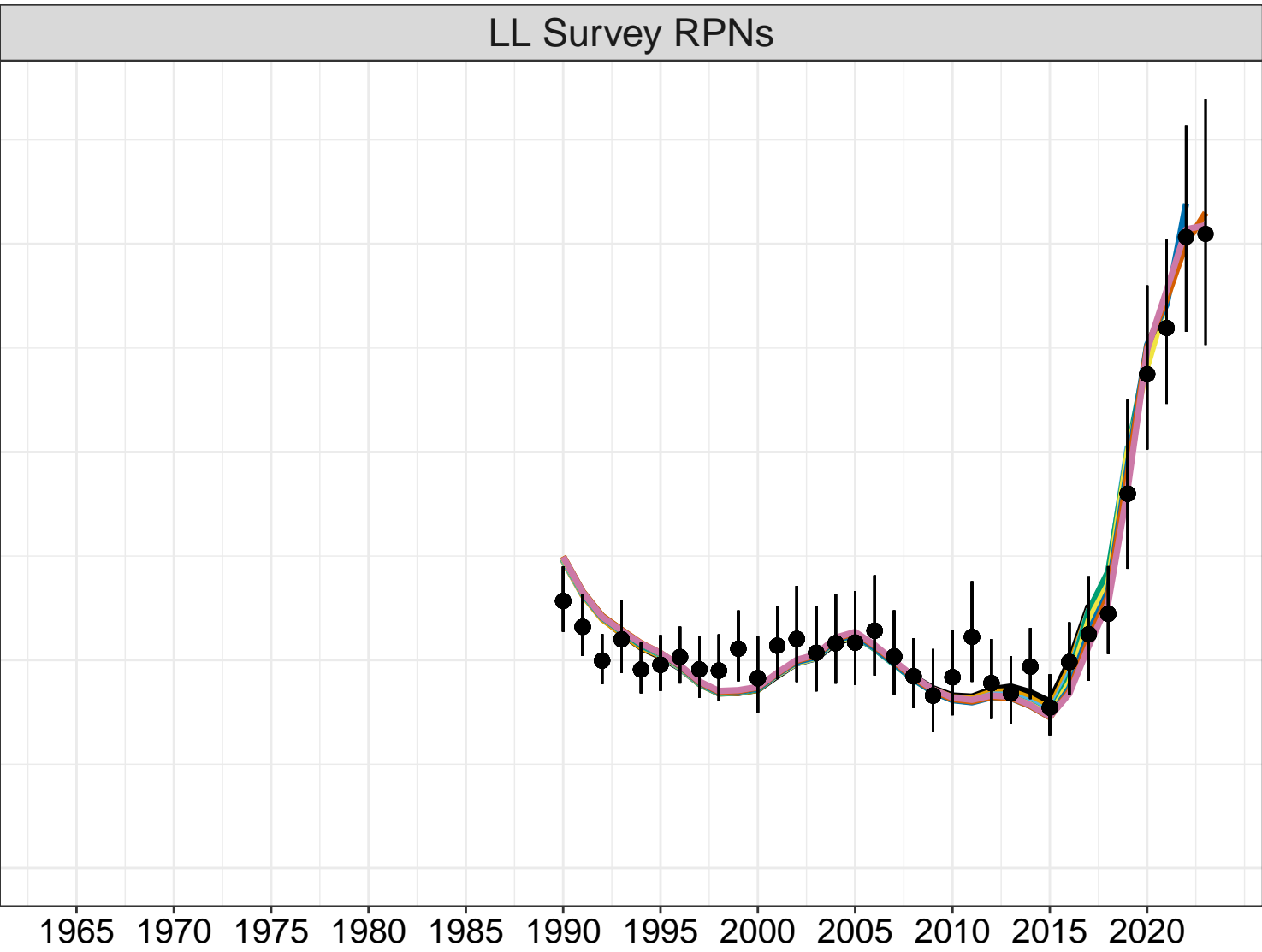
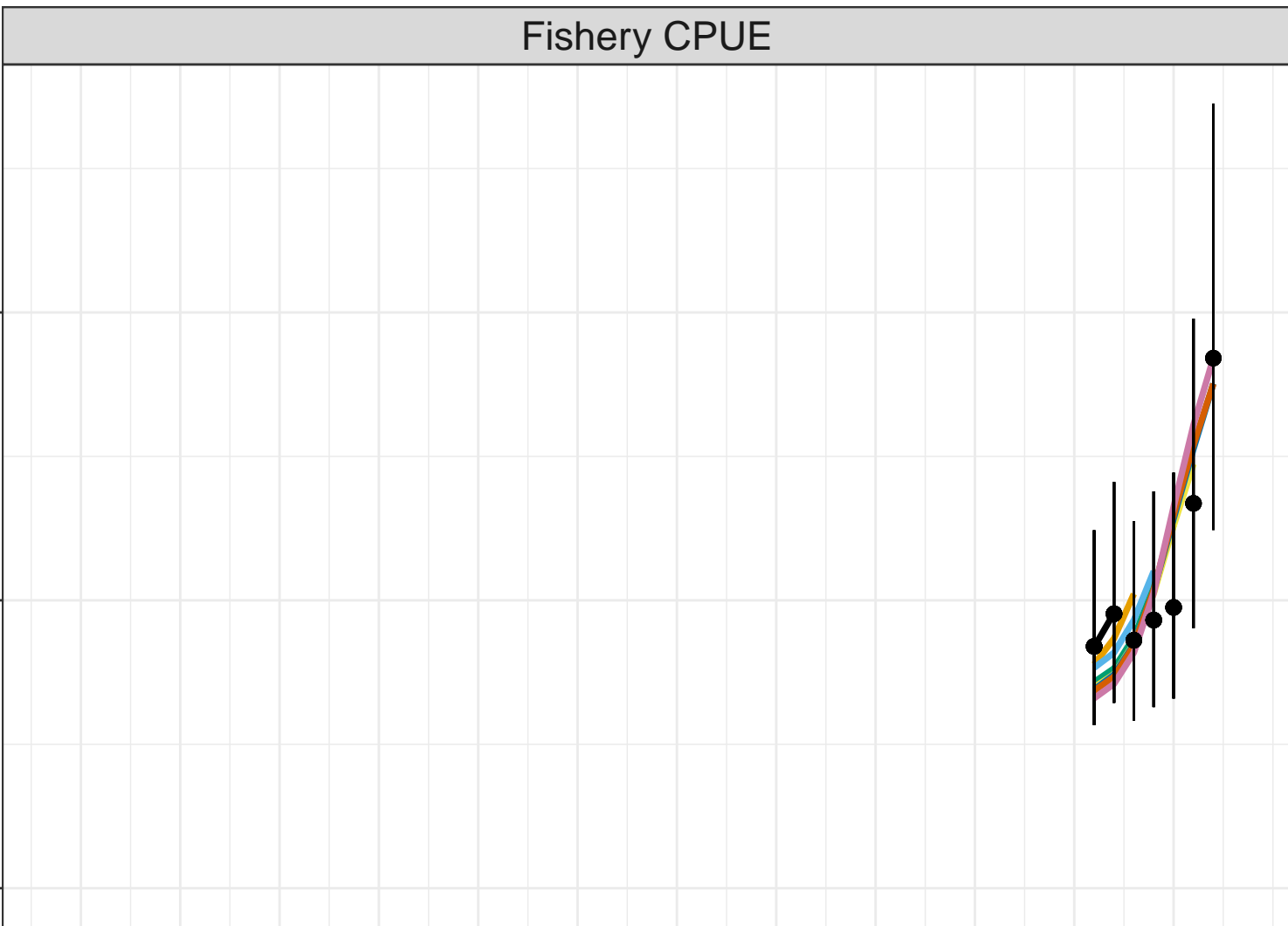
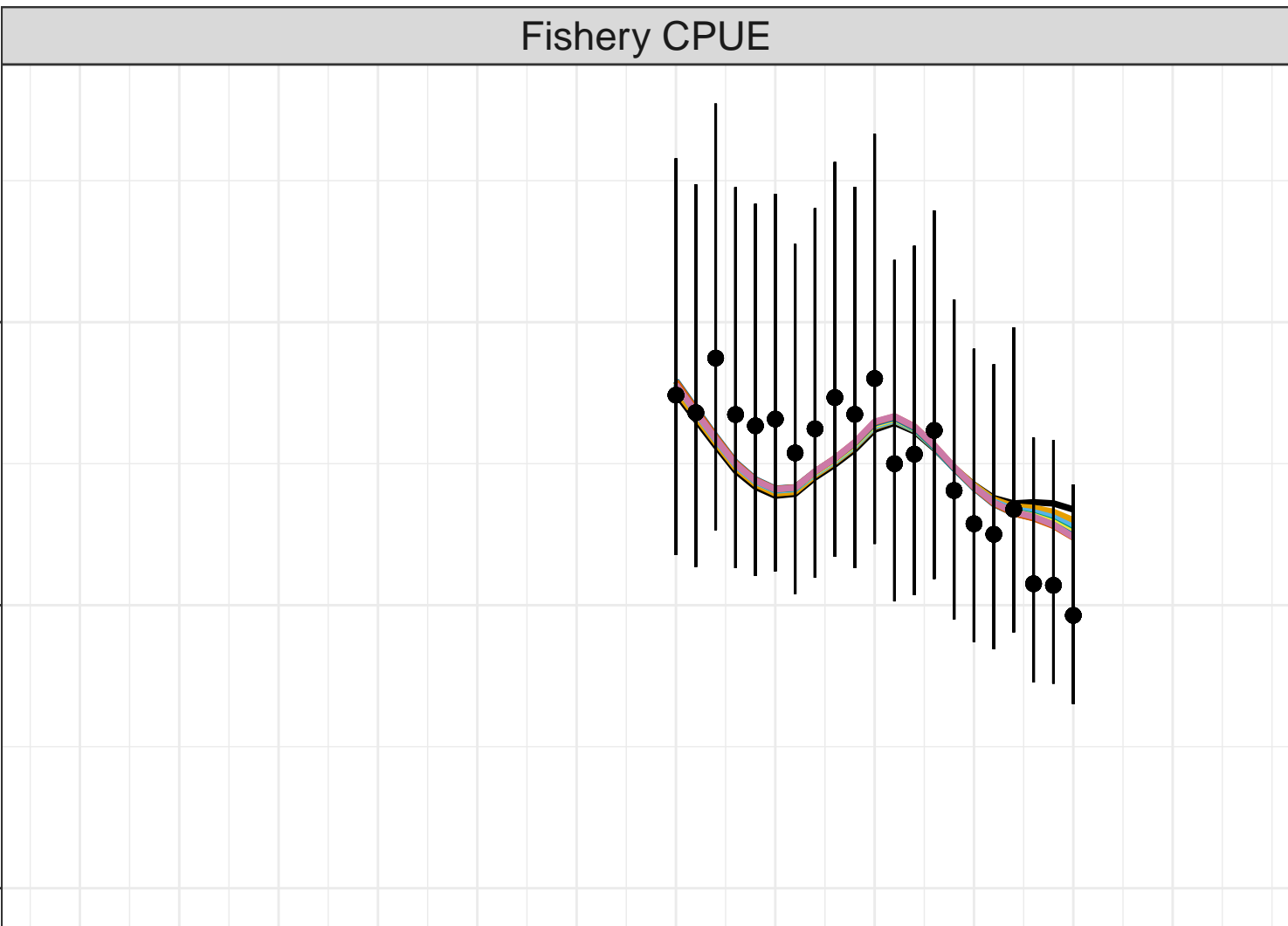
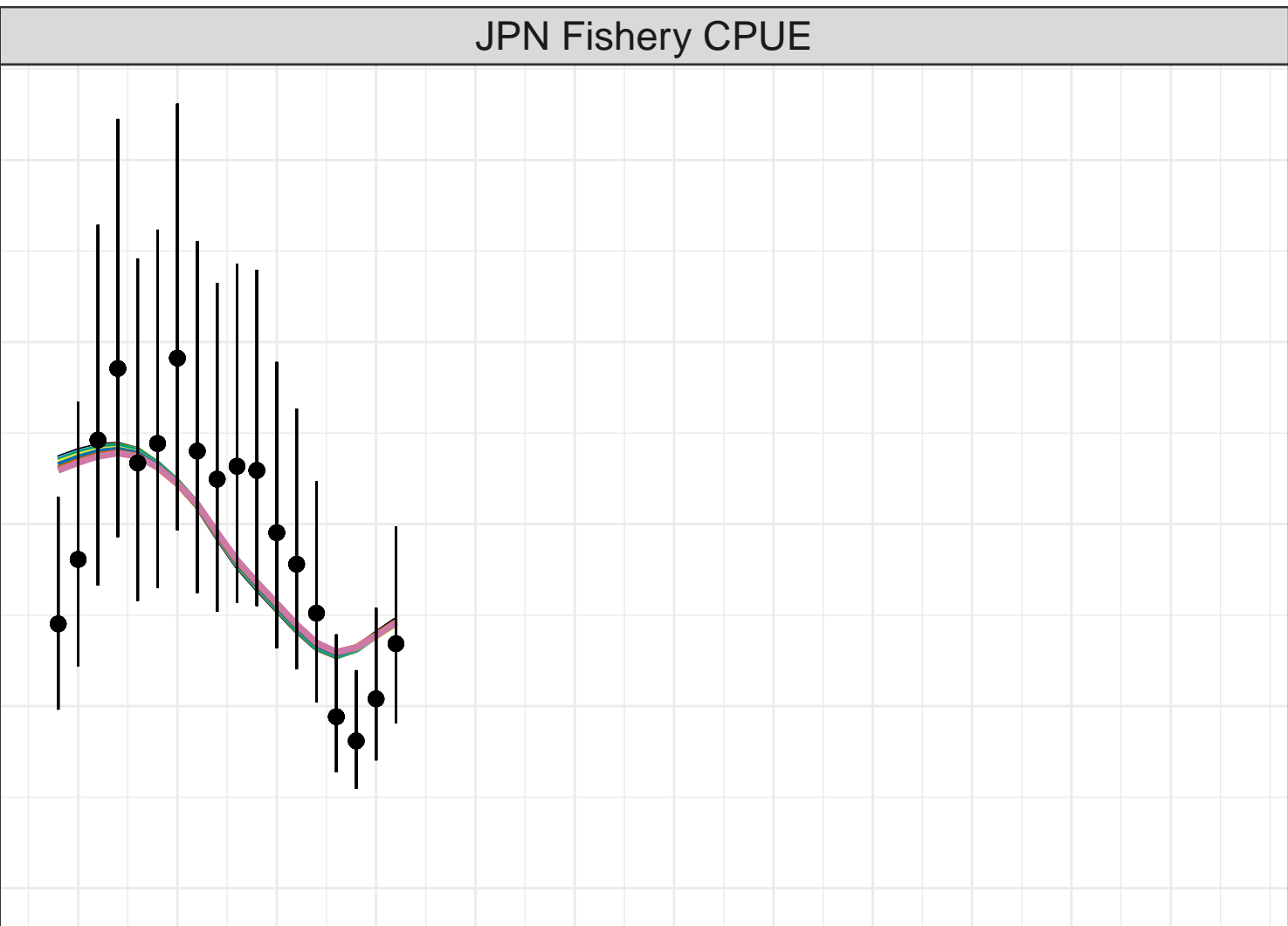
Model 25_6_Upd_Likes_2017 25_6_Upd_Likes_2019 25_6_Upd_Likes_2021 25_6_Upd_Likes_2023
25_6_Upd_Likes_2018 25_6_Upd_Likes_2020 25_6_Upd_Likes_2022 25_6_Upd_Likes_2024



Index Fits

Model 25_6_Upd_Likes_2017 25_6_Upd_Likes_2019 25_6_Upd_Likes_2021 25_6_Upd_Likes_2023
25_6_Upd_Likes_2018 25_6_Upd_Likes_2020 25_6_Upd_Likes_2022 25_6_Upd_Likes_2024

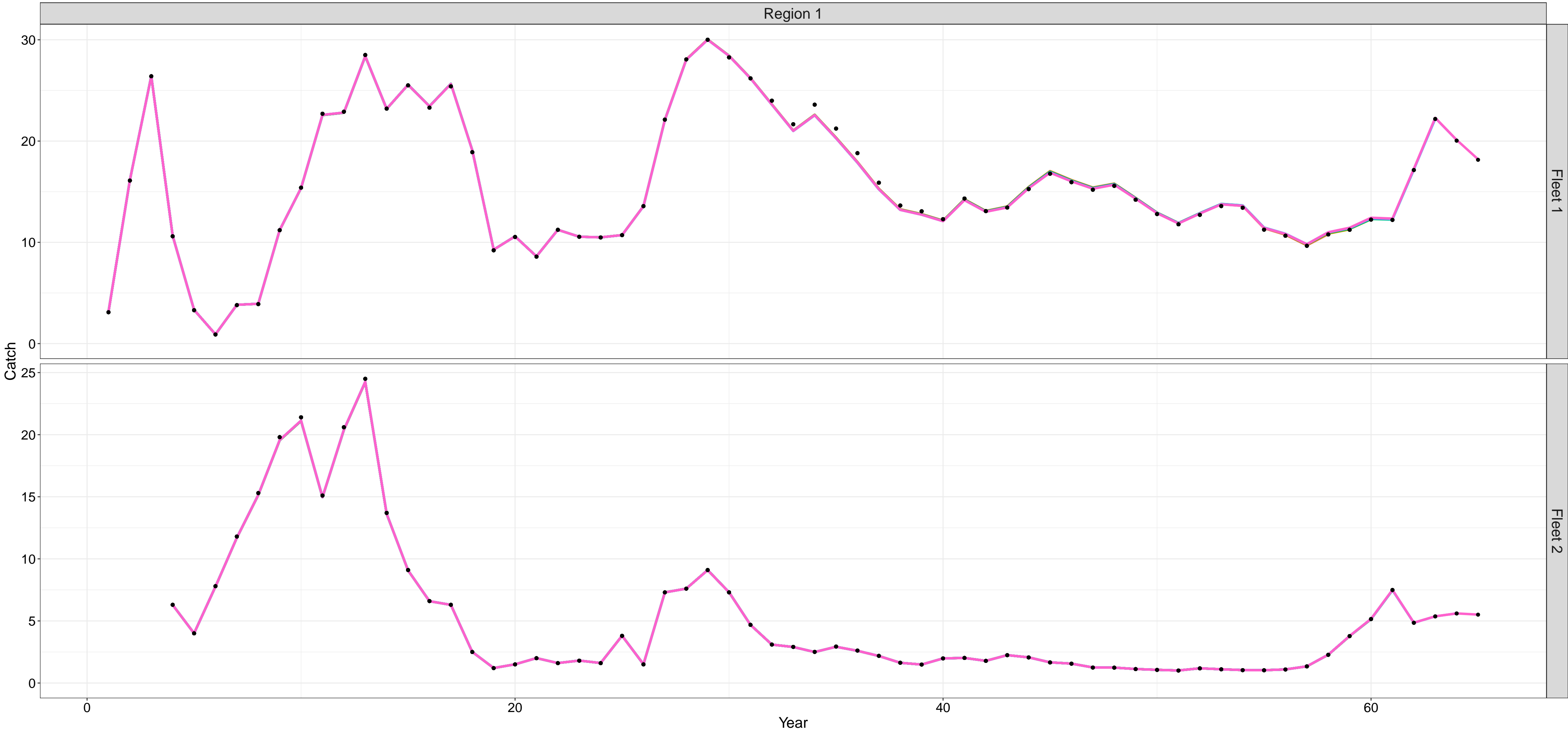
Index



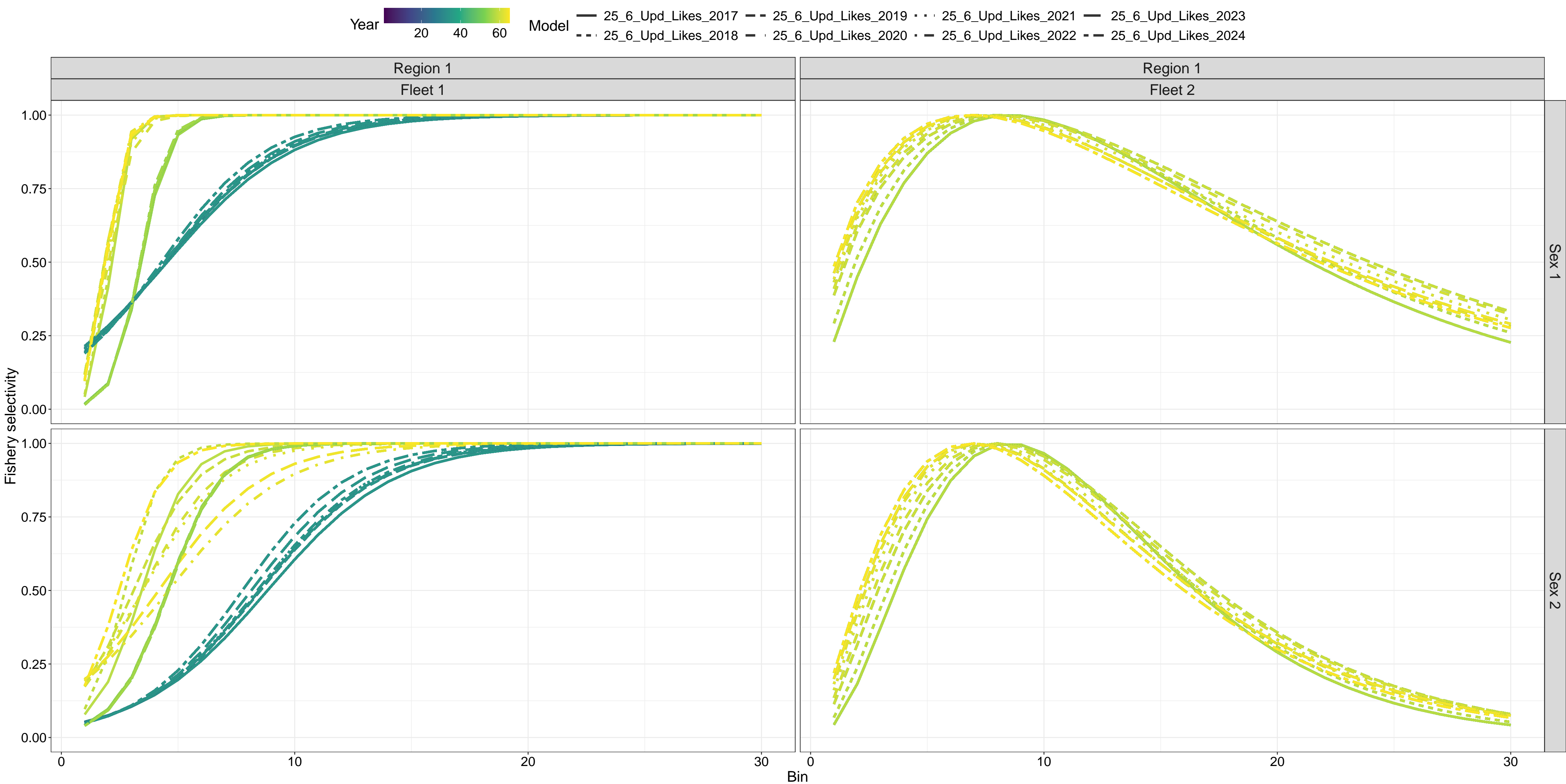
Year

Catch

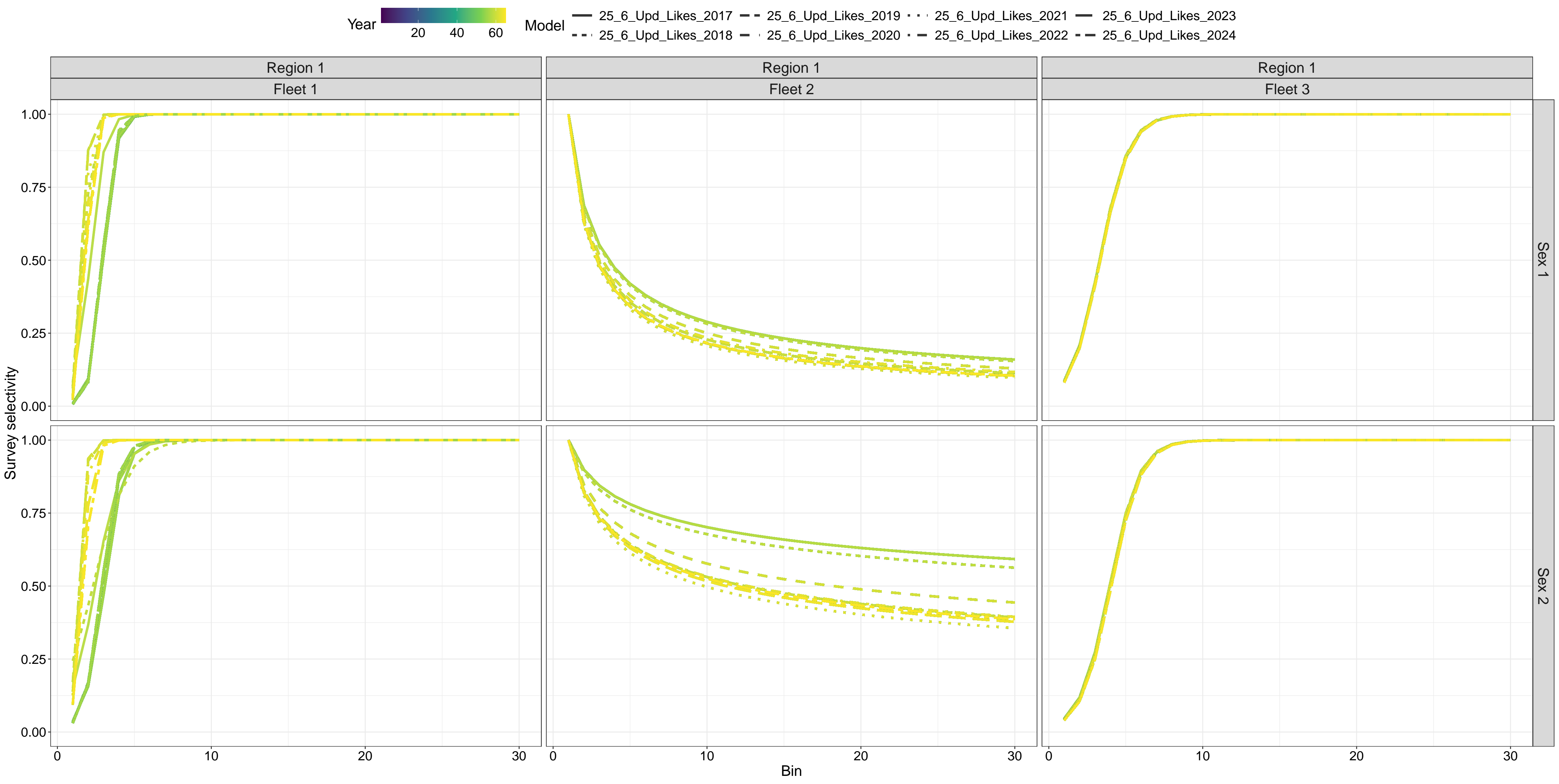
Model 25_6_Upd_Likes_2017 25_6_Upd_Likes_2019 25_6_Upd_Likes_2021 25_6_Upd_Likes_2023
25_6_Upd_Likes_2018 25_6_Upd_Likes_2020 25_6_Upd_Likes_2022 25_6_Upd_Likes_2024



Fishery Selectivity

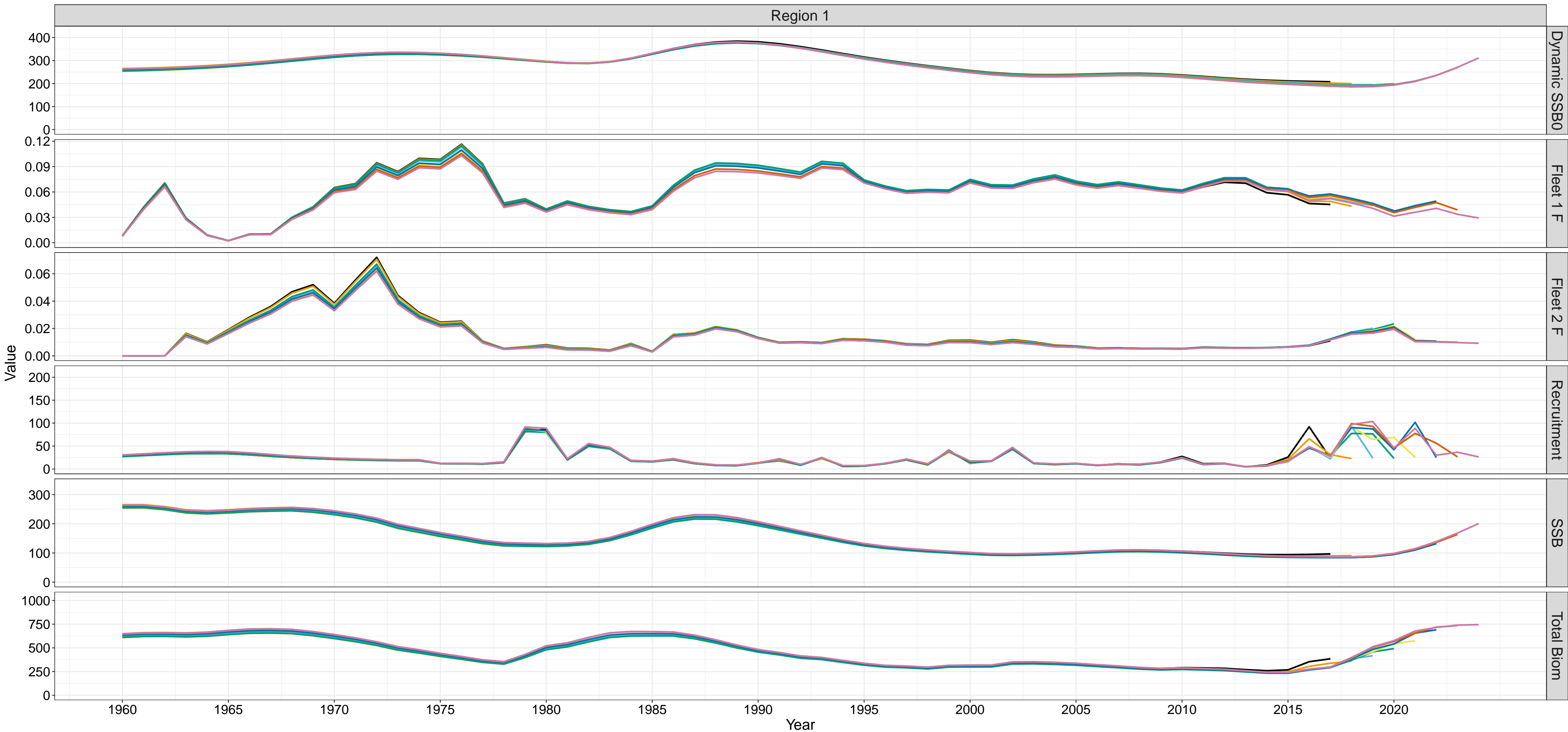


Survey Selectivity

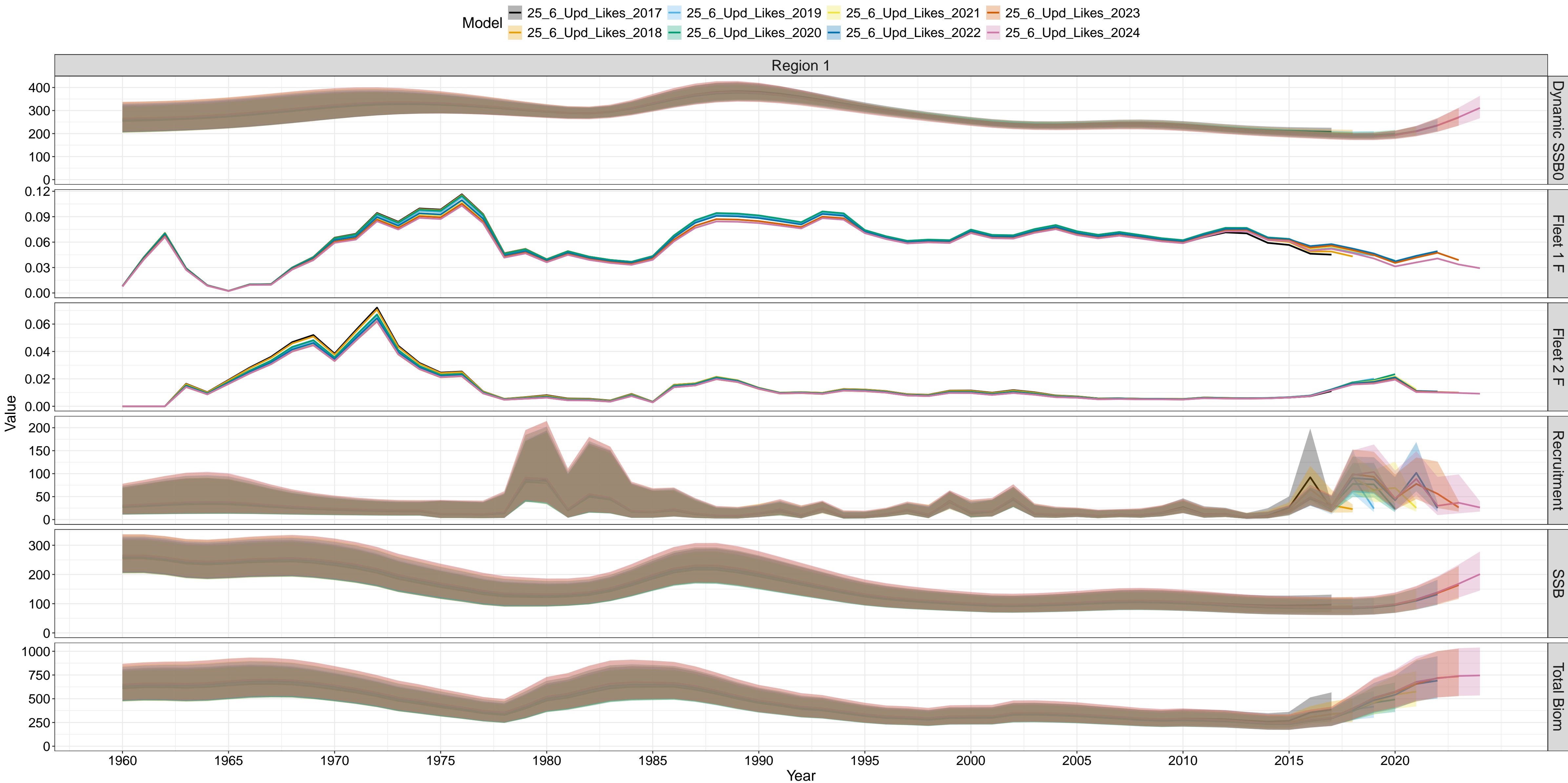


Time Series Plots

Model 25_6_Upd_Likes_2017 25_6_Upd_Likes_2019 25_6_Upd_Likes_2021 25_6_Upd_Likes_2023
25_6_Upd_Likes_2018 25_6_Upd_Likes_2020 25_6_Upd_Likes_2022 25_6_Upd_Likes_2024

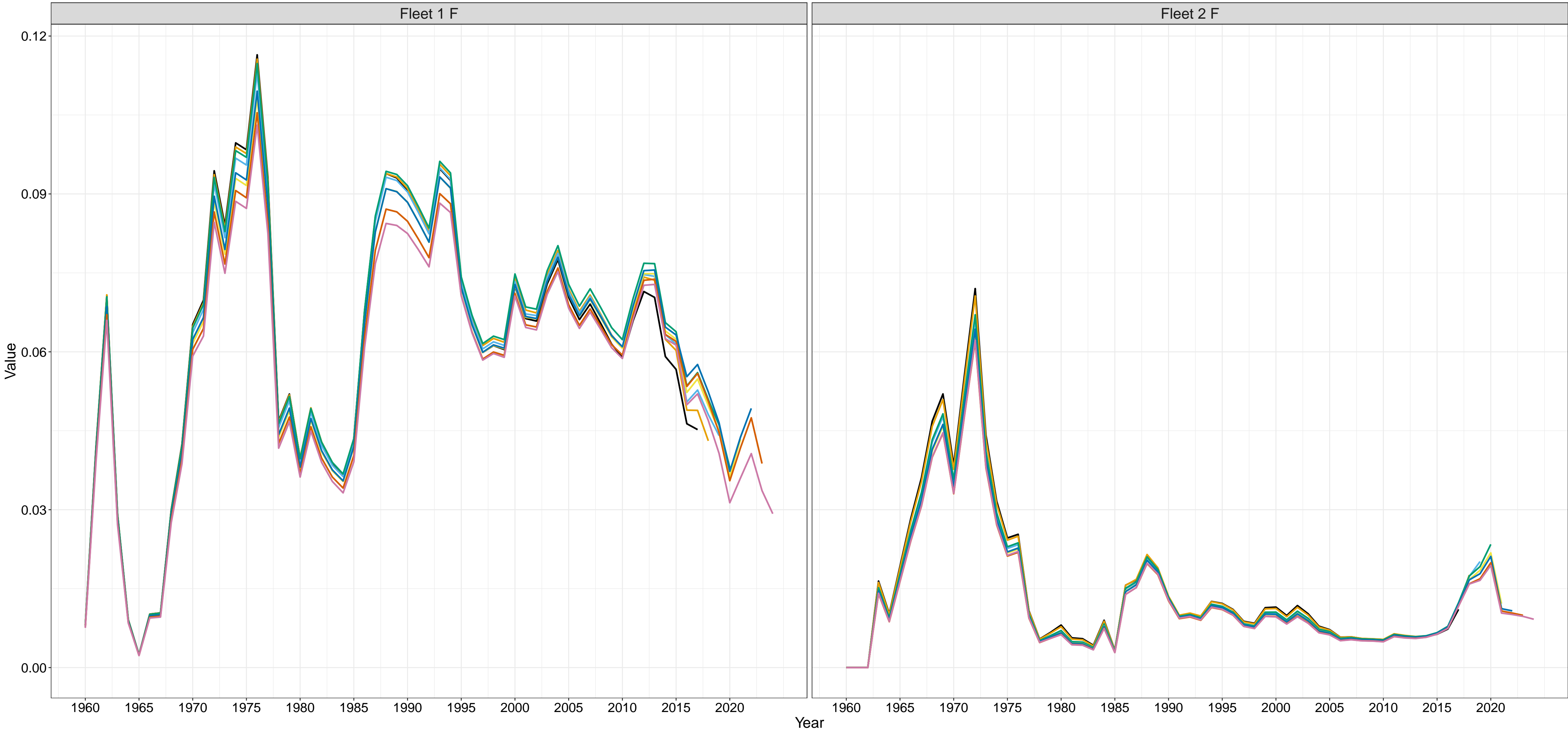


Time Series Plots



Fishing Mortality

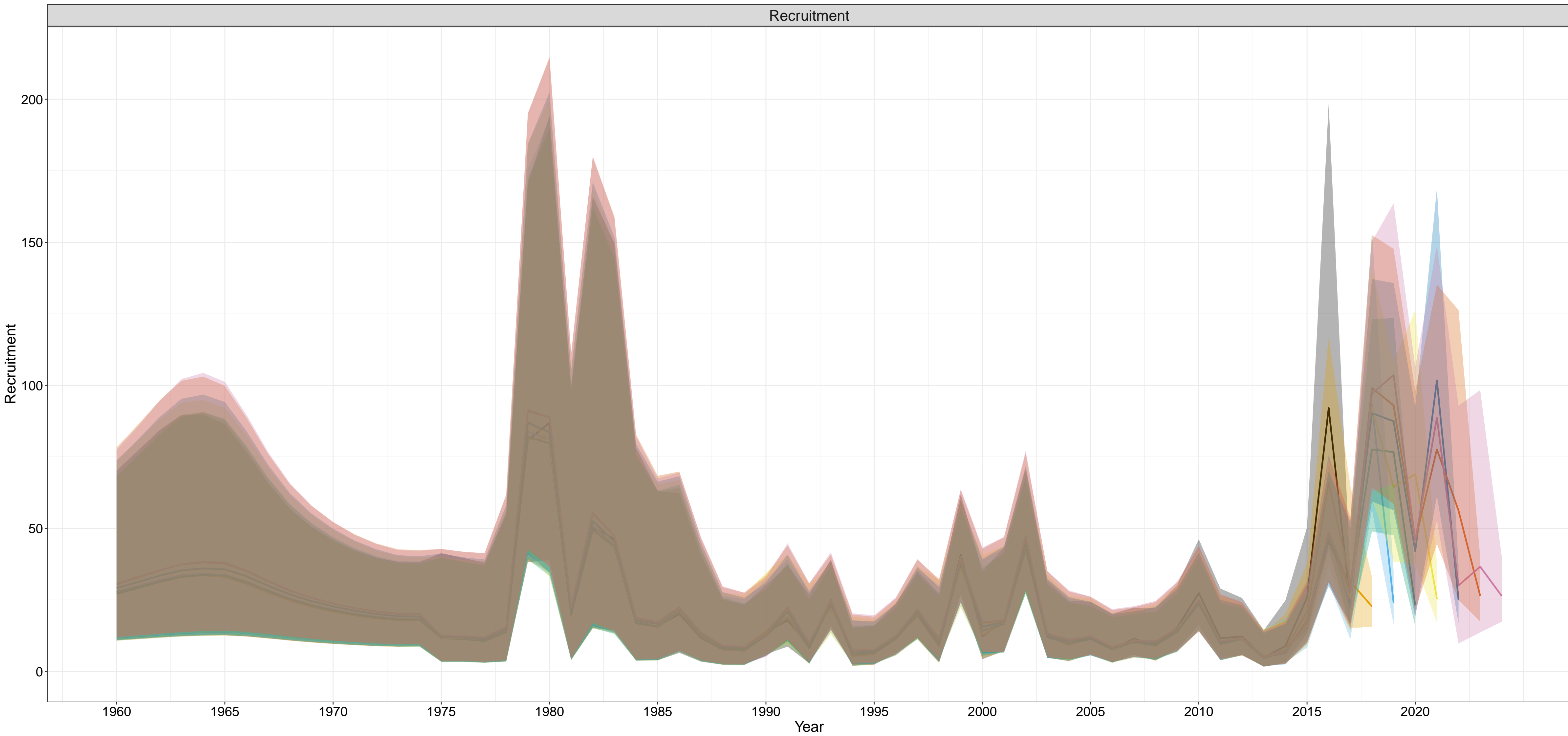
Model 25_6_Upd_Likes_2017 25_6_Upd_Likes_2019 25_6_Upd_Likes_2021 25_6_Upd_Likes_2023
25_6_Upd_Likes_2018 25_6_Upd_Likes_2020 25_6_Upd_Likes_2022 25_6_Upd_Likes_2024



Recruitment

Model

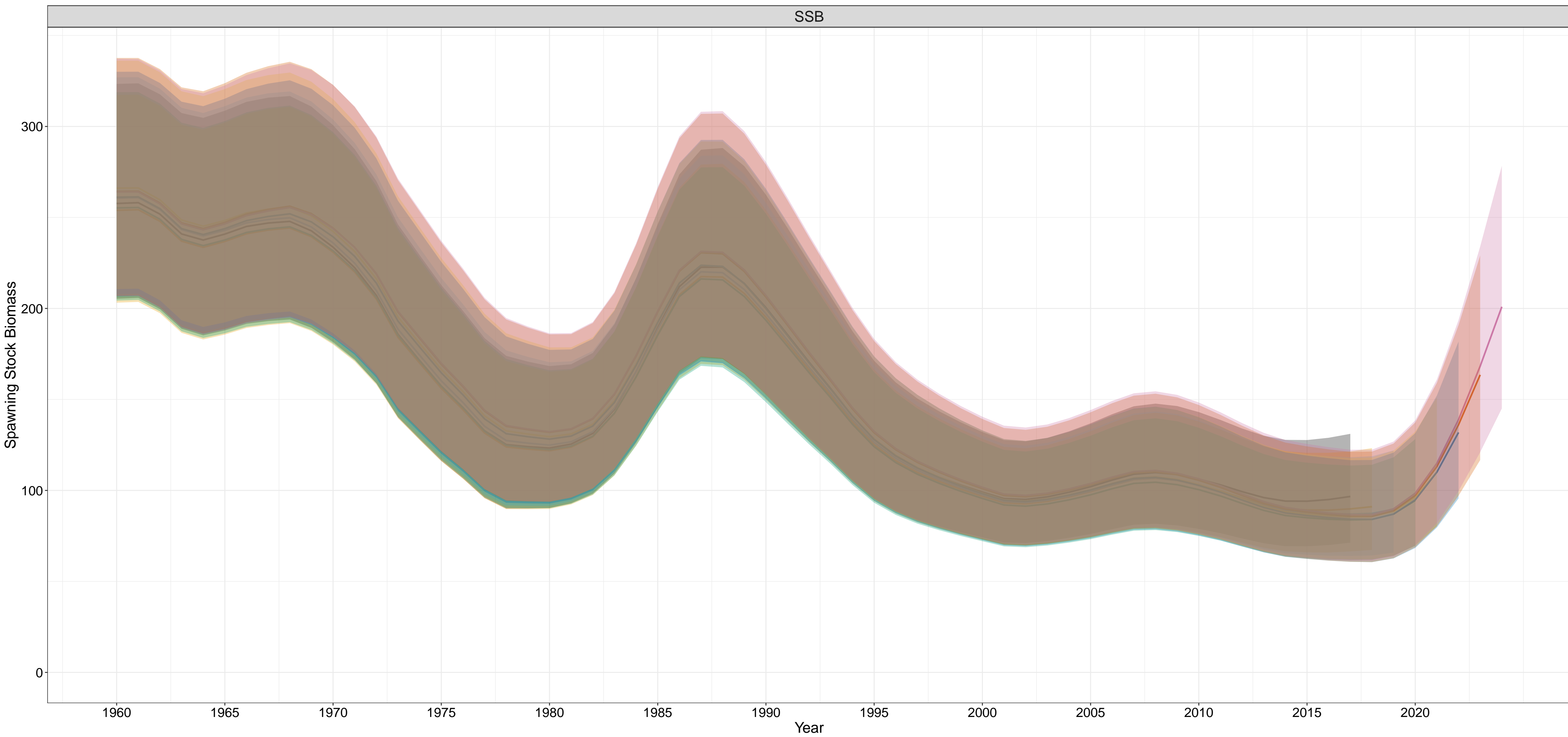
25_6_Upd_Likes_2017	25_6_Upd_Likes_2019	25_6_Upd_Likes_2021	25_6_Upd_Likes_2023
25_6_Upd_Likes_2018	25_6_Upd_Likes_2020	25_6_Upd_Likes_2022	25_6_Upd_Likes_2024



SSB

Model

- 25_6_Upd_Likes_2017
- 25_6_Upd_Likes_2018
- 25_6_Upd_Likes_2019
- 25_6_Upd_Likes_2020
- 25_6_Upd_Likes_2021
- 25_6_Upd_Likes_2022
- 25_6_Upd_Likes_2023
- 25_6_Upd_Likes_2024



Biomass

