

TIM Diagnostics

MODEL STRUCTURE

Match/Mismatch: Matching

Population Structure: Spatial Heterogeneity

Diagnostic Run: NO. Uses OBS values as data inputs

Residual plots represent RELATIVE difference; $((\text{TRUE}-\text{ESTIMATED})/\text{TRUE}) \times 100$

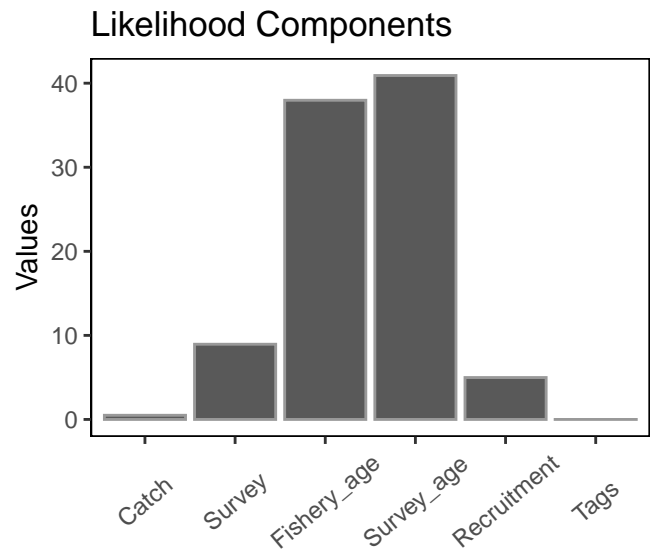
Run Time of Estimation: 0.03267 minutes

OM Error Parameters

	Parameter	1	2
1	Sigma_Rec	0.4	NA
2	Sigma_Rec_Apport	0.2	NA
3	Sigma_F	0.2	0.2
4	Rec_Index_sigma	0.5	0.5
5	Survey_Sigma	0.2	0.2
6	Catch_Sigma	0.05	0.05
7	SIM_N_Catch	100	100
8	SIM_N_Survey	100	100

Model Converged

num gradient component = 6.58277976398856e



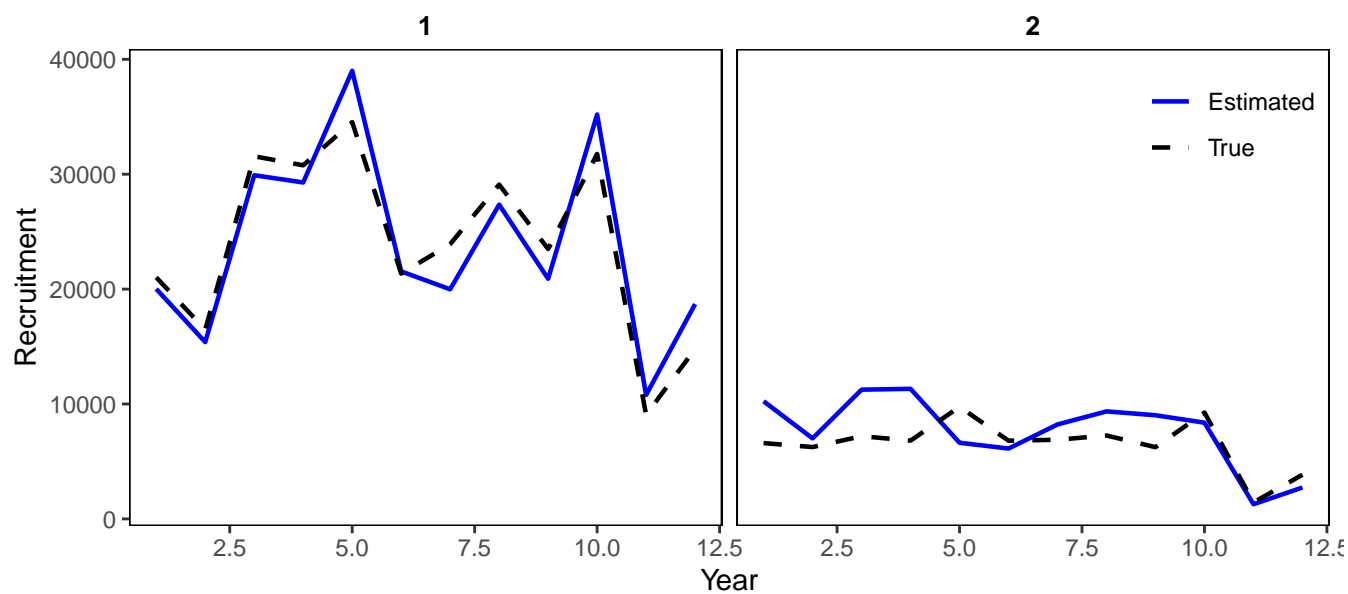
Estimated Parameter Values

	Parameter	1	2
1	q	0.00	0.00
2	R_ave	32284.60	32284.60
3	beta 1 fishery	5.04	4.97
4	beta 2 fishery	1.69	1.91
5	beta 3 fishery	NA	NA
6	beta 4 fishery	NA	NA
7	beta 1 survey	4.56	4.56
8	beta 2 survey	1.67	1.67
9	beta 3 survey	NA	NA
10	beta 4 survey	NA	NA

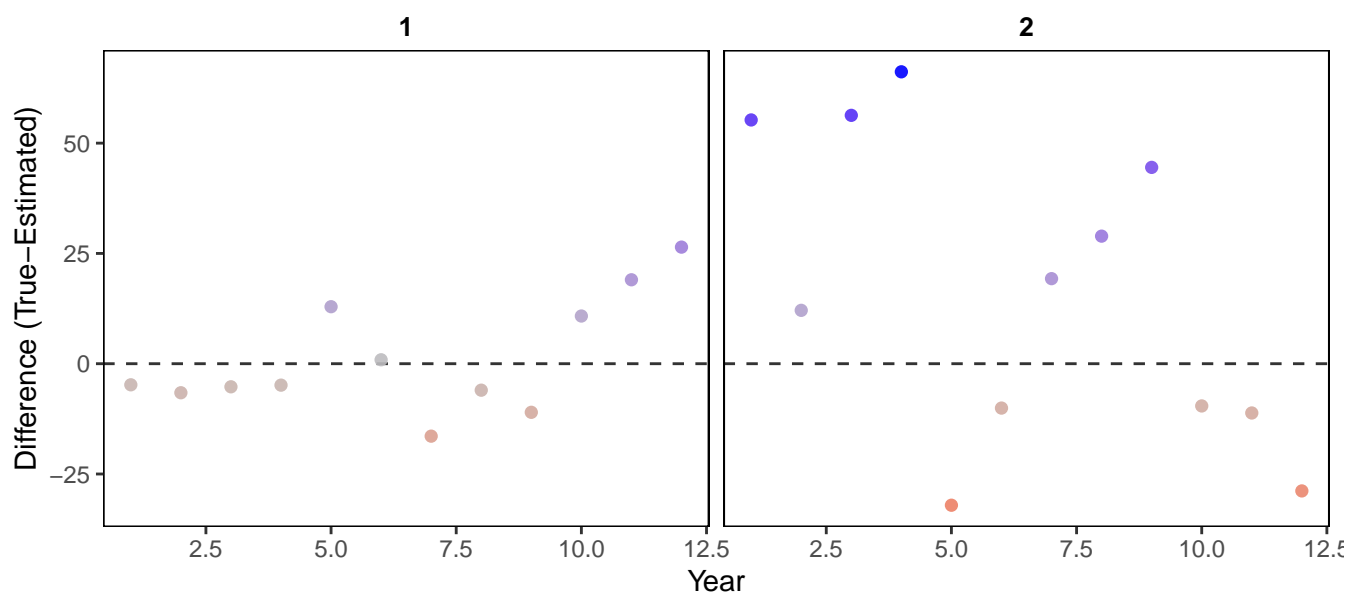
True Parameter Values

	Parameter	1	2
1	q	0.00	0.00
2	R_ave	27615.00	27615.00
3	beta 1 fishery	1.31	2.45
4	beta 2 fishery	3.76	3.16
5	beta 3 fishery	NA	NA
6	beta 4 fishery	NA	NA
7	beta 1 survey	2.51	1.81
8	beta 2 survey	2.31	2.64
9	beta 3 survey	NA	NA
10	beta 4 survey	NA	NA

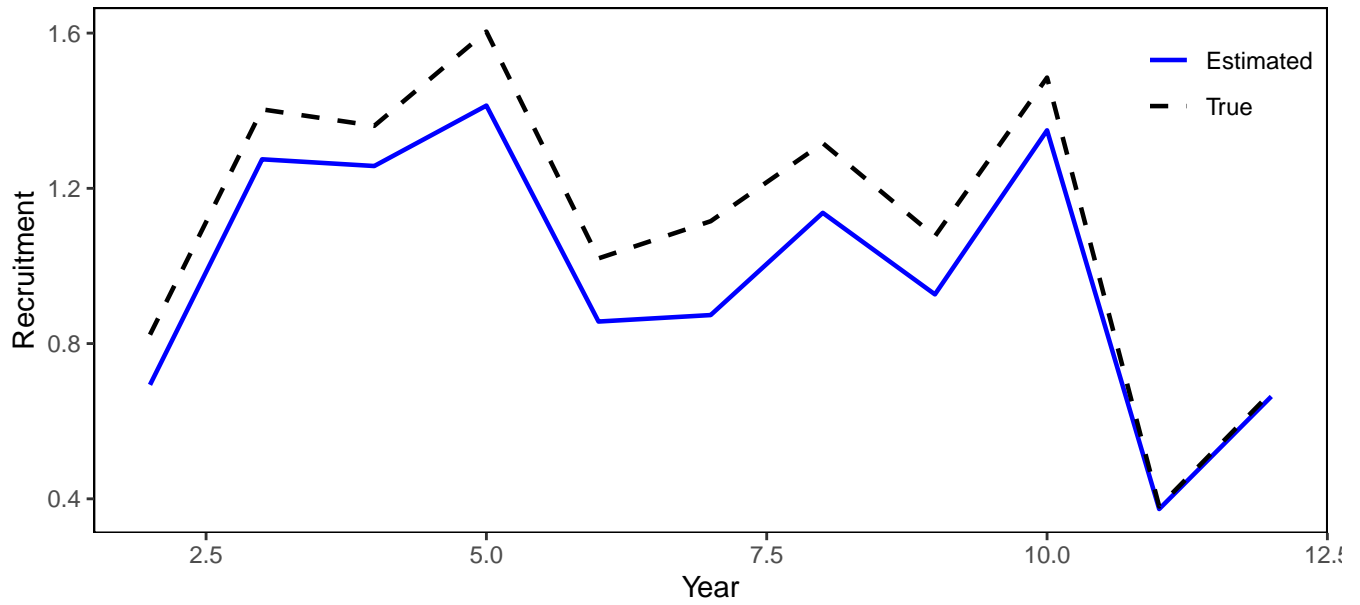
Recruitment Total



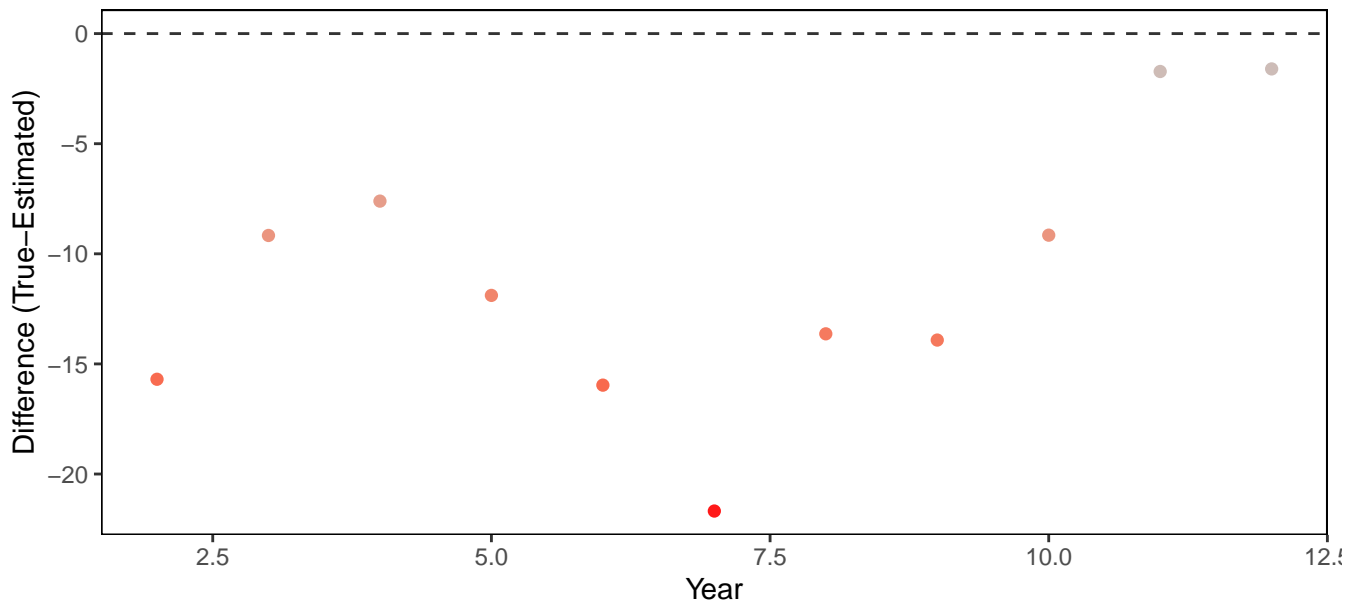
Recruitment Residuals



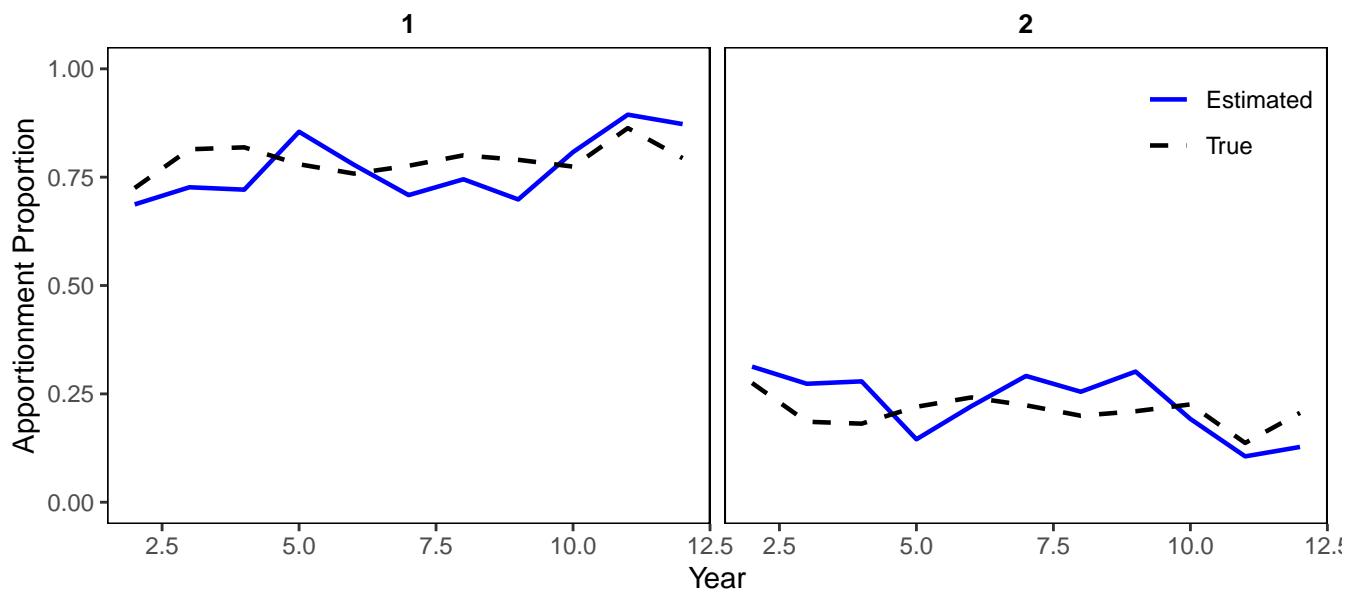
Recruitment Deviations



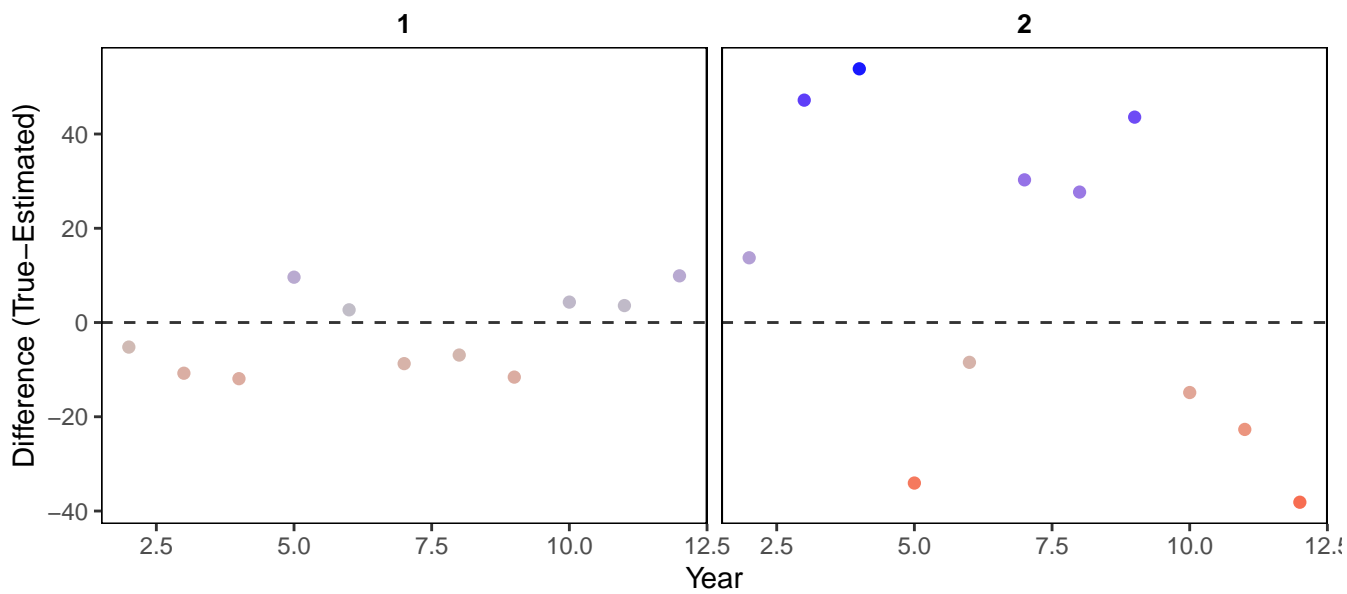
Recruitment Devs Residuals



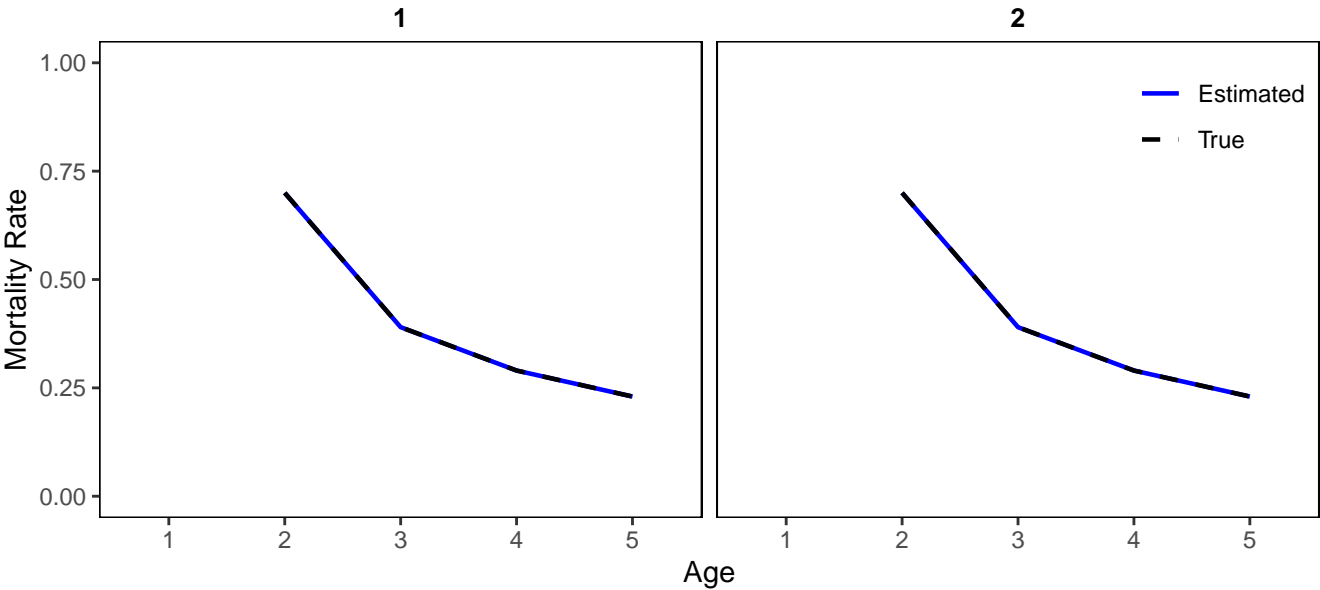
Recruitment Apportionment



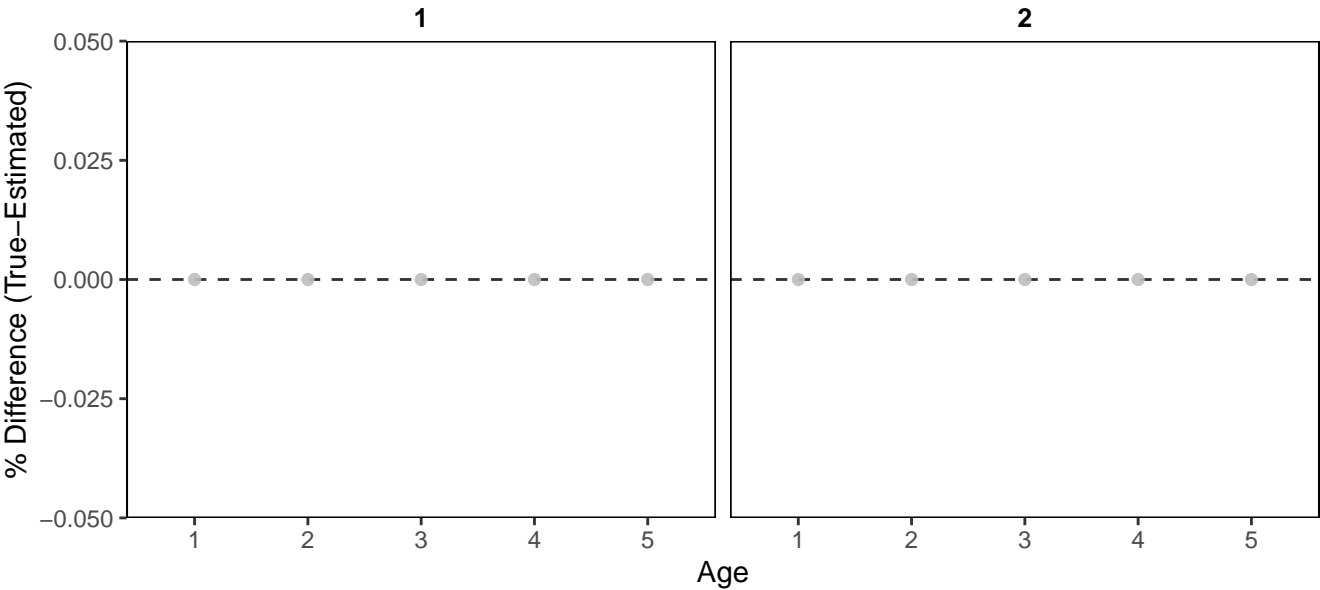
Recruitment Apportionment Residuals



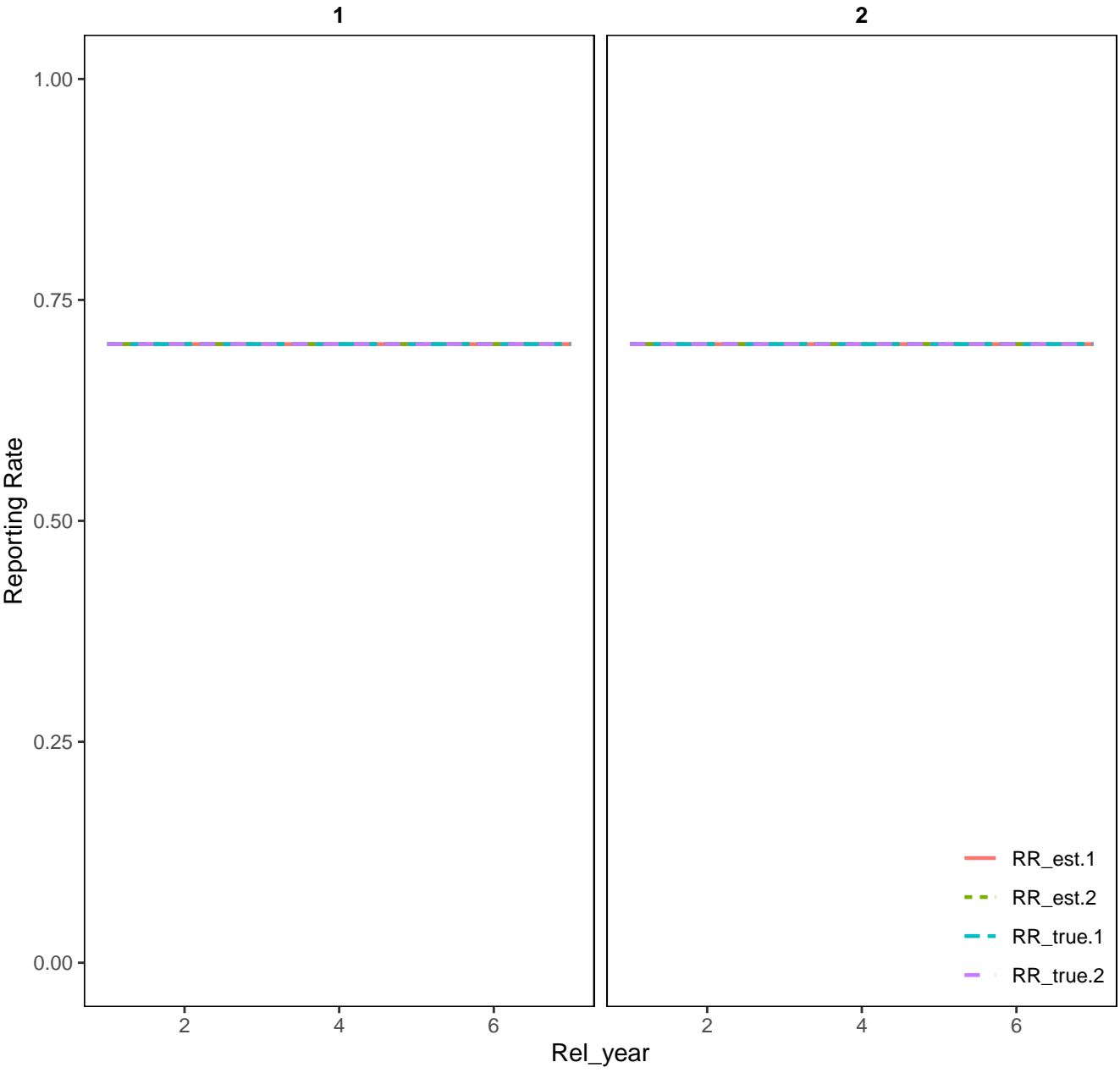
Mortality Rate



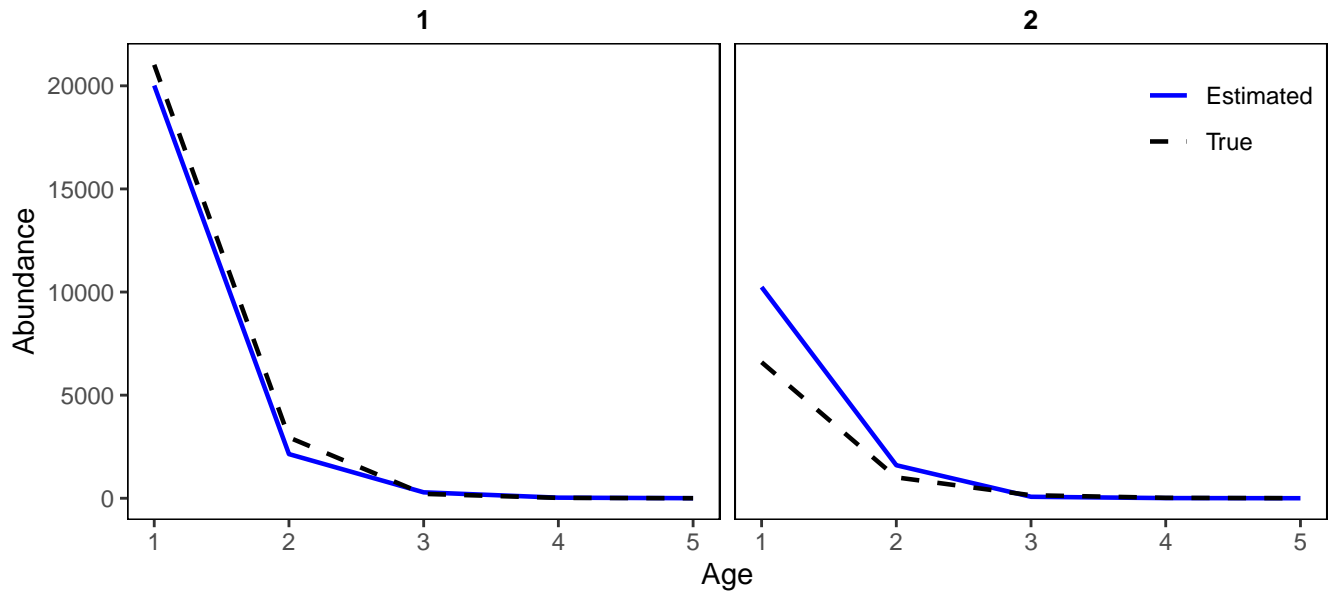
Mortality Rate Residuals



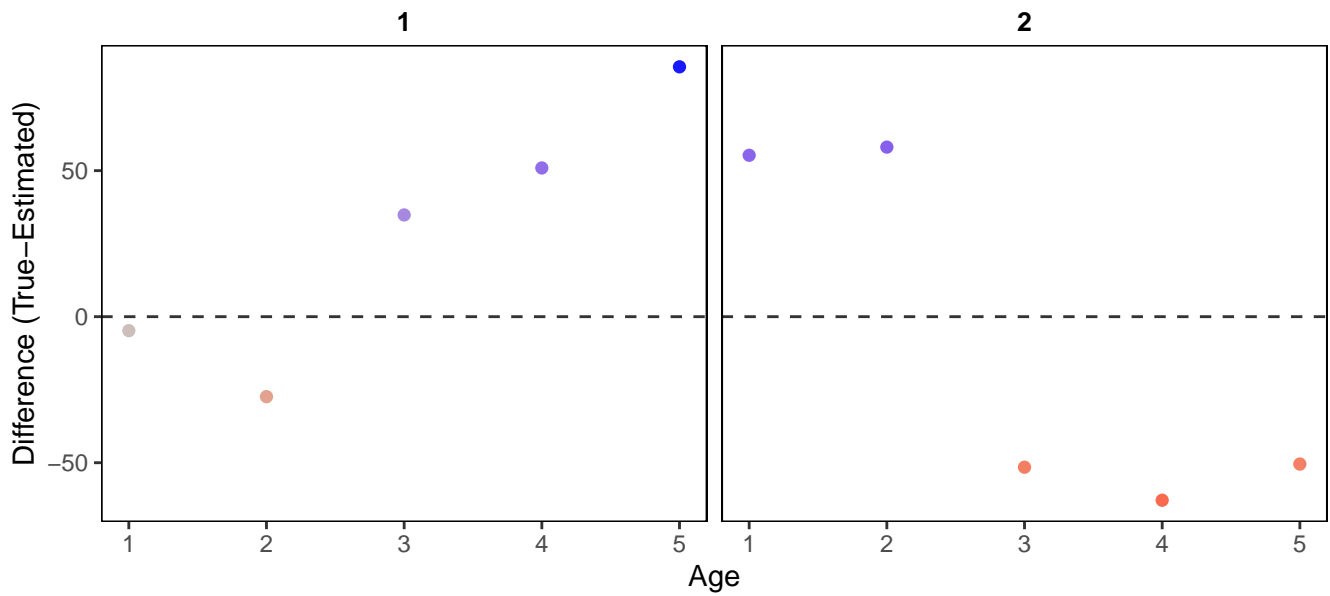
Reporting Rate



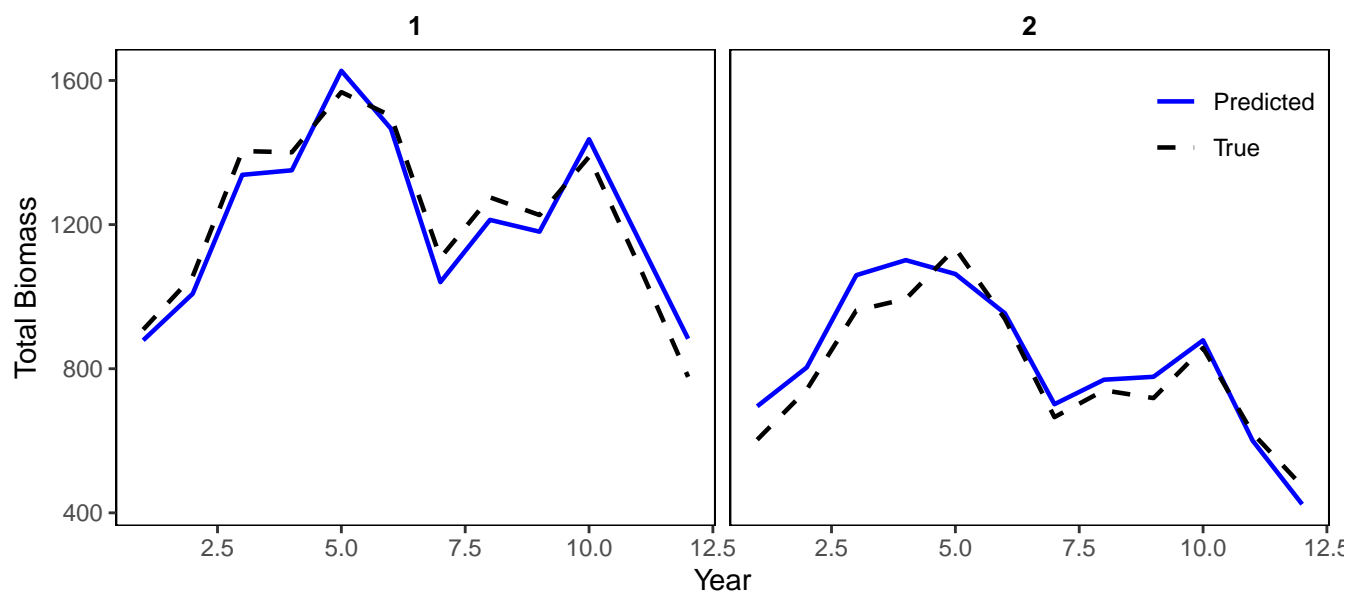
Initial Abundance



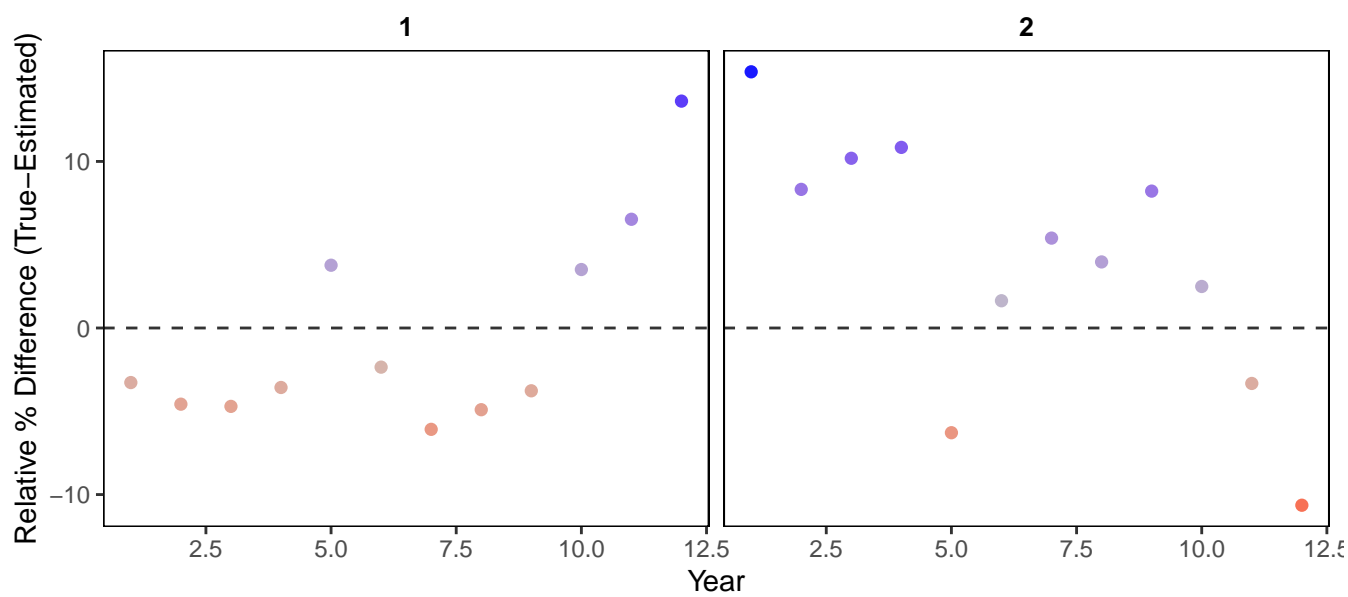
Initial Abundance Residuals



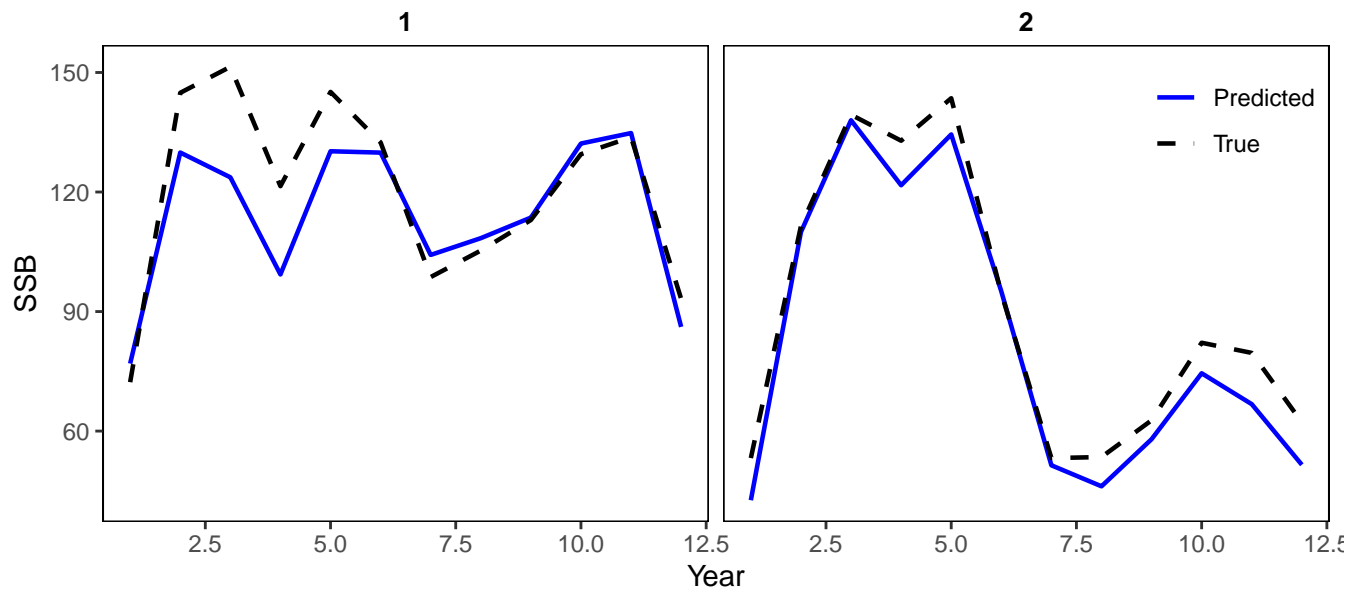
Total Biomass



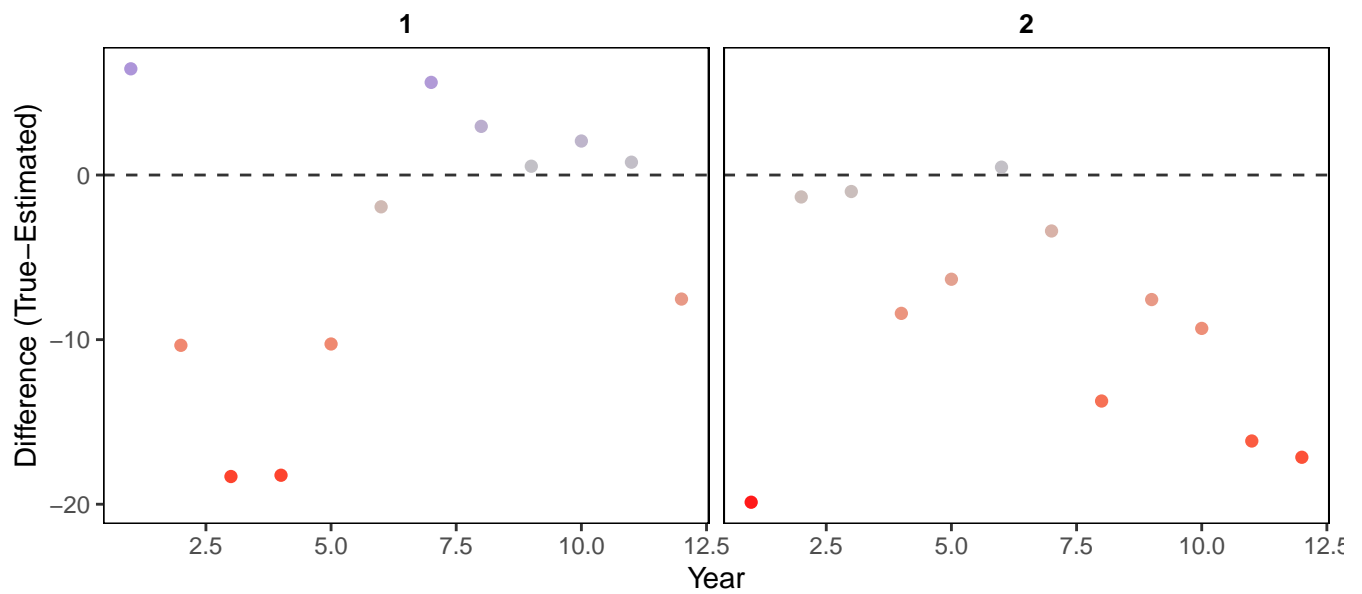
Biomass Residuals



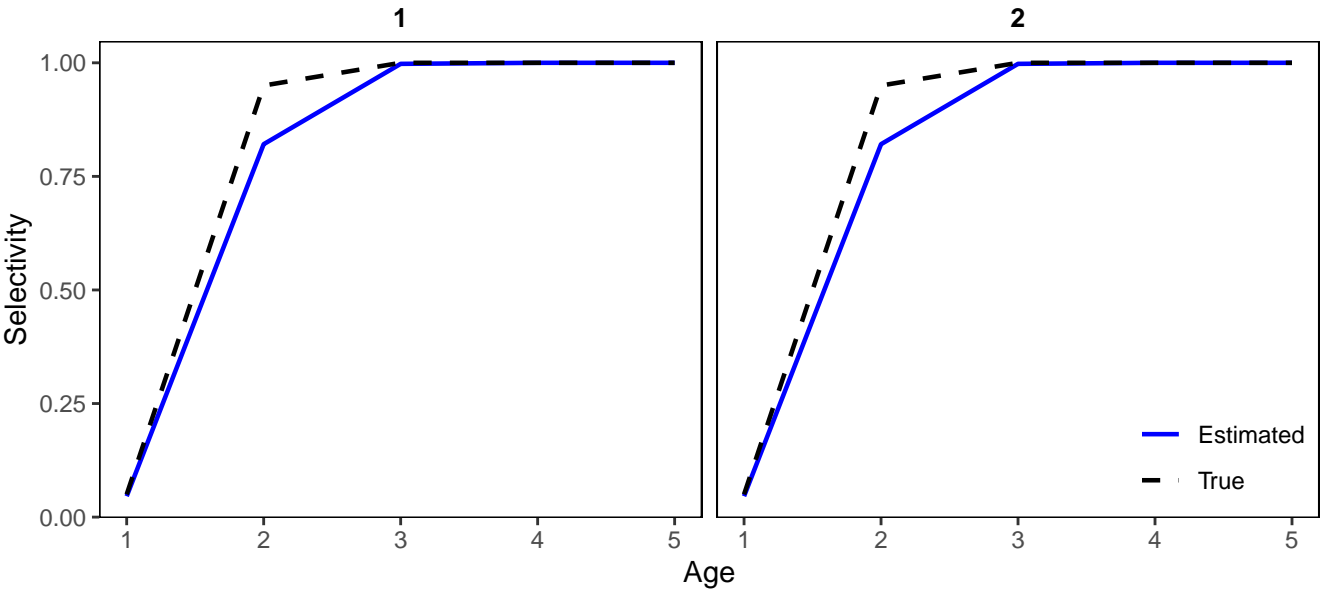
SSB



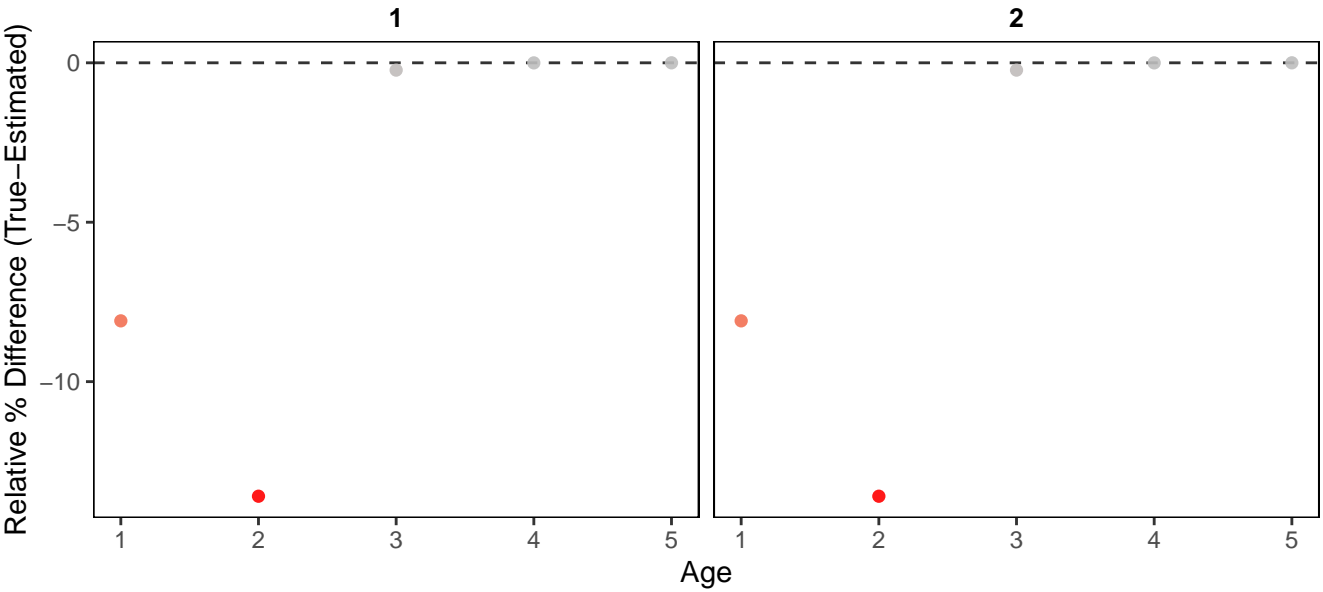
SSB Residuals



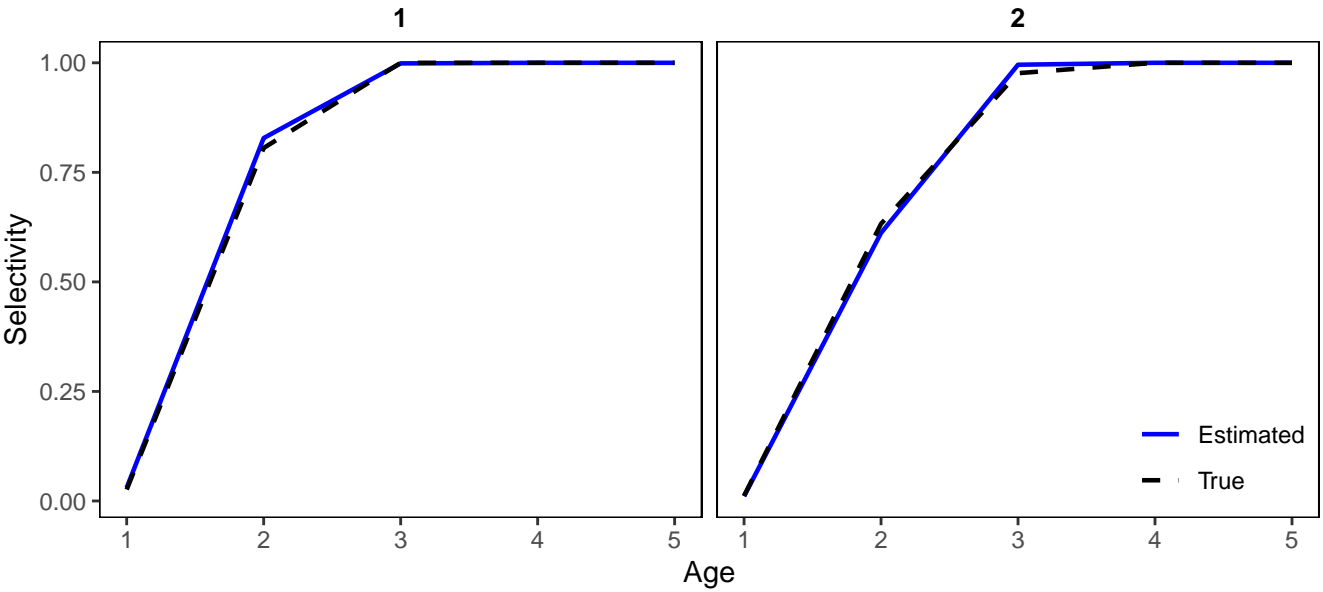
Survey Selectivity



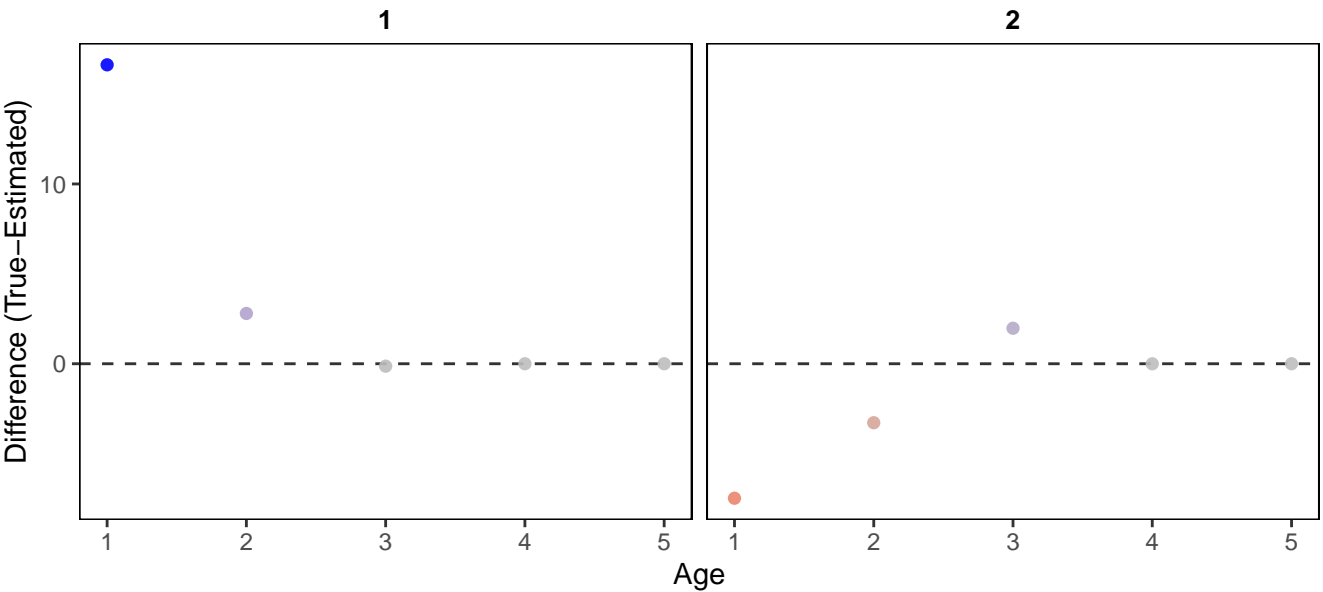
Survey Selectivity Residuals



Fishery Selectivity

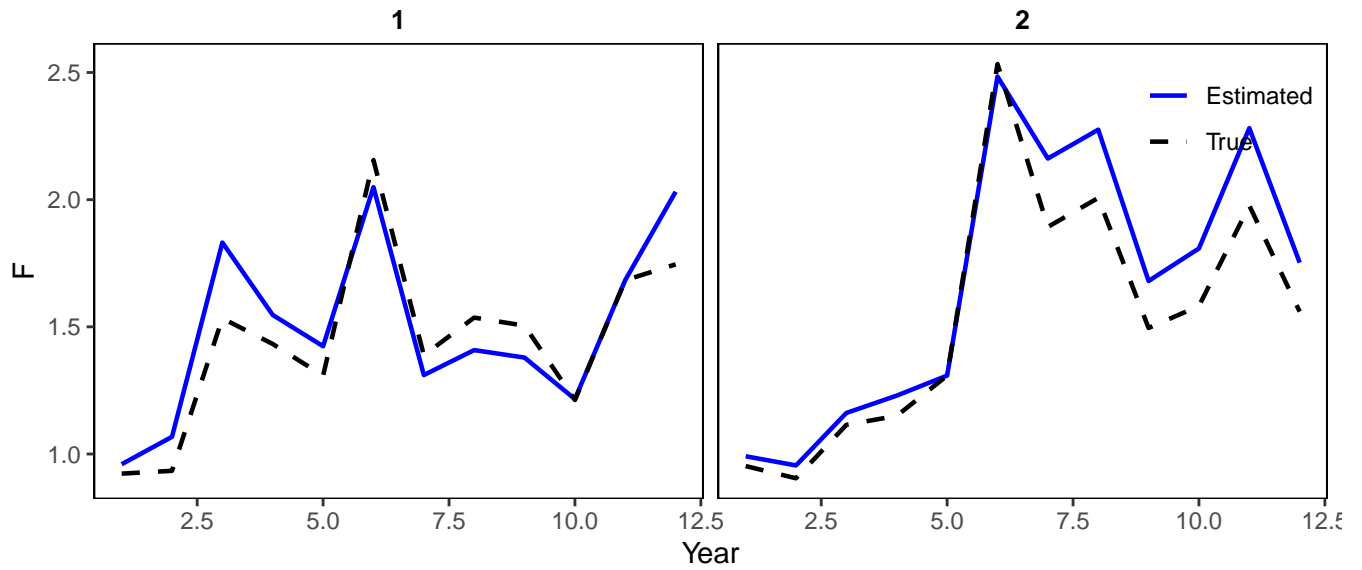


Fishery Selectivity Residuals

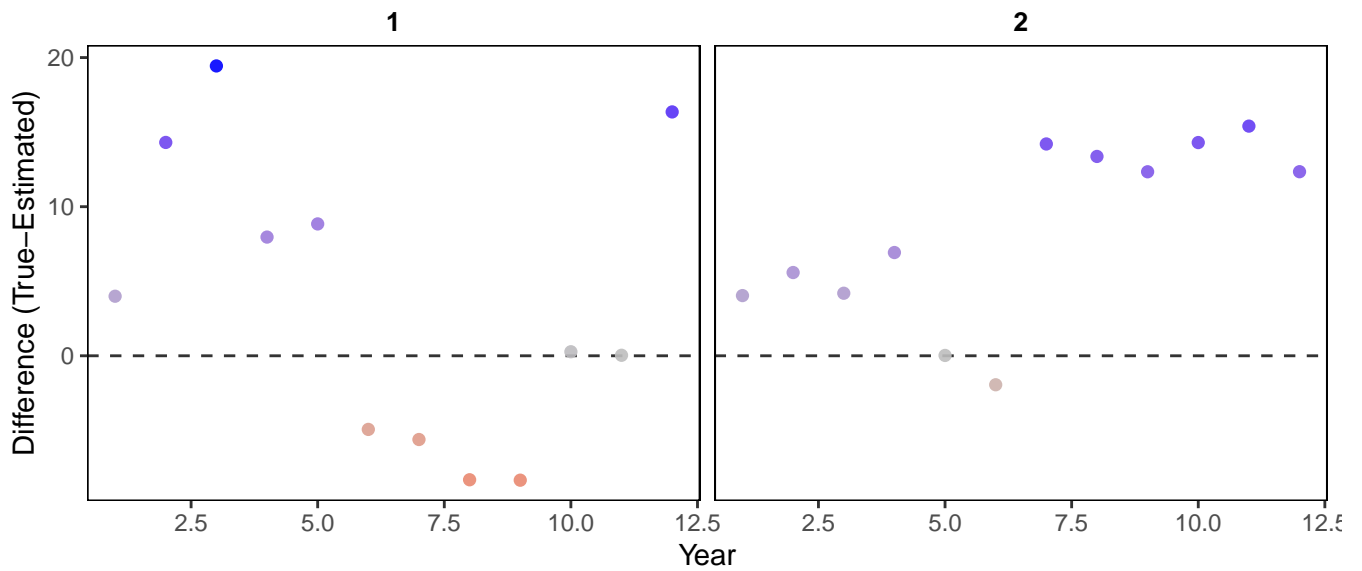


Fishing Mortality

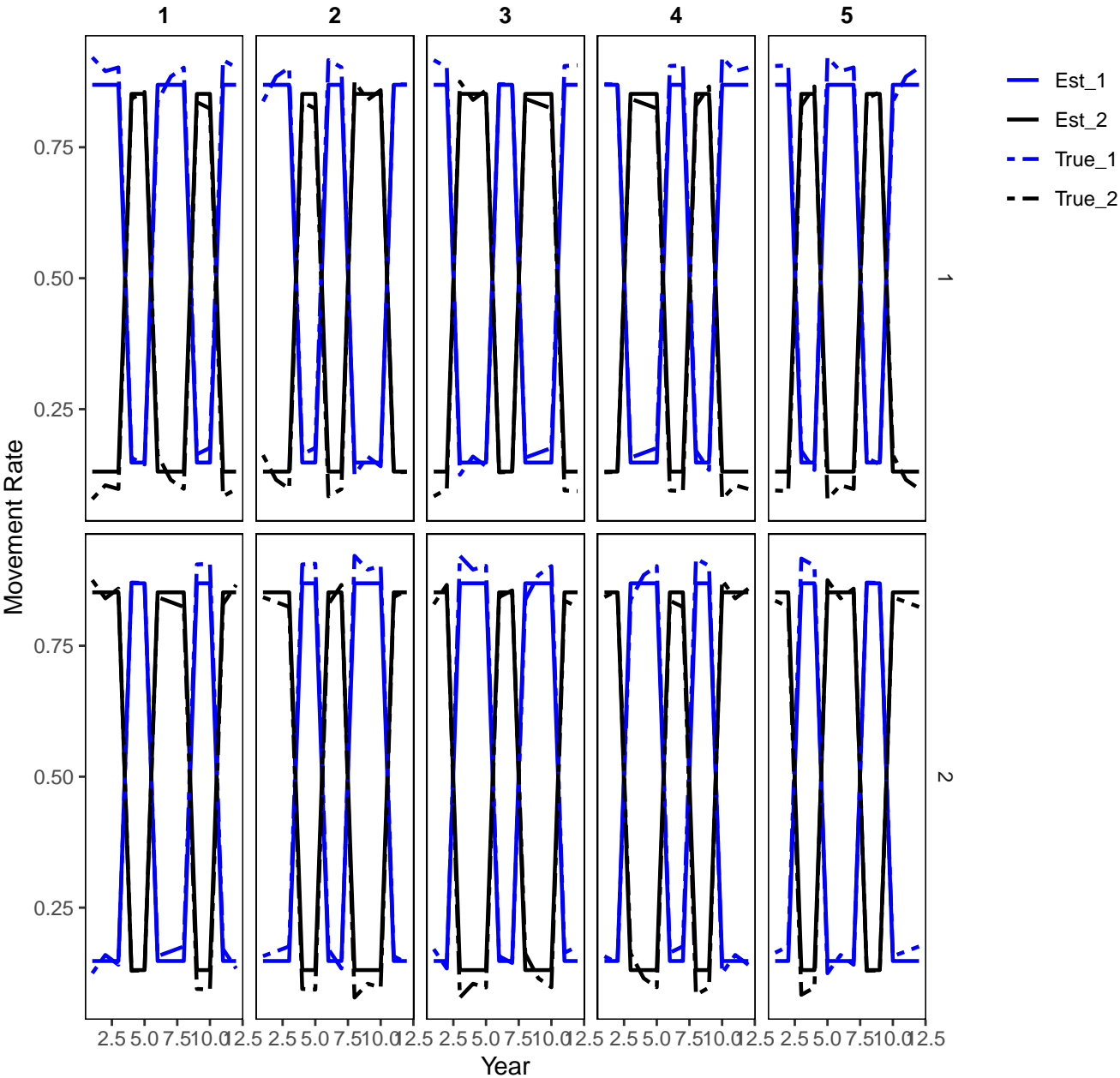
Fully selected F by Year



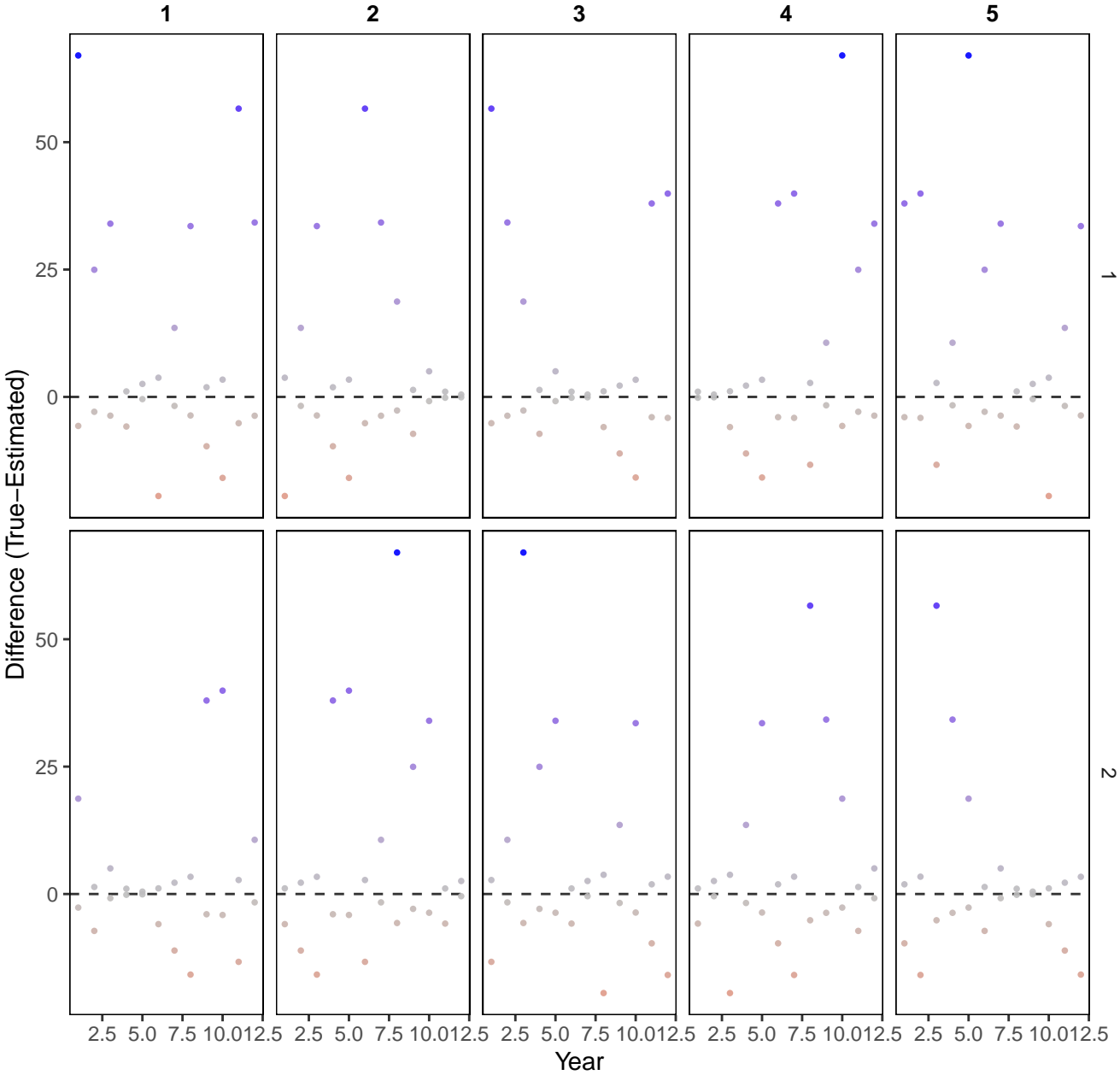
Fully Selected F Residuals



Yearly Movement Rate

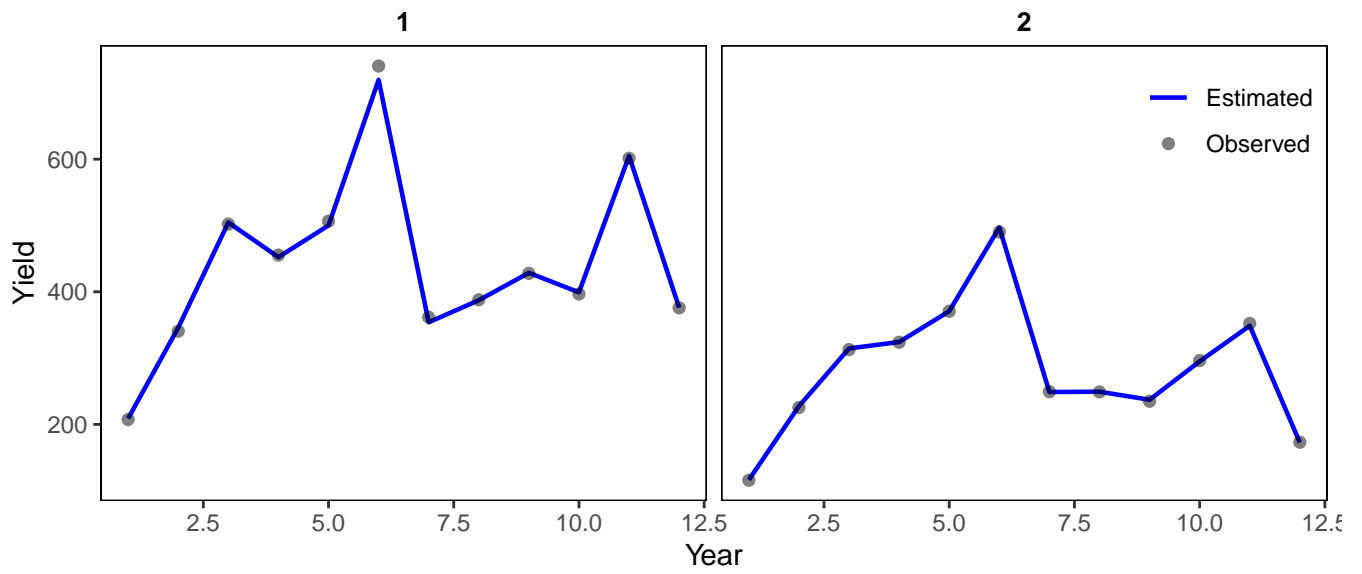


Yearly Movement Rate Residuals

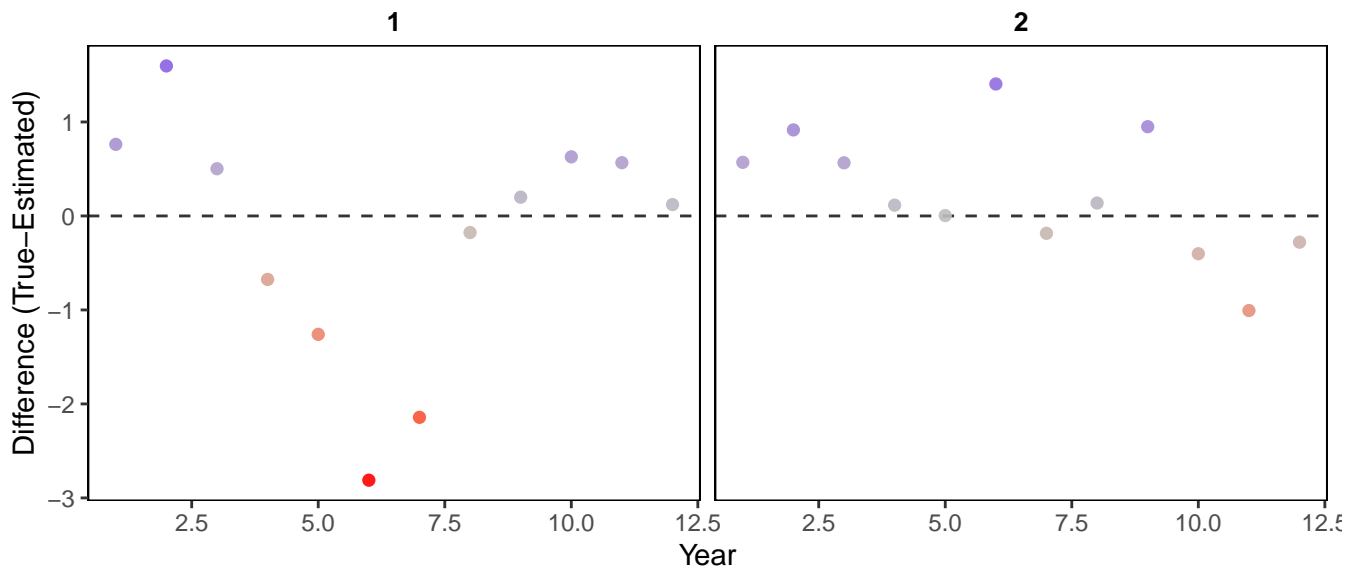


Fits to Data

Yield

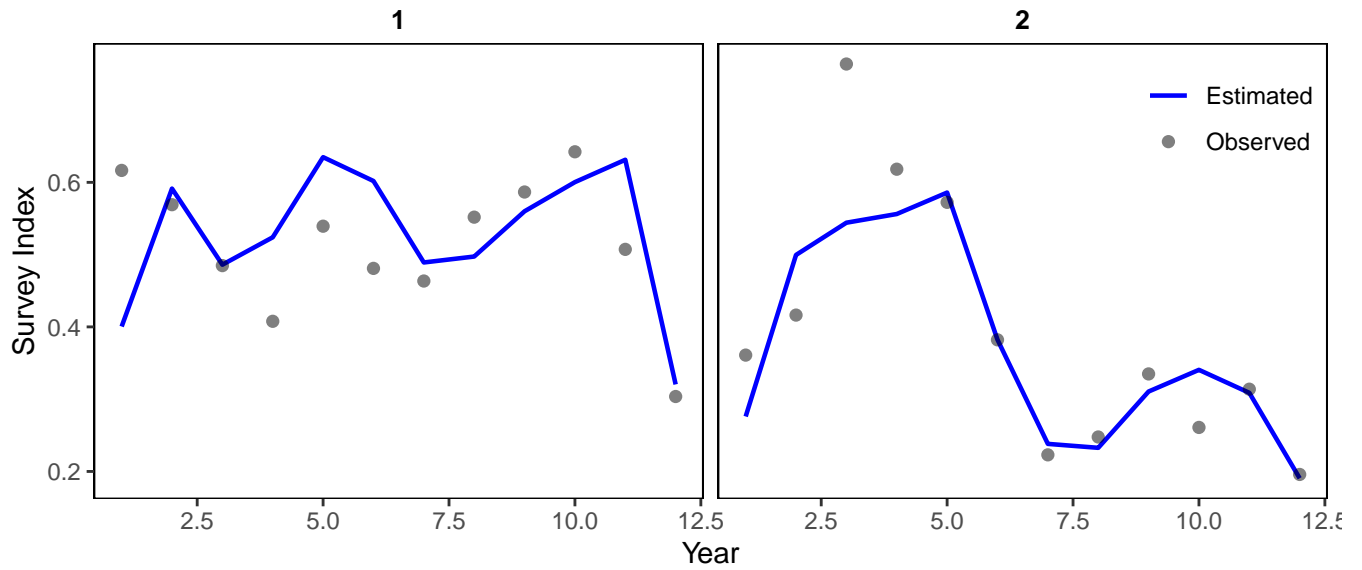


Yield Residuals

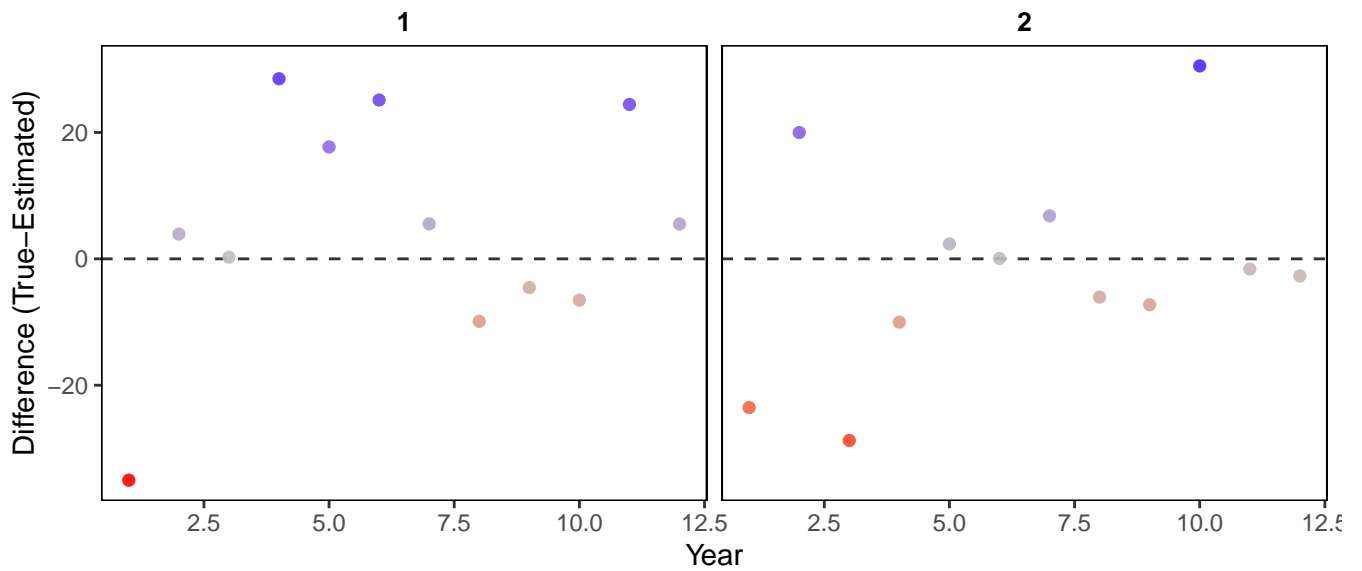


Fits to Data continued

Survey Biomass



Survey Index Residuals



Fits to Data continued

