

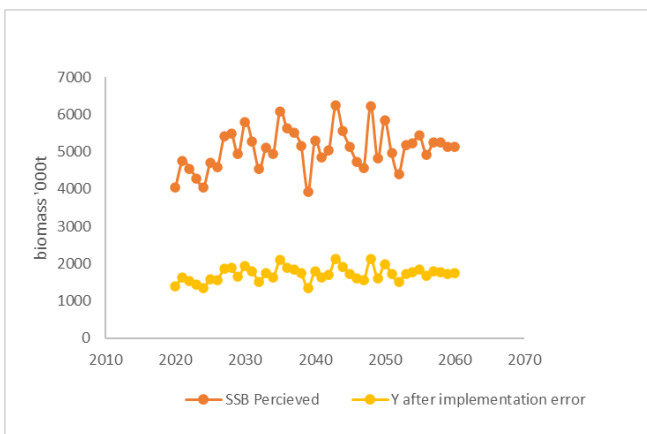
**MSE Mackerel**

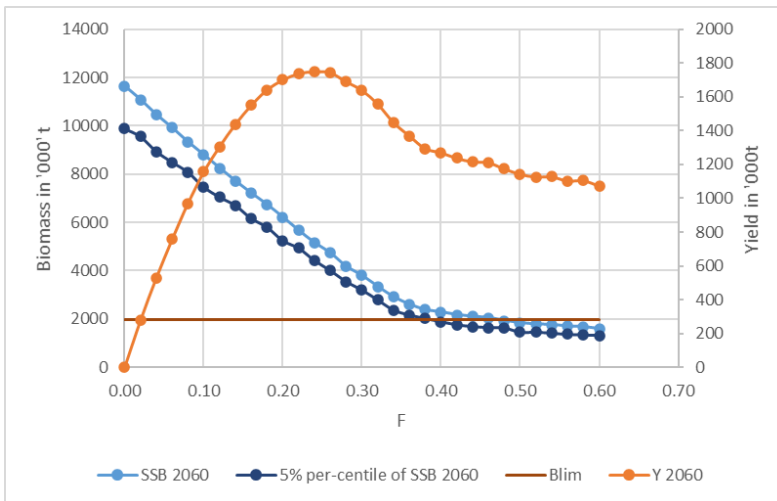
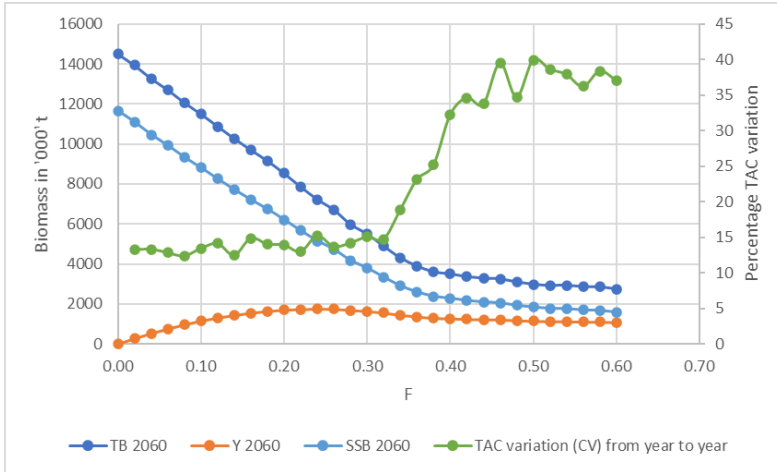
**Schaefer SPM OM without TAC variation restrictions**

MSE SPM Schaefer, MSY/BMSY from Fmsy project, and K fitted to observation 1980-2017 including misreported catches.

<b>Input:</b>		Fmsy =MSY/Bmsy=	0.2412
Bpa =	2500	K=	14500
Blim =	1990	n (called phi in formula )=	2 Autocorr.
MSYBtrigger =	2500	SP process error STD=TB*q, q=	0.012 0.00
MS type =	MS1	Observation CV =	0.09 0.00
B year 2020 =	5685	Implementation CV =	0.01 0.00
SSB vs TB coefficients:		a= -0.3735	b= 0.8032
F target (SPM currency) =	0.2412	Ratio F (SPM currency vs F (ICES currency) =	0.6236

Assumed Btrigger = 2.5 million tonnes SSB.





F	TB 2060	Y 2060	Y 2020-2024	Y 2025-2029	SSB 2060	TAC variation (CV) from year to year	5% per-centile of SSB 2060
0.00	14475	0	0	0	11626	-	10089
0.02	13888	276	852	1270	11051	13	9320
0.04	13305	530	1571	2491	10488	13	8893
0.06	12683	756	2501	3558	9903	13	8482
0.08	12100	959	3285	4313	9357	14	7898
0.1	11497	1155	3943	5812	8805	12	7672
0.12	10916	1297	4648	6004	8279	12	7049
0.14	10322	1439	4644	7191	7751	12	6770

0.16	9732	1539	5498	7102	7235	14	6047
0.18	9177	1633	5940	7574	6754	14	5661
0.2	8553	1687	6967	8421	6231	15	5310
0.22	7876	1728	7295	8083	5679	14	4866
0.24	7348	1745	6923	7598	5243	15	4367
0.26	6668	1745	7998	8568	4708	14	4017
0.28	6104	1701	7695	8080	4264	16	3647
0.3	5591	1658	8677	7810	3864	16	3182
0.32	4831	1542	10485	8095	3303	14	2786
0.34	4296	1452	8231	7794	2905	16	2413
0.36	3907	1367	8941	6872	2613	21	2117
0.38	3636	1309	9009	7189	2405	29	1978
0.4	3529	1283	9816	6344	2307	33	1804
0.42	3383	1239	9965	6424	2187	28	1804
0.44	3273	1213	9139	6214	2091	34	1691
0.46	3189	1199	9013	5562	2013	34	1617
0.48	3083	1164	9697	5742	1923	39	1568
0.5	3034	1158	9262	6521	1870	37	1503
0.52	2981	1145	9958	4822	1815	38	1460
0.54	2913	1117	10045	5867	1752	36	1413
0.56	2873	1110	10039	4831	1707	42	1355
0.58	2788	1084	9328	5719	1636	41	1262
0.6	2786	1085	9265	5323	1614	35	1331