

Revised Projections for
South Atlantic Spanish Mackerel SEDAR 28 Stock Assessment

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[An inconsistency in the previous projections was found in July, 2013]

This document contains corrected projections for the SEDAR 28 south Atlantic Spanish mackerel stock assessment. The P* projections were not affected by the error and therefore not be updated here.

1. The need for corrections

The SEDAR 28 stock assessment used three growth curves: one for each sex representing the population (population growth curve), and one combined sex curve representing landings (landings growth curve). The assessment was put forth (and the reviewers endorsed the approach of) using the population growth curves to scale the population growth and spawning stock biomass. The landings were scaled using the landings growth curve and MSY was calculated based on the landings weight. The standard population projection initially used only the sex specific growth curves to project the population dynamics into the future. The projections delivered through SEDAR in May 2013 seemed inconsistent with the base model findings because the projected landings were less than MSY in the F_{MSY} scenario. In order to be consistent with the base run, the projections were revised to use the landings growth curve. There was also an error in the calculation of discards that was discovered. The total discards were not corrected for discard mortality and were scaled incorrectly when output from the projection software. This has been corrected in these projections.

2. Corrected projections

a. $F = 75\% F_{MSY}$

The projection methodology is outlined in Section 3.0.1.8 of the assessment report. The tables below separate the projection results into landings and discards calculated in both numbers of fish and 1000 lb whole weight using the same methodology described above.

Table 1. Projected landings and discards of south Atlantic Spanish mackerel from the deterministic run in number of fish and 1000 lb whole weight with $F = 75\% F_{MSY}$.

Year	Landings (1000 lb)	Dead Discards (1000 lb)	Landings (1000s fish)	Dead Discards (1000s fish)
2012	4639	192	2941	480
2013	4221	301	2615	752
2014	5492	420	3707	1049

2015	5520	418	3849	1044
2016	5657	414	3951	1036
2017	5758	415	3996	1038
2018	5816	416	4020	1040
2019	5845	416	4033	1041
2020	5855	417	4039	1042
2021	5863	417	4044	1043

Table 2. Median projected landings and discards of south Atlantic Spanish mackerel from the stochastic run in number of fish and 1000 lb whole weight with $F = 75\% F_{MSY}$.

Year	Landings (1000 lb)	Dead Discards (1000 lb)	Landings (1000s fish)	Dead Discards (1000s fish)
2012	4214	439	2658	1097
2013	4989	287	3570	716
2014	6559	339	4383	847
2015	6413	345	4229	862
2016	6220	342	4090	854
2017	6045	339	3977	848
2018	5880	338	3879	845
2019	5769	335	3824	839
2020	5712	334	3801	834
2021	5658	333	3765	833

b. $F = F_{MSY}$

Table 3. Projected landings and discards of south Atlantic Spanish mackerel from the deterministic run in number of fish and 1000 lb whole weight with $F = F_{MSY}$.

Year	Landings (1000 lb)	Dead Discards (1000 lb)	Landings (1000s fish)	Dead Discards (1000s fish)
2012	4639	192	2941	480
2013	4221	301	2615	752
2014	7030	554	4766	1386
2015	6620	550	4711	1376
2016	6519	535	4705	1338
2017	6440	529	4645	1323
2018	6360	526	4590	1316
2019	6288	524	4547	1309
2020	6227	522	4514	1304
2021	6183	520	4489	1300

Table 4. Median projected landings and discards of south Atlantic Spanish mackerel from the stochastic run in number of fish and 1000 lb whole weight with $F = F_{MSY}$.

Year	Landings (1000 lb)	Dead Discards (1000 lb)	Landings (1000s fish)	Dead Discards (1000s fish)
2012	4214	439	2658	1097
2013	4989	287	3570	716
2014	8383	448	5625	1119
2015	7630	455	5136	1138
2016	7069	440	4797	1100

2017	6627	431	4549	1077
2018	6311	425	4359	1062
2019	6082	415	4239	1038
2020	5955	411	4163	1028
2021	5825	409	4077	1021

c. $F = F_{\text{current}}$

Table 5. Projected landings and discards of south Atlantic Spanish mackerel from the deterministic run in number of fish and 1000 lb whole weight with $F = F_{\text{current}}$.

Year	Landings (1000 lb)	Dead Discards (1000 lb)	Landings (1000s fish)	Dead Discards (1000s fish)
2012	4639	192	2941	480
2013	4221	301	2615	752
2014	4295	321	2891	802
2015	4533	320	3115	799
2016	4794	322	3268	804
2017	4998	325	3368	812
2018	5141	327	3435	818
2019	5234	329	3479	822
2020	5291	330	3508	825
2021	5334	331	3530	827

Table 6. Median projected landings and discards of south Atlantic Spanish mackerel from the stochastic run in number of fish and 1000 lb whole weight with $F = F_{\text{current}}$.

Year	Landings (1000 lb)	Dead Discards (1000 lb)	Landings (1000s fish)	Dead Discards (1000s fish)
2012	4214	439	2658	1097
2013	4989	287	3570	716
2014	5135	259	3422	648
2015	5283	264	3438	660
2016	5318	266	3419	664
2017	5317	266	3399	665
2018	5278	267	3361	668
2019	5252	267	3352	666
2020	5235	267	3354	666
2021	5230	268	3352	670