

Sea Scallop ABCs/OFLs for 2026-27

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Model Parameters

1. Natural Mortality

Research track: $M = 0.27$ on Georges Bank (also used in Gulf of Maine), $M = 0.4$ long-term mean in the Mid-Atlantic, but higher recently ($M = 0.56$), based on CASA model estimates. It is evident that M in the Mid-Atlantic is primarily increasing in the southern and inshore areas. The SAMS model used in forecasting is more spatially explicit than CASA, and can take into account spatial variation in M .

To help guide the spatial estimation of M in the Mid-Atlantic, we used the Beverton-Holt length-based equilibrium estimator $Z = K(L_{\infty} - L_{\text{mean}})/(L_{\text{mean}} - L_c)$, based on dredge survey data from 2016-2024. Note that these estimates are somewhat crude temporal averages that include fishing mortality.

SAMS	MeanSH	BHZ	FW39 M	FW40 M	We used increased M for forecasting purposes over the baseline M = 0.4 for the southern and inshore portions of the Mid-Atlantic, as given in the table
Vir	49.86	5.99	4.2	6	
DMV	74.16	0.97	0.6	0.95	
ET	83.31	0.65	0.25	0.5	
Inshore	81.70	0.82	0.25	0.8	
HCS	85.08	0.50	0.25	0.4	
NYB	86.48	0.60	0.25	0.4	
LI	92.23	0.45	0.25	0.4	
BI	88.76	0.62	0.25	0.4	

Growth Parameters

The area-specific growth parameters from the 2020 Management Track Assessment continue to be used with one exception. The current cohort in Nantucket Lightship South appears to be growing somewhat faster than the 2012 year class in that area, although still somewhat slower than average for Georges Bank scallops. For that area, the growth parameters for Nantucket Lightship West were used ($L_{\infty} = 119.1$, $K = 0.487$) were used.

Shell Height/Meat Weight Parameters

Survey shell height to meat weight relationships were updated to use data from 2001-2025. For SAMS modeling purposes, meat weight was modelled using a mixed effects GAM (random effect: station) with a log link and the gamma family:

$$MW \sim \log(SH) + s(jday) + s(year) + \text{as.factor}(SAMS)$$

where jday is the number of days since Jan 1. The estimates used in the SAMS model used jday = 150 in the Mid-Atlantic and 180 on Georges Bank, and year = 2025 in the Mid-Atlantic and the mean year effect on Georges Bank.

Calculation of ABC and OFLs

$F_{MSY} = 0.49$, based on 2025 research track assessment for MA+GB scallops

F_{ABC} defined as the 25th percentile of the F_{MSY} distribution from the SYM reference point model. In other words, fishing at F_{ABC} has a 75% chance of being below the true F_{MSY} . Based on the 2025 RT assessment SYM models, $F_{ABC} = 0.36$

These calculations did not include GOM scallops. We use $F_{MSY} = 0.36$ and $F_{ABC} = 0.29$ in GOM, based on the RT estimates from GB.

The SAMS model was initialized to 2025 survey data, then advanced to 2026 using management specified in Framework 39. Then each area was fished at its ABC or OFL fishing mortality target. For the 2027 OFL calculation, each area was fished at its F_{ABC} in 2026.

2026 Forecasts

Catch (mt) assumes fishing at F_{ABC}

Mid-Atlantic	VIR	DMV	ET	HCS	NYB	NYBCI	LI+BI	MAB- Nearshore	Total				
	Biomass	12	1172	6671	4209	1006	7102	3778	497	24447			
	Exp. Biomass	0	18	3479	2058	399	4913	2552	55	13474			
	ABC Catch	0	7	995	594	149	1437	708	49	3939			
Georges Bank	CA1-N	CA1	CA2-N	CA2	NLSW	NLSN	NLSS	CA2-Ext	GSC	NF	SF	Total	
	Biomass	4658	912	5301	1683	1752	876	27258	1657	5760	1426	5525	56808
	Exp. Biomass	2656	311	3703	426	440	409	5481	772	3180	963	2951	21292
	ABC Catch	741	82	863	117	101	118	3534	253	860	259	988	7916
Gulf of Maine	Stell-S	Stell-N	Ipswich	NGOM-Other	WGOM	Total							
	Biomass	540	634	180	576	2930	4860						
	Exp. Biomass	280	523	127	500	2769	4199						
	ABC Catch	96	121	32	109	543	901						

Alternative Calculation of ABCs and OFLs

The SSC requested a more conservative alternative for calculating ABCs/OFLs. For this purpose, we used the Georges Bank reference points ($F_{MSY}=0.36$, $F_{ABC}=0.29$) for all areas.

2026-27 ABCs and OFLs

Option 1

Default	2025	2026	2027
Biomass	70434	86115	94514

ABC-Land	12757	14206
ABC-Disc	2655	2854
ABC-Tot	15412	17060

OFL-Land	16299	18158
OFL-Disc	3346	3583
OFL-Tot	19645	21741

Option 2

Alternative	2025	2026	2027
Biomass	70434	86115	96816

ABC-Land	10772	12328
ABC-Disc	2244	2458
ABC-Tot	13016	14786

OFL-Land	12930	14793
OFL-Disc	2669	2916
OFL-Tot	15599	17709