2016 CASA update
2017 scallop survey summary
ABC and OFL estimates for 2018-2019

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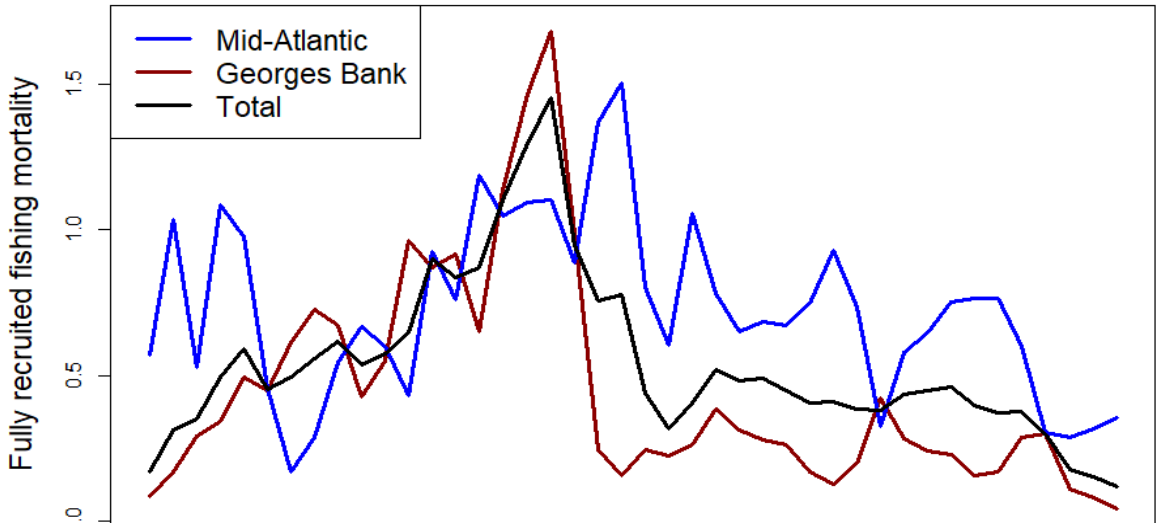
CASA Model Update through 2016

The CASA model (statistical catch at size model) was updated through the end of 2016, including survey and commercial data

Configuration was the same as in the 2014 benchmark assessment (through 2013). Three models: Mid-Atlantic, Georges Bank Open and Georges Bank Closed

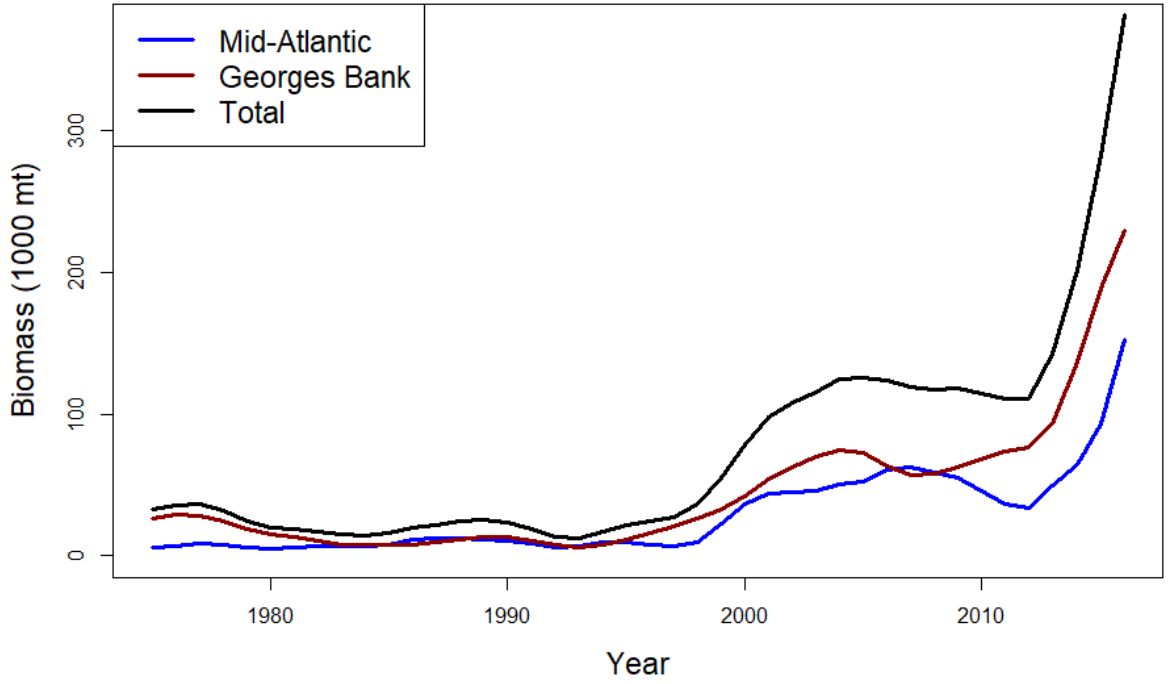
CASA used for status determination only (overfishing/overfished)

Biomass and fishing mortality by region and overall



Overall F_{16} = 0.12
No overfishing

Overall Bms_{16} = 381,957 mt
Above target, not overfished



2017 Scallop Surveys Summary

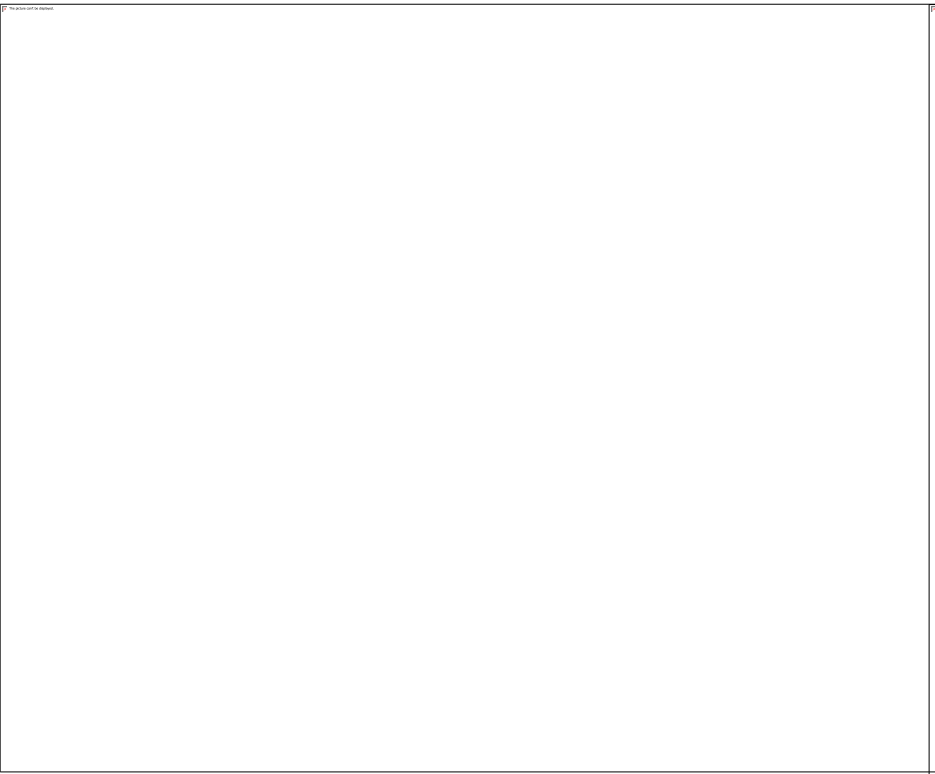
Dredge survey of all areas except NGOM (VIMS surveyed the Mid-Atlantic, Nantucket Lightship Area, Closed Area II South and extensions with NEFSC survey of the remainder of Georges Bank).

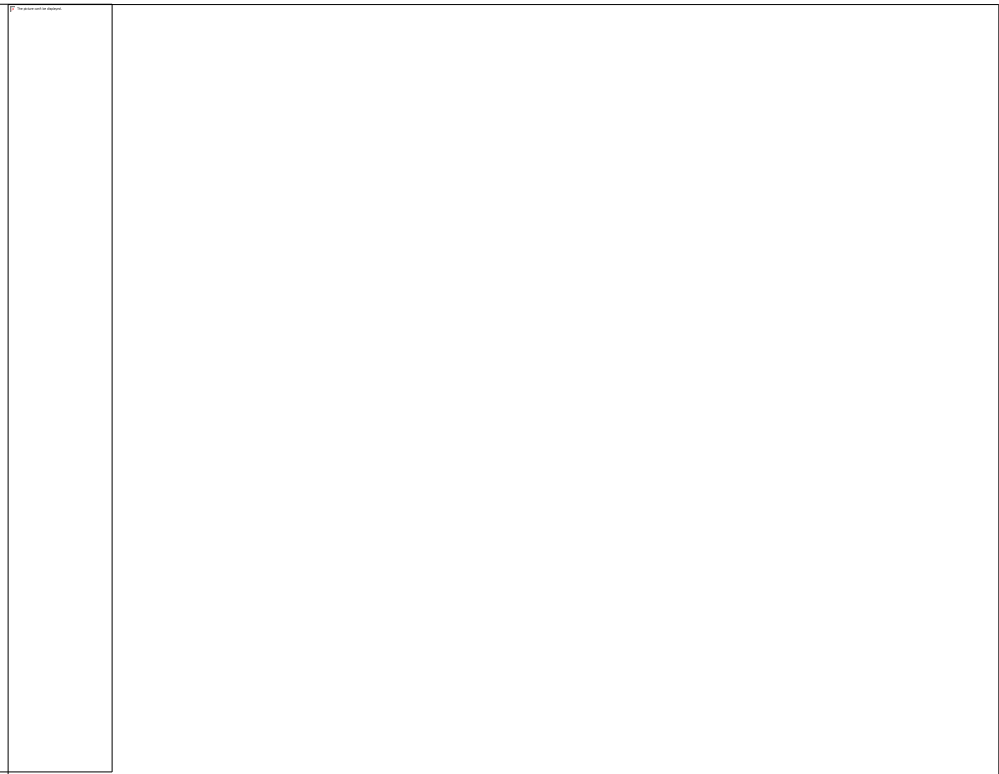
Habcam surveys of all areas (Nantucket Lightship and NGOM by CFF/Habcam group towing the v3 vehicle, Northern Edge by WHOI, towing v5, and the remainder by NEFSC, towing v4)

Drop camera (SMAST) survey of all areas

2017 Scallop Surveys Summary

Consistent with previous surveys, very high densities of scallops were observed in portions of the Nantucket Lightship and Elephant Trunk areas. These densities were 1-2 orders of magnitude higher than that typically observed





Issues regarding high density scallop sites

1. Dredge surveys are well below optical survey estimates in these areas. Analysis of paired tows suggests dredges may operate at reduced efficiency at these unusually high densities.

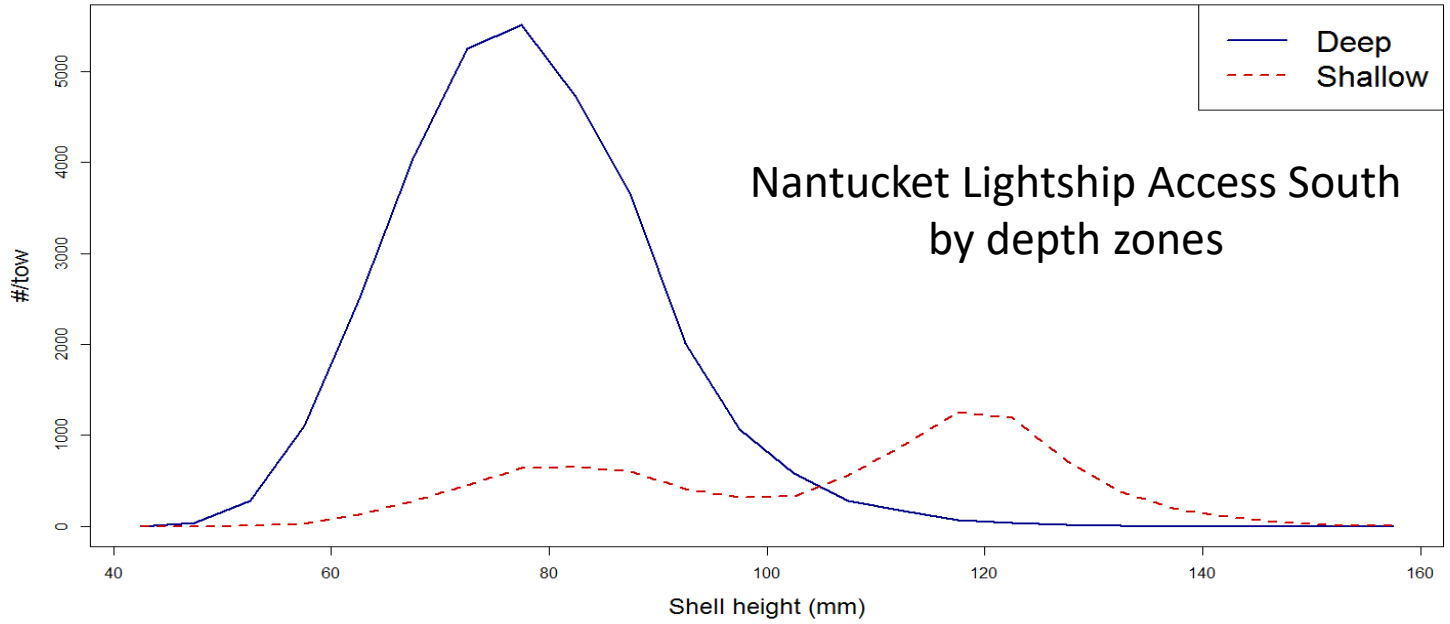
Pending further analysis of these issues, the PDT chose to use the simple mean of the biomass estimates from each survey for modeling purposes, including estimation of ABCs/OFLs. If indeed the dredge surveys have reduced efficiency in high density areas, the ABC/OFLs will be underestimates

2017 Scallop Survey Estimates

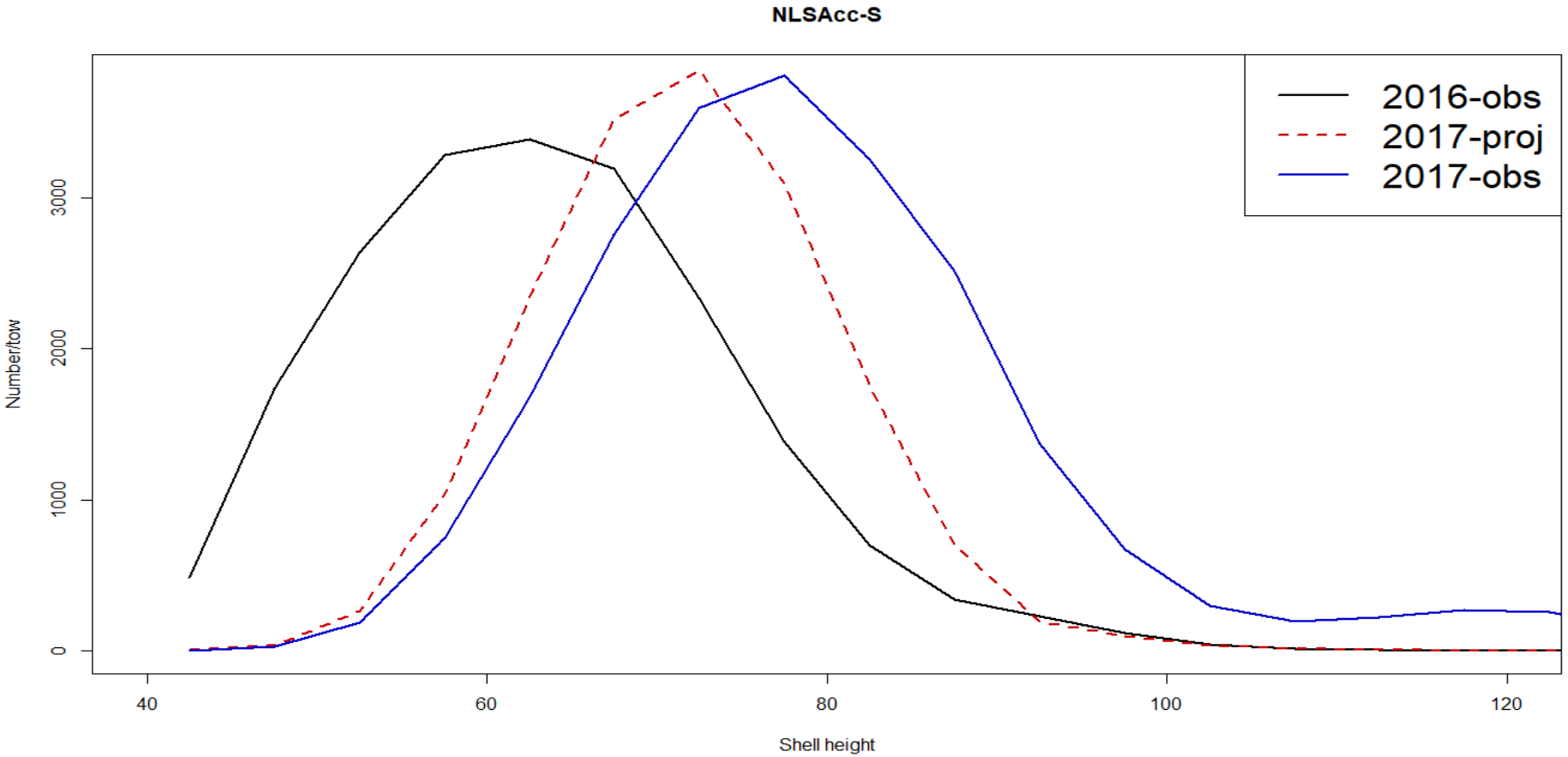
2017 Scallop Survey Estimates																					
		Dredge				Drop Camera (Digital)					Habcam					Means					
Georges Bank	NumMill	BmsMT	SE	MeanWt		NumMill	BmsMT	SE	MeanWt		NumMill	BmsMT	SE	MeanWt		NumMill	BmsMT	SE	MeanWt	IVWMBms	SE
CL1ACC	45	1602	671	35.6		66	1647	358	24.9		66	883	6	13.3		59	1377	761	23.3	883	6
CL1NA	457	9588	4560	21.0		761	13904	4106	18.3		565	12829	604	22.7		594	12107	6165	20.4	12797	593
CL-2(N)	442	7407	2947	16.8		214	3187	1488	14.9		190	6122	118	32.2		282	5572	3304	19.8	6106	118
CL-2(S)	406	11218	656	27.6		465	7361	684	15.8		314	8979	129	28.6		395	9186	957	23.3	9006	124
CL2Ext	396	6721	538	17.0		545	5153	439	9.5		300	5354	46	17.9		414	5743	696	13.9	5362	45
NLSAccN	132	6428	510	48.5		260	8888	3393	34.2		222	10083	300	45.4		205	8466	3444	41.3	9143	258
NLSAccS	3152	31154	2380	9.9		11676	82984	25271	6.8		9315	77827	3174	8.4		8048	63988	25580	8.0	48146	1899
NLSNA	221	4843	1718	21.9		2597	46250	18029	16.7		2906	56066	1831	19.3		1908	35720	18203	18.7	28915	1250
NLSExt	15	674	145	45.8		967	16175	15043	16.1		171	7164	1176	42.0		384	8004	15090	20.8	773	144
NF	274	3355	954	12.2		39	636	261	16.2		78	1289	1037	16.5		131	1760	1433	13.5	851	245
SCH	459	8485	3596	18.5		631	6590	1256	10.5		339	6857	167	20.2		476	7311	3812	15.4	6856	165
SF	296	3588	1082	12.1		747	6799	1080	9.1		282	6061	59	21.5		442	5482	1530	12.4	6056	58
Total Rotational	*4146*	*57797*	*2612*	*13.9*		*13979*	*122208*	*29615*	*8.7*		*10388*	*110289*	*3401*	*10.6*		*9504*	*96764*	*29923*	*10.2*	*77279*	*2072*
Total EFH Closures	*1120*	*21838*	*5695*	*19.5*		*3572*	*63341*	*18550*	*17.7*		*3661*	*75017*	*1932*	*20.5*		*2784*	*53399*	*19501*	*19.2*	*69530*	*1829*
Total Open	*1029*	*15428*	*3874*	*15.0*		*1417*	*14025*	*1677*	*9.9*		*700*	*14207*	*1052*	*20.3*		*1049*	*14553*	*4350*	*13.9*	*14291*	*1015*
TOTAL	**6295**	**95062**	**8409**	**11.6**		**18968**	**199574**	**8409**	**11.6**		**14748**	**199513**	**4050**	**13.5**		**13337**	**164716**	**35988**	**12.4**	**179844**	**3649**
MidAtlantic																					
Block Island	122	1864	29	15.3		115	1267	495	11.0		113.8	1819.7	7.7	16.0		117	1650	496	14.1	1822	7
Long Island	597	14728	681	24.7		1168	20278	2889	17.4		731	18899	502	25.9		832	17968	3010	21.6	17486	400
NYB	628	13148	1344	20.9		34	463	70	13.7		336	8432	200	25.1		333	7348	1360	22.1	1361	66
MA inshore	100	1001	106	10.0		174	1558	358	8.9		75	537	2	7.1		117	1032	373	8.8	537	2
HCSAA	1275	22358	1312	17.5		801	10562	1671	13.2		957	18449	2662	19.3		1011	17123	3406	16.9	17938	962
ET Open	1214	21708	1034	17.9		2341	22023	2153	9.4		1588	19233	545	12.1		1715	20988	2450	12.2	19879	470
ET Flex	742	10618	1071	14.3		3620	48108	9963	13.3		2608	45232	3012	17.3		2324	34653	10463	14.9	14841	1004
DMV	257	2476	285	9.6		438	5010	636	11.4		253	3569	780	14.1		316	3685	1046	11.7	2967	247
Virginia	23	49	11	2.2												23	49	11	2.2	49	11
Total Access	*3489*	*57160*	*3701*	*16.4*		*7200*	*85703*	*14423*	*11.9*		*5406*	*86483*	*6999*	*16.0*		*5365*	*76449*	*17365*	*14.2*	*63569*	*3272*
Total Open	*1470*	*30789*	*1511*	*20.9*		*1491*	*23566*	*2954*	*15.8*		*1256*	*29687*	*540*	*23.6*		*1421*	*28047*	*3361*	*19.7*	*29812*	*509*
TOTAL	**4959**	**87949**	**2510**	**17.7**		**8691**	**109269**	**10762**	**12.6**		**6661**	**116170**	**4166**	**17.4**		**6786**	**104495**	**11810**	**15.4**	**95464**	**2150**
Total w/o ETF, NLSNA & S		*136397*					*131501*					*136559*									
OVERALL TOTAL	**11254**	**183011**	**8775**	**16.3**		**27659**	**308843**	**13657**	**11.2**		**21410**	**315683**	**5810**	**14.7**		**20123**	**269212**	**37876**	**13.4**	**275248**	**4845**

Issues regarding high density scallop sites

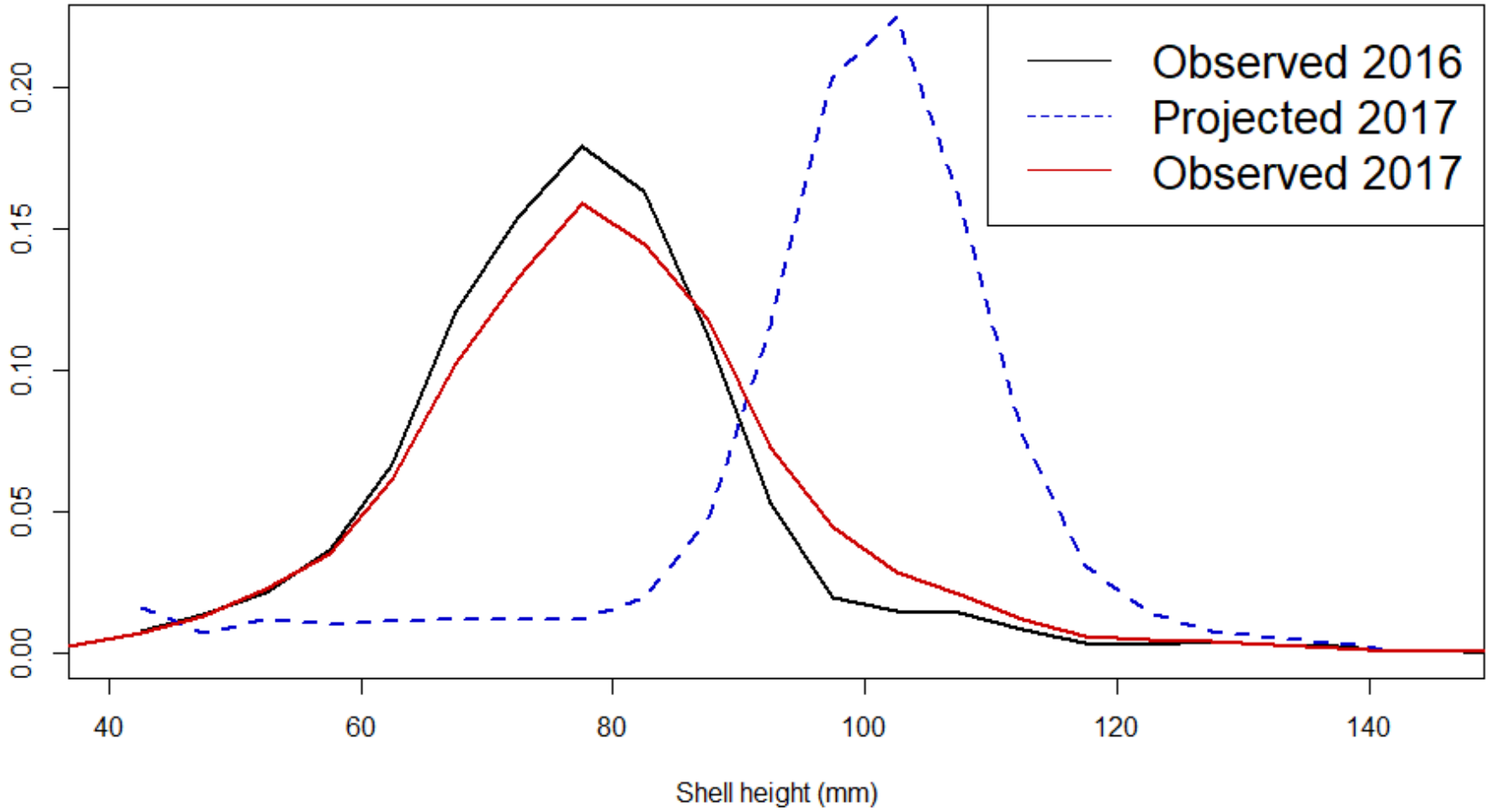
2. Unusually slow growth observed in the southern portion of the Nantucket Lightship area (> 70 m) and in Elephant Trunk flex area. In the lightship, this appears to be more related to depth than density. Growth in the deep water high density sites was somewhat greater than anticipated but still well below normal



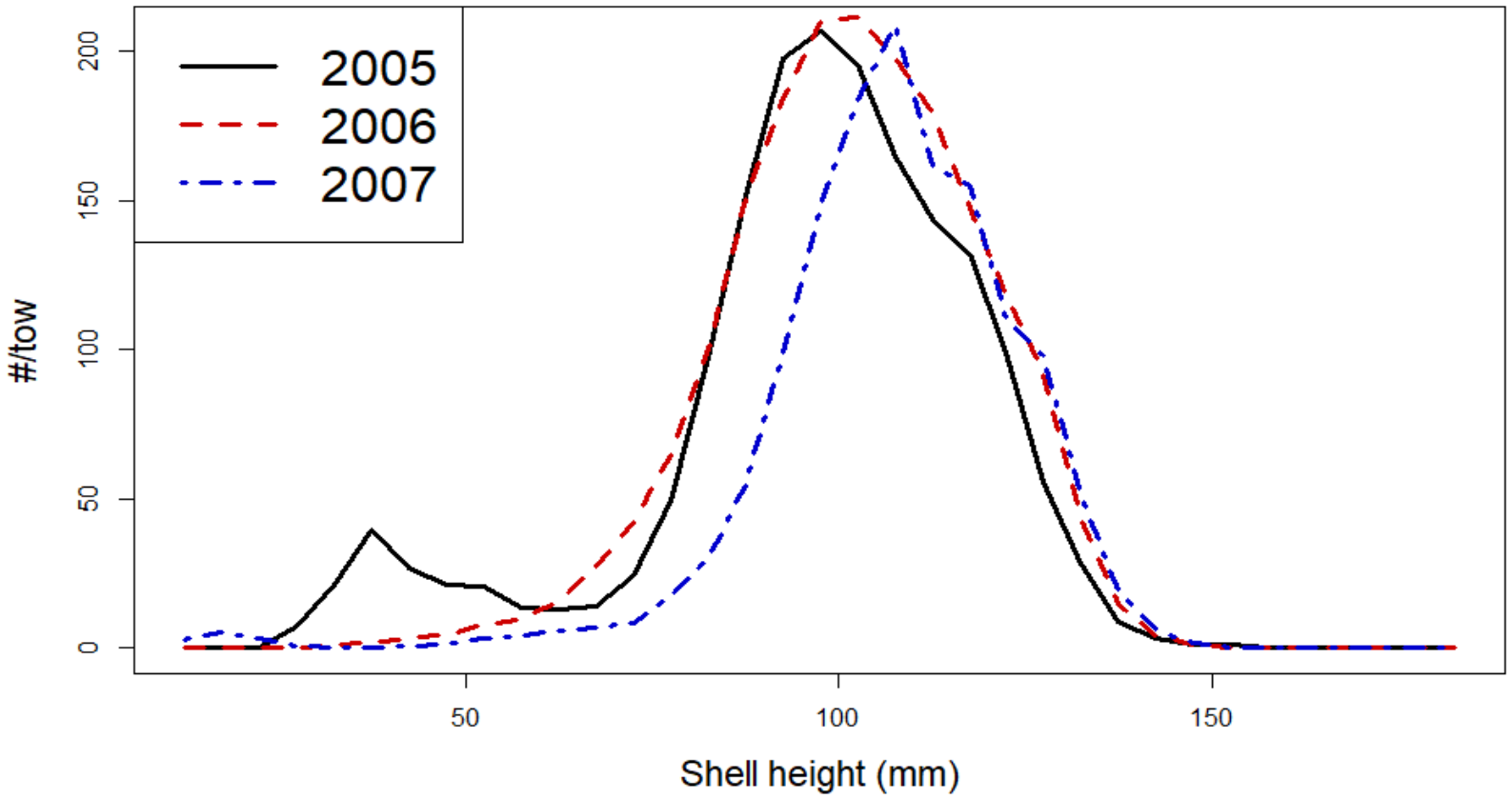
In 2016, L_∞ was estimated as 90 mm in the deep portion of Nantucket Lightship Access Area. Actual growth was somewhat faster, corresponding to an L_∞ of about 110 mm. This estimate was used in the ACL/OFL calculations and in Framework projections



Very slow growth was observed in the Elephant Trunk Flex area, especially in the high density areas



A similar phenomenon was observed in the Elephant Trunk between 2005 and 2006, where little growth was observed. However, normal growth resumed between 2006 and 2007



Growth in ET Flex in the coming year could be similar to 2016-2017 (nearly no growth), or nearly normal growth could resume. Given these uncertainties, L_∞ was set at 110 mm for this area. This is less than normal growth, but faster than the observed growth during 2016-2017.

2017 SAMS Model Configuration
(same as 2016, except for growth adjustments)

13 subareas of Georges Bank region. Three in open areas: South Channel, Northern Edge, Southern Flank, two adaptive rotational areas: Nantuket Lightship Extension and Closed Area II Extension, and seven in groundfish closed areas: CA-I access and no access, CA-II access and no access, Nantucket Lightship no access, access north, access south deep and access south shallow

8 subareas of Mid-Atlantic region: Virginia, Delmarva, Elephant Trunk open, Elephant Trunk closed, Hudson Canyon South, New York Bight, Long Island, Inshore Mid-Atlantic

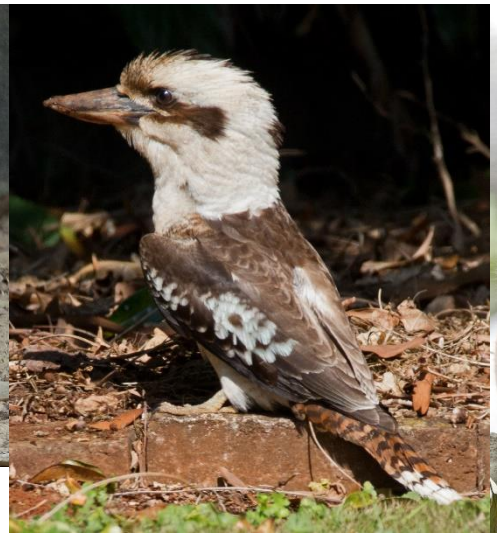
Model was initialized to averaged 2016 survey data and advanced to 2017 using estimated fishing mortality in each subarea

ACL/OFL calculations with 2018 exploitable biomass.

ACL/OFL correspond to F = 0.38 and 0.48, respectively

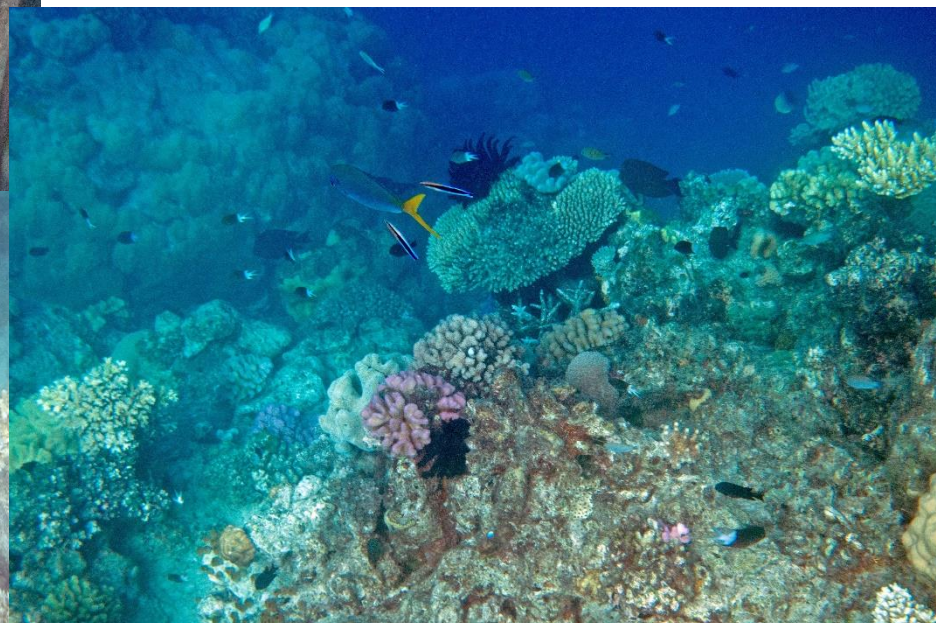
Year	ACL-Land	ACL-Disc	ACL-Tot	Biomass	OFL-Land	OFL-Disc	OFL-Total
2018	45950	14018	59968	288993	55573	16482	72055
2019	45805	12321	58126	266885	55336	14297	69633











Thank you!