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1.0 PRELIMINARY ANALYSES OF SPECIFICATION ALTERNATIVES

1.1 PROJECTION RESULTS – BIOMASS

This section includes a summary of the biomass projections for Alternative 1 (No Action); Alternative 2, and Alternative 3. There is a table for each scenario with the projected estimates of landings, LPUE, DAS, and bottom area swept through 2027. There is also a table with the estimated total biomass, exploitable biomass, fishing mortality, and landings per area. Finally, the alternatives are compared in Table ???. These projections are used in the economic analyses as well (Section 1.2).

Table 1 – Comparison of projection results for specification alternatives

2014	Total Landings	Total F	Total DAS	FT DAS	AA landings	BottAreaSwept	(mill lbs.)
No Action (Alt 1)	10,967	0.11	9,070	23	0	1,769	24,178,094
Alt 2	14,359	0.17	11,715	23	3,744	2,032	31,656,173
Alt 3*	14,402	0.17	11,786	28	1,751	2,104	31,750,972

* *Delmarva treated like an open area*
More uncertain because vessels may fish in open areas rather than access areas

Alt 3 has slighty higher landings but overall projection results very similar

	Land	U10	1020	2030	30+	Avg. MeatCount
Alt 2	14359	1836	10166	2266	91	15.2
Alt 3	14402	1877	10224	2206	94	15.1

little increase in average meat count in alt3 versus alt2

If closed Del in 2014 and waited until 2015
get 3,000 mt in 2015, versus 2,000 mt in 2014

ST cost	
1000	2204622
mt	lbs

Summary of terms used in SAMS projection model

Term	Meaning
Year	Fishing Year
OverallF	Estiamte of overall F - all areas combined (open and closed)
OpF	Estimate of Open Area Fishing Mortaltiy
Bms	Estimate of Total Biomass (in number of scallops)
EBms	Estimate of Exploitable Biomass (in number of scallops)
MC	Estimated Average Meat Count of all landings combined
Bmsmt	Estimate of total Biomass (in mt)
Ebmsmt	Estimate of exploitable biomass (in mt)
Land	Estiamte of total landings (all sources combined)
U10	Estimate of landings that are u10 scallops (in mt)
1020	Estimate of landings that are between u10 - u20 scallops (in mt)
2030	Estimate of landings that are between u20-u30 scallops (in mt)
30+	Estimate of landings that are smaller than u30 scallops (in mt)
LPUE	Estimate of average LPUE for all areas combined
OpLPUE	Estimate of average LPUE for all open areas
MALPUE	Estimate of average LPUE for MA access areas
GBLPUE	Estimate of average LPUE for GB access areas
TDAS	Estaimte of total DAS (all sources)
OpDAS	Estimate of total DAS (all sources) from open areas (F=0.38)
FTDAS	Estimate of OA DAS per FT vessel (after other sources removed)
BotAreaSwept	Estimate of total dredge hours for all landings combined

Projections for No Action (Alt1)			Default FY2014 Measures in FW24				LA FT DAS	AA (mt)	LAGC IFQ	RSA	OBS	Inc
							23	0	1258	567	237	23
Year	**OverallF**	**OpF**	**Bms**	**EBms**	**MC**	**Bmsmt**	**Ebmsmt**	**Land**	**U10**	**1020**	**2030**	**30+**
2014	0.11	0.4	4013	1957	15.2	134063	66352	10967	1097	8133	1670	67
2015	0.23	0.38	4719	2706	16	157087	90562	20405	1119	16132	3024	129
2016	0.28	0.35	4980	3089	15.7	166240	103215	25438	1543	20855	2895	146
2017	0.28	0.34	4986	3153	15.6	167340	105800	25774	1549	21277	2801	147
2018	0.28	0.36	4957	3135	15.5	167285	105821	25478	1606	20772	2940	161
2019	0.27	0.38	4931	3118	15.2	167101	105802	24761	1702	20068	2838	154
2020	0.27	0.38	4942	3123	15.2	167952	106390	24442	1823	19670	2795	154
2021	0.26	0.38	4966	3131	15.2	169070	106971	24188	1953	19208	2864	163
2022	0.26	0.38	4991	3164	15.2	170121	108327	24119	2103	19001	2862	153
2023	0.26	0.38	5032	3195	15.2	171682	109498	24081	2240	18882	2798	162
2024	0.26	0.38	5070	3216	15.2	173071	110313	24253	2316	18759	3004	175
2025	0.25	0.38	5076	3266	15.1	173326	112131	24462	2355	19008	2950	149
2026	0.25	0.38	5046	3281	15.1	172265	112687	24234	2366	18980	2739	148
2027	0.25	0.38	5014	3259	15.1	171128	111921	23931	2370	18669	2741	151
Year	**LPUE**	**OpLPUE**	**MALPUE**	**GBLPUE**	**TDAS**	**OpDAS**	**FTDAS**	**BotAreaSwept**				
2014	2666	2666	2605	2731	9070	9070	23	1769				
2015	2753	2663	2762	2729	16343	8977	25	2036				
2016	2832	2689	2828	2843	19803	8771	24	2205				
2017	2848	2727	2832	2886	19953	9038	25	2225				
2018	2833	2750	2790	2919	19830	10056	28	2373				
2019	2855	2764	2797	2955	19120	10725	29	2374				
2020	2855	2771	2773	2988	18872	10734	29	2370				
2021	2853	2767	2755	3004	18692	10710	29	2353				
2022	2858	2773	2746	3029	18603	10706	29	2339				
2023	2858	2771	2740	3034	18573	10708	29	2335				
2024	2854	2764	2737	3024	18733	10883	30	2335				
2025	2867	2786	2736	3054	18812	10989	30	2337				
2026	2870	2789	2735	3067	18615	10835	30	2337				
2027	2863	2780	2733	3058	18428	10696	29	2347				

Projections for Alternative 2			Open Area F=0.38 and NL, CA2, Del access				LA FT DAS	AA (mt)	LAGC IFQ	RSA	OBS	Inc
							23	3744	1099	567	208	23
Year	**OverallF**	**OpF**	**Bms**	**EBms**	**MC**	**Bmsmt**	**Ebmsmt**	**Land**	**U10**	**1020**	**2030**	**30+**
2014	0.17	0.38	4008	1957	15.2	133837	66352	14359	1836	10166	2266	91
2015	0.23	0.38	4566	2610	16	151846	87320	19697	1040	15567	2966	124
2016	0.28	0.35	4836	2990	15.8	161228	99813	24500	1348	20182	2827	144
2017	0.28	0.34	4867	3060	15.7	163111	102554	25106	1381	20748	2824	153
2018	0.28	0.36	4858	3059	15.6	163718	103159	25032	1452	20421	2998	160
2019	0.27	0.38	4848	3059	15.3	164078	103704	24433	1545	19879	2853	155
2020	0.27	0.38	4850	3071	15.3	164574	104492	24204	1665	19539	2845	155
2021	0.26	0.38	4859	3085	15.3	165149	105265	23844	1806	19111	2775	152
2022	0.26	0.38	4879	3096	15.2	166003	105815	23619	1942	18686	2829	162
2023	0.26	0.38	4897	3124	15.2	166715	106902	23684	2054	18618	2861	151
2024	0.26	0.38	4912	3145	15.2	167292	107687	23604	2122	18553	2774	155
2025	0.26	0.38	4936	3151	15.2	168224	107953	23577	2158	18379	2875	166
2026	0.26	0.38	4967	3175	15.2	169355	108837	23721	2174	18496	2896	155
2027	0.25	0.38	4997	3195	15.2	170432	109560	23816	2175	18627	2854	159
Year	**LPUE**	**OpLPUE**	**MALPUE**	**GBLPUE**	**TDAS**	**OpDAS**	**FTDAS**	**BotAreaSwept**				
2014	2702	2676	2602	2817	11715	8745	23	2032				
2015	2738	2672	2751	2706	15859	8994	25	2034				
2016	2814	2691	2819	2801	19194	8700	24	2201				
2017	2828	2721	2823	2841	19570	9015	25	2230				
2018	2816	2748	2782	2887	19599	10078	28	2376				
2019	2841	2761	2792	2925	18962	10769	30	2375				
2020	2844	2770	2769	2968	18762	10795	30	2372				
2021	2846	2772	2754	2994	18468	10675	29	2357				
2022	2844	2768	2743	3003	18308	10620	29	2335				
2023	2848	2773	2738	3018	18335	10671	29	2338				
2024	2847	2769	2736	3018	18281	10645	29	2341				
2025	2841	2762	2733	3007	18294	10683	29	2337				
2026	2845	2770	2731	3018	18380	10759	29	2337				
2027	2845	2769	2730	3019	18452	10791	30	2341				

Projections for Alternative 3			Open Area F=0.38 and NL and CA2 access, Del as open area				LA FT DAS	AA (mt)	LAGC IFQ	RSA	OBS	Inc
							28	1751	1099	567	208	23
Year	**OverallF**	**OpF**	**Bms**	**EBms**	**MC**	**Bmsmt**	**Ebmsmt**	**Land**	**U10**	**1020**	**2030**	**30+**
2014	0.17	0.38	4015	1957	15.1	134146	66353	14402	1877	10224	2206	94
2015	0.22	0.38	4599	2610	16.1	153085	87286	19761	1038	15505	3078	141
2016	0.28	0.37	4911	3016	15.8	163954	100774	24874	1356	20344	3022	153
2017	0.28	0.33	4966	3113	15.7	166520	104412	25382	1333	21054	2846	150
2018	0.28	0.36	4963	3135	15.6	167288	105760	25617	1439	21041	2979	158
2019	0.27	0.38	4933	3128	15.3	166887	106039	24938	1597	20330	2853	159
2020	0.27	0.38	4921	3130	15.2	166890	106466	24645	1765	19837	2886	158
2021	0.26	0.38	4920	3131	15.2	167146	106781	24265	1902	19370	2838	155
2022	0.26	0.38	4938	3136	15.2	167911	107133	24007	2007	19005	2836	158
2023	0.26	0.38	4963	3155	15.2	168888	107925	24008	2114	18868	2869	157
2024	0.26	0.38	4989	3175	15.2	169879	108642	23959	2194	18786	2826	154
2025	0.26	0.38	5021	3189	15.2	171032	109194	23925	2221	18697	2846	160
2026	0.26	0.38	5047	3216	15.2	171973	110168	24047	2241	18770	2880	157
2027	0.26	0.38	5056	3238	15.2	172358	110983	24093	2260	18856	2825	152
Year	**LPUE**	**OpLPUE**	**MALPUE**	**GBLPUE**	**TDAS**	**OpDAS**	**FTDAS**	**BotAreaSwept**				
2014	2694	2650	2599	2796	11786	10525	28	2104				
2015	2724	2691	2746	2674	15993	11332	31	2063				
2016	2803	2741	2807	2792	19566	11622	32	2263				
2017	2840	2790	2826	2874	19704	10844	30	2168				
2018	2834	2814	2790	2925	19930	12075	33	2355				
2019	2855	2810	2803	2949	19254	12666	35	2369				
2020	2853	2805	2780	2977	19041	12598	35	2375				
2021	2852	2801	2762	2998	18757	12432	34	2364				
2022	2850	2797	2749	3011	18568	12304	34	2343				
2023	2851	2797	2744	3021	18563	12298	34	2341				
2024	2853	2798	2742	3028	18514	12229	33	2339				
2025	2852	2794	2739	3027	18496	12182	33	2332				
2026	2855	2796	2740	3032	18572	12214	33	2333				
2027	2858	2798	2744	3035	18585	12197	33	2341				

Projections for Alternative 3 (same as Alt 2 at first)	Open Area F=0.38 and NL, CA2, Del access could be in DAS in AA or OA	LA FT DAS	AA (mt)	LAGC IFQ	RSA	OBS	Inc
		28	1,751	1099	567	208	23

Area	Bmsmt	Ebmsmt	FracExpl	DAS	DAS/FTV	Land	LPUEmt/das	LPUE
Maopen	28347	17312	0.61	4547	12	5391	1.19	2614
Gbopen	22838	15381	0.67	4198	11.08	5224	1.24	2743
TotalOpen	51185	32693	0.64	8745	23.08	10615	1.21	2676
Delmarva	10803	3453	0.32	1709	4.51	1993	1.17	2571
CL2-Acc	6561	3897	0.59	871	2.3	1119	1.28	2832
NLS-Acc	4135	1929	0.47	389	1.03	632	1.62	3582
CL1-Acc	1719	678	0.39	0	0	0	NA	NA
HCS	10112	2617	0.26	0	0	0	NA	NA
ET	26572	7759	0.29	0	0	0	NA	NA
CL1-NA	13669	6765	0.49	0	0	0	NA	NA
CL2-NA	8956	6476	0.72	0	0	0	NA	NA
NLS-NA	125	85	0.68	0	0	0	NA	NA
Total	133837	66352	0.5	11714	30.91	14359	1.23	2702

Tot ExpB	66352
CL ExpB	23702
	0.357216

About 36% of exploitable scallops within GF/EFH closed areas plus MA scallop access areas that are currently closed

1.2 COMPARISON OF ALTERNATIVES AND PRELIMINARY ECONOMIC ANALYES

Comparison of short term and long term projections in **Table 2** through **Table 6**. Preliminary economic impacts summarized in **Table 7** through **Table 9**.

Table 2. Estimated Landings (Million lb.)

subperiod	Fishing year	No Action	ALT2	ALT3-dmv
2014-2015	2014	24.2	31.7	31.8
	2015	45.0	43.4	43.6
2014-2015 Total		**69.2**	**75.1**	**75.3**
2016-2018	2016	56.1	54.0	54.8
	2017	56.8	55.3	56.0
	2018	56.2	55.2	56.5
2016-2018 Total		**169.1**	**164.5**	**167.3**
2019-2027	2019	54.6	53.9	55.0
	2020	53.9	53.4	54.3
	2021	53.3	52.6	53.5
	2022	53.2	52.1	52.9
	2023	53.1	52.2	52.9
	2024	53.5	52.0	52.8
	2025	53.9	52.0	52.7
	2026	53.4	52.3	53.0
	2027	52.8	52.5	53.1
2019-2027 Total		**481.6**	**472.9**	**480.4**
Grand Total		**719.9**	**712.5**	**722.9**

Table 3. Estimated Open Area DAS per Limited Access Vessel

subperiod	Fishing year	No Action	ALT2	ALT3-dmv
2014-2015	2014	23	23	28
	2015	25	25	31
2014-2015 Total		**48**	**48**	**59**
2016-2018	2016	24	24	32
	2017	25	25	30
	2018	28	28	33
2016-2018 Total		**77**	**77**	**95**
2019-2027	2019	29	30	35
	2020	29	30	35
	2021	29	29	34
	2022	29	29	34
	2023	29	29	34
	2024	30	29	33
	2025	30	29	33
	2026	30	29	33
	2027	29	30	33
2019-2027 Total		**264**	**264**	**304**
Grand Total		**389**	**389**	**458**

Table 4. Average LPUE for all areas

subperiod	Fishing year	No Action	ALT2	ALT3-dmv
2014-2015	2014	2666	2702	2694
	2015	2753	2738	2724
2014-2015 Total		**2710**	**2720**	**2709**
2016-2018	2016	2832	2814	2803
	2017	2848	2828	2840
	2018	2833	2816	2834
2016-2018 Total		**2838**	**2819**	**2826**
2019-2027	2019	2855	2841	2855
	2020	2855	2844	2853
	2021	2853	2846	2852
	2022	2858	2844	2850
	2023	2858	2848	2851
	2024	2854	2847	2853
	2025	2867	2841	2852
	2026	2870	2845	2855
	2027	2863	2845	2858
2019-2027 Total		**2859**	**2845**	**2853**
Grand Total		**2833**	**2821**	**2827**

Table 5. Average meat count

subperiod	Fishing year	No Action	ALT2	ALT3-dmv
2014-2015	2014	15.2	15.2	15.1
	2015	16.0	16.0	16.1
2014-2015 Total		**15.6**	**15.6**	**15.6**
2016-2018	2016	15.7	15.8	15.8
	2017	15.6	15.7	15.7
	2018	15.5	15.6	15.6
2016-2018 Total		**15.6**	**15.7**	**15.7**
2019-2027	2019	15.2	15.3	15.3
	2020	15.2	15.3	15.2
	2021	15.2	15.3	15.2
	2022	15.2	15.2	15.2
	2023	15.2	15.2	15.2
	2024	15.2	15.2	15.2
	2025	15.1	15.2	15.2
	2026	15.1	15.2	15.2
	2027	15.1	15.2	15.2
2019-2027 Total		**15.2**	**15.2**	**15.2**
Grand Total		**15.3**	**15.4**	**15.4**

Table 6. Area Swept

subperiod	Fishing year	No Action	ALT2	ALT3-dmv
2014-2015	2014	1769	2032	2104
	2015	2036	2034	2063
2014-2015 Total		**3805**	**4066**	**4167**
2016-2018	2016	2205	2201	2263
	2017	2225	2230	2168
	2018	2373	2376	2355
2016-2018 Total		**6803**	**6807**	**6786**
2019-2027	2019	2374	2375	2369
	2020	2370	2372	2375
	2021	2353	2357	2364
	2022	2339	2335	2343
	2023	2335	2338	2341
	2024	2335	2341	2339
	2025	2337	2337	2332
	2026	2337	2337	2333
	2027	2347	2341	2341
2019-2027 Total		**21127**	**21133**	**21137**
Grand Total		**31735**	**32006**	**32090**

Table 7. Preliminary projections for price

subperiod	Fishing year	No Action	ALT2	ALT3-dmv
2014-2015	2014	12.88	12.69	12.69
	2015	11.81	11.87	11.88
2014-2015 Total		**12.35**	**12.28**	**12.28**
2016-2018	2016	11.33	11.39	11.37
	2017	11.29	11.33	11.30
	2018	11.34	11.37	11.30
2016-2018 Total		**11.32**	**11.36**	**11.32**
2019-2027	2019	11.43	11.43	11.39
	2020	11.48	11.48	11.45
	2021	11.54	11.54	11.52
	2022	11.57	11.59	11.56
	2023	11.59	11.61	11.58
	2024	11.60	11.62	11.60
	2025	11.58	11.64	11.61
	2026	11.59	11.63	11.60
	2027	11.62	11.61	11.60
2019-2027 Total		**11.56**	**11.57**	**11.55**
Grand Total		**11.62**	**11.63**	**11.60**

Table 8. Preliminary Revenue Projections

subperiod	Fishing year	No Action	ALT2	ALT3-dmv
2014-2015	2014	311.4	401.6	402.8
	2015	531.4	515.4	517.3
2014-2015 Total		**842.8**	**917.1**	**920.1**
2016-2018	2016	635.4	615.1	623.5
	2017	641.4	627.2	632.1
	2018	637.1	627.4	638.3
2016-2018 Total		**1914.0**	**1869.7**	**1893.9**
2019-2027	2019	623.7	615.9	626.2
	2020	618.5	612.6	622.3
	2021	615.1	606.5	616.0
	2022	615.1	603.7	611.9
	2023	615.4	606.1	613.1
	2024	620.4	604.8	612.7
	2025	624.5	605.1	612.4
	2026	619.2	608.1	615.1
	2027	613.3	609.8	615.9
2019-2027 Total		**5565.3**	**5472.7**	**5545.6**
Grand Total		**8322.1**	**8259.5**	**8359.6**

Table 9. Preliminary Producer Surplus (Total Revenue minus Trip Costs) Projections

subperiod	Fishing year	No Action	ALT2	ALT3-dmv
2014-2015	2014	294	379	380
	2015	499	484	486
2014-2015 Total		**793**	**863**	**866**
2016-2018	2016	597	578	585
	2017	602	589	594
	2018	598	589	599
2016-2018 Total		**1798**	**1756**	**1778**
2019-2027	2019	586	579	589
	2020	582	576	585
	2021	579	570	579
	2022	579	568	576
	2023	579	570	577
	2024	584	569	577
	2025	588	569	576
	2026	583	572	579
	2027	577	574	580
2019-2027 Total		**5236**	**5148**	**5217**
Grand Total		**7827**	**7767**	**7861**

1.3 ACL TERMS AND DAS CALCULATION

DRAFT OFL AND ABC VALUES FOR FW25

	2014	unit	Description
OFL	67,062,415	lb	Output from SAMS
	30,419	mt	
ABC (after discards removed)	45,816,467	lb	Output from SAMS
	20,782	mt	
incidental	50,000	lb	Target TAC set by FW
	23	mt	
RSA	1,250,000	lb	Set allocation from A15
	567	mt	
OBS	458,165	lb	Equivalent to 1% of ACL, or ABC after discards removed
	208	mt	
ABC/ACL (after removing set-asides and incidental)	44,057,575	lb	ABC/ACL available to the fishery [ACL-(incidental, RSA and OBS)]
	19,984	mt	
LA sub-ACL (94.5% of ACL after set asides and incidental removed)	41,634,409	lb	ACL*0.945
	18,885	mt	
LA sub-ACT	27,685,651	lb	Output from SAMS - estiamte of LA landings for basic scenario
	12,558	mt	
IFQ-only (5% of ACL)= sub-ACL = ACT	2,202,879	lb	ACL*0.05
	999	mt	
IFQ + LA (0.5% of ACL)= sub-ACL=ACT	220,288	lb	ACL*0.005
	100	mt	

Buffer between OFL and ABC (including discards)	4,179	
	9,213,118	0.862619

Buffer between LA sub-ACL and LA sub-ACT	6,327	
	13,948,758	0.66497

Note that buffer is larger than usual because larger proportion of exploitable biomass in GB and MA closed areas than usual. 50% of MA biomass in closures in 2014.
For example, in 2013 LA ACT was 80% of LA ACL; in 2012 it was 89%, and in 2011 it was 86%.
Since ACT is based on scallops available to the fishery, and ABC is based on all scallops (from both open and closed areas) there can be a larger difference when more scallops are in closed areas.
The estimate of landings is only from fraction of scallops from areas open to the fishery

DAS Calculation Method

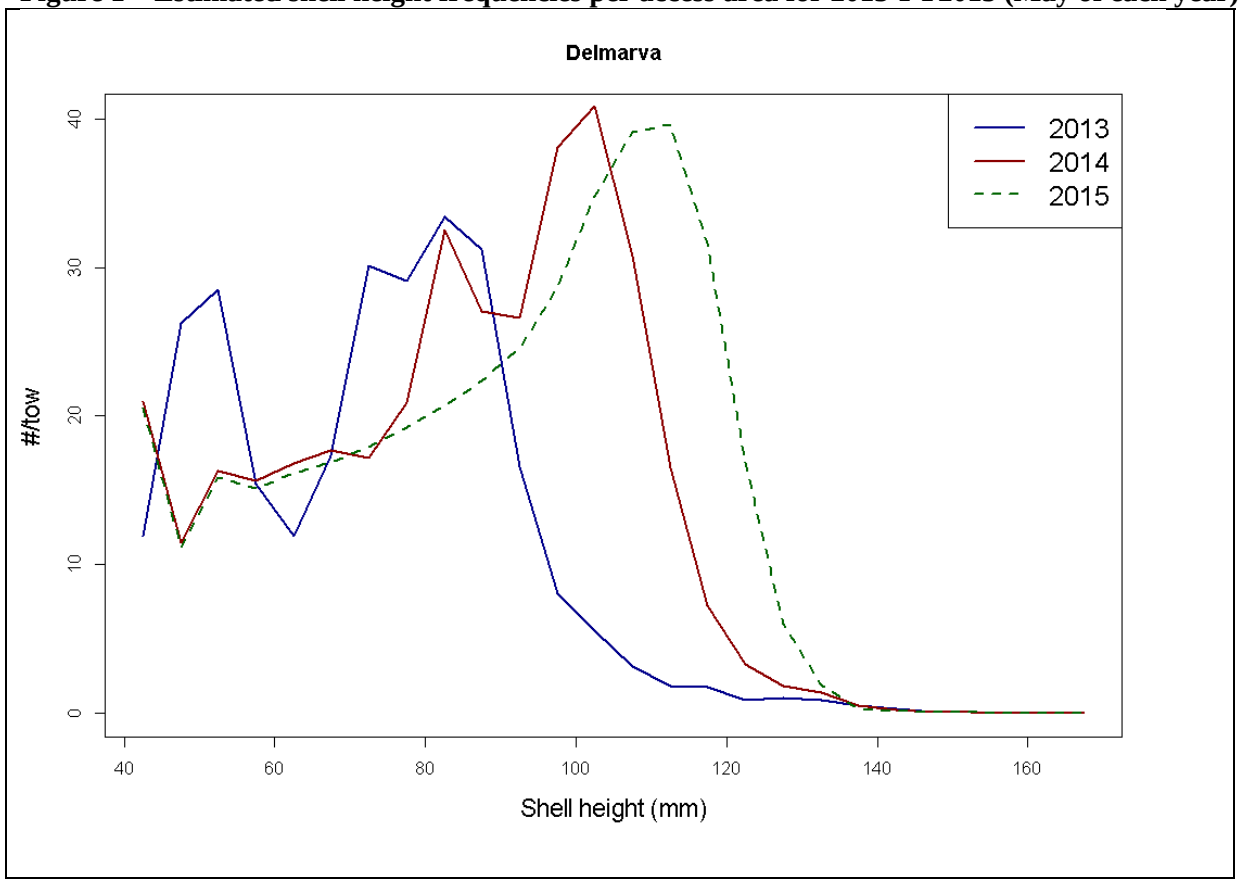
	2014	Unit	Description
ABC (after discards removed)	20782	mt	From SAMS
Total Landings	14455	mt	From SAMS, open areas fished @ F = 0.38, AA fished to OY
RSA set aside	567	mt	A15 set at 567mt annually
Observer set aside	208	mt	1% of ABC
Incidental	23	mt	Target TAC set in FW
GCLand	1099	mt	5.5% of (ABC-(RSA,ObS, and incidental))
LA Land Total	12558		Est of LA total catch from scenario
CL2Land	1119	mt	From SAMS
OpLand	10712	mt	From SAMS (all sources of catch - LA, LAGC, RSA, OBS, incidental)
OpGCLand	883	mt	Assumed GC Landings from Open areas = GCLand*[OpLand/(TotLand-CL2Land)]
OPLALand	9255		Est of LA catch from OA from scenario
OpRSA	420	mt	Assumed portion of RSA in open areas = RSA*OpLand/TotLand
OpObSA	154	mt	Assumed portion of OBS in open areas = ObSA*OpLand/TotLand
FT Vessel Eqv	327	# FT ves	Number of LA FT vessels (PT and Occ converted into FT equivalnet)
OpLPUE	2673	lbs/d	From SAMS
OpDAS	8836	days	From SAMS (all DAS - LA, LAGC, RSA, OBS,incidental)
GCOpDASequiv	728	days	Est of LA DAS to harvest OpGCLand = OpGCLand/OpLPUE
RSAOpDASequiv	347	days	Est of LA DAS to harvest OpRSA = OpRSA/OpLPUE
OBSOpDASequiv	127	days	Est of LA DAS to harvest OpObSA = OpObSA/OpLPUE
Incidental DASeqiv	19	days	Est of LA DAS to harvest Incidental Catch = Incidental/OpLPUE
LAOpDAS	7616	days	Total OpDAS - (GC,RSA,OBS,Inc DAS)
DAS/FT Vessel Eqv	**23**	**days**	**LAOpDAS/327**

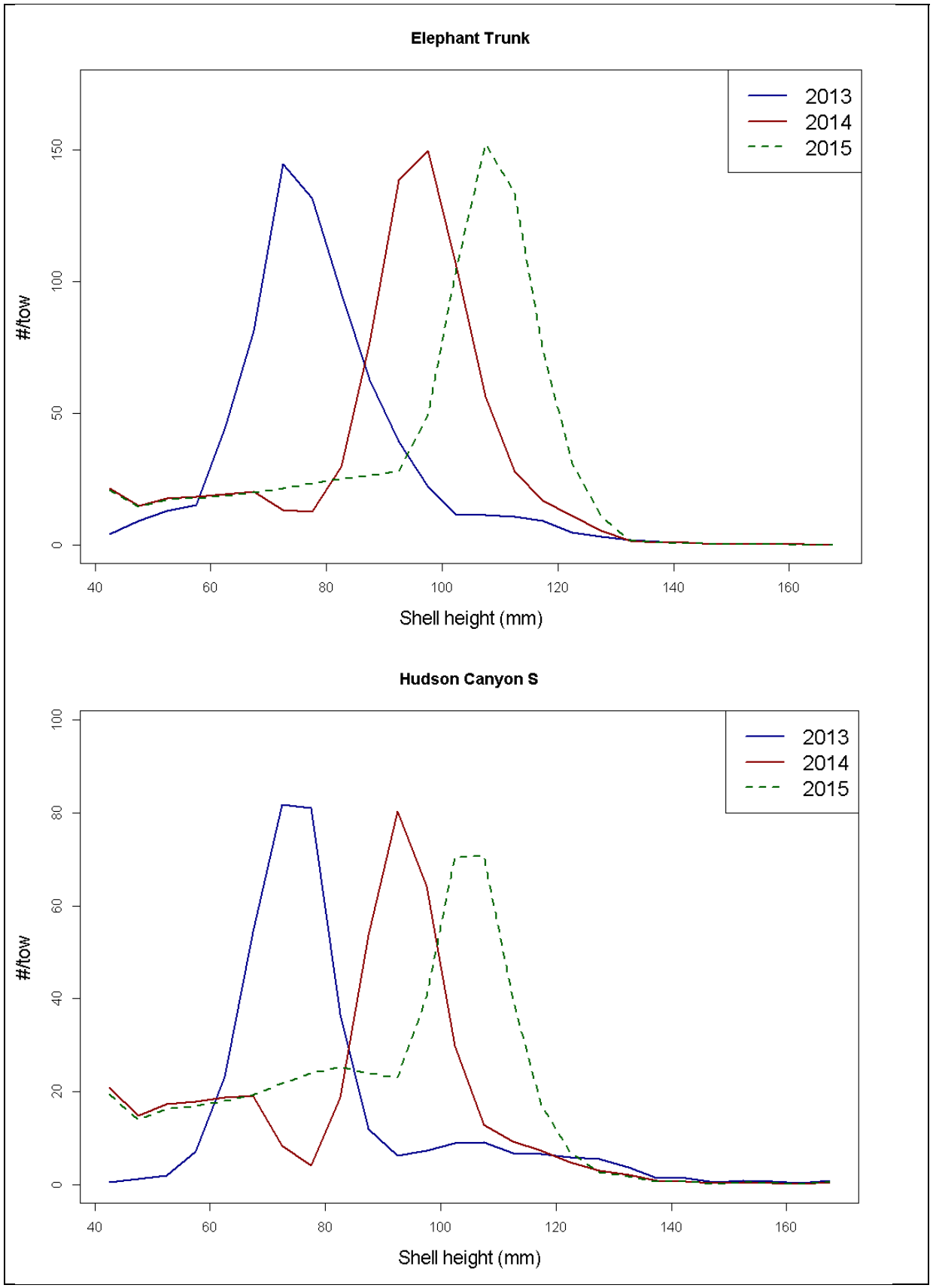
1.4 PROJECTED SHELL HEIGHTS PER ACCESS AREA

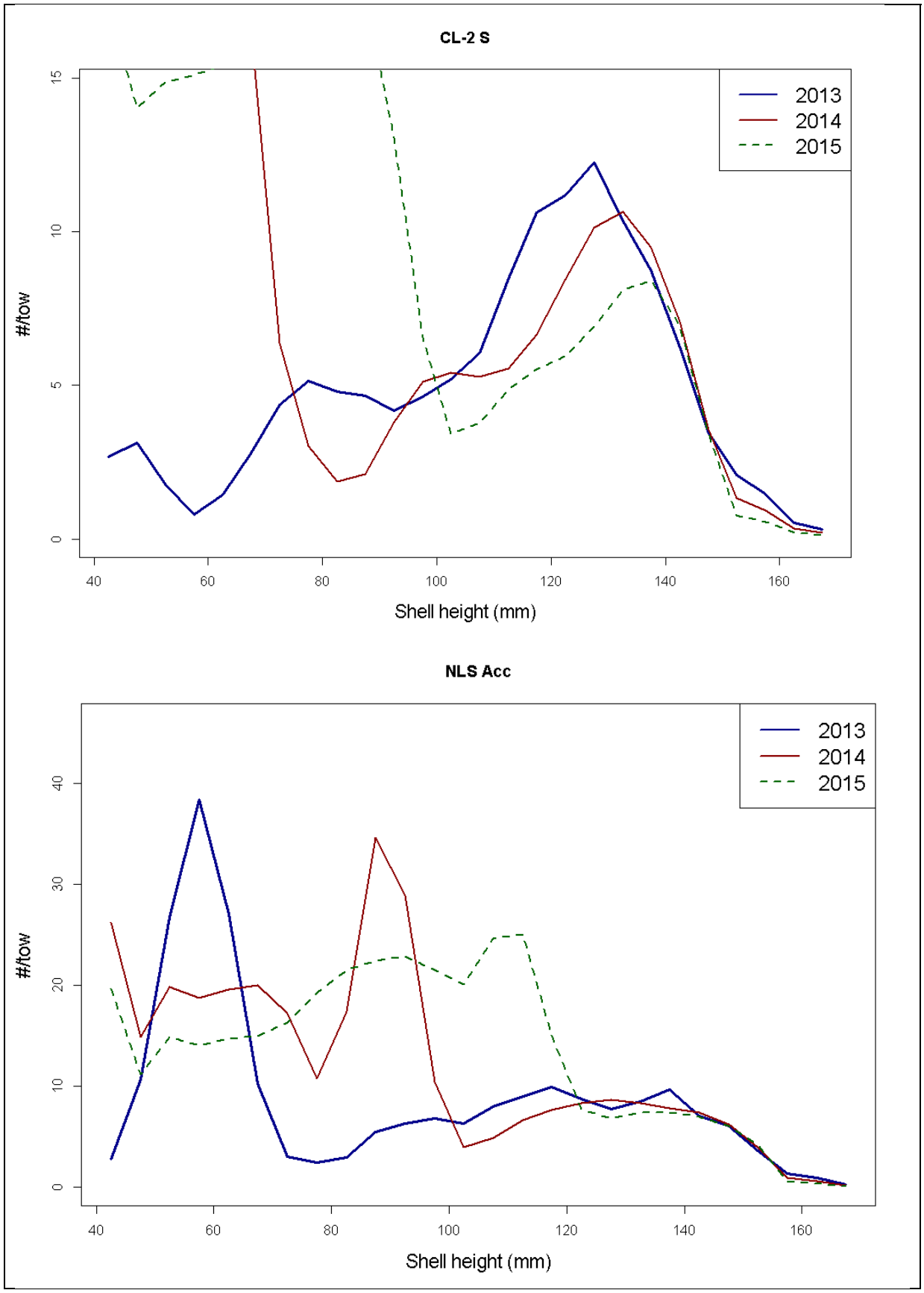
The PDT estimated the projected shell height of scallops per area in the figures below. The blue line is the shell height frequency of the area for the 2013 survey results. The shell heights of those animals are projected forward for May 2014 and May 2015.

Scallops are not typically exploitable to dredge gear until they reach 100-110 mm.

Figure 1 – Estimated shell height frequencies per access area for 2013-FY2015 (May of each year)




Elephant Trunk
2013
2014
2015
#/tow
0
50
100
150
40
60
80
100
120
140
160
Shell height (mm)
Hudson Canyon S
2013
2014
2015
#/tow
0
20
40
60
80
100
40
60
80
100
120
140
160
Shell height (mm)


CL-2 S
2013
2014
2015
#/tow
0
5
10
15
40
60
80
100
120
140
160
Shell height (mm)
NLS Acc
2013
2014
2015
#/tow
0
10
20
30
40
40
60
80
100
120
140
160
Shell height (mm)

UPDATED INFORMATION FROM VIMS – September 2013 Survey of Delmarva

VIMS went back to survey Delmarva in September. Biomass estimates and length frequency results are compared below for the area from the April and September surveys.

Preliminary estimates of biomass in the access area of the DelMarVa Closed Area.

Assumptions:

Survey Dredge Efficiency: 44%

Size Selectivity: Yochum and DuPaul, 2008

Area of fishable bottom in DMV: 4,462 km^2

SH:MW relationships: From SARC 50 (regional and area specific)

	SH_MW	**Biomass (MT)**	**SE**	**LCI**	**UCI**
Exploitable Biomass					
SURVEY	SARC50 DMV SPECIFIC	3,437.0	407.8	2,637.7	4,236.2
SURVEY	SARC50 REGIONAL	3,013.7	357.3	2,313.3	3,714.1
Total Biomass					
SURVEY	SARC50 DMV SPECIFIC	7,838.8	894.9	6,084.7	9,592.9
SURVEY	SARC50 REGIONAL	6,840.8	782.9	5,306.4	8,375.2

Figure 2 – Scallop length frequency distributions in Delmarva in April 2013 (top) and September 2013 (bottom)

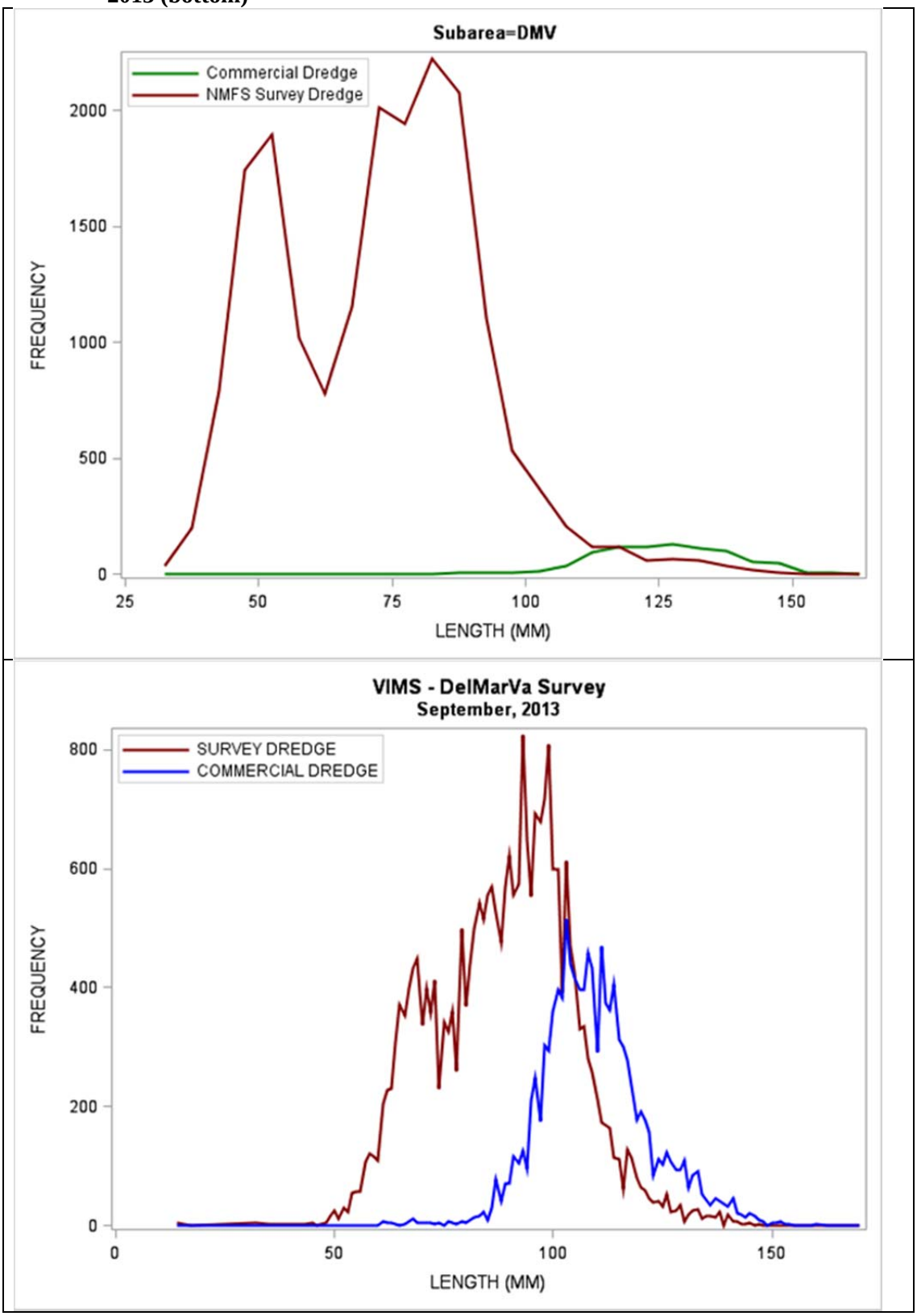
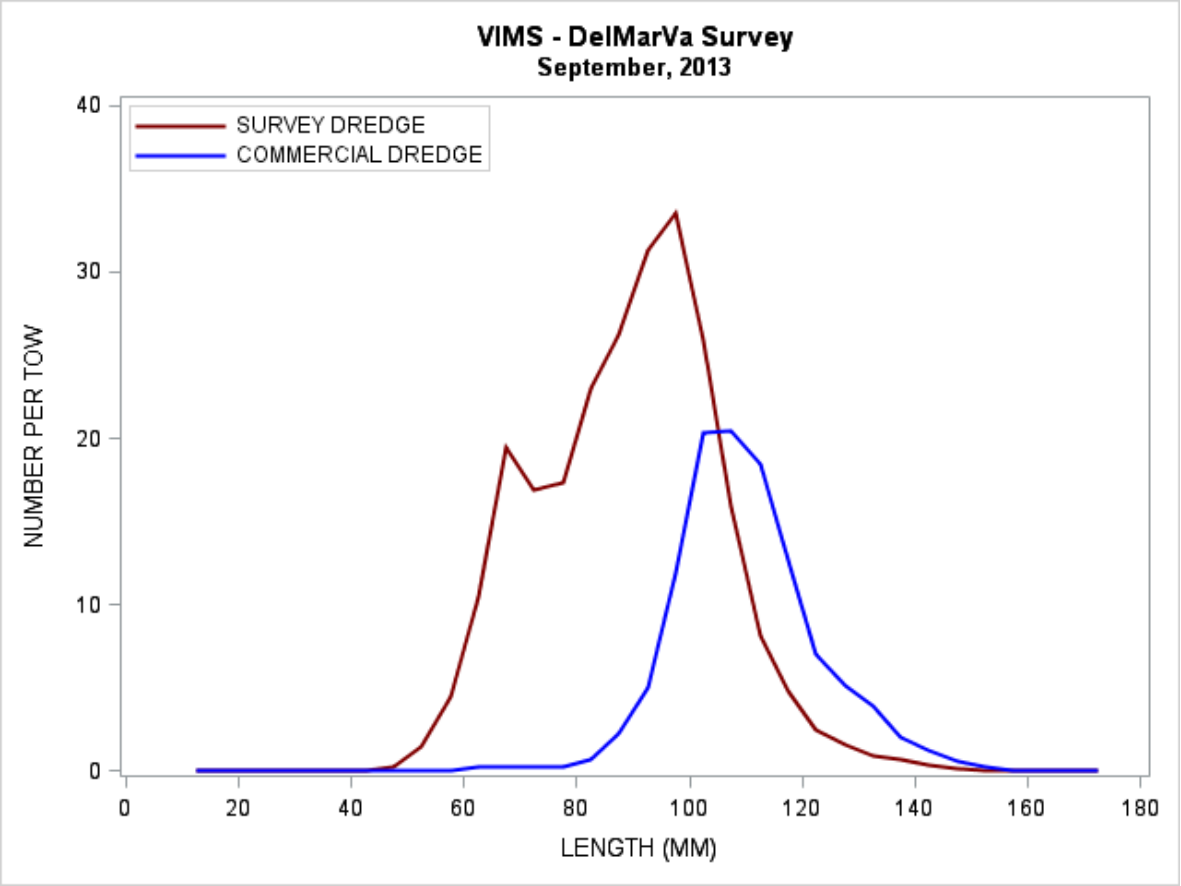


Figure 3 – Number of scallops per tow from the VIMS dredge survey of Delmarva in 5mm bins (Sept 2013)



1.5 PRELIMINARY BYCATCH PROJECTIONS (YT AND WP)

Currently there are three main scallop specification alternatives under consideration: Alternative1) No Action; Alternative2) open area catch set at Fmsy and access area effort in Delmarva, CA2, and NL; and Alternative3) open area catch set at Fmsy and access area effort in the same three access areas, but more flexibility in how access allocated in access areas (DAS instead of trips).

All three of these scenarios will have potentially different impacts on bycatch. The Scallop PDT will eventually provide final estimates of bycatch for GB YT, SNE/MA YT, and SNE/MA WP for all three scenarios. But the only estimates available right now are for Alternative 2. Also, the PDT wants to refine these estimates using as much 2013 data as possible since it appears that catch rates may be somewhat different compared to 2012.

The method used is the same as previous estimates for GF FW48 etc.

Table 10 - Estimate of sub-ACL catch for FW25 Alternative 2

	GBC2	GBOp	GB Tot	SNEOp	Maop	NLS	SNE Tot
2012 Y:S	0.0675	0.0125		0.0059	0.0073	0.0065	
2014 Y:S	0.0626	0.0104		0.0041	0.0083	0.0145	
2013 Y:S	0.0298	0.0092		0.0044	0.0076	0.0098	
2014 Y:S	0.0321	0.0088		0.0044	0.0077	0.0106	
ScLand	1119	2554		540	5199	632	
2014 YT (from 2012)	70.0	26.6	96.6	2.2	43.4	9.2	54.8
2014 YT (from 2013)	35.9	22.4	55.7	2.4	40.1	6.7	49.1

Total estimate of SNE/MA WP for FY2014 is 7.4 mt.
This is based on using 2012 bycatch rate information.

Sub-ACL allocations – none are under consideration for modification in FW51

	2014	2015
GB YT	50.9	Not available
SNE/MA YT	66	64
SNE/MA WP	183	183

1.6 GROWTH ESTIMATES PER AREA

Estimated growth rates for 2014 fishing year. These values should not be used to rank areas for reopening. But they can be used to get a sense of potential growth rates in relation to the guidelines established in Amendment 10 for when access areas should reopen after a closure to protect small scallops.

The general management structure for area rotation management is described in Table 2 in FW25. An area would close when the expected increase in exploitable biomass in the absence of fishing mortality exceeds 30% per year, and re-open to fishing when the annual increase in the absence of fishing mortality is less than 15% per year.

Mid-Atlantic SAMS areas

HCS	VB	ET	Dmv	NYB	LI	MAExt
0.27	0.47	0.24	0.36	0.28	0.15	0.21

GB SAMS Areas

C1NA	C1Acc	C2NA	C2Acc	NLSNA	NLSAcc	Schpc	Sch	NEP	SEP
0.10	0.24	0.01	0.12	0.16	0.26	0.15	0.26	0.20	0.22