Summary of the Recent Scallop PDT Conference Calls

October 21, 2016

October 26, 2016

October 28, 2016

November 7, 2016

November 10, 2016

SEE PAGE 5 FOR PDT DISCUSSION ON NEW SAMS RUN

PDT Call on October 21, 2016:

OFL and ABC Recommendations: The PDT was updated on the SSC's recommendations for 2017 (13 month) and 2018 (default) OFLs and ABCs, shown in the table below.

Year	ABC_Land	ABC_Disc	ABC_Tot	OFL_Land	OFL_Disc	OFL_Tot
2017	46737	15004	61741	56533	18952	75485
2018	43142	13850	56992	52184	17494	69678

FW28 Specifications: With regard to running the SAMS model, Dr. Hart explained that adjustments to the new LPUE model were made since it was last presented to the PDT. The new linear LPUE model did not account for the number of scallops that can be shucked in a day (the old model did account for this), and was adjusted to cap the number of animals that can be shucked at 50,000 per day, which reduces the maximum LPUE to 4,500 lbs.

Additional information was provided on NLS ext, which would revert to open bottom in the proposed specification alternatives tasked by the Committee. Animals in the NLS ext will be five years old next year and are expected to be around 20 counts. Dr. Hart explained that the model is predicting an LPUE of 2,900 lbs per DAS in this area. Because the LPUE in this area is higher than in other SAMS areas, the model predicts that the F rate for this area will be F=0.65. Adding this area as open bottom increases the averaged LPUE for all open areas. Keeping this area closed or keeping it as part of the NLS AA would reduce the number of DAS associated with various F rate runs by around three (3) DAS. Some members of the PDT feel that these animals have additional growth potential, however, their maximum growth is expected to be less than their counterparts in the NLS north, which is one of the most productive areas in the fishery (VIMS SH/MW data from 2016 dredge survey – see PDT memo to SSC).

The PDT discussed an idea proposed by Dr. Hart to make this NLS ext its own AA and reduce the overall number of DAS. The concept would be to add a 5th AA trip that could be taken in either the ETC area or the NLS ext for the fleet (assuming that some vessels would go to the ETC and some to NLS). The PDT noted that this sort of approach may require a lottery, something the AP and CTE have moved away from in recent years. The PDT requested that an updated table of exploitable biomass be provided for the NLS ext area, and expressed reservations about adding a 5th rotational trip (which the CTE did not recommend/task) and additional effort in the MAAA for FY2017 (in addition to the 2 trips on the table).

With regard to the opening of access areas, one PDT member cited correspondence from the October 13 joint meeting that suggested meat weights in the NLS improved starting in June of 2016.

Thirteen Month Fishing Year: The 2017 fishing year will be 13 months, beginning on March 1, 2017 and ending on March 31, 2018. The PDT discussed possible ways to prorate the 2017 fishing year to account for the extra month (March of 2018). The group discussed increasing the DAS and corresponding IFQ quota by 8% to account for the additional time in the FY. The group also discussed basing the proration on recent LA DAS usage and IFQ landings during the month of March. The PDT reviewed recent March DAS and IFQ usage and recommends

prorating the DAS/corresponding IFQ quota increase in 2017 by recent March fishing activity (multiply the 12 month DAS specifications by 4.7%).

PDT Call on October 26, 2016:

Results of SAMS model runs: The PDT reviewed the results of SAMS model runs based on recent scallop Committee tasking. The SAMS model was run assuming status quo allocations for the LAGC IFQ component (5.5% of ACL (SQ for short)), and the spatial management approach (LAGC IFQ allocated 5.5% of projected landings (PL for short)). The status quo allocation approach results in higher overall fishery allocations, as well as a higher quota for the IFQ component. A total of eight model runs were completed for this meeting: 1) No Action (FW27 default specifications for FY2017); 2) Status Quo (FY2017 Specifications, assuming status quo allocations); 3) SQ Basic Run at 30 DAS; 4) SQ Basic Run w/ ETC Flex Option at 30 DAS; 5) PL Basic Run at 30 DAS; 6) PL Basic Run at F=0.4 for DAS; 7) PL Basic Run at F=0.48 for DAS; and 8) PL Basic Run with ETC Flex Option at 30 DAS. The SAMS model was not run assuming 34.55 DAS because this would have resulted in an F > 0.48. The Basic Run with the ETC Flex option assumes the 70% of trips allocated to this area would be taken in the ETC area. Also, the SAMS model was not run at different F rates for the Basic Run with ETC Flex Option for this meeting because there are no differences in the open bottom configuration or the AA pounds allocated in the Basic Run and the Basic Run with the ETC Flex Option. The results of the various F rate runs can be expected to be nearly identical for underlying AA configurations.

The PDT noted that the F=0.4 is the most conservation positive approach under consideration in FW28, and recommends this approach. The PDT noted that the F rate associated with DAS has been set equal to an F=0.48 in recent years, and that the open bottom has been pushed hard. With four access area trips under consideration, this year is a good time to reduce F for DAS while still achieving relatively stable landings.

The PDT discussed information on the NLS extension area, which was closed in 2015 after high densities of small scallops were observed in the area. The PDT briefly followed up on its earlier discussion about this area, and requested that updated exploitable biomass estimates from the area be provided.

PDT Call on October 28, 2016:

Default specifications for 2018: The PDT recommends that default measures in 2018 be set at the following levels:

- DAS set at 75% of FY2017 allocation
- LAGC IFQ quota set at 75% of the FY2017 quota
- One (1) access area trip at 18,000lbs in the MAAA

Part Time Limited Access allocations for 2018: The PT LA access area allocation for FY2017 would be 28,800 lbs under the current range of specification alternatives (40% of FT allocation). The PDT reviewed how PT allocations have been handled in recent frameworks, and noted that the majority of PT vessels are homeported in the Mid-Atlantic. The PDT recommends that the PT LA access area allocations be set as follows for FY2017:

- Two (2) AA trips at 14,400lbs per trip
- PT vessels may take up to one (1) AA trip in the NLS, CA II, or the ETC (if opened). PT vessels may take up to two (2) trips in the MAAA.

Preliminary Economic Analysis: Dr. Demet Haksever presented preliminary economic analysis to the group based on the current set of model runs. Dr. Haksever explained that given the differences in allocations between the status quo (SQ) option (No Action - setting IFQ allocations at 5.5% of the ACL), and the measures that set allocations based on projected landings for both the LA and LAGC IFQ, the SQ landings in the short term (ST) would result in 50 million dollars more in revenue than the spatial management options. Total economic benefits in the short term are very similar between several of the specification options. Over the long term, landings revenue is very similar for all runs (both SQ and spatial management runs).

The economic model estimates are based on size categories that are generated through the SAMS model. The PDT noted that the economic benefits of keeping the Elephant Trunk Rotational Closure (ETC) closed may be under estimated in the economic model because the SAMS model may be underestimating the growth potential of the animals in this area, and the model does not have a U12 market category. The PDT also noted that portions of the ETC are generally shallower, and observed growth of shell height and meat weight in this area are generally higher in this area than other areas. The PDT flagged the ETC as an area to look into more next year (SAMS model and economic model).

Sea Surface Temperatures: Dr. David Rudders presented plots of SST in the Mid-Atlantic based on satellite/remote sensing data and R code provided by Dr. Kevin Friedland at the NEFSC. The monthly plots seem to confirm the temperatures that the group generally expected – that is, warmer in the summer into the fall, and cooler into the winter. The PDT suggested that if the Council considers a summer seasonal closure, that it could potentially be in mid-July to allow for harvest and landings for the 4th of July. Dr. Rudders indicated that his lab would continue to review the SST, and indicated that October data output seemed warmer than expected. Dr. Rudders also noted that VIMS is conducting research on discard mortality, and results will ready next year.

Closed Area I Carryover Pounds: The PDT is in support of allocating carryover trips to CA I if the boundary is modified to include substantial exploitable biomass currently in the CA I habitat management area North (CAI HMA N). The PDT noted that meat quality in this area declines in the late summer into the fall, and that there could be safety issues if these pounds are allocated late in the fishing year and would not carry forward.

Prohibition on the Possession of Shell Stock Inshore of the DAS demarcation line north of 42° 20' N: The PDT highlighted some of the negative impacts of shucking scallops/discarding viscera in nearshore waters. Processing scallops while off the DAS clock undermines the DAS system, and inflates LPUE estimates which are used to estimate LPUE in future FY.

PDT Conference Call on Nov. 7 and Nov. 10, 2016:

New SAMS run: At its Nov. 3 meeting the Scallop Committee tasked the PDT with an additional SAMS run which would expand the NLS AA currently under consideration in the FW to include the NLS extension rotational closure (commonly referred to as the "bump out" on the eastern boundary of the NLS AA). The NLS extension was added as a rotational closure by the Council for FY2015 to protect a high density of smaller scallops. The NLS-ext rotational closure remained in place for FY2016. In all other runs in FW28, this area is considered to be open, and available to the LA component when operating under DAS. The NLS-ext is currently outside of the Great South Channel Small Dredge exemption area.

The following assumptions were made in the new NLS-ext run:

- Run assumes allocations are based on spatial management (5.5% of the projected landings).
- No change to any other access area configuration, number of AA trips, or the 18,000 lb trip limits.
- The NLS-ext is part of the NLS access area.
- The majority of fishing will still be in the northern portion of the NLS, where there are known concentrations of U10s/U12s.
- Fishing in the open areas was set at F=0.44. (Note: F=0.44 is the F rate associated with 30 DAS when the NLS-ext is considered to be open bottom.
- Assumed that the NLS-ext would be open in FY2018 for comparison purposes.

Results from the new model run:

- FT LA DAS: 29.18
    - When compared to the previous 30 DAS/F=0.44 run, including the NLS-ext within the NLS AA in 2017 and assuming a F=0.44 in open areas would result in a 0.8 DAS decrease.
    - Under the Base/ETC runs, the fleet would average 3 DAS in the NLS-Ext area, fishing mortality in that area is above 0.44 (F=0.65), and so F in the rest of the open areas is less than 0.44.
    - When F is set to 0.44 in the open areas (without NLS ext), the F is other open areas is assumed to be higher than it would have been if the NLS-ext was included, thus the resulting DAS F=0.44 is not a net loss of 3 DAS.
    - Lower F in the NLS-ext and NLS-AC-S is expected with this run.
- Average Open Area LPUE: 2,227 (Lowest of all model runs)
- Projected Landings: 21,094 mt or 46.5 million lbs (Lowest of all model runs)
    - This is a result of two things:
        - Reduction in LPUE by ~100 lbs per day.
        - Reduction in the number of DAS by 0.82.
- Open area Landings: 10,056 mt or 22.2 million lbs (Lowest of all model runs)
- Area swept under this option increases relative to other runs.
- LAGC IFQ Allocation: 2.4 million lbs (Lowest of all model runs)
- 52% of landings would come from Access Area, and 48% are projected to come from open areas.

- Compared to F=0.4, the new run increases the overall F, and redistributes the F in open bottom across other SAMS areas by moving the NLS-ext into the NLS AA.
- The new run is the only alternative that results in slightly lower revenues in the short term relative to status quo. In terms of total benefits, the new run slightly higher than status quo.
- With regard to ST revenue, and total benefit, results very similar to original runs that set open area DAS at F=0.4.
- All model runs, including this new run, have similar long term net benefits (7% discount rate).

Table 1 - Comparison of F rates for open area DAS between the model runs. Note that the NLS-ext in the new run is NOT a model estimate. It is considered in combination with other NLS SAMS area.

Area	**30 DAS (F=0.44)**	**F=0.4**	**Basic Run, ETC Flex, NLSext New Run (F=0.44)**
	2017	**2017**	**2017**
Mid-Atlantic			
NYB	0.47	0.42	0.5
LI	0.38	0.35	0.41
Inshore	0.25	0.23	0.27
Virginia	0.19	0.17	0.2
NLS-Ext	0.65	0.65	0.13
Sch	0.39	0.36	0.42
NE	0.49	0.45	0.53
SF	0.39	0.36	0.42

PDT Discussion from Nov. 7 and Nov. 10:

- Some PDT members continue to feel that the Elephant Trunk Rotational Closure should not be opened in FY2017 through FW28.

- The PDT does not expect much fishing in the NLS-ext in the 2017 if it becomes part of the NLS AA. In 2018, these animals will be six years old.

- The PDT recommends that open areas DAS should be set conservatively in 2017. The open areas have been pushed hard in recent years (F=0.48), and there are no signs of incoming recruitment in the 2016 surveys.

- **The PDT's prior recommendation for setting DAS in the open areas at an F=0.4 was based on the first set of SAMS model runs prior to the new tasking at the Nov. 3 Committee meeting. The PDT revisited this recommendation, and developed the following statements in light of new information:**

    - **The PDT recommends keeping the NLS-ext as part of the NLS AA in order to address some of the uncertainty of survey estimates in this area. The PDT feels that this new NLS configuration is a conservation positive approach for the animals in this area (F=0.65 v. F=0.13). Keeping the area closed would provide for additional flexibility in designing access in the NLS area in 2018.**

    - **The PDT discussed F rates at F=0.4 and F=0.44 associated with new tasking run which adds the NLS-ext to the NLS AA, and did not reach consensus on an appropriate F rate for setting open area DAS. The PDT feels that while the short term impacts of an F=0.44 would likely yield more landings, there are long term benefits associated with fishing at a lower F in open areas.**

    - **Overall, fishing lower than an F=0.48 is a tool that can be used to achieve increased LPUE and landings of larger animals in the future. This is relevant to the decision about both the open bottom and the Elephant Trunk Flex option under consideration this year.**

- Under the Scallop Committee's preferred option of prorating the scallop fishing year by 13/12ths, the results FT LA DAS under the F=0.4 would be 29.76 DAS. This is 0.58 DAS more than the FT LA DAS associated with the "New Run" option. In this way, the FT DAS associated with both these runs could be very similar, depending on other options in FW28 that the Council chooses.

Table 2 - Comparison of open area DAS options in FW28: F=0.4 and "New Run" with NLS-ext part of the NLS AA and open area F=0.44.

Section 2.3.2 - Spatial Management	**Set open area DAS at F=0.4**	**"New Run" NLS-ext part of the NLS AA Set open area DAS based on F=0.44**
Landings	47.3 million pounds	46.5 million pounds
LAGC IFQ Quota	2.47 million pounds (Prorated at 8%: 2.57 million pounds)	2.43 million pounds (Prorated at 8%: 2.53 million pounds)
FT DAS	2017: 27.56 (Prorated at 8%: 29.76)	2017: 29.18 (Prorated at 8%: 31.51)
Avg. OpLPUE	2017: 2,349 pounds per day 2018: 2,352 pounds per day	2017: 2,227 pounds per day 2018: 2,365 pounds per day
Overall F	F=0.15	F=0.11
Bottom Area Swept (sqnm)	2,886 (Lower than "New Run" because model assumes that LA effort would be concentrated in NLS-ext)	3,139
PDT discussion points	Animals in open areas experience lower F in this run with the NLS-ext as open bottom because of the assumed high F in the area (F=0.65). The model assumes that each FT LA vessel would spend ~3 DAS fishing this area in 2017. This is an isolated area of open bottom that does not appear be close to other aggregations of high densities in the open bottom. The impact of the NLS-ext area is high in terms of landings and F relative to other open areas (F=0.65). Very high densities were observed in one patch of this area in the 2016 surveys. The expected effort (and landings) from this area may be overstated by using the mean of the model runs.	Animals in NLS-ext experience lower F rate (F=0.65 vs. F=0.13) when it is considered part of the NLS AA. Open bottom F rates would generally be higher under this option than F=0.4 because 1) the NLS-ext is removed 2) the average F is also set higher F=0.44. Keeping F low this year could allow for a higher F in the NLS-ext area in 2018. This option lowers landings in 2017 and is likely to increase landings in 2018. There was some uncertainty in the survey estimates in the NLS-ext this year. Making it part of the NLS AA without adjusting the landings would provide some buffer in the short term, and allow the area to be surveyed again next year. This NLS AA configuration allows LAGC IFQ vessels to access the animals in the NLS-ext.

Flatfish Bycatch Estimates for New Run:
Dr. Dvora Hart presented updated flatfish bycatch estimates for the new run on this call. Dr. Hart explained that the estimates are generated using the fleet dynamics model, which attempts to predict fishing behavior relative to expected LPUE in each of the SAMS areas. Using a model that is predicting behavior based on scallops adds additional uncertainty to these bycatch estimates. Note that the northern windowpane estimate for the Base17 run has been updated (reduced by ~6mt) after an error was found.

The Base17 run is equivalent to the Basic Run at 30 DAS, where the ETC remains closed and the open area F rate is 0.44. This run also assumes that the NLS-ext is part of open bottom.

The New17 run is the new tasking run, as described on page 5.

Results: The new run with NLS-ext as part of the access area shifts effort into the other open areas that would have been concentrated in the NLS-ext under the previous runs, which leads to a decrease in bycatch estimates in the NLS-ext, and an increase in bycatch estimates in areas where F increases. The new run also assumes access to the Elephant Trunk Rotational Closure in 2017, which results in a small (0.2 mt) increase in mt. Similarly, as effort is expected to decline in Hudson Canyon and Delmarva relative to the Base17 run, and windowpane estimate in these areas declines slightly. Keeping all of the caveats stated by the PDT in its memo to the groundfish PDT the same (GB YT estimate is high, and Northern Windowpane estimate may be low), the "new run" estimates do not represent a substantial change from the Base17 run. **The scallop PDT does not feel that there are substantial differences in the potential impacts on flatfish bycatch between the two run results (Base17 and New17).**

Also, in years when there is an in-season transfer of yellowtail from the scallop fishery to the groundfish fishery, NMFS adjusts the sub-ACL downward in the final year end catch report. This can lead to the perception that the scallop fishery has come very close to the ACL, when in fact it is an artifact of moving fish to the groundfish industry. There is likely be a transfer of the Georges Bank Yellowtail to the groundfish fishery in 2016, as the current usage is very low (Table 5).

Table 3 - Comparison of estimated yellowtail flounder bycatch in FW28 at 30 DAS (Base17) and New Run with NLSext as part of the NLS AA and F=0.44 for open area DAS (New17).

	Yellowtail		
	Base17	**New17**	**FY15**
GBOP	12.70	13.14	28.28
CL-II	50.10	50.07	36.5*
TotGB	**62.80**	**63.21**	**63.80**
NLS	4.96	4.13	3.9*
HCS	0.04	0.03	
ET	0.00	0.00	
DMV	0.00	0.00	
SNE	2.28	2.98	
NLS-Ext	1.56	0.31	
MAOp	3.06	3.21	
TOTMASNE	**11.90**	**10.66**	**34.57**

Table 4 - Comparison of estimated windowpane flounder bycatch in FW28 at 30 DAS (Base17) and New Run with NLSext as part of the NLS AA and F=0.44 for open area DAS (New17).

	Windowpane		
	Base17	**New17**	**FY15**
Open-N	22.29	23.52	
CL-II	79.81	79.81	
Tot Nor	**102.10**	**103.33**	**110.1**
NLS	50.36	47.21	32.1*
HCS	1.5	0.94	
ET	0.38	0.58	
DMV	0.09	0.08	
SNE	10.29	10.9	
NLS-Ext	6.44	1.29	
MAOp	16.02	16.85	
Open-S	32.75	29.04	187.01
Tot Sou	**85.08**	**77.85**	**210.61**

Table 5 - Comparison of recent scallop bycatch estimates and estimated catch, with 2017 projections.

		GBYT	SNE/MA YT	SWP	NWP
2013	Allocated	41.5	43.6	183	
	Projected	85.3	66	N/A	
	Actual	37.5	48.6	129.1	
2014	Allocated	50.9	66	183	
	Projected	62.4 - 103.7	61.1 - 67.7	74.4	
	Actual	59	63	136	
2015	Allocated	38	66	183	n/a
	Projected	27.9 - 48.6	54	134	45 - 94
	Actual	29.8	34.6	210.6	114.6
2016	Allocated	42	32	209	n/a
	Projected	26.3	40.4	179.2	88.1
	Actual (YTD)	10	20	86	
2017	Allocated	~30	34	209	~3 - ~78 (Based on FW56 options)
	Projected	62.8 - 63.2	10.66 - 11.9	77.85 - 85.08	102.1 - 103.33
	Actual				