



New England Fishery Management Council

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MEETING SUMMARY Scallop Advisory Panel Fairfield Inn, New Bedford, MA September 13th, 2018

The Scallop Advisory Panel met on September 13th, 2018 in New Bedford, MA to: (1) review and discuss results of SARC 65, 2018 scallop survey results, preliminary biomass estimates, meat quality, and fishery data, (2) discuss potential fishery specification alternatives to be developed further in Framework 30, (3) review analyses on LAGC IFQ Trip Limits, (4) review progress on 2018 work priorities (including FW30), and provide input on potential scallop work priorities for 2019, and (5) discuss any other business.

MEETING ATTENDANCE: James Gutowski (Advisory Panel Chair), Jonathon Peros (PDT Chair), Ronald Enoksen, Eric Hansen, Kirk Larson, Michael Marchetti, Kristan Porter, Tom Reilly, Paul Vifides, Edward Welch, Brady Lybarger (via webinar), Ed Mullis, Paul Parker, Robert Maxwell (via webinar), and Sam Asci (Council staff). Vincent Balzano, Chair of the Scallop Committee, was in attendance along with approximately 15 members of the public.

MEETING MATERIALS:

Doc.1) [Meeting Agenda](#); Doc.2) [Meeting Memo from Scallop Committee Chair](#); Doc.3) [Staff Presentation](#); Doc.4) [SARC 65 Assessment Summary Report](#); *Scallop Framework 30*: Doc.5a) [Draft Framework 30 Action Plan](#); Doc.5c) [2018 Preliminary Combined Survey Estimates and PDT recommendations](#); *LAGC IFQ Trip Limit Analyses*: Doc.6a) [Staff Presentation](#), Doc.6b) [LAGC IFQ Discussion Document](#), Doc.6c) [Scenario Analyses of Possession Limits for the LAGC IFQ Fishery](#), Doc.6d) [Preliminary Impacts of Trip Limit Changes](#), Doc.6e) [Summary of Trip Cost Model](#); Scallop PDT Summaries: Doc.7a) [July 25, 2018 Scallop PDT meeting summary](#), Doc.7b) [August 28 & 29, 2018 Scallop PDT meeting summary](#), Doc.7c) [September 5, 2018 Scallop PDT meeting summary](#); Doc.8) [Update on 2018 Priorities and draft list of Potential 2019 Priorities for Scallop FMP](#); Doc.9) [2019/2020 Scallop RSA Federal Funding Opportunity](#); Doc.10) [Correspondence](#).

The meeting began at 9:12 am. AP Chair James Gutowski welcomed the AP and members of the audience to the meeting. Council staff reviewed announcements for upcoming scallop meetings and gave an overview of the day's agenda items. The presentation on 2018 survey information was broken into three parts: I) Summary of SARC 65 Report, II) 2018 Scallop Survey Results, and III) Fishery Data and Summary of PDT Discussion.

Part I—Results of SARC 65 (2018 Scallop Benchmark Assessment)

The 2018 assessment included four meetings of the stock assessment working group between February and May, and results were presented to the stock assessment review committee (SARC) in June. Updated methods and findings from the assessment were reviewed and discussed by the PDT on August 28th, 2018; key points from the summary report included:

- The assessment was accepted by the review committee. In 2017, the stock was not overfished and overfishing was not occurring. Also in 2017, biomass was estimated to be the highest in the time series (1975-2017) and fishing mortality was estimated to be at the lowest of the time series.
- Landings by area have been higher in recent years and the Mid-Atlantic has been the dominant region relative to Georges Bank. LPUE (mt meats landed per 24-hour day with gear in the water) and fishing effort (24-hour days with gear in the water) have been increasing in recent years for all regions.
- Biomass has been increasing relative to the entire dredge survey time series. Divergence was seen between the dredge and optical survey biomass estimates since 2014, likely due to incredibly high density areas causing a reduction in dredge estimates. The assessment assumed dredge estimates in high density areas were roughly a third of actual biomass based on comparisons with optical estimates over the time series.
- Similar to the 2014 assessment, Catch At Size Analysis (CASA) models were run for Georges Bank Open, Georges Bank Closed, and the Mid-Atlantic. Unlike previous assessments, SARC 65 methods assumed that natural mortality (M) varied by year; in the Mid-Atlantic and Georges Bank Open models juvenile M was variable, while M was variable at all sizes in the Georges Bank Closed model. There was general agreement in all three models when comparing observed (surveys) and estimated biomass from CASA and the divergence in recent years was likely due to differences in dredge survey estimates in high density areas.
- Excluding the slow growing animals in the deep-water portion of NLS-S (i.e. “Peter Pans”), scallop biomass in 2017 was estimated to be 317,334 mt meats (roughly 700 million pounds) and fishing mortality was estimated to be 0.12.
- Reference points were estimated using the SYM model. The most recent period of data was used to estimate yield and biomass per recruit in meat weight, and stock-recruit curves were estimated using recruitment and spawning stock biomass estimates from CASA model runs. Age of recruitment for the purposes of the reference point models was set to three years old (previous assessments used two years old).
 - The proposed SARC 65 reference points (i.e. median of all SYM runs) were: $B_{MSY} = B_{TARGET} = 116,766$ mt meats, $B_{THRESHOLD} = 58,383$ mt meats, and $F_{MSY} = 0.64$. Estimated 2017 biomass was 380,389 mt meats (including slow growing scallops in the deep water portion of NLS-S SAMS). Estimated fishing mortality in 2017 was 0.12.

AP discussion points:

- The PDT has described recent recruitment in the fishery as being ‘unremarkable’ relative to the extremely large recruitment events that occurred in 2002, 2012, and 2013. The AP noted that recruitment since those exceptionally large year classes has been consistent with the rest of the time series.

- The stock assessment estimated LPUE by region (i.e. Georges Bank, Southern New England, Mid-Atlantic, Gulf of Maine). A member of the AP noted that there is no region-specific CASA model for Southern New England (SNE) and inquired as to why LPUE is estimated separately for SNE. There was also a question of the spatial extent of SNE in this context.
- A member of the audience suggested that more attention be focused on predator-prey relationships that could impact recruitment success. It was noted that there was some discussion on this topic at the SARC 65 meeting and at the working group.

Part II—Summary of 2018 Survey Results

VIMS Dredge Survey of Mid-Atlantic, NLS, CAI, and CAII

The following points summarize relevant information and key findings regarding the 2018 VIMS dredge survey of the Mid-Atlantic Bight (MAB), Nantucket Lightship (NLS), Closed Area I (CAI), and Closed Area II (CAII):

- The MAB survey domain was the same as previous years. The CAII and NLS survey domains were mostly similar as previous years, except for fewer stations being assigned to the southern portion of the NLS extension.
- As in previous years, the VIMS dredge survey used a stratified random sampling design to increase precision across the surveyed areas.
- At least 15 scallops per station were sampled to inform shell height to meat weight (SHMW) relationships and meat quality observations. Roughly 5,400 SHMW samples were taken in the MAB, roughly 2,000 were taken in CAI and CAII, and roughly 1,800 were taken in the NLS.
- SHMW relationships were significantly different for all SAMS areas in the NLS and growth rates appeared slower than expected in several NLS SAMS areas.
- Some recruitment was seen in BI, LI, NYB, and NYB-Inshore. Some recruitment was again detected in DMV, but was minimal in absolute number relative to the other MAB SAMS areas.
- Some recruitment was seen in NLS-N along with the same three year classes observed in the 2017 survey. No recruitment was evident in other NLS SAMS areas. The slow growing animals in NLS-S-Deep did not seem to grow over the past year. Minimal growth was seen in NLS-AC-W relative to last year.
- Some recruitment was observed in all the CAI and CAII SAMS areas.
- In the MAB, the majority of adult biomass was observed in the Elephant Trunk and Hudson Canyon. In the NLS, “Peter Pan” scallops in the deep water of NLS-S made up the majority of recruit biomass observed (i.e. 35-75 mm), while the majority of adult biomass was found in the NLS-W and shallow portion of the NLS-S. In CAI, one station along the western edge of CLI-AC-N made up almost all of observed recruit biomass, while larger animals were seen along the CAI ‘sliver’. In CAII, both recruit and adult biomass was spread across the open area of the SF/CAII-ext SAMS areas and the eastern part of CAII-S-AC.

2018 SMAST Drop Camera Survey Results

The following points summarize methods and key findings from the 2018 SMAST drop camera survey of the NLS, CAI, Great South Channel, and the Gulf of Maine:

- A total of 1,307 stations were sampled in SCH, CAI, and the NLS, and 438 stations were sampled in the NGOM management area.
- SMAST estimates of abundance, biomass, mean meat weight, and mean shell height were based on quadrat still images from the high-resolution digital still camera.
- Some pre-recruits (<35 mm) and recruits (35-75 mm) were observed in the northern part of the SCH and in between CAI and NLS. Some recruit sized animals were also seen in NLS-W and in the deep water of NLS-S; however, these animals were observed in previous years as well.
- SMAST observed the 8-year-old animals in the ‘sliver’ of CAI as well as a cohort of smaller, 4-year-old animals.
- The Gulf of Maine survey covered Stellwagen Bank, southern Jeffreys Ledge, Ipswich Bay, and Platts Bank. Some smaller scallops were observed on Jeffreys Ledge. Most of the adult biomass was concentrated on Stellwagen Bank and in Ipswich Bay. SMAST coverage did not include stations in the deeper water along the edge of Stellwagen Bank where most NGOM fishing occurred in April and May.

2018 WHOI Survey of the NF, CAII HAPC, and MAB (HabCam v2)

The following points summarize key findings from the Woods Hole Oceanographic Institute (WHOI) HabCam survey of the Northern Flank, Closed Area II HAPC, and Mid-Atlantic Bight:

- A rebuilt HabCam v2 was used for the WHOI survey of Eastern GB and the MAB.
- Approximately 3 million images were collected throughout the survey and around 200,000 images were annotated (~ 1:15 annotation rate).
- The NF SAMS area was very patchy in terms of exploitable scallops, but some were observed adjacent to CL2-NA-N. The density of larger, older animals in CL2-NA-N seemed to have decreased since the 2017 survey suggesting some mortality. Some recruits were seen in CL2-NA-N.

2018 CFF Survey of the NLS (HabCam v3)

The following points summarize key findings from the Coonamessett Farm Foundation (CFF) HabCam v3 survey of the Nantucket Lightship:

- HabCam v3 was towed over the approximate 725 miles of survey transects completed within the NLS. Roughly 2.9 million images were collected, of which ~7,100 were annotated (~1:400 annotation rate).
- The majority of animals observed in the NLS will be 7 years old in 2019.
- The survey observed the highest densities and majority of biomass in the NLS-S and NLS-W.
- PDT discussion noted that the NLS-ext appears to have been heavily fished; this point was supported by VMS data to date in FY2018.

2018 NEFSC Dredge and HabCam Survey

The following points summarize key findings from the 2018 NEFSC dredge and HabCam (v4) surveys of Georges Bank and the Mid-Atlantic:

- 116 dredge stations were completed on GB and HabCam tracks covered most of GB and the DMV SAMS area.
- Some paired-tow experimental work was also done in the ET to further investigate dredge efficiency in high density areas.
- Collectively, HabCam surveys on Georges Bank in 2018 by NEFSC, CFF, and WHOI resulted in the best coverage of the time series.
- The dredge survey observed some recruitment in the SCH. An older cohort was also observed in the SCH which will likely be harvestable size in 2019.
- Scallops were also observed at survey stations north of the SCH SAMS boundary (i.e. outside of SAMS area boundary, but within shellfish survey strata).

There were no questions from the AP on 2018 scallop resource survey results.

Part III—Fishery Data PDT Discussion

2018 NGOM Survey and Outlook

Of the areas within the NGOM management area that were surveyed in 2018, Stellwagen Bank held the largest animals and the highest density of scallops was observed in federal waters of Ipswich Bay. Regarding calculation of the 2019/2020 NGOM TAC, the PDT recommended using the same projection method that was used in FW29 and reviewed in the 2018 benchmark assessment (SARC 65).

AP discussion points:

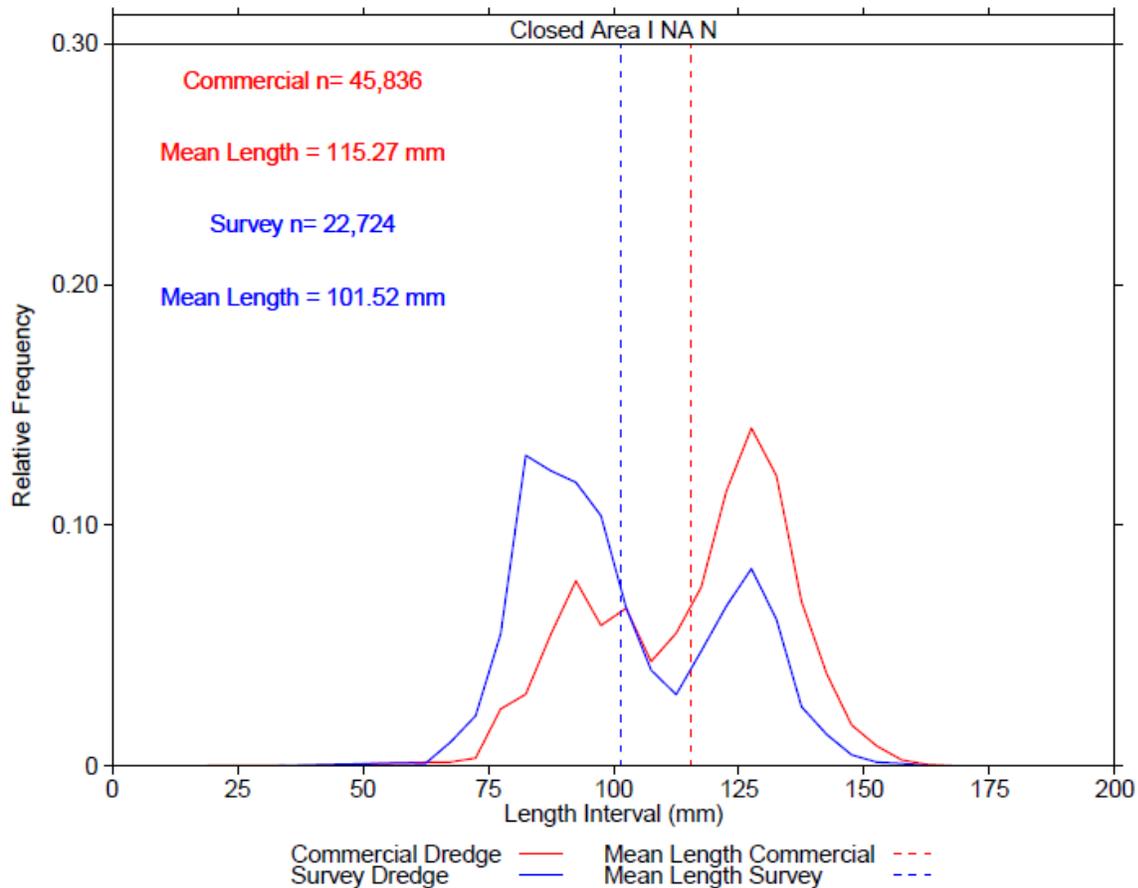
- It was noted that the 2018 NGOM TAC was set based on the projected biomass for Stellwagen Bank, under the assumption that this is where effort would be directed. In light of the 2018 NGOM survey observing harvestable densities in other parts of the NGOM (i.e. Ipswich Bay), a member of the AP suggested that those areas be included in the 2019/2020 TAC.
- There is currently no mechanism (such as fine-scale rotational closures) to control the amount of harvest taken from specific areas within the NGOM. Such a protocol would have to be developed in a larger NGOM management action.
- It was suggested that the delineation of the resource in Ipswich Bay between state and federal waters could be challenging in terms of enforcement and setting the 2019/2020 NGOM TAC. Staff noted the PDT recommendation that only scallops in Ipswich Bay federal waters be considered in the NGOM TAC.

Closed Area I

Staff presented the following points from PDT discussion to date regarding Closed Area I Access Area:

- Minimal recruitment was observed in 2018 survey efforts.
- The majority of animals observed in the 2018 surveys were in the “sliver”, which is also where most of CAI fishing has occurred thus far in FY2018.
- Market grades reported from CAI thus far in FY2018 have been mostly U10s, U12s, and 10/20s.
- Two cohorts were observed in 2018 (Figure 1), the larger of which will be 9 years old and the younger will be 4 years old in 2019.
 - There was some discussion of potentially closing part of CAI in 2019 to relieve the younger year class of scallops in the area. This was flagged as a follow up item; however, the majority of the PDT did not support a closure in CAI.
- CAI AA can likely support a full-time trip in FY2019.

Figure 1. Relative length frequencies from the 2018 VIMS survey of CLI-NA-N.



Closed Area II

Staff presented the following points from PDT discussion to date regarding Closed Area II Access Area:

- CAII AA could support a full-time trip in 2019; however, the PDT feels there is less urgency to fish this area in 2019 relative to other available access areas because:
 - Three cohorts were observed in CAII, the oldest of which will be 5 years old and has additional growth potential if not fished in 2019.
- The PDT acknowledged that the 2019 GB yellowtail sub-ACL may be considerably lower than recent years and recognized that the majority of GB yellowtail bycatch comes from CAII AA.

AP discussion points:

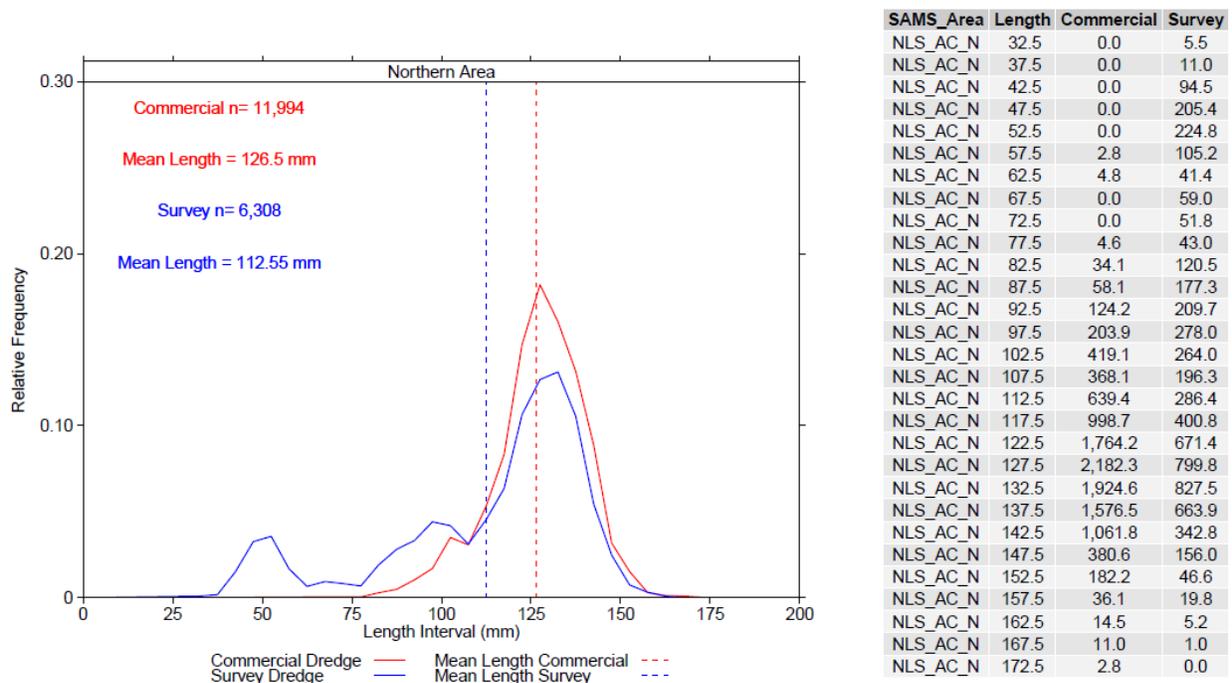
- A member of the AP inquired if its worth adjusting future spatial management to reduce effort on the smaller cohorts of animals observed in CAII AA.
 - Staff described past PDT discussion around the smaller cohorts not appearing to be as prevalent as the larger cohort in CAII. It was further explained that the PDT felt it was important to flag areas with multiple cohorts in light of low observed recruitment and considering other rotational areas dominated by one-year class of larger animals.

NLS-N

Staff presented the following points from PDT discussion to date regarding the Nantucket Lightship North Access Area:

- The PDT noted that scallops in the NLS-N are typically larger on average than the other NLS rotational areas.
- Three cohorts were observed in the NLS-N in 2018 (Figure 2).
- The NLS-N also seemed to have above average recruitment in 2018 relative to other surveyed areas.
- Due to the greater growth potential for this area and presence of recruits, the PDT identified NLS-N as a candidate closure for FY2019.

Figure 2. Relative length frequencies from the 2018 VIMS survey of NLS-N.



NLS-W

Staff presented the following points from PDT discussion to date regarding the Nantucket Lightship West Access Area:

- Two full time trips were allocated to the NLS-W in FY2018. Fishing thus far in FY2018 has been reportedly good in the NLS-W, with landings being mostly U10s and 10/20 count.
- This area is dominated by one large year class with a mean SH of roughly 100 mm. Animals will be 7 years old in 2019.
- Very little growth was observed between the 2017 and 2018 survey effort in the NLS-W. It was suggested that VIMS shell height data from the NLS-W be used to develop a specific growth equation for this area (follow-up item for September 5th PDT call).
- Due to the extraordinarily high biomass of harvestable scallops observed in the 2018 surveys, the PDT identified the NLS-W as a candidate area for multiple trips in FY2019.

NLS-S-Shallow

Staff presented the following points from PDT discussion to date regarding the shallow (i.e. < 70 m depth) portion of the Nantucket Lightship South Access Area:

- The NLS-S was allocated one full-time trip in FY2018. Essentially all effort to date has been concentrated in the shallow (i.e. < 70 m depth) portion of the access area, with landings being mostly U10s and 10/20 count.

- The PDT noted that this area may not be able to support a trip in FY2019, and that it either be combined with the NLS-W to facilitate access in FY2019, or be closed along with NLS-N until 2020.

AP discussion points:

- A question from a member of the public led to brief discussion regarding the utility of combining the NLS-S-shallow and NLS-W areas to facilitate access in the NLS-S-shallow in FY2019. Council staff noted that doing this wouldn't change management advice for the NLS-W due to high densities of exploitable scallops there and that the NLS-S and NLS-N share similar characteristics and could be worth delaying access until FY2020.
- A member of the AP suggested that smaller access area boundaries afford the scallop industry less flexibility and can complicate spatial management in situation like this.

NLS-S-Deep

Staff presented the following points from PDT discussion to date regarding the deep (i.e. > 70 m) portion of the Nantucket Lightship South Access Area:

- Scallops in the NLS-S-deep have continued growing at an abnormally slow rate. These animals have small meats (i.e. 50 count at best) relative to their length and are not fully recruited to the 4" dredge ring.
- Staff noted that survey biomass estimates were increased by a factor of three, and SHMW relationships from VIMS 2016 – 2018 were used. After applying these data treatments, the biomass estimate for this area was ~ 76 million pounds.
- Additional work on fecundity and biological processes of these animals is underway, although it is likely they are not contributing much in terms of reproduction.
- There was a decline in density observed between the 2017 and 2018 SMAST survey of this area, suggesting some mortality was occurring in the absence of fishing. It was also suggested that some density dependence and(or) environmental factors may be driving mortality in the NLS-S-deep.
- The PDT felt that there is no biological reason not to harvest these animals, and that AP input could help guide development on ways to harvest them.
- A review of survey dredge and commercial dredge catch showed that the length frequencies of both dredges are consistent, and capture animals in the 70-80 mm range.

AP discussion points:

- The AP noted that meat counts in the NLS-S-deep are very high. Some suggested that there is not a market for the slow growing deep-water scallops and that it doesn't make economic sense to fish a typical 7-person crew in areas with such small meats.
- A member of the public felt that these slow growing scallops represent a unique opportunity that will take a different management approach than usual to address. It was also suggested that harvesting these animals could be economically feasible if regulations

were modified to allow shell stocking in this area and shore facilities cut and processed (i.e. instead of processing at sea).

Following these comments, the AP Chair suggested that the group continue discussion about harvesting scallops from the NLS-S-deep under other business to keep the meeting moving forward.

MAAA

Staff presented the following points from PDT discussion to date regarding Mid-Atlantic Access Area:

- Concentrations of scallops in the MAAA continue to be infected with nematodes and appear to be driving where effort is directed. No effort was reported south of the ET-Flex thus far in FY2018.
 - The 2018 biomass estimate for the unfished southern part of ET-Open was 5,460 mt, roughly 53% of total HabCam biomass estimate in ET-Open.
- Not much recruitment was evident in the MAAA in 2018 and the large year class will be 6 years old in 2019.
- The PDT felt that the MAAA was a candidate area for multiple trips in FY2019.

AP discussion points:

- AP discussion noted that 2018 biomass estimates were not adjusted to account for 2018 removals; however, the SAMS model does account for 2018 removals when projecting 2019 exploitable biomass.

Delmarva

Staff presented the following points from PDT discussion to date regarding the Delmarva area (formerly part of the MAAA that was reverted to open bottom in FY2018):

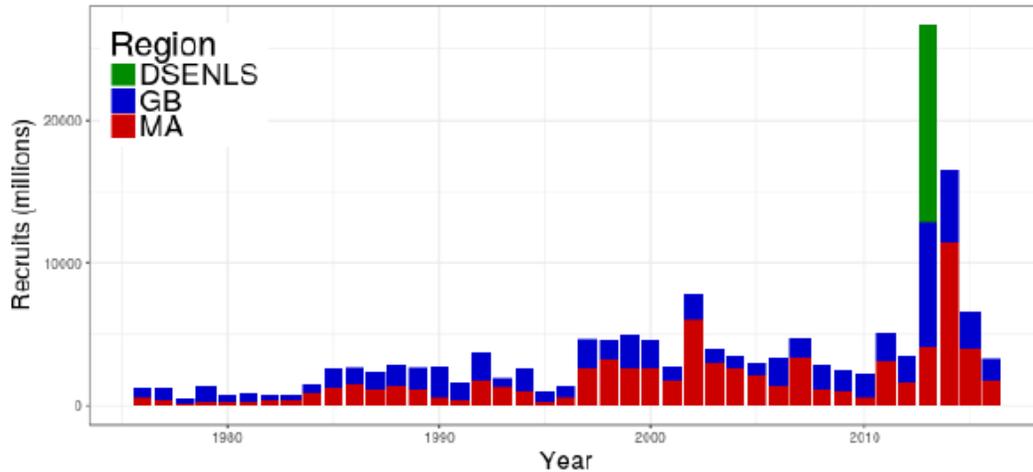
- An order of magnitude reduction in biomass was observed between the 2016 and 2018 surveys of DMV.
- The recruits observed in this area in 2017 were not observed again in 2018.
- There has not been any fishing in DMV for several years and was not included in the bounds of the MAAA in FY2018.
- DMV is at the southern extent of the range; the downward trend in recent years suggests some environmental factors may be impacting the success of animals in this area.
 - The PDT does not expect fishing to occur in DMV in the future unless something changes.

Thoughts on Recruitment

- No signs of strong recruitment were observed in the 2018 surveys.
- The small pulses of recruitment that were observed were found in SCH, BI, CAII-N, NLS-N, LI and NYB.

- Past PDT discussion acknowledged that recent years have not followed the massive recruitment event seen in 2012 and 2013 (Figure 3), but that 2018 recruitment seemed rather typical and even slightly better compared to the long-term trend.

Figure 3. Sea scallop recruitment (age 1) by region, 1975-2016. Regions are: Mid-Atlantic (MA, red), Georges Bank (GB, blue) and the deep-water, southeast corner of Nantucket Lightship Closed Area (DSENLS, green) (source: Figure A5 from SARC 65 report).



The Scallop PDT’s considerations for FY2019 spatial management were presented to the AP and are summarized in Table 1. Staff explained that the PDT recommends continuing to focus effort in access areas, and to continue to back off effort in open areas for the following reasons:

- Animals in Closed Area I, Nantucket Lightship-West, and the Mid-Atlantic access areas will be 6, 7, and 9 years old in 2019, and are ready for harvest.
- The majority of recruitment observed in the 2018 surveys is in open areas.

Table 1. Summary of PDT input to date regarding FY2019 spatial management.

Area	# of cohorts	Recruitment?	Fished in 2018?	Candidate For:
NLS-N	3	Average	No	Closure. <u>North is not ready.</u>
NLS-S Shallow	1	None observed	Yes - 1 trip	Opening if combined with WEST, or WAIT for 2020.
NLS-S Deep	1	None observed	Open, not fished	Animals not recruited to dredge
NLS-W	1	None observed	Yes - 2 trips	Multiple trips
CAII-S-AC	3	Some (average?)	No	Potential trip
CAI-NA	2	None observed	Yes - 1 trip	Potential trip
CAI-AC	2	Minimal	Open, some effort	Combine with other areas, open bottom?
MAAA	1	None observed	Yes - 2 trips	Multiple trips

Discussion of Potential Specifications Alternatives to be Developed in FW30

- The AP asked if inferences of FY2019 open-area DAS could be made based on the current 2018 biomass estimates. Council staff explained that survey estimates cannot be used to predict DAS because they do not account for expected growth between 2018 and 2019. The allocation projection (SAMS) model does account for expected growth when projecting FY2019 specifications runs (which include DAS at the open-area F specified in the model).

Motion 1: Parker/Hansen

The Advisory Panel suggests the Committee direct the PDT to add a projection run considering:

- 6 total AA trips.
 - 1 trip in Closed Area I
 - 3 trips in Nantucket Lightship-West
 - 2 trips in Mid-Atlantic Access Area

Rationale: Six full time Limited Access access area trips follow the PDT's general advice about access area fishing for 2019, and that harvest should be focused in access areas. There is one cohort in NLS-West, and no signs of incoming recruitment. Natural mortality may take over if the area is not harvested. 20-30 count this year that could grow out for harvest in 2019.

The motion carried on a show of hands (12/0/0)

AP discussion points:

- With regard to Motion 1, a member of the AP felt that three trips to the NLS-W would be too many in FY2019 because the majority of larger animals were harvested earlier in FY2018. He suggested two trips in FY2019 would make improve fishing in this area in FY2020.
- In light of the minimal growth between 2017 and 2018 and the incredibly high biomass of 20-30 count animals currently in the NLS-W, many AP members felt it important to harvest these animals before they die from natural mortality.
- It was noted that even three trips to the NLS-W in FY2019 would result in a low F rate.

Motion 2: Maxwell/Welch

The Advisory Panel suggests the Committee direct the PDT to add a projection run considering:

- 5 total AA trips.
 - 1 trip in Closed Area I
 - 3 trips in Nantucket Lightship-West
 - 1 trip in Mid-Atlantic Access Area

Rationale: Give the MAAA a break in the short term. Not seeing much recruitment there.

The motion failed on a show of hands (1-11-0)

AP discussion points:

- The AP did not support reducing effort in the MAAA because it holds a considerable portion of exploitable biomass within rotational areas that are available to the fishery in FY2019. It was further noted that the increase of effort in the MAAA over the past several years seems to have only improved fishing conditions there.
- Many AP members disagreed with the motion because reducing effort in the MAAA would negatively impact access area fishing opportunities for the LAGC IFQ fleet.

Motion 3: Welch/Larson

The Advisory Panel suggests the Committee direct the PDT to add a projection run considering:

- 6 total AA trips.
 - 1 trip in Closed Area I
 - 1 trip in Closed Area II
 - 2 trips in Nantucket Lightship-West
 - 2 trips in Mid-Atlantic Access Area

Rationale: Try to distribute effort across access areas, and take some effort out of the NLS-West.

The motion carried on a show of hands (12/0/0)

AP discussion points:

- One AP member recalled being supportive of a trip to CAII in FY2018, but expressed hesitation about a trip to CAII in FY2019 due to the growth potential of animals there and likelihood that fishing would be better in FY2020.
- A member of the AP inquired how the considerably low estimate of GB yellowtail abundance would impact spatial management in CAII. The group was reminded that the scallop fishery received 16% of the US GB yellowtail ACL and that AMs were modified from a time area closure to a gear modification through FW29. Furthermore, the Council will likely be interested in scallop fishery catch of GB yellowtail moving forward.

Motion 5: Enoksen/Reilly

The Advisory Panel suggests the Committee direct the PDT to add a projection run considering:

- 6 total AA trips.
 - 1 trip in Closed Area I
 - 2 trips in Mid-Atlantic Access Area
 - 3 trips in Nantucket Lightship-West and NLS-S as one area.
 - Current boundaries of both access areas.

The motion carried on a show of hands (8/4/0)

Motion 6: Parker/Lybarger

The Advisory Panel suggests the Committee direct the PDT to add a projection run considering:

- 5 total AA trips.
 - 1 trip in Closed Area I
 - 2 trips in Mid-Atlantic Access Area
 - 2 trips in Nantucket Lightship-West

Rationale: Back off in the NLS-W in the short term. Provide Council with 5 trip option to consider later in the specifications process.

The motion carried on a show of hands (12/0/0)

AP discussion points:

- A member of the AP supported the motion because he felt that a 5-trip option will be good for the fishery in the future (i.e. in that it is a more conservative option relative to others discussed at the meeting).
- The group clarified that the spatial management options being discussed would be considered separately from open-area F rates (and associated DAS).

By consensus: All recommended SAMS projection runs would be 18,000 lb trips for FT LA vessels.

With regard to the consensus statement above, the AP was interested in all SAMS projection runs having a consistent access area possession limit because it is enforceable and allows vessels to trade trips.

Motion 7: Hansen/Larson

The Advisory Panel suggests the Committee direct the PDT to add a projection run considering:

- 7 total AA trips, at 15,000 trip limit
 - 1 trip in Closed Area I
 - 1 trip in Closed Area II
 - 2 trips in Mid-Atlantic Access Area
 - 3 trips in Nantucket Lightship-West

Rationale: This would spread effort out, and not overburden any one access area.

The motion carried on a show of hands: (10/2/0)

AP discussion points:

- Those in support of the motion cited the utility of spreading access area effort into more of the resource without overburdening any one access area.
- Those opposed to the motion felt that it does not make sense to move effort around in more trips at a lower possession limit if the overall level of harvest remains relatively the same.

Motion 8: Lybarger/Enoksen

The Advisory Panel suggests the Committee direct the PDT to consider the following F rates with each access area alternative:

- F=0.295 (status quo)
- F=0.35
- F=0.4
- F=0.44 (if not too much to look at)

Rationale: To keep open area landings consistent, F rates should be close to the value used in 2018 (F=0.295). Consider F=0.44 too if not too much to look at.

The motion carried on a show of hands. (11/0/0)

AP discussion points:

- A member of the AP noted that PDT guidance was to consider specifications runs similar to recent years and that open-area F was 0.48 in 2016. Based on this, it was suggested that the range of open-area F rates in Motion 8 be increased.
 - It was clarified that the actual PDT recommendation was to focus effort in access areas and to fish the open area at a conservative F rate.
- There was some discussion around alternative methods that the AP could use to form recommendations for open-area F rates used in specifications runs, for example, specifying a range of DAS instead of F rates.
- A member of the AP felt it unnecessary to consider specifications runs that project landings to be greater than the estimate for FY2018 (i.e. ~59 million lbs).

Review analyses on LAGC IFQ Trip Limits

Council staff presented progress to date regarding the 2018 work priority ‘considering the LAGC IFQ possession limit’. At their March 2018 meeting, the Committee tasked the PDT to analyze economic impacts of modifying the LAGC IFQ possession limit. The PDT had reviewed and discussed a suite of analyses addressing the Committee tasking statement, and also provided input on other considerations that arose during development of this work priority. Staff noted that the presentation will provide relevant takeaway points from said analyses and that the goal for the day’s meeting was to provide input on the direction of this work priority. Key points from the presentation and AP discussion included:

- A Council goal in establishing the LAGC IFQ component through Amendment 11 was to preserve the ability for vessels to participate in fishery at different levels and to maintain a fleet made up of relatively small vessels. The distribution of active LAGC IFQ fleet from FY2010 to FY2017 in terms of vessel size and noted that the number of vessels, landings, and allocation remained relatively stable over the time period. It was also highlighted that the number of smaller vessels increased over time and that the majority of the active fleet is made up of < 50 ft vessels. Overall, recent participation appeared diverse in the LAGC IFQ fishery in terms of vessel size.
- Economic analysis noted that increasing the possession limit would likely increase lease prices. To gauge the impact of potentially increased lease prices, staff explained that PDT investigated the distribution of the active fleet by the proportion of total landings that are leased in. Analysis indicated that the active fleet has become increasingly reliant on the lease market from FY2010 to FY2017 and that over half of the active fleet would be impacted by an increase in lease price.
- Staff explained that the PDT looked into the question of whether a higher possession limit would incentivize vessels to increase crew size. Analysis around this indicated crew size has varied widely from FY2010 to FY2017 (i.e. under the 600 lb trip limit). There also appeared to be a relationship between crew size and vessel size (i.e. smaller vessel \approx smaller crew, larger vessel \approx larger crew). The PDT suggested that a small increase in the possession limit (i.e. to 800 lbs) may not lead to larger crews, but that a larger increase (i.e. to 1,200 lbs) might. The PDT also suggested that crew size could increase if vessel size were to increase.
- Fuel price is a driving factor in total trip cost. Increasing fuel prices were part of the Council rationale for increasing the possession limit from 400 lbs to 600 lbs in Amendment 15. PDT analysis indicated that observed fuel prices appear to be increasing steadily since 2016.
- Vessel baseline restrictions apply to all limited access fisheries managed by NEFMC/MAFMC except for the American Lobster and LAGC IFQ fisheries. Though these restrictions do not apply directly to LAGC IFQ permits, LAGC IFQ permits are subject to vessel baseline restrictions if tied to a permit suite with other limiting permit types. In the current fishing year, over half of all permits in the LAGC IFQ universe are subject to vessel baseline restrictions. Further analysis showed that the majority of active restricted permits were active in the scallop fishery and other fisheries (i.e. baseline restricted vessels are using the 'limiting' permit). Slightly less than half of the active fleet is not subject to vessel baseline restrictions.
- The PDT qualitatively assessed potential impacts of increasing the possession limit on the scallop resource, essential fish habitat, protected resources, and non-target species. Increasing the trip limit could lead to an increase in harvest rates from access areas, however, the PDT did not conclude how or if this could impact the resource. Overall, the LAGC component is 5.5% of the fishery meaning any impacts of modifying the possession limit would likely be minimal relative to the entire fishery.

AP discussion points:

- A member of the AP felt that the 6 to 7-person crews were not normal in the LAGC IFQ fishery, and felt that the distribution of the active fleet of vessels 75' and higher was not accurate, suggesting that crews/vessels of that size could not be profitable at a 600 pound trip limit.
 - Another AP member noted that vessels who participate in other fisheries (i.e. draggers) will often keep their same crew when scalloping, which possibly explains the larger crew sizes described in analysis.
- AP discussion noted that the decrease in LAGC IFQ MRIs from 330 in FY2010 to 315 in FY2017 was likely attributed to permits either being relinquished or downgraded to LAGC NGOM or LAGC Incidental permits.
- A member of the AP felt that increasing the possession limit could result in higher area swept and incentivize high grading relative to what is expected at the 600-pound possession limit.

Economic Impact Analysis of Modifying the LAGC IFQ Trip Limit

Council staff presented an overview on economic impact analysis of modifying the LAGC IFQ possession limit. The PDT performed scenario simulations to inform relative impacts of modifying the trip limit in terms of lease prices, trip costs, fixed costs, vessel revenues, and crew shares. Simulations were done for two scenarios: 1) an assumed ex-vessel price of \$9 per lb., and 2) an assumed ex-vessel price of \$12 per lb. Impacts on vessel revenues and crew shares were estimated for a range of lease activity (i.e. the proportion of total landings that a vessel leases in). Analysis also estimated aggregate impacts on the LAGC IFQ fishery as a whole.

The PDT used the following assumptions in simulation runs:

- Vessels land 30,000 lbs per year, of which ~60% is landed from open area trips and ~40% is landed from access areas (based on 2016-2017 average)
- The majority of access area trip length was assumed to be transit time with relative less time spent fishing, while open trips were assumed to be mostly fishing time with relatively less time spent transiting (based on 2017 observer data average). Simulations increased fishing time proportionally with an increasing trip limit but kept transit time constant.
- Simulation analysis assumed that maintenance and repair costs increase proportionally with trip length.
- Two crew share lay systems were assumed in simulation analysis: either 1) the crew pays lease costs, or 2) the vessel and crew split lease cost.
- Lease prices were based on the annual lease price model using 2017 data.

Staff noted that findings from simulation runs should be considered in terms of relative change (i.e. percent change) from the 600-pound possession limit, not as absolute values. Also, potential

impacts of modifying the possession limit follow similar trends across all scenarios examined. The magnitude of impacts depends on the magnitude of a trip limit increase (i.e. gains/losses are greater at 1,200 lb limit compared to 800 limit) as well as on ex-vessel price (i.e. gains/losses are lesser at \$9 per lb and greater at \$12 per lb). Key findings from economic impact analysis included:

- Impacts are not expected to be uniform for all vessels.
- At higher trip limits, fewer days at sea would be needed to fish the same amount of quota. Therefore, benefits would be seen due to a reduction in annual maintenance and repair costs as well as annual trip costs.
- Lease prices are expected to increase at higher trip limits, meaning:
 - Vessels that do not rely heavily on the lease market will benefit (i.e. the less you lease in, the more you make).
 - Net revenue is expected to decrease at higher trip limits for vessels that lease in half or more of their total landings (i.e. ~40% of the active fleet in FY2017).
- Of the total 2017 LAGC IFQ allocation of ~2.7 million pounds, roughly 1.4 million pounds (i.e. 62% of the total allocation) were leased by vessels that lease-in more quota than they are allocated.
- The estimated value of the lease market in 2017 at the 600 pound trip limit was roughly \$5.6 million. The value of the lease market as an entity would be expected to increase at higher trip limits; however, the vessels dependent on the lease market would shoulder the costs while vessels/permit holders that do not lease or lease out only would benefit.
- A reduction in DAS, trip costs, and maintenance costs is expected at higher trip limits relative to the 600 pound limit. This means that vessel owners with little to no lease cost or vessel owners that do lease but have lease costs paid for by the crew would be expected to see an increase in profits. On the other hand, vessel owners that lease and split lease costs with the crew would likely see no change or a decline in profits relative to what is estimated at the 600 pound limit.
- At higher trip limits for crews that pay lease costs, crew shares could stay the same or improve for vessels with little or no lease costs, while vessels that lease half or more of their total landings could expect to see a decline in crew shares. For crews that split lease costs with the vessel owner, crew shares at higher trip limits would be expected to remain constant or slightly improve.
- Overall, owners that lease out only and active vessels/crews that do not rely on leased quota would benefit the most from a higher trip limit.

Motion 9: Parker/Maxwell:

- Recommend that the Committee recommend that the Council initiate Framework 31 to address LAGC IFQ trip limits.

Rationale: The current specifications package should stand alone (and not be slowed down by adding additional measures). This would be a new framework (Framework 31).

The motion carried on a show of hands: (11/0/1)

AP discussion points

- With regard to Motion 9, the AP was in strong agreement that LAGC IFQ trip limits should not be handled in FW30 due to concerns of it slowing down development and delaying implementation of FY2019 specifications past the start of the fishing year.
- It was noted that it will be difficult for the PDT to make process on other 2019 priorities if two actions are expected in a timely manner (i.e. FW30 and an action to address LAGC IFQ trip limits).

Motion 10: Marchetti/Welch:

- This action (FW31) should also address vessel baseline restrictions, crew limits, and the number of trips per week.

Rationale: These issues were concerns expressed during the LAGC IFQ trip limit discussion.

The motion was withdrawn without objection. Vessel baseline restrictions and number of trips per week would likely require an amendment.

AP discussion points

- Motion 10 was put forward due to concerns expressed by AP members regarding the lack of regulations on capacity in the current LAGC IFQ fleet. Those in support of the motion felt that the LAGC IFQ fleet would change at higher possession limits, and that addressing the items in the motion was important to avoid consolidation and the potential difficulty for some vessels to continue participating in the fishery.
- A member of the AP noted that the economic impact analysis did not account for debt service payments that participants may have on purchased quota or vessels.
- Further discussion noted that while modifying a possession limit could feasibly be done in a FW, the items in Motion 10 would require an amendment. Many on the AP felt that the range of possession limits to be considered could be narrowed so to alleviate the concerns raised in Motion 10 and avoid the typically lengthier process of an Amendment.
- Several members of the AP and public were opposed to increasing the trip limit, suggesting that doing so would magnify derby fishing in access areas and create inequitable competition between vessels that may have different capacities in terms of size and range.

- Those in support of the motion did not feel that a 1,200 lb trip limit would change the nature of the LAGC IFQ fishery and urged the importance of allowing flexibility within each participant's business plan.
- A member of the AP suggested that discussion on this work priority be tabled until the interested parties come to some sort of consensus around a reasonable trip limit, which could then be discussed at the next meeting.

2019 Priorities Discussion

Council staff recapped progress toward 2018 scallop priorities and presented the initial 2019 priorities list. With respect to the regulatory requirements and ongoing work, a scallop benchmark assessment was completed in 2018, with a peer-review (SARC 65) in June. Council staff reported that good progress was being made toward completing FW30, which includes updated specifications for 2019 and 2020 and standard default measures. The Council, GARFO, and NEFSC continue to support the Scallop RSA program as well as in-season catch accounting. Over the course of 2018 the Council sent three letters to NOAA Fisheries regarding monitoring and catch accounting and completed substantial analyses around General Category IFQ trip limits. While some progress was made toward addressing modifying access areas to be consistent with the partial approval of OHA2, staff reported that the scallop PDT has noted additional work could be done to modify access area boundaries, evaluate the rotational management, and support the Habitat Committee's work on eastern Georges Bank. Modifying access areas would ideally occur in Winter/Spring, as it has implications for scallop survey efforts and RSA awards. Some progress was made toward NGOM management measures through the completion of an appendix focusing on the scallop resource in the Gulf of Maine as part of SARC 65.

The initial 2019 priorities list contains new issues such as DAS and IFQ carryover, and adjustments to the industry funded observer program. Other issues remained on the list from 2018 such as NGOM management measures and measures to modify access areas to be consistent with OHA2. Staff reported that the PDT did not support work toward gear modifications to protect small scallops and felt that any observer related issues in the NGOM should be dealt with through a NGOM management action.

Table 2. 2019 Priority List presented to AP/CTE

Priority/Task Title	Status	Regulatory Requirement?
Specifications for FY2020 and FY2021		YES
Modify AA to be consistent with OHA2	2018 Priority – some progress made	
NGOM management measures	2018 Priority – minimal progress made	
DAS and IFQ carryover		
Gear Modifications to Protect Small scallops	PDT does not recommend this as a 2019 priority	
Specify allocation review triggers	Ongoing	NMFS policy
Adjustments to industry funded observer program (NGOM coverage, etc.)	NEFSC letter in August 2017	
In-season catch accounting		
Support Annual Scallop RSA process		

Finally, Council staff stated that how the Council works to address 2018 priorities this fall could impact how much progress can be made toward 2019 priorities next year. The AP discussed potential 2019 priorities and made several recommendations for items to add to the list.

2019 Priorities:

By consensus, the Scallop Advisors are concerned about the potential impact of offshore wind energy on the fishery in the Mid-Atlantic region. The Advisory Panel recognizes that offshore wind issues are being addressed through the Council’s Habitat Committee, and would appreciate the opportunity to engage on issues as they arise.

By consensus, add “evaluation of the rotational management program” to the 2019 priority list.

By consensus, add “evaluate options for harvesting the slow growing scallops in the Nantucket Lightship – South deep.

Other Business

During other business the Scallop Advisory Panel discussed potential ways to utilize the slow growing scallops in deep water of the Nantucket Lightship area. The group offered several strawman approaches for harvesting these animals and identified potential issues that would need to be addressed.

Potential approaches and principles for harvest:

- Focus on shell stocking and landing whole scallops instead of processing at sea to avoid cutting 50/60/70 count.
 - Scenario: An 8-person crew cutting 50 count could at best process 1,000 pounds of meats per day. At an estimated ex-vessel price of \$5 per lb, this means vessels could stock roughly \$5,000 a day at best. The AP felt that this is not a scenario where vessels can process at sea and be profitable.
- The group suggested potentially make harvest optional to LA and LAGC vessels.
- The AP felt it important to keep the harvest approach simple.
- Members of the AP and public felt that there is value in harvesting these scallops in 2019 and supported development of potential harvest approaches that could be implemented in 2020.
- The group agreed that the scallop industry has helped steward the recovery of the fishery and that harvesting opportunities should be made available for existing industry.
- There was brief discussion around transplanting as another potential option.

Issues to consider and/or resolve:

- There were questions around where this harvest would fit within the ACL flowchart.
- It was highlighted that the enforceability of a harvest program (very close to an area that holds 10/20 count) should be considered during development. Further to this point, AP discussion noted the need to redefine the NLS-S-deep boundary to be tighter around the resource in that area.

Other questions raised during AP discussion included:

- Are there times of the year when meats could be bigger? Seasonality likely to follow the same cycle as the rest of the resource.
- Is there infrastructure to support large amounts of shell-stock? Would a trip limit make sense?
- How would putting these on the market impact price?

No other business was discussed. The meeting adjourned at 5:00 PM.