



New England Fishery Management Council

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MEETING SUMMARY

Scallop PDT Meeting Mariners House, Boston, MA July 25th, 2018

The Scallop PDT met in Boston, MA on July 25th, 2018 to: 1) review and discuss preliminary analyses re: ‘considering the LAGC IFQ possession limit’ work priority, 2) discuss timelines and standardizing survey results for FW30, 3) review FY2018 VMS effort and landings/LPUE data, 4) review Gulf of Maine scallop catch by the MA DMF spring/fall trawl surveys, 5) review draft Scallop PDT memo to Groundfish PDT re: GB yellowtail flounder, and 6) discuss other business.

MEETING ATTENDANCE: Jonathon Peros (PDT Chair), Sam Asci, Dr. Bill DuPaul, Dr. David Rudders, Dr. Dave Bethoney, Travis Ford, Ben Galuardi, Kevin Kelly, Carl Wilson, Dr. Dvora Hart, Dr. Demet Haksever, Chad Keith, Danielle Palmer, and Dr. Cate O’Keefe. Vincent Balzano, Chair of the Scallop Committee, was in attendance along with 7 members of the public.

MEETING MATERIALS

Doc.1) [Meeting Agenda](#); *LAGC IFQ possession limit analysis*; Doc.2a) [Discussion Document - updated v.2](#), Doc.2b) Preliminary economic simulations of LAGC IFQ trip limit changes; Doc.4) [Scallop Survey Data/FW30 planning Discussion Document](#); Doc.5) [Scallop catch by MA DMF spring/fall trawl surveys](#); Doc.6) [Scallop fishery VMS effort \(FY2018\) and landings data](#); Doc.7) [Draft Scallop PDT memo to Groundfish PDT re: GB yellowtail flounder](#); Doc.8) [2018 Scallop Work Priorities – Updated v.3](#).

KEY OUTCOMES:

- The PDT reviewed scenario analyses for LAGC IFQ trip limits. The PDT plans to revise assumptions in the model, and present them again on August 29th, 2018.
- The PDT recommends that the survey groups use SH/MW equations from SARC 65 for Georges Bank and the Mid-Atlantic, with depth and latitude as co-variates.
- The PDT recommends using VIMS survey data to estimate variation in SH/MW relationships in the Elephant Trunk-Flex area and all Nantucket Lightship SAMS areas.

The meeting began at 10:15 am. Jonathon Peros (PDT Chair) welcomed the PDT and members of the public to the meeting and briefly reviewed the agenda. The PDT was updated that the Council initiated Framework 30 to the Scallop FMP at their June 2018 meeting. Also, the scallop

benchmark assessment is nearing completion as the final report is being drafted; it was noted that the final report will be presented to the PDT at their August 2018 meeting.

Considering the LAGC IFQ Possession Limit—Preliminary Analyses

Council staff updated the PDT on progress with the “considering the LAGC IFQ possession limit” work priority. At their March 2018 meeting the Committee tasked the PDT to analyze the impacts of LAGC IFQ trip limit increases from 400 lbs to 1,200 lbs (in 200 lb increments) on revenue and lease prices. The Committee also expressed interest in understanding the distribution of active LAGC IFQ vessels that lease quota to better describe reliance of active vessels on the lease market. Council staff explained that preliminary analyses from Committee tasking would be presented to the PDT. The goals of discussion were to:

- Consider the caveats/assumptions associated with economic analysis—are scenario conditions representative of current LAGC IFQ fishery?
- Identify other factors that could influence model outputs to include in future analysis.
- Begin drafting key points based on available data.

The PDT reviewed distributional analysis (see section 1.4 of Doc.2a [Discussion Document - updated v.2](#)) and key findings. First, the distribution of the active LAGC IFQ fleet was described in terms of vessels, landings, and quota allocation, by vessel size group. Size groups were classified as vessels less than 50 ft, vessels 50 ft to 74 ft, and vessels 75 ft or greater. It was noted that this analysis aimed to describe trends in fleet diversity by active vessel size from FY2010 to FY2017. Key points included:

- From FY2010 to FY2017, an overall increase in active vessels less than 50 ft was seen in tandem with a decrease in larger vessels. It was suggested that this was likely due to vessels owners wanting to reduce trip costs by fishing smaller vessels.
- From FY2010 to FY2014, vessels less than 50 ft landed the majority of scallops, vessels 50 ft to 74 ft landed the second most, and vessels 75 ft or greater landed the least. From FY2015 to FY2017, vessels 50 ft to 74 ft landed the most while vessels less than 50 ft landed slightly less.
- Quota allocation to the active fleet remained relatively stable over the time period. Vessels less than 50 ft received 46-50% of the allocation to the active fleet, vessels 50 ft to 74 ft received 40-45%, and vessels 75 ft or greater received 9-11%.

The distribution of the active LAGC IFQ fleet was also described in terms of number of vessels, landings, and quota allocation, relative to the proportion of total quota holdings that were leased in from FY2011 to FY2017. Active vessels were categorized into ‘lease groups’, which were classified as: 0% of total quota holding was leased in, 25% or less of total quota holding was leased in, 25% to 50% of total quota holding was leased in, 50% to 75% of total quota holding was leased in, and 75% of total quota holding was leased in. The lease-group “lease out” referred to vessels that leased out quota and were still active in the scallop fishery at some level. It was

noted that all lease activity was included in analysis regardless of vessel affiliation (i.e. lease activity between two vessels with the same owner was included). Key points from analysis included:

- From FY2011 to FY2017, a notable decrease of no-lease vessels was seen, while the proportion of active vessels leasing in 75% or more of total quota holdings increased.
- No-lease vessels were responsible for a decreasing proportion of scallop landings over the time period. An increasing proportion of landings were attributed to vessels that leased in a greater proportion of quota (i.e. lease groups 50 to 75%, 75% or greater).
- The proportion of base allocation to the active fleet received by no-lease vessels decreased substantially, from the majority 47% in FY2011 to 18% in FY2017. During this time, a clear increase in the proportion of base allocation going to ‘lease-out’ vessels was seen, from 3% in FY2011 to the majority 34% in FY2017.

Council staff also presented average fuel price (USD per gallon of diesel) on observed scallop trips by month from 2007 to May 2018. It was noted that fuel cost is a major factor in overall trip cost, and that high fuel prices were part of the Council’s rationale for raising the LAGC IFQ trip limit from 400 pounds to 600 pounds in 2011 (Amendment 15). Fuel prices fluctuated from 2007 to 2018, with the highest average price being \$4.38 per gallon in June 2008 and the lowest average price being \$1.70 per gallon in February 2016. Since February 2016, average price increased steadily to a most recent estimate of \$2.73 per gallon in May 2018.

PDT discussion:

The PDT noted that the distribution of vessels, landings, and allocation have remained relatively constant in terms of vessel size from FY2010 to FY2017. The PDT suggested that trends in distribution of the active fleet by lease group were indicative of vessels becoming more reliant on the lease market over time and noted that there appeared to be some quota consolidation among active vessels from FY2010 to FY2017. Further discussion noted that recent trip costs for LAGC IFQ vessels have been in the \$600-range.

Preliminary LAGC Trip Limit Model Simulation Analysis

Dr. Demet Haksever (Council staff) presented methods and preliminary outputs from the lease price model and scenario analyses. Average lease out prices were estimated for fishing years 2010 to 2017 by inactive LAGC IFQ permit holders that leased quota to different affiliations. Exploratory factors in the model included lease price per pound of scallops in 2017 dollars (“Leasepr”), ex-vessel price per pound of scallops in 2017 dollars (“Price2017”), trip costs per pound of scallops in 2017 dollars (“Trpcostplb”), affiliation group (“AFFGRP”, individual owner = 1, permit bank = 0), the number of vessels that were net leasers (i.e. lease-in, “Numvesco”), and a dummy variable for FY2016 to account for significantly greater allocation of quota that year and response of the lease market (“D2016”). Model variables accounted for approximately 90% of variation in lease price and were all statistically significant.

Estimated lease prices were used in simulation analysis to describe impacts of changing the possession limit on the lease cost, vessel revenue, and crew shares under two scenarios. The simulation scenarios were based on a vessel that lands 30,000 lbs annually, with 66% of the total caught on open trips and 34% caught on access area trips. These numbers were based on the 2017 average of total landings for vessels that derive 75% or more of their revenue from the scallop fishery and fished at least 10 days. Scenario A was focused on access area fishing conditions and included the following assumptions:

- Trip length was set to 0.69 days with a steam time of 0.34 days and 0.29 days of fishing time—these numbers were the average steam/fishing time from observed LAGC trips to access areas in 2015 to 2017.
- Trip length was not increased with an increase in possession limit. This assumes a best-case scenario in that vessels could catch 1,200 pounds as quickly as 600 pounds.

Scenario B reflected open area fishing conditions and included the following assumptions:

- Trip length was set to 0.89 days with a steam time of 0.19 days and fishing time of 0.70 days.
- Fishing time increased proportionally with increasing possession limit (i.e. assumes it will take vessels longer to catch more). This assumes lower productivity fishing conditions, though it may not take vessels proportionally more time to catch a higher possession limit.

Scenarios A and B were projected using two ex-vessel scallop prices per pound, \$9 per pound and \$12 per pound. Scenarios A and B were also projected at a range of the amount of quota a vessel leases in (i.e. 0%, 10%, 30%, 60%, and 100%) to describe impacts of modifying the possession limit in terms of lease activity. Simulation analysis also gauged impact on vessel and crew shares based on two different lay systems: a) vessel receives 48% of gross revenue, crew gets 52% of gross revenue, and the crew pays for trip and lease costs; and b) vessel receives 48% of gross revenue, crew receives 52% of gross revenue and pays for trip costs, and the vessel owner and crew share the lease costs.

It was noted that an unlimited amount of simulations could be run using different model assumptions and that Scenarios A and B are the first step in providing a range of impacts.

Scenario A (Access Area Conditions)—Summary of Results

- Vessel shares would remain constant if crew pays the lease, and would decline if vessel pays half of lease for possession limits 800 lb. or higher compared to the 600 lb. limit. However, a decline in the number of trips would benefit vessel owners by reducing the maintenance, repair and some other fixed costs.

- An increase in ex-vessel scallop per lb. price to \$12 would lead to higher lease prices reducing the net revenue after trip and lease costs for those vessels that lease 30% or higher of their annual landings, either reducing both vessel and crew share if lay system is lease costs are shared or crew shares if crew pays for the lease costs. Those that lease small amounts will gain from an increase in the possession limit. If ex-vessel price is \$9, those who lease a higher proportion of revenue including those that lease 30% would gain from an increase in the possession limit because the savings in trip costs would outweigh the increase in lease costs.

Scenario B (Open Area Conditions)—Summary of Results

- Vessel shares would remain constant if crew pays the lease, and would decline if vessel pays half of the lease for possession limits 800 lb. or higher compared to the 600 lb. limit. However, a decline in the number of trips would benefit vessel owners by reducing the maintenance, repair and some other fixed costs.
- Because of the small increase in lease prices under the open area condition, the changes in revenue net of lease and trip costs will be small, slightly positive for those who lease small amounts and negative for others that lease a larger proportion of their landings whether the ex-vessel price of scallops per lb. are \$9 or \$12 per lb. In either case, if crew pays lease costs, crew shares would decline considerably if leased pounds are close to 100% of landings. This is because, there would be very little reduction in annual trip costs under this scenario while lease costs increase.

General Conclusions

- The potential impacts of the increase in trip limits are not expected to be uniform across vessels, crew and vessel owners.
- The impacts will vary with the productivity of the areas fished with the leased quota, price of scallops, steam and fishing time, trip costs and crew lay formula.
- Vessel shares would remain constant if crew pays the lease, and would decline if vessel pays a specific percentage of the lease for possession limits 800 lb. or higher compared to the 600 lb. limit under a lay system where crew pays the trip costs.
- The net impacts of the increase trip limits on vessel owners would depend on the lay system as well as the degree of savings in maintenance, repair and some other fixed costs as higher trip limits reduce the number of trips.
- Changes in net revenue net of trip and lease costs depend on the changes in lease price and the proportion of quota leased by each vessel. If the increase in lease price is low, then especially those that lease a relatively small proportion of their landings could have an increase in the net revenue and crew shares regardless of the vessel lay system.

- Net revenue of the vessels that lease a larger proportion of their revenue could decline as lease prices increase due to higher trip limits. Crew shares could decline if crews pay all the lease.
- Crew shares could increase in some cases if lease costs are shared by the vessel owner and crew receives the trip cost savings according to the lay system.
- However, if lease costs increase significantly, this increase could outweigh the savings in trip costs for vessels that lease even 30% or lower of their quota,
 - This may lead to a decline in crew shares especially if crew pays the lease.
- Those vessels that *do not lease* could gain in all cases as the trip costs decline at higher trip limits.
- The IFQ permit owners who lease out their quota are expected to gain from an increase in trip limits due to the increase in lease prices.

Key elements of PDT discussion:

- The goal of simulation analyses is to provide a range of potential impacts, not to predict exact values of lease prices, crew shares, trip costs, etc., under each scenario. Therefore, it was suggested that simulation results be presented in terms of percent change from the 600-pound trip limit (i.e. instead of absolute values).
- The lease market accounts for both access area and open area fishing conditions, meaning it could be worthwhile to look at a weighted average of Scenario A and B in the next round of analysis.
- It was suggested that assumptions of fishing time and steam time used in simulation Scenarios A and B (i.e. based on observer data) could be revisited in future analysis to better portray typical fishery operations and account for any potential observer effect on trip length. It was noted that past analysis performed by a PDT member found no significant difference in trip length between observed and unobserved LAGC IFQ trips.
- An industry member present at the meeting felt that projected lease prices under an increased trip limit in Scenario A were much higher than reality and suggested that lease prices have typically not been greater than 35% of ex-vessel price in recent years.
- It was suggested that longer trip length as a result of increasing the possession limit could impact crew size.
- It was suggested that future analysis consider biological impacts of changing the possession limit, as well as impacts on bycatch and harvest rates in access areas.
- The PDT felt that, in general, modifying the possession limit would have positive economic impacts on some fishery participants and negative economic impacts on others.
- Some PDT members suggested that an incremental increase to the possession limit (i.e. to 800 lbs) could be more straightforward than an increase to 1,200 lbs.
- The group agreed that, based on the magnitude of potential economic impacts and controversy amongst industry members, facilitating stakeholder input via public hearings

may be worthwhile regardless of what type of management action this priority is addressed in (i.e. Framework, Amendment).

- The PDT discussed the potential impact that including LAGC IFQ trip limits could have on the implementation of FW30.

Follow-up items identified during PDT discussion included:

1. Update trip length and fishing time assumptions used in simulation analyses and allow for increasing trip length with an increasing possession limit in both scenarios (Sam Asci, Demet Haksever, Chad Keith).
2. Describe crew sizes of active LAGC IFQ vessels using VTR and observer data (Sam Asci).
3. Expand economic analyses to the entire universe of the LAGC IFQ fishery (i.e. not just active vessels), including stakeholders who only lease-out and(or) have permits in CPH. Describe impacts of modifying the possession limit on revenue of the fishery as a whole.

Scallop Survey Data & Framework 30 Planning

Council staff outlined several issues for the PDT to discuss in preparation for upcoming Framework 30 meetings. First, the PDT discussed the format of survey data when it is transmitted to the staff at the Northeast Fishery Science Center. Dr. Hart explained that it would be helpful if all survey groups used the standardized field names when submitting data to her and the New England Council. In response to a question about the databases housing survey information, Dr. Hart explained that all dredge data can be found in a centralized Oracle database housed at the Northeast Fisheries Science Center. The HabCam database, which was started by Woods Hole Oceanographic Institute, is also an Oracle database.

Survey Short Reports

Council staff explained each survey group would be requested to provide a survey “short report” in advance of the PDT meeting. The request stemmed from Council member and survey group suggestions that survey data be presented in a standardized way. The report is in addition to the presentation each group is asked to give in late August, and does not preclude survey groups from presenting data in a way they see fit. Within a standard survey “short report” the PDT recommended including sections on biomass estimates, exploitable biomass estimates, length-frequency plots for each SAMS area surveyed, charts/maps showing survey coverage and density/abundance, and special comments. The PDT recommended mapping data by pre-recruits (<35mm), recruits (35mm – 75mm), and animals larger than 75mm in a standardized report. Council staff noted that this does not preclude survey groups from binning data differently for other purposes. The PDT also discussed the idea of making the short report a requirement for successful RSA projects.

Key elements of the report discussed by the PDT:

1. Table of biomass and other survey outputs by SAMS area.

2. Length-frequency plots for each SAMS area surveyed in 5mm bins. Report total number measured or proportion and mean length.
3. Charts/maps of survey coverage and abundance (in numbers):
 - a. Pre-recruits: <35mm
 - b. Recruits: 35-75mm
 - c. Animals >75mm
4. Special Comments.
5. Exploitable biomass estimates for current FY.

Shell Height-Meat Weight Relationships

The PDT discussed the shell height meat weight (SH/MW) relationships that survey groups will use to estimate total biomass from their 2018 surveys. The group recommended that the new SH/MW equations that were developed through the most recent SAW/SARC 65 process be used to generate estimates of biomass for 2018. The PDT also recommended that VIMS dredge survey data to develop finer-scale SH/MW parameters in the Nantucket Lightship areas and the Elephant Trunk. The group briefly discussed utilizing distinct equations for each SAMS area, but ultimately felt that using the new SH/MW equations from the 2018 benchmark assessment, with depth and latitude as covariates, was the most appropriate way to proceed with generating estimates.

Figure 1 – Table A2-2 from SARC 65 working papers.

Table App A2-2: Shell height to meat weight relationships with covariates. “Clop” is 1 if a sample is in a closed or rotational area, and 0 otherwise. Only covariates that reduced AIC are included.

Georges Bank			Mid-Atlantic		
Variable	Estimate	Std. Error	Variable	Estimate	Std. Error
Intercept	-6.69	0.38	Intercept	-9.48	0.24
ln sh	2.878	0.027	ln sh	2.51	0.026
Depth	-0.0073	0.0003	mday	-0.0083	0.0086
Lat	-0.073	0.009	mday ²	-0.000134	0.000005
Clop	1.28	0.17	Depth	-0.0033	0.00045
ln sh:Clop	-0.25	0.04	Lat	0.021	0.005
			Clop	-0.031	0.008
			ln sh:mday	0.00525	0.0005
			mday:Depth	-6.5e-5	9.6e-6

Treatment of Dredge Survey Data in High Density Areas

Council staff explained that dredge estimates in high density areas were increased by a factor of three for the most recent time period in SARC 65, and noted that the PDT will need to consider how to treat dredge estimates from high density areas for initializing the SAMS model runs for Framework 30. Dr. Hart explained that there may be new information available on dredge efficiency in high density areas by the time the PDT meets in late August. As part of the 2018 survey cruise on the R/V Sharp completed comparison tows at 19 stations with 15 minute dredge tows, 10 minute dredge tows, and HabCam. There are 17 comparisons with data from the VIMS dredge survey, R/V Sharp dredge survey, HabCam V4. The group noted that VIMS and the University of Delaware are conducting research on dredge efficiency using an AUV. The status of the results of this work were unknown at the meeting.

PDT Recommendations:

- 1) The PDT recommends that the survey groups use SH/MW equations from SARC 65 for Georges Bank and the Mid-Atlantic, with depth and latitude as co-variables.
- 2) The PDT recommends using VIMS survey data to estimate variation in SH/MW relationships in the Elephant Trunk-Flex area and all Nantucket Lightship SAMS areas.
- 3) The PDT recommends presenting combined estimates for Closed Area I (Ex: CAI-NA + CAI-ACC) and the Mid-Atlantic Access Area (Ex: ET + ET-Flex + HC) when presenting results to managers.

VMS Effort (FY2018 to date) and Landings/LPUE Data

Ben Galuardi (GARFO) presented recent fishery data on landings, market grade, LPUE, and the distribution of effort in FY2018 (April through June). Key points from PDT discussion on this report included:

- Ex-vessel price varied between areas early in FY2018 but appeared to converge around \$8-\$9 per pound most recently in July.
- Open area LPUE for the LA component was the highest seen in the last five years at roughly 3,500 lbs per day. Reports from industry representatives in the audience suggested LPUE has also been very high in NLS-West and in parts of the MAAA.
- Aggregated VMS effort from April-June 2018 showed that Closed Area II extension has been supporting a large proportion of limited access open area fishing. Access area fishing appeared to be highly concentrated in the Hudson Canyon part of the MAAA, the shallow portion of NLS-S, and along the 50-fathom contour in CAI.
- The LAGC IFQ fleet appeared to concentrate the majority of CAI effort in the north west corner of the access area.
- Fishing in the NGOM was very concentrated on Stellwagen Bank and a very small area on southern Jeffreys Ledge (i.e. just east of Cape Anne).

Gulf of Maine Scallop Catch in MA DMF Trawl Surveys

Dr. Cate O'Keefe of the Massachusetts Division of Marine Fisheries (MA DMF) presented information on scallop catch in the Gulf of Maine by the spring/fall MA DMF trawl surveys from 1978 to 2017.

During the 2018 benchmark assessment, the SAW workgroup considered catch data from Gulf of Maine trawl surveys as a way to describe the spatial distribution of scallops over time in this data limited region. The MA DMF trawl survey is one of four regional trawl surveys in the Gulf of Maine and [Doc.5](#) includes figures and tables detailing scallop abundance, biomass, and length frequencies by season and year for the entire time series. It was suggested that this information could be considered in conjunction with other Gulf of Maine surveys when determining where future surveys should take place, evaluating the extent of potential SAMS areas in the Gulf of Maine, and to evaluate catch advice for this region in the future.

One member of the PDT suggested that it may be useful to compare the inshore MA DMF trawl data to offshore surveys to see if there is any correlation in distribution, abundance, and recruitment for the Gulf of Maine region as a whole. Another PDT member noted that NEFSC is currently reviewing shellfish survey strata and is considering re-stratifying boundaries within the current extent.

Scallop PDT Memo to Groundfish PDT re: GB Yellowtail Flounder

Council staff gave a brief overview of the draft Scallop PDT memo to the Groundfish PDT re: GB yellowtail flounder catch in the scallop fishery ([Doc.7](#)). The draft memo was similar to those sent to the Groundfish PDT in 2016 and 2017, but was updated to reflect recent Council actions and scallop fishery activity. The PDT provided a few brief points of input on the draft memo and felt it was ready to be finalized and sent to the Groundfish PDT later in the week.

Other Business

No other business was discussed. The meeting adjourned at 3:47 pm.