

The Greater Atlantic Regional Office (GARFO) and the Northeast Fisheries Science Center of NOAA's National Marine Fisheries Service worked together to calculate the observer set-aside compensation rate for fishing year 2016. We encourage vessel owners, captains, crews, industry representative groups, and the New England Fishery Management Council to review the calculation.

If you would like to provide feedback on this calculation, please send it to the following:

- By mail to: John K. Bullard, Regional Administrator, GARFO, 55 Great Republic Drive, Gloucester, MA, 01930. Please write "Comments on Fishing Year 2015 Scallop Fishery Observer Compensation Rates"
- By email to: Comprate@noaa.gov
- By Fax to: 978-281-9135

The fishing year 2016 initial compensation rates for Limited Access (LA) vessels are:

- **0.11** per DAS fished (the vessel is charged 0.89 DAS for each DAS fished with an observer onboard)
- **175 lb** per day or part of a day for access area trips in addition to the vessel's possession limit for the trip when carrying an observer

The fishing year 2016 initial compensation rate for Limited Access General Category (LAGC) individual fishing quota (IFQ) vessels is:

- **175 lb** per trip (open and access areas) in addition to the daily possession limit when carrying an observer

We selected these compensation rates because they should provide sufficient compensation for the observer fee while also providing sufficient observer coverage based on anticipated coverage levels needed for fishing year 2016 (see below).

We calculated all observer compensation rates assuming a daily rate of \$675 for the observer, and used an average scallop price of \$12.45 per pound for open area trips and \$12.49 per pound for access area and LAGC trips. We estimate the compensation rates provide the following average buffer over the daily cost of the observer:

- \$2,525 per LA DAS fished
- \$1,505 per access area day for LA vessels and per trip for LAGC IFQ vessels assuming trips last a single day

We intend for these excess funds to account for variations in the fishery, such as lower scallop price and landings per day fished (also called landings per unit effort (LPUE)), without creating financial incentive to extend an observed trip.

PLEASE NOTE: We may consider changing the compensation rate as we gather fishery information throughout fishing year 2016, such as scallop price, length of trips, LPUE, and overall rate of observer set-aside usage.

The following explains how we determined the fishing year 2016 compensation rates.

Compensation Rate Calculation

We evaluated a range of compensation rates. Table 1 summarizes the information we used in the calculation (see “Information Used in the Calculation” section below for details). Table 2 summarizes the calculation of the initial rates.

Table 1: Information Used in Compensation Rate Calculation

Observer Cost (per day) All Areas	\$675.00	
Scallop Price (Unadjusted)	\$12.54/lb	
	Open	MAAA
Estimated DAS	11,298	7,049
Set Aside	190 DAS	306,623 lb
	Open	MAAA
Adjusted Price	\$12.45	\$12.49
LPUE	2,290	2,363

Table 2: Compensation Rate Calculation

	Formula	
Open		
Compensation Rate	**Target Compensation/(LPUE*Adjusted Price)	0.11 DAS
Sea Days Covered***	Set-Aside / Compensation Rate	1,695 days
	Compensation per DAS	\$3,200
	Buffer per DAS *	\$2,525
MAAA		
Compensation Rate	Target Compensation/Adjusted Price	175 lb
Sea Days Covered***	Set-Aside / Compensation Rate	1,756 days
	Compensation per day	\$2,180
	Buffer per day *	\$1,505

* Buffer per DAS = Compensation per DAS minus the daily cost of carrying an observer (\$675.00 per day).

**Target Compensation = amount per day necessary to pay for observer and provide a buffer for changes in fishery condition

***Number of sea days covered may vary from number of days assigned under SBRM

Observer Coverage Levels: The compensation rates above will support observer coverage levels of approximately 15 percent for open areas and 25 percent for the MAAA. We try to balance the compensation rates and the associated observer coverage levels to allow for sufficient observer coverage while providing a compensation rate that has a neutral effect on fishing effort. For example, higher compensation rates supporting lower coverage levels provide a buffer between the cost of the observer and the revenue from the compensation that are very high. In turn, excess revenue from the set-aside could change fleet behavior in a way that we cannot predict. We watch this trend as the fishing year proceeds to determine if rate changes are necessary.

Information Used in the Calculation

The information used in in this analysis represents the best available information regarding estimates of the amount of effort, catch, and scallop price.

We used the information from analyses in the Council’s Framework 27 document, which recommends management measures for fishing year 2016. We also considered updated scallop price information based on the price paid for scallop landings during fishing year 2015 to establish updated price estimates for fishing year 2016.

The following explains the information that we used in our calculation:

Total fishing days per area: Open area DAS are based the total allocated DAS proposed in Framework 27, including the 190 observer set-aside DAS, since they are a portion of total DAS that could be observed. For access areas, we calculate the number of DAS for each area by dividing the total allocated scallop landings for each area by the predicted LPUE (see below). LAGC effort is included in these estimates.

Table 3: Total DAS by Area

	Open Areas	MAAA
DAS	11,298	7,049

Set-aside allocations: Table 4 includes the observer set-asides by area. The open area set-aside is specified as DAS, for harvest by both limited access and LAGC vessels.

Table 4: 2015 Observer Set-Asides

Open Areas	MAAA
190 DAS	306,623 lb

LPUE: Table 5 provides the estimated LPUE by area. We estimate the average amount of scallops that will be landed per fishing day (lb/day) for each area to determine LPUE. We realize that actual LPUE may be higher or lower, depending on resource conditions and fishery conditions. LAGC vessels generally complete Access Area trips in one day. Therefore, LAGC LPUE does not factor into calculating the compensation rate for LAGC vessels.

Table 5: LPUE (lb/day)

Open Areas	MAAA
2,290	2,363

Observer costs: The observer cost continues to be \$675/day.

Trip costs: We have estimated daily fishing costs to be \$2,200/day for limited access DAS vessels and \$400/day for LAGC vessels. Although total trip costs may be higher due to increases in fuel and oil price and other increased operating costs, the daily cost of fishing has only a slight impact on the adjusted price (see below). For example, with a \$2,200/day trip cost and \$12.54/lb unadjusted price, the adjusted price is \$12.45/lb in open areas (see explanation of adjusted price below). Increasing the trip cost to \$5,000/day, the adjusted price drops to \$12.34/lb, which has minimal impact on the compensation and buffer at a given compensation rate.

Scallop price: We estimated the average ex-vessel price of scallops in fishing year 2016 to be to be \$12.54/lb based on landing information from fishing year 2015. We evaluated lower prices of \$9.00/lb and \$11.50/lb, and a higher price of \$15.00/lb, in order to consider how different fishery conditions would impact observer compensation.

Adjusted scallop price: The price of scallops was adjusted downward by approximately 1 percent to account for the cost of the extra time to catch the scallops or compensation DAS to pay for the observer. We based the adjustment on the estimated daily cost of fishing and the estimated LPUE. We established the adjusted price as a way to generalize the effect of costs when applied to various compensation rates and LPUEs (which affects the amount of time needed to catch the extra scallops or fish the extra days). To calculate the adjusted price, we subtracted the cost of the additional fishing time associated with the compensation from total revenues. We then divided the reduced total revenue by total revenue for the trip, equaling an adjustment factor. We applied this calculation to a range of compensation rates, prices, and LPUEs, resulting in an average of about a 1-percent reduction.