



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northeast Fisheries Science Center
166 Water Street
Woods Hole, MA 02543-1026

January 15, 2016

MEMORANDUM FOR: A.I.S., Inc.,
East West Technical Services,
Fathom Research LLC, and
Industry Funded Scallop Observers

FROM: Amy S. Martins 
Branch Chief, Fisheries Sampling Branch (FSB)

SUBJECT: New "Poor Quality Scallop" and Highgrading Protocols

The scallop industry has become concerned about the observed distribution and magnitude of poor quality scallops during the 2015 fishing year. Grey meat scallops and scallops with nematodes (possibly *Sulcascaris sulcata*) in the Mid-Atlantic Access Area were reported to the NEFMC Scallop PDT (Plan Development Team) and were documented during the VIMS (Virginia Institute of Marine Science) 2015 Mid Atlantic survey. These poor quality scallops can significantly impact the vessel price received for a trip. Also of importance, industry members believe that high grading of scallops during the 2015 fishing year may be increasing scallop mortality rates and impacting the resource.

To address these issues FSB are adjusting the protocols for IFS observers by increasing detailed biological sampling when grey meats and/or parasites are encountered. Current observer protocol is to conduct biological sampling for one basket of kept scallops per on-watch period. Sampling includes recording the round weight and shell heights, obtaining the weight and volumetric measurements of the shucked sample, and applying that weight to all baskets of kept, round scallops for that on-watch period.

If the crew encounters grey meat and/or parasites they should notify the observer, who will increase biological sampling to at least two (2) times per on-watch period. The observer should follow protocols for handling grey meat scallops. (See attached training slides for a reminder.) After shell heights are taken, have the crew shuck and separate the dressed scallops into two categories: the normal kept scallops, and any poor quality scallops. Record separate meat weight and volumetric data for the kept and discarded (grey/parasite) scallops and use that information on all hauls in that watch period until another detailed biological scallop sample is collected. A new disposition code "030" is now available to indicate scallops are "poor quality, grey meat/parasites observed". If any changes to scallop catch composition occurs during the on-watch period the observer should take a new detailed biological sample. Additional sampling should be done as time allows. FSB understands that deckloading situations or other factors may inhibit observers from taking more than one sample even when grey meats and/or parasites are observed. Observers should prioritize this extra sampling *after* collecting actual weights per haul, but *before* collecting shell lengths for kept scallops as described in the FSB Biological

Sampling Manual, (page 17)

http://www.nefsc.noaa.gov/fsb/manuals/2013/NEFSC_Biological_Sampling_Manual.pdf

Observers will indicate via haul log comments on a per haul basis that “Grey scallops and/or parasites observed”. If the crew indicates that poor quality scallops are no longer present during a watch period, the observer should obtain another detailed biological sample for the “clean” scallops. Monthly summary tables and maps will be produced and published on the FSB Industry Funded Scallop website that will indicate grey meat/parasite regions and numbers of trips where observers are documenting these poor quality scallops.

Each watch period observers should freeze 3-4 poor quality scallops in a bag, labeled with the haul info. For watch periods where *grey meats* are observed, observers should also (separately) freeze several white, “normal” scallops from the same haul for comparison. (White meats *do not* need to be sent in for hauls where nematodes/parasites are observed.) The frozen samples should be shipped to FSB following biological sampling protocols, within seven (7) days of landing, and will be sent to Susan Inglis at SMAST and David Rudders at VIMS to help further their research on grey meat and parasite infections.

If a boat is *keeping* poor quality scallops, the protocols for determining weights of grey/parasite meats per bushel should still be utilized, and observers must add a comment explaining the estimated weight of the poor quality meats. Using the example on the attached slides: 6.2lbs of dressed meat weight was obtained, with 0.5lbs of that being grey meats. On haul 1 the crew kept 51 bushels. The (rounded) basket count of kept weight will be 51 bushels x 6.2lbs = 316lbs. Observer will comment on haul 1 “0.5lbs grey x 51 bushels = 26lbs kept grey meat.”

The Scallop Committee, PDT, and Industry are also concerned that highgrading events occur after market-sized scallops spend time on the deck of a vessel, but are ultimately discarded because of the large price difference between medium (10-20+) and large (U-10) sized scallops. Scallop mortality is higher during the summer when scallops are left on deck in the heat. On multi-day access area trips and day boat trips observers should use the “063” fish disposition code, “Vessel retaining only certain size for best price due to *trip quota* in effect” to describe why these scallops were discarded. Because of the high price difference this may also occur on open area trips where there is no trip quota. FSB has implemented the new disposition code “064” for “Vessel retaining only certain size for best price due to price difference” which can be used to identify highgrading on open area multiday trips. These disposition codes may help managers track sources of scallop mortality by scallop fleet and area fished.

Continued cooperation from the scallop industry will be pivotal to the success of additional sampling, as well as helping FSB to better understand and document highgrading situations. Observers will be reminded of highgrading scenarios, and new disposition codes, and will be given methods for estimating poor quality and highgraded scallops during the mandatory scallop prebrief prior to each trip.

If you have any questions please call.

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Grey Meat Example

6.2 lbs total dressed
meat weight



5.7 lbs dressed meat weight Kept (DISP 100), 3050 ml vol measure

0.5 lbs dressed meat weight Discarded (DISP 030 with comment "discarded due to grey meats"), 150 ml vol measure



Gray photo courtesy of SMAST

Grey Meat Example

| | |
|------------------------|-----------------------------|
| SPECIES NAME | Sea Scallop |
| DISP CODE | |
| FISH DISPOSITION CODE | 900 |
| SEX CODE | |
| SAMPLE WEIGHT (G) | SAMPLE WEIGHT (G) 6.2 |
| AGE SAMPLE TYPE CODE | VOLUMETRIC MEASURE OF MEATS |
| # SAMPLES | 3200 measured 50 ml |
| MEASUREMENTS: | |
| Finfish - Squid - cm | 15 - 14 170 - 174 19 |
| Shellfish - mm | 15 - 19 175 - 179 15 |
| | 20 - 24 180 - 184 28 |
| | 25 - 29 185 - 189 15 |
| NEX CODES: | 30 - 34 190 - 194 3 |
| 0=Unknown | 35 - 39 195 - 199 5 |
| 1=Male | 40 - 44 200 - 204 |
| 2=Female | 45 - 49 205 - 209 |
| | 50 - 54 210 - 214 |
| | 55 - 59 215 - 219 |
| AGE SAMPLE TYPE CODES: | |
| 0=None | 60 - 64 220 - 224 |
| 1=Scales | 65 - 69 225 - 229 |
| 2=Otoliths | 70 - 74 230 - 234 |
| 3=Shells | 75 - 79 235 - 239 |
| 4=Whole | 80 - 84 240 - 244 |
| 5=Vertebrae | 85 - 89 245 - 249 |
| 6=Dorsal Spines | 90 - 94 250 - 254 |
| 7=Scales & Otoliths | 95 - 99 255 - 259 |
| 8=Head | 100 - 104 260 - 264 |
| 9=Other | 105 - 109 265 - 269 |

COMMENTS

Total meat weight: 5.7 lb Kept (100), 0.5 lb Discarded (030) grey meats

Volumetric measure: 3050 ml (100), 150 ml (030)



Grey Meat Example

6.2 lbs total dressed meat weight



5.7 lbs dressed meat weight Kept (DISP 100)

H1: 51 baskets * 5.7 lbs = 291 lbs
H2: 42 baskets * 5.7 lbs = 239 lbs
H3: 49 baskets * 5.7 lbs = 279 lbs



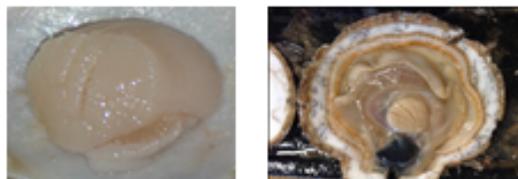
0.5 lbs dressed meat weight Discarded (DISP 030 with comment "discarded due to grey meats")

H1: 51 baskets * 0.5 lbs = 26 lbs
H2: 42 baskets * 0.5 lbs = 21 lbs
H3: 49 baskets * 0.5 lbs = 25 lbs

- Note: Do NOT include sample basket in basket count
- Will be accounted for on Haul Log w/ '900' Disp Code

Grey Meat Example (Haul 1 Log Example)

| SPECIES | | SUB-SAMPLE WEIGHT | POUNDS | DISP CODE | WEIGHT | |
|--------------|------|-------------------|--------|-----------|--------|-----------------|
| NAME | CODE | | | | D/R | EST METHOD CODE |
| Sea Scallops | 8009 | | 291 | 100 | D | 03 |
| Sea Scallop | | | 26 | 030 | D | 03 |
| Sea Scallop | | | 6.2 | 900 | D | 01 |



- Need to Comment on Disp Code '030' and '900'
- '900' weight must match sample weight on LF Log