

# Actual Weights

- For observers/monitors to get actual weights of a species, the following requirements must be met:
  - Weights must be obtained using **observer/ monitor scale only**.
  - Scales should be well maintained and must be zeroed prior to taking actual weights.
  - When weighing anything in a basket observers and monitors must remember to subtract the weight on the basket.
  - In order to obtain the actual weight of a species all members of that species, and for the same catch disposition code, must be weighed.

# Basket or Tote Counts

- Basket or tote count methods could be used to calculate the weight of species caught in a haul.

Example:

- On haul one, kept scallops were picked and placed into bushel baskets.
- For a basket count to work properly, all baskets must contain only kept scallops and be filled to approximately the same level.
  - The observer/monitor first gets an actual count of the baskets of kept scallops
  - The observer/monitor will weight 20% or more of these baskets to obtain an average weight per basket (baskets should contain only kept scallops and be filled to approximately the same level)

Calculations:

1) 25 baskets were counted by the observer/monitor

2) 5 of these baskets were weighed, the actual weights are:

83, 85, 79, 81, and 82 Lbs

3) Average basket weight was calculated:

$83+85+79+81+82 = 410/5 = 82$  Lbs

4) Calculate the total weight of kept scallops:

82 Lbs \* 25 baskets kept scallops = 2050 Lbs

# Tally

- Tally method can be used when fish are coming onboard and quickly being processed by captain and crew (commonly longline and gillnet).
- As fish are coming onboard the observer/monitor should keep an accurate count of each species separated by disposition code.
- An average weight should be obtained per species and disposition code (this method is appropriately used when the specimens for a given species are approximately the same size)

## Example and Calculations:

- 1) 50 Atlantic Cod and 20 haddock were caught and will be sold to market (catch disposition code 100).
- 2) 10 Atlantic Cod and 6 Haddock were obtained by the observer/monitor prior to processing.
- 3) The 10 Atlantic Cod weighed 103 Lbs:  
 $103 \text{ Lbs} / 10 = 10.3 \text{ Lbs per fish}$   
 $10.3 \text{ Lbs} * 50 = 515 \text{ Lbs total (round estimated weight)}$
- 4) The 6 Haddock weighed 47 Lbs:  
 $47 \text{ Lbs} / 6 = 7.83 \text{ Lbs per fish}$   
 $7.83 * 20 = 157 \text{ Lbs total (round estimated weight)}$

# Volume to Volume

- Volume to Volume should only be used if large catch size prevents the observer/monitor from obtaining actual weights of discarded or kept catch.
- Observer/monitor should discuss action plan with captain & crew to determine where the catch will be dumped.
- Depending on where the catch will be dumped, observer/monitor should take the appropriate fish bin, checker pen, and/or deck area measurements.
- Observer /monitor should also check with the captain and crew to determine if they may borrow any unused bushel baskets, and where the best locations for subsampling would be.
- All subsamples taken should be random and representative of the total catch (samples should be taken throughout the pile).

# Volume to Volume Example

- Length = 5 ft
- Width = 3 ft
- Average catch height :  
 $(3+2+2.20+2.80+2.40+2.60+2.90+2.50+2.10)/9 = \underline{2.50 \text{ ft}}$
- Subsampling container flush volume =  
standard orange bushel basket = 1.47 ft<sup>3</sup>
- Subsampling container weight = 3.50 lbs
- Number of subsampling containers used (flush to top) = 6
- Sorted species weights (taken with scales) of subsample plus basket weight:

8.5 lbs Sea Scallops (K)	90 lbs Monkfish (K)
100 lbs Summer FLD (K)	14 lbs Sponge, NK (D)
12 lb Spotted Hake (D)	120 lbs Little Skate (D)
12 lbs Shells, NK (D)	

**\*\*\*NOTE:** The above are the actual weights of all species found in the 6 subsampling containers

# Volume to Volume Calculations

## 1. Calculate Catch Volume

Length (L) \* 5 ft Width (W) \* 3 ft Average Catch Depth (D) 2.50 ft =  
Total Catch Volume 37.50 ft<sup>3</sup>

## 2. Calculate Total subsample Volume

6 (orange baskets of subsampled catch)

\*

1.47 ft<sup>3</sup> (volume of one flush subsample basket)

Total Subsample Volume = 8.82 ft<sup>3</sup>

## 3. Calculate Sample Weight Multiplier

37.50 ft<sup>3</sup> (catch volume) ÷ 8.82 ft<sup>3</sup> (subsample volume) = 4.25

\*\*\*NOTE: This means that the total catch is 4.25 times larger than our subsample.

## 4. Calculate Total Catch Weight for each Species

(8.5 lbs Sea Scallops (K) - 3.50 lbs bsk. wt.) x 4.25 = 21 lbs

(90 lbs Monkfish (K) - 3.50 lbs bsk. wt.) x 4.25 = 368 lbs

(100 lbs Summer FLD (K) - 3.50 lbs bsk. wt.) x 4.25 = 410 lbs

(14 lbs Sponge NK (D) - 3.50 lbs bsk. wt.) x 4.25 = 45 lbs

(12 lb Spotted Hake (D) - 3.50 lbs bsk. wt.) x 4.25 = 36 lbs

(120 lbs Little Skate (D) - 3.50 lbs bsk. wt.) x 4.25 = 495 lbs

(12 lbs Shells, NK (D) - 3.50 lbs bsk. wt.) x 4.25 = 36 lbs

\*\*\*NOTE: The weights to the right are total weights for each species in this haul.

# Captain's Estimate

- This method refers to when the observer/monitor asks the captain for the estimated weights of species in the catch.
- This should only be used as a source of comparison to weights obtained by other methods (actual weights, basket/tote counts, tally, or volume to volume), or if the observer/monitor was unable to weight a species prior to it being placed into the fish hold.

## Visual Estimate (Observer / Monitor)

- This method refers to when the observer/monitor estimates the weight of an item visually.
- This should only be used when the weight of an animal (large shark) or object (debris) is greater than the observer/monitor scale capacity (Captain's estimate would be good for comparison).
- Other objects or debris such as sand, small pieces of sponge or seaweed that are very difficult to obtain actual weights on may also be visually estimated (Captain's estimate would be good for comparison).