

**NOAA
FISHERIES**

Northeast Fisheries
Science Center

More time & space
Highest confidence



Less time & space
Least confidence

Observer Catch Estimation Tools

Observers are trained to use several catch estimation methods:



Actual Weights

Weigh all of a given species per disposition using handheld or electronic scales.



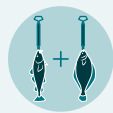
Tally/Basket/Tote Counts

Multiply the count of a given species or baskets/totes of a given species by an average weight calculated by the observer.



Count-to-Count

Use a ratio of individuals to determine total pounds for the haul based on a total unit and a subsample unit.



Weight-to-Weight

Use a ratio of pounds to determine total pounds for the haul based on a total unit and a subsample unit.



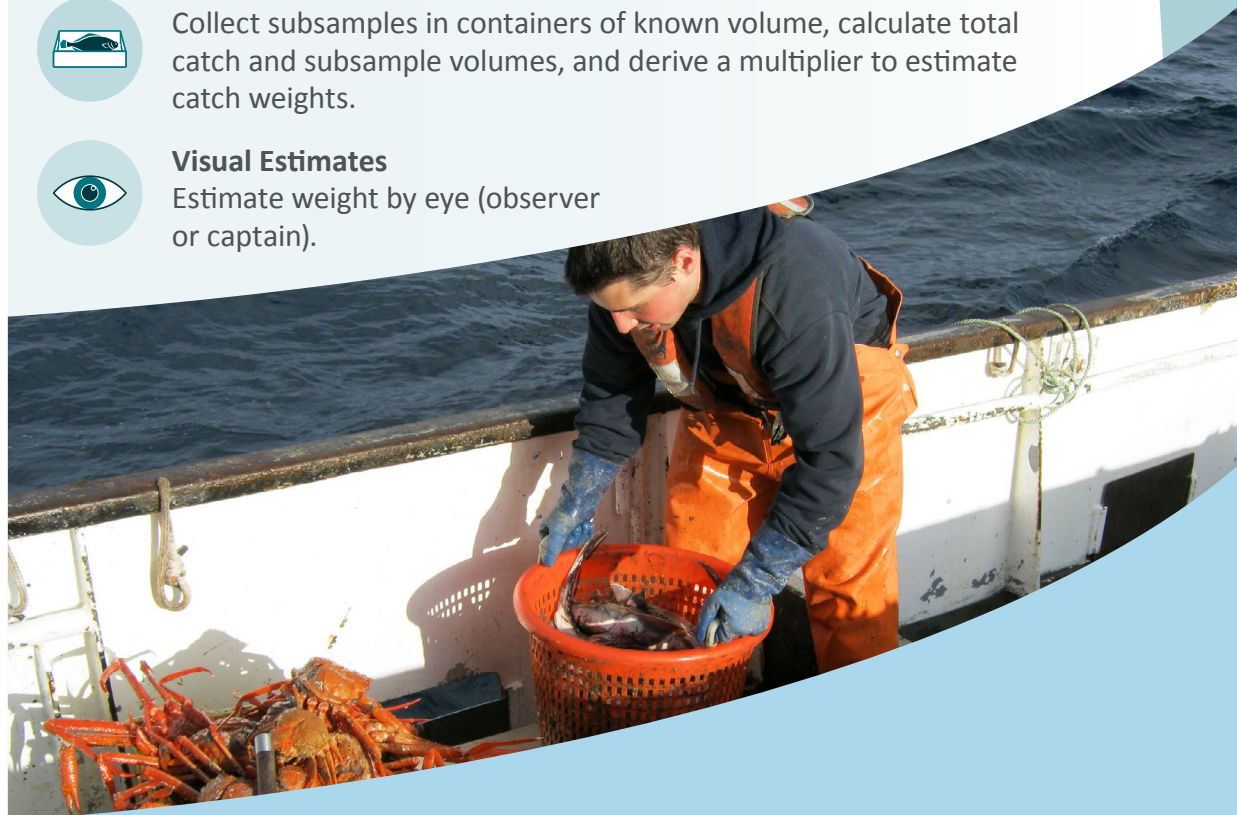
Volume-to-Volume

Collect subsamples in containers of known volume, calculate total catch and subsample volumes, and derive a multiplier to estimate catch weights.



Visual Estimates

Estimate weight by eye (observer or captain).



CATCH ESTIMATION METHODS

More time & space
Highest confidence

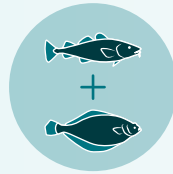
Limited time & space
Least confidence



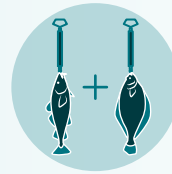
ACTUAL
WEIGHTS



TALLY/
BASKET/
TOTE COUNTS



COUNT
-TO-
COUNT



WEIGHT
-TO-
WEIGHT



VOLUME
-TO-
VOLUME



VISUAL
ESTIMATES

What factors into an observer's decision to use a given catch estimation method?

Observers are trained to select the appropriate catch estimation method based on several factors: amount of catch, time available, deck space, safety considerations, species that are a sampling priority, and support from captain and crew.

When does an observer need to use the volume-to-volume catch estimation method?

Volume-to-volume is not the preferred or default method as these can vary from trip to trip, and there is less confidence in the estimates produced. However, the observer may use it when the volume of catch and/or working conditions prevent the use of preferred catch estimation methods such as actual weights, tally catch, or complete basket/tote counts of catch.

How can the crew help observers obtain the most accurate actual weights or tally/basket counts?

- If catches are large (thousands of pounds), pick the kept catch and leave discards for observers to work up.
- Designate a sampling location for observers with enough space for their electronic scale, length board, and 2 to 3 baskets.
- Provide baskets/totes if requested.
- Set discards aside for the observer to weigh instead of immediately throwing them overboard when picking a gillnet or catch pile.
- If using volume-to-volume to estimate catch, help the observer pick out priority species from a larger pile **after they have obtained their samples**. If there are certain species you are more concerned about, the observer can work with you to obtain actual weights when possible. They can mix and match estimation methods within a haul.

How can the crew help observers improve their volume-to-volume catch estimates?

- Allow observers to obtain pile depths using their depth measurement stick prior to the crew picking the pile.
- If flooding the checker pen, remember that the observer needs to take their depth measurements and obtain their samples first.
- Allow observers to obtain subsamples (using baskets) from different locations within the pile—do not restrict them to one location.
- Pick the pile after the observer collects their subsamples.
- Begin processing the catch after the observer obtains their baskets of catch.
- Allow observers to collect their subsamples themselves—filling baskets for them could bias their estimates.
- Do not remove catch from the subsample baskets the observer collects until the observer is finished with the basket.
- Indicate whether catch within the subsample is kept or discarded (and the reason for discards or kept) when asked by the observer.



MORE INFORMATION:

Fisheries Monitoring
Operations Branch

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