

**BOTTOM TRAWL HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBOH OBHAU OBSPP 05/01/16**

|                   |  |
|-------------------|--|
| OBS/ TRIP ID      |  |
| DATE LAND (mm/yy) | / /  |
| PAGE #            | <input type="checkbox"/> OF <input type="checkbox"/> |

|           |        |        |  |   |                                     |  |              |   |  |                      |                            |                |
|-----------|--------|--------|--|---|-------------------------------------|--|--------------|---|--|----------------------|----------------------------|----------------|
| GEAR CODE | GEAR # | HAUL # | HAUL OBS?<br>NO 0 _____<br>YES 1 _____ | ON-EFFORT?<br>NO 0 _____<br>YES 1 _____ | CATCH?<br>NO 0 _____<br>YES 1 _____ | INC TAKE?<br>NO 0 _____<br>YES 1 _____ | WEATHER CODE | WIND<br>SPEED _____ kn      DIRECTION _____ ° |  | WAVE HEIGHT _____ ft | DEPTH, HAUL BEGIN _____ fm | GEAR COND CODE |
|-----------|--------|--------|--|---|-------------------------------------|--|--------------|---|--|----------------------|----------------------------|----------------|

|               |               |               |  |                    |                     |                     |                      |                     |                   |
|---------------|---------------|---------------|--|--------------------|---------------------|---------------------|----------------------|---------------------|-------------------|
| HAUL INFO     | DATE mm/dd/yy | TIME 24 hours | LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) |                    |                     |                     | NUMBER OF TURNS      | TOW SPEED _____ kn  | WIRE OUT _____ fm |
| BEGIN HAUL    | / /           | :             | Station 1<br>9960 -                            | Latitude / Bearing | Station 2<br>9960 - | Longitude / Bearing |                      |                     |                   |
| BEGIN FISHING | / /           | :             |  |                    |                     |                     | WATER TEMP _____ ° F | TARGET SPECIES CODE |                   |
| END HAUL      | / /           | :             | 9960 -   |                    | 9960 -              |                     |                      |                     |                   |

|              |     |   |          |                                |
|--------------|-----|---|----------|--------------------------------|
| GEAR ONBOARD | / / | : | COMMENTS | VERTICAL OPENING ** _____ ft   |
| FISH PUMPING |     |   |          | HORIZONTAL OPENING ** _____ ft |
| BEGIN        | / / | : |          | DOOR SPREAD ** _____ ft        |
| END          | / / | : |          | SAMPLE WEIGHT MULTIPLIER _____ |

\*\* Only fill in if gear mounted electronics are used

| SPECIES |      |                   |        |           | WEIGHT |                        |      | SPECIES |                   |        |           |     | WEIGHT                 |  |  |
|---------|------|-------------------|--------|-----------|--------|------------------------|------|---------|-------------------|--------|-----------|-----|------------------------|--|--|
| NAME    | CODE | SUB-SAMPLE WEIGHT | POUNDS | DISP CODE | D/R    | ESTIMATION METHOD CODE | NAME | CODE    | SUB-SAMPLE WEIGHT | POUNDS | DISP CODE | D/R | ESTIMATION METHOD CODE |  |  |
| 1       |      | .                 |        |           |        |                        | 11   |         | .                 |        |           |     |                        |  |  |
| 2       |      | .                 |        |           |        |                        | 12   |         | .                 |        |           |     |                        |  |  |
| 3       |      | .                 |        |           |        |                        | 13   |         | .                 |        |           |     |                        |  |  |
| 4       |      | .                 |        |           |        |                        | 14   |         | .                 |        |           |     |                        |  |  |
| 5       |      | .                 |        |           |        |                        | 15   |         | .                 |        |           |     |                        |  |  |
| 6       |      | .                 |        |           |        |                        | 16   |         | .                 |        |           |     |                        |  |  |
| 7       |      | .                 |        |           |        |                        | 17   |         | .                 |        |           |     |                        |  |  |
| 8       |      | .                 |        |           |        |                        | 18   |         | .                 |        |           |     |                        |  |  |
| 9       |      | .                 |        |           |        |                        | 19   |         | .                 |        |           |     |                        |  |  |
| 10      |      | .                 |        |           |        |                        | 20   |         | .                 |        |           |     |                        |  |  |

**CATCH ESTIMATION WORKSHEET**  
**NMFS FISHERIES OBSERVER PROGRAM**

05/01/16

|                   |     |
|-------------------|-----|
| OBS/TRIP ID       |     |
| DATE LANDED mm/yy | / / |
| HAUL #            |     |

|   |  |  |
|---|--|--|
| <b>SORTING METHOD</b><br>Check all that apply<br>1 <input type="checkbox"/> Picked<br>2 <input type="checkbox"/> Shoveled<br>3 <input type="checkbox"/> Deckloaded<br>4 <input type="checkbox"/> Conveyor System<br>5 <input type="checkbox"/> Pumping System<br>9 <input type="checkbox"/> Other (Comment) | <b>ESTIMATION METHODS</b><br>01 = Actual (Spring Scale)    11 = Actual (Electronic Scale)<br>05 = Tally    03 = Basket or Tote Count<br>02 = Volume-to-Volume    13 = Count-to-Count<br>14 = Weight-to-Weight    07 = Cumulative Sum<br>12 = Trap Subsample    10 = Catch Composition Log<br>04 = Captain    06 = Visually Estimated<br>98 = Combination (Comment)<br>99 = Other (Comment) |  |
|   | <b>MAREL SCALE CALIBRATION WT</b><br>_____   |  |

| BASKET OR TOTE COUNT OR TALLY   |            |             |                                |                     |                   |                      |                  |                   |  |
|---|------------|-------------|--------------------------------|---------------------|-------------------|----------------------|------------------|-------------------|--|
| **Unit Types: B = Basket, T = Tote, I = Individual (tally), O = Other |            |             |                                |                     |                   |                      |                  |                   |  |
| Species   | Disp. Code | **Unit Type | List Individual Sample Weights | Total Sample Weight | # of Sample Units | Avg. Weight per Unit | Total # of Units | Total Est. Weight |  |
| 1   |            |             |                                |                     |                   | _____                |                  |                   |  |
| 2   |            |             |                                |                     |                   | _____                |                  |                   |  |
| 3   |            |             |                                |                     |                   | _____                |                  |                   |  |
| 4   |            |             |                                |                     |                   | _____                |                  |                   |  |
| 5   |            |             |                                |                     |                   | _____                |                  |                   |  |
| 6   |            |             |                                |                     |                   | _____                |                  |                   |  |
| 7   |            |             |                                |                     |                   | _____                |                  |                   |  |
| 8   |            |             |                                |                     |                   | _____                |                  |                   |  |
| 9   |            |             |                                |                     |                   | _____                |                  |                   |  |
| 10  |            |             |                                |                     |                   | _____                |                  |                   |  |

**VOLUME-TO-VOLUME**  
 CATCH PILE SHAPE AS SEEN FROM ABOVE:

**Trapezoid**  

$$\left( \frac{W1 + W2}{2} \right) \times L \times \text{Avg. Depth} \times 0.5 = \text{Volume (ft}^3\text{)}$$

**Rectangle**  

$$W \times L \times \text{Avg. Depth} = \text{Volume (ft}^3\text{)}$$

**Triangle**  

$$\left( \frac{W}{2} \right) \times L \times \text{Avg. Depth} \times 0.5 = \text{Volume (ft}^3\text{)}$$

**Full Oval or Half-Oval**  

$$W \times L \times \text{Avg. Depth} \times 0.785 = \text{Volume (ft}^3\text{)}$$

**Other Shapes or Combination:** Draw and label all dimensions in comments.

DEPTHS: Representative depths (ft) systematically taken throughout the catch pile. Include a single depth of 0.0 ft if the catch pile is not in a checker pen or slopes to zero.

**COMMENTS :**

|  |  |   |
|--|--|---|
| <b>A) Total Haul Vol.</b><br>_____ ft <sup>3</sup>   | <b>B) Total Subsample Vol.</b><br>_____ Basket(s) X 1.47 ft <sup>3</sup> = _____ ft <sup>3</sup><br>_____ Tote(s) X 2.65 ft <sup>3</sup> = _____ ft <sup>3</sup><br>_____ Other(s) X _____ ft <sup>3</sup> = _____ ft <sup>3</sup> | <b>C) Sample Weight Multiplier</b><br>(A ÷ B)<br>_____<br>>> Copy to Front >> |
| <b>OTHER SUBSAMPLE TYPES</b><br>Unit Type<br><input type="checkbox"/> Basket <input type="checkbox"/> Tote<br><input type="checkbox"/> Weight <input type="checkbox"/> Trap<br><input type="checkbox"/> Count <input type="checkbox"/> Other | A) Total _____<br>B) Sample _____  |   |

**DECKLOADING and CUMULATIVE SUM**

|   |   |
|---|---|
| Entire Deckloading Haul Range _____ - _____ | Deckloading Measurements<br>Total Pile Vol. _____ ft <sup>3</sup> Remainder Pile Vol. _____ ft <sup>3</sup> A) Total Haul Vol. _____ ft <sup>3</sup>                            |
| Number of Hauls _____                       | *Est.Meth.: Estimation Method used to obtain species Total Samp. Wgt. for cumulative sum calculation. If not '01' or '11' show all additional calculations & use '98' on front. |

| Species | Disp. Code | Total Sampled Weight | *Est. Method | Weight per Haul |
|---------|------------|----------------------|--------------|-----------------|
| 1       |            |                      |              |                 |
| 2       |            |                      |              |                 |
| 3       |            |                      |              |                 |
| 4       |            |                      |              |                 |
| 5       |            |                      |              |                 |