

**PAIR and SINGLE MID-WATER TRAWL HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBPRH 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? NO 0 _____ YES 1 _____	ON-EFFORT? NO 0 _____ YES 1 _____	CATCH? NO 0 _____ YES 1 _____	INC TAKE? NO 0 _____ YES 1 _____	WEATHER CODE	WIND 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 _____ ft	WATER TEMP _____ ° F			
BEGIN HAUL	/ /	:	Station 1 9960 -	Latitude / Bearing	Station 2 9960 -	Longitude / Bearing	TARGET SPECIES					CODE	
BEGIN FISHING	/ /	:					DEPTH RANGE, HEADROPE						
END HAUL	/ /	:					DISTANCE BETWEEN BOATS *						
GEAR ONBOARD	/ /	:	9960 -		9960 -								
<b>FISH PUMPING</b>			VERTICAL OPENING	**	HORIZONTAL OPENING	**	DOOR SPREAD		**				
BEGIN	/ /	:											
END	/ /	:											

COMMENTS

\*Only fill in for pair trawl trips  
 \*\*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

**CATCH ESTIMATION WORKSHEET  
NMFS FISHERIES OBSERVER PROGRAM**

05/01/16

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DATE LANDED mm/yy	/
HAUL #	

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

**MAREL SCALE  
CALIBRATION WT**  
\_\_\_\_\_

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

**DECKLOADING and CUMULATIVE SUM**

Entire Deckloading Haul Range	Deckloading Measurements		
	Total Pile Vol.	Remainder Pile Vol.	A) Total Haul Vol.
	_____ ft <sup>3</sup>	_____ ft <sup>3</sup>	= _____ 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				